

2011

# Local Connections: Electoral Institutions, Social Networks, and Local Politicians in a Developing Democracy

Amy E. Smith

*University of Pittsburgh*, amy.e.smith@vanderbilt.edu

Follow this and additional works at: [http://opensiuc.lib.siu.edu/pnconfs\\_2011](http://opensiuc.lib.siu.edu/pnconfs_2011)

---

## Recommended Citation

Smith, Amy E., "Local Connections: Electoral Institutions, Social Networks, and Local Politicians in a Developing Democracy" (2011). 2011. Paper 13.

[http://opensiuc.lib.siu.edu/pnconfs\\_2011/13](http://opensiuc.lib.siu.edu/pnconfs_2011/13)

This Article is brought to you for free and open access by the Conference Proceedings at OpenSIUC. It has been accepted for inclusion in 2011 by an authorized administrator of OpenSIUC. For more information, please contact [opensiuc@lib.siu.edu](mailto:opensiuc@lib.siu.edu).

## **Local Connections: Electoral Institutions, Social Networks, and Local Politicians in a Developing Democracy<sup>1</sup>**

Amy Erica Smith, amy.e.smith@vanderbilt.edu  
University of Pittsburgh and Vanderbilt University

Presented at the 4<sup>th</sup> Annual Political Networks Conference, Ann Arbor, MI  
18 June 2011

This paper explores the impacts of electoral institutions on citizens' social networks and political engagement, using the case of Brazil. Brazil's combination of open-list proportional representation and extreme multipartism leads to high numbers of connections between citizens and local politicians and activists. Survey data from a 2008 city council race reveal that a very high percentage of respondents know both politicians and activists. Such connections serve as an important source of political socialization and mobilization. Using coarsened exact matching, I show that these ties affect campaign learning, turnout, and clientelistic dispositions, and that they often have a more powerful effect than do respondents' closest discussants. This paper thus illuminates a hitherto unrecognized consequence of Brazil's much-studied and distinctive institutional arrangements, while at the same time developing a new framework for theorizing and measuring the ways in which citizens' networks incorporate politicians.

---

<sup>1</sup> A previous version of this paper was presented at the 2010 Annual Meeting of the American Political Science Association. Funding for this study was provided by a Mellon Fellowship from the University of Pittsburgh and by a National Science Foundation Doctoral Dissertation Improvement Grant. Thanks to Ana Paula Evangelista and Rafaela Reis, at the time of the study undergraduates at the Federal University of Juiz de Fora, for excellent research assistance. I am grateful to Professor Tuim Botti for his advice and for generously putting the resources of the Center for Social Research at the UFJF at the disposal of a poor gringa researcher. Thanks to Steven Finkel for discussion of matching procedures and to Yonatan Lupu for very helpful comments. Needless to say, all errors are my own.

*O que mais importa no Brasil é o QI: Quem indica.*<sup>2</sup> (Popular Brazilian saying)

How do the political institutions structuring elections affect citizens' engagement with the electoral process? In this paper I focus on the ways in which political knowledge and behavior are shaped by the institutions of open list proportional representation and multipartism at the local level, using the case of Brazil. This institutional arrangement allows citizens to vote either for candidates (here, city council candidates) or party lists; votes serve simultaneously to rank parties against each other, determining the numbers of seats each party wins, and to rank candidates within parties, determining which candidates get the seats the party has won. The question of electoral institutions' impacts on engagement with the political system has aroused a great deal of scholarly attention, but research yields conflicting expectations. Some scholars argue that proportional electoral formulas – and by extension the multipartism typically accompanying them – increase the proportion of citizens that perceive a real possibility of winning or benefiting from the election, boost citizens' senses that their preferences are reflected in elite-level politics, and promote engagement with the political system (Anderson et al. 2005; Anderson & Guillory 2003; Kittilson & Schwindt-Bayer Forthcoming). A very different body of literature focused on Brazil, however, argues that the combination of proportional representation and open list ballots leads to *disengagement*, and that having too many choices is confusing and cognitively taxing, rather than empowering (Almeida 2006; Nicolau 2006; Rennó 2004, 2006).

---

<sup>2</sup> The first part of the sentence reads “What matters most in Brazil is...”; what follows is a play on words. “QI” is a common abbreviation for “quociente de inteligência,” or IQ in English. However, here “QI” is instead defined to stand for “quem indica,” meaning “who recommends you.” In other words, what matters is not intelligence, but connections to the powerful.

Both bodies of scholarship, however, have evidenced an important blind spot by focusing on isolated citizens, each individually interacting with the political world. They thus ignore the importance of social connections to the way citizens understand politics and engage their political systems. A social network approach illuminates the links between electoral institutions and party systems, on the one hand, and citizens' engagement with democratic contests, on the other. Institutions affect whom citizens know and from whom they receive political information; such network influences, in turn, affect democratic engagement.

Due to the combination of extreme multipartism and open list proportional representation, Brazilian federalism provides a high number of opportunities for office-holding at the local level—and an exceptionally high level of *competition* for office. As a result, a remarkably high percentage of citizens knows local politicians, leaders, and activists. I argue that these contacts serve as a gateway into the political world, affecting three aspects of citizen-level engagement: knowledge of the campaign, turnout, and clientelistic dispositions. First, social ties to politicians provide the well-connected access to political expertise that increases their own stores of knowledge. Second, political connections may have an even stronger impact on political participation, as politicians and activists seek to mobilize the members of their own personal networks first before moving on to the broader electorate. Third, however, this influence may not be entirely benign. The same social ties that stimulate knowledge and participation may also stimulate clientelistic trades of material resources for political support.

This paper thus not only illuminates the effects of electoral institutions, but it helps us understand the patterns and effects of citizens' social ties to politicians, at least within one country. To the extent that scholars around the world have examined this issue, they have tended to focus on *instrumental* interactions such as clientelism or “contacting,” rather than on the

existence of social ties that may but do not necessarily have instrumental uses. And while clientelism has long been viewed as an inherently interpersonal phenomenon, this study innovates in viewing clientelism as a product, at least in part, of a combination of social networks and institutional structures.

Though Brazil's institutional arrangements are *very* far from direct democracy, they do provide an unusual number of opportunities for citizen engagement in the electoral arena. As a result, participation in local political contests may be concentrated in an elite group of citizens to a somewhat lower degree than in other representative democracies. Advocates of direct democracy have long held that democratic participation is self-perpetuating, that taking leadership roles improves citizens' democratic character and makes them more capable of future participation (Mill 1991; Pateman 1970). Indeed, empirically oriented scholars have shown that participation is self-reinforcing and can lead to future engagement (Finkel 1987; Finkel & Ernst 2005; Gastil et al. 2002; Gastil et al. 2008; Gerber et al. 2003; Leighley 1991). While this paper does not tackle the effects of campaigning or running for office on the activists and candidates themselves, it does suggest that this kind of engagement has spillover effects on others within the activists and candidates' networks. In a sense, these activists and candidates can be seen as "opinion leaders" within a classic two-step model of information transfer, though the analogy has obvious limitations: their information tends to come not just from the media but also from personal experience, and they have more at stake in the information transfer than the typical "opinion leader" in Lazarsfeld and coauthors' famous studies (Berelson et al. 1954; Lazarsfeld et al. 1948; Luna & Altman 2011).

This paper also contributes to cross-national work on the conceptualization and measurement of social networks. In much of the political behavior literature, social networks are

conceived as small, close-knit groups comprised of a main respondent (also often called the *ego*) and a group of at most three to five discussants. I term such groups “intimate egocentric networks.” This research shows that more complete measurement of the broader egocentric network needs to take into account other types of connections, ones that are usually unreported within the intimate network but that have important ramifications for political behavior.

The case I examine is the municipal election campaign of 2008 in Juiz de Fora, Brazil. Focusing on a single city has both strengths and limitations. On the one hand, it makes it difficult to know the extent to which the findings here generalize to all of Brazil. Still, as will be discussed in greater detail below, Juiz de Fora is typical of many other Brazilian cities in theoretically important ways. On the other hand, the case study approach makes it possible to cluster the study within neighborhoods, facilitating a deeper understanding of both neighborhood political organization and the general neighborhood social environment.

The next section discusses the impacts of Brazil’s institutional structure on political culture, and then shows how this structure leads to high rates of connections to politicians and activists. It then argues that such links help citizens engage the political world. The third section considers the measurement and conceptualization of networks, advocating the explicit incorporation of social ties to political leaders and activists. After discussing the case under consideration as well as measurement and analytical strategies, the remainder of the paper presents results and discusses their implications.

### **Electoral Institutions, Social Networks, and Political Engagement**

Observers of Brazilian politics argue that the country’s open-list proportional representation system and consequent extreme multipartism contribute to elite-level political

dysfunction as well as disengagement at the mass level (Almeida 2006; Ames 1995, 2001, 2002; Mainwaring 1999; Mainwaring & Pérez-Liñan 1997; Nicolau 2006; Rennó 2006; Zucco 2009) (but see Desposato 2006 for an important critique of this argument). A number of mechanisms are thought to be in play. First, the open-list ballot increases candidates' incentive to cultivate a personal vote in order to improve their rank within their parties; competition among candidates within parties in turn weakens those parties at both the elite and mass levels (Carey & Shugart 1995; Kinzo 2005; Samuels 2006). Second, high district magnitudes decrease politicians' abilities to claim credit effectively for policy achievements, increasing incentives for clientelism and under-the-table deals (Ames 1995, 2001; Bezerra 1999; Maldonado 2011; Samuels 2001, 2002). Third, the high number of candidates may be confusing and cognitively difficult for citizens to process (Almeida 2006; Rennó 2004, 2006).

But while these institutional features might indeed weaken party identification and facilitate clientelism at the mass level, this literature has overlooked other features of Brazilian political culture, namely its high levels of turnout (even in comparison to other countries with compulsory voting) and discussions of politics (Faughnan & Zechmeister 2011; Rennó et al. Forthcoming). Social networks may be the missing link. A consequence of Brazil's institutional arrangements that has largely been ignored is the high number of politicians this system produces, particularly at the local level. The burden of this paper is to show that these politicians, as well as other local activists, provide the citizens in their social networks with personal connections to the political world. Such connections may help citizens engage with and understand their political system. At the same time, these connections may also contribute to clientelism and personalism as well as the erosion of Brazilian parties, as citizens vote for friends and family members rather than based on party allegiances or, even less, ideology.

A large number of people campaign for public office in Brazil, particularly at the local level. In the election campaign for city council in Juiz de Fora in 2008, 26 parties ran candidates for public office.<sup>3</sup> Under the open-list proportional representation system operating in elections for city council, state legislatures, and the federal Chamber of Deputies, each party by law is allowed to run as many candidates as there are open seats, plus a certain quota of *suplentes*, or substitutes who will replace elected officials who stand down after their terms have begun. While most of the 26 parties in Juiz de Fora's 2008 election operated in coalition and thus were not able to run the maximum number of candidates, two of them fielded 32 candidates each. In total, 384 candidates received votes for 19 elected positions. With 257,380 valid votes and 313,366 total votes in the entire city, this means that there were 670 voters casting valid votes for every candidate, or 810 total voters per candidate.<sup>4</sup>

Candidates were not randomly sampled from the population, of course: they tended to be people with large social networks, leaders who were well-respected in their own communities. They were neighborhood association presidents, pastors or lay church leaders, doctors, local business owners, people in high profile unelected positions in public agencies, radio announcers, and activists, in addition, of course, to those who were already holding or had previously held elected public office. Especially in a gregarious, generally extroverted country such as Brazil, it is easy to imagine that many candidates had personal ties to well over 800 voters. Thus, it is

---

<sup>3</sup> The data here are from election results published by the national electoral court, the Tribunal Superior Eleitoral, [http://www.tse.jus.br/internet/eleicoes/estatistica2008/est\\_result/resultadoEleicao.htm](http://www.tse.jus.br/internet/eleicoes/estatistica2008/est_result/resultadoEleicao.htm), and are based only on candidates receiving votes. It is possible, though unlikely, that there were additional candidates not reflected in these statistics who ran for office but received no votes. After all, each candidate should be guaranteed at least his or her own vote.

<sup>4</sup> Voting is mandatory for all literate citizens between the ages of 18 and 69, and optional for illiterates and for citizens who are aged 16-17 or over 70. Turnout typically hovers between 80 and 85 percent of registered voters. Thus, the number of voters is a rough approximation for the total number of adults of voting age in Brazil. Citizens who choose to go to the polls to avoid penalties but support no candidate may cast an invalid vote.

quite feasible that many or even most Juiz de Fora voters knew personally at least one candidate who was running for public office.

Juiz de Fora is not unusual in the Brazilian political context. In Brazil as a whole in the 2008 local elections, there were about 110 million voters divided across a little over 330,000 candidates for 52,000 city council slots. Thus, there were 308 valid votes and 333 total voters for each city council candidate in the country, and only 2,117 voters for each candidate elected. The number of voters per candidate is strongly related to the size of the municipality; in smaller cities, there are fewer voters per candidate. Nonetheless, in other cities similar to Juiz de Fora—ones that are not state capitals (the largest municipalities in Brazil are all state capitals) and that have over 200,000 voters—there were just 858 voters per candidate. And in state capitals, there were 1,921 voters per candidate. Statistics for state capitals are skewed by the cities of São Paulo, where there were 6,422 voters for every candidate, and Rio de Janeiro, where there were 3,048 voters for every candidate.<sup>5</sup> Thus, apart from the largest municipalities, and especially in smaller cities, one can suspect that most Brazilians personally knew city council candidates.<sup>6</sup>

Political connections do not stop at candidates themselves. Many Brazilians also know *cabos eleitorais*, or grassroots campaigners. Sometimes volunteers, sometimes paid workers, *cabos eleitorais* pledge themselves to drum up votes for particular candidates. In some cases, they actually have quotas, self-imposed or imposed by the candidate, for obtaining a certain number of verbal commitments to vote for their candidates. *Cabos eleitorais* are typically chosen for their people skills and, even more importantly, for their connections. A good *cabo*

---

<sup>5</sup> São Paulo is the largest city in Brazil, and Rio de Janeiro the second largest.

<sup>6</sup> Not only electoral math but also Brazilian political culture reinforces the expectation of high levels of acquaintanceship with politicians. The Brazilian electorate is characterized by low rates of party identification and of trust in parties, and by high rates of personalism (Almeida 2007; Carreirão 2007; Kinzo 2004, 2005). Voters often report that they vote for “the person, not the party.” And historically Brazilian politics has been dominated by personalistic relationships between politicians and citizens.

*eleitoral* has a large social network and is well-respected in the community. Importantly, the number of candidates should largely determine the number of *cabos eleitorais*, especially in typically poorly funded local races.

In an influential essay, Carey and Shugart (1995) argue that institutions such as the open-list proportional representation system found in Brazil generate a high incentive to cultivate a personal vote. Furthermore, they hold that this incentive should increase with rising *district magnitude*, meaning the number of seats up for allocation in the district. In the Brazilian case, however, it appears that personalism, at least as measured by the extent to which citizens *know* politicians, may actually decrease as district magnitude rises, since as district magnitude rises, the ratio of politicians to citizens falls in Brazil. The arguments developed here thus suggest a reformulation of Carey and Shugart's (1995) theory. What matters may not be the absolute number of seats up for grabs in the district, but rather the *ratio* of politicians to citizens.

Having established the first link in the chain – the way electoral institutions shape networks – I move on to the second – the way these networks affect citizen engagement with the political system. From the early days of research on social influence in the US, scholars have identified the importance of connections to intermediaries or opinion leaders, who channel information and mobilization (Berelson et al. 1954; Lazarsfeld et al. 1948). However, the effect of personal acquaintanceship with political leaders on general democratic dispositions has not previously been shown. At the most basic level, I surmise that citizens with such political connections will know more about politics and will be more likely to participate. The reasons should be fairly clear: politicians and activists are likely to seek votes from those in their

immediate social networks first. Such vote-seeking will typically involve information transfer, and it should certainly result in electoral mobilization.<sup>7</sup>

Information and mobilization may not be the only democratic traits affected by local political connections. The same social network relationships may also increase access to clientelistic transfers of material resources, and make respondents more likely to accept clientelism on a normative level. Such transfers encompass a great range of goods and services: from donations of *cestas básicas* (charity food baskets), to invitations to *churrascos* (barbecues), to direct monetary payments, to jobs, to a politician's use of political muscle to get a client a bed at a public hospital. A recent study found that eight in ten Brazilians believe city council people should pay for hospital bills and funeral expenses of people in need, while six in ten agreed more generally that politicians should provide money to people in need ("Voto, Eleições e Corrupção Eleitoral" 2008). At the same time, 30 percent of people report that they are aware of cases of vote buying. These statistics suggest both the great extent of material resource transfers between local politicians and citizens; and that there may be many cases of material transfers that citizens do not perceive as vote buying. Beyond politicians, *cabos eleitorais* should also engage in material resource transfers with voters; in the more egregious and obvious cases of vote buying,

---

<sup>7</sup> Does compulsory voting in Brazil affect the ability to use electoral participation as a dependent variable? While compulsory voting almost certainly boosts turnout, it is far from completely effective. For comparative evidence on compulsory voting and turnout, see Blais and Dobrzynska (1998), Franklin (2001), and Norris (2004). The International Institute for Democracy and Electoral Assistance classifies Brazil's level of enforcement as "weak" and reports that turnout has hovered around 80 percent of eligible voters over the past twenty years (International IDEA 2008). Studies show that abstention is related to factors similar to those affecting turnout in countries with voluntary voting, factors such as political interest and education (Castro 2007; Katz 2008; Maldonado 2011; Power 2009). Thus, we can meaningfully examine the extent to which social influences pull people who otherwise might not vote into electoral participation, or push them out of the process.

There is a second concern related to compulsory voting: not that it actually results in universal turnout, but that it could trigger overreporting. Overreporting of voting is a concern in all countries (Belli et al. 1999; Clausen 1968; Traugott & Katosh 1981). It may be particularly a concern in a compulsory voting country such as Brazil, since overreporting is higher when respondents feel greater pressure to vote, and in countries where turnout rates are higher (Bernstein et al. 2001; Traugott & Katosh 1979). Unfortunately, there are no studies of vote overreporting in Brazil, and it may be impossible to obtain data for verification purposes from the federal government.

in fact, *cabos eleitorais* may be *more* likely to engage in clientelism, doing the dirty work in order to keep their candidates' hands clean.

An important literature on clientelism examines *whose* vote gets bought. At the country level, vote buying is strongly associated with inequality as well as with other political historical factors (Brusco et al. 2004; Vilaça & Albuquerque 2003). At the same time, though, literature suggests that at the individual level citizens who are already mobilized in other ways are the most likely to be the targets of clientelistic offers (Auyero 2000; Faughnan & Zechmeister 2011; Gonzalez-Ocantos et al. 2010; Stokes 2005). While most of this literature focuses on civil society engagement, it seems highly likely that politically oriented social capital should also foment clientelistic networks.

Until now, most research on the connections between citizens and politicians has viewed such contacts through the lenses of “contacting” or of instrumentally motivated interactions such as clientelism or the Chinese “*guanxi*.” But contacting a politician is not the same thing as having social ties to one. One may contact a politician whom one does not know personally, and one may know a politician whom one never chooses to “contact,” at least in the sense in which political scientists tend to use this term. Similarly, knowing a politician personally does not conduce automatically to clientelistic exchanges. While instrumental motivations may certainly lead some citizens to seek social ties to politicians (and likewise, often motivate politicians to seek social ties to citizens), such social ties may also be the product of other life activities: membership in the same church, residence in the same neighborhood, or graduation from the same high school. The Chinese notion of “*guanxi*” refers to useful and often hierarchical social connections in which favors are granted in return for social recognition, and are facilitated by relationships based on mutual trust and affection (Lin 2001). While *guanxi* comes close to this

network perspective in emphasizing that the connections predate the instrumental contact, the centrality of resource transfers to the relationship differs from my approach here. Instead, I argue that the political mobilization that occurs in politician-citizen relationships in Brazil is for the most part not triggered by citizens instrumentally contacting politicians, though it may come from politicians instrumentally leveraging their pre-existing networks. From the citizen's perspective, flows of information, appeals for mobilization, and clientelistic offers occur in the course of other, non-political life activities. This perspective then enables us to examine empirically the relationship between networks and instrumental exchanges such as clientelism.

### **Reconsidering Social Networks**

The literature on social networks at the citizen level has tended to conceptualize what are known as “egocentric” (meaning main-respondent-centered) networks as small, close-knit groups, typically comprised of a handful of people with whom the individual has frequent contact. These groups, which I will term “intimate” egocentric networks, are typically measured using survey batteries that ask the respondent to report the three to five people with whom they most frequently discuss either “important matters” or “politics” (Bailey & Marsden 1999; Huckfeldt & Sprague 1995; Klofstad et al. 2009). Note, however, that there is nothing inherent in egocentric networks that constrains them to be small, close-knit groups; an egocentric network could theoretically consist of an ego and hundreds of alters.

There are two problems with limiting measurement of networks to the intimate egocentric network. First, it dramatically truncates the number of social connections measured, constraining respondents to know only the members of their own small networks and no one else. In a typical urban environment, both in Brazil and elsewhere, many people have some

fleeting contact with literally hundreds of other people on a daily basis: in public transit, on the street, at the supermarket, at school or work. While many of these contacts have little political relevance, it is hard to believe that only the three to five people measured in the intimate egocentric network have any political influence. Second, the approach ignores the broader social and political structure in which networks are embedded. While some network members hold little social or political capital, others contribute important political resources. The typical intimate egocentric network measures, however, assume that each alter is associated with the ego in a relatively horizontal and equal relationship.<sup>8</sup>

Neglect of the larger network is of particular concern in a country such as Brazil, where a gregarious culture and a series of institutional factors already described in detail lead to a situation in which many citizens personally know politicians and political activists. These connections are unlikely to be mentioned in response to a name generator battery, precisely because they represent “weak ties”: casual acquaintanceship with politicians, political activists, and neighborhood leaders. Nonetheless, they constitute highly important network connections that must be taken into account as part of a more broadly construed egocentric social network. Moreover, the great disparities in social and political capital and status between the average citizen and the politicians and activists to whom they are connected should also be taken into account. That is, it is not enough simply to devise a way to count connections to politicians and activists within the intimate egocentric network; they should be treated separately.

---

<sup>8</sup> For an examination of the role of hierarchy in political discussion in the very different context of Japan, see Richey (2009).

## **Estimating the Consequences of Local Political Connections: Analytical Methods**

I seek to understand the causal impact of the “treatment” variables—social network connections to politicians and to *cabos eleitorais*—on three dependent variables—political knowledge, turnout, and clientelistic orientations. The experimental ideal might involve randomly assigning Brazilians to different conditions. Some would be assigned to the control group in which they knew no one, a second group would be assigned to know politicians, and a third group *cabos eleitorais*. Since the assignment to the treatments and control would be by design orthogonal to the distribution of the outcome, I would be able simply to assess the difference in means between the treatment and control groups on each of the dependent variables.

In the real world, of course, local political connections are far from randomly distributed. Appendix Table 1 shows that Brazilians who are more interested in politics, who are of higher social status, who are more connected to civil society, and who live in lower status and more clientelistic neighborhoods are more likely to know politicians and activists. This indicates that it will be difficult to estimate the causal effect of social networks on political orientations, since the distribution of the “treatment” (social networks) is associated with the distribution of other variables known to affect political orientations. I employ coarsened exact matching in an attempt to eliminate these threats to causal inference. This would not necessarily pose a problem for causal inference, except that some of these factors should also determine the distribution of the dependent variables. Thus, any association discovered between the treatment and outcome might result not from the causal effect of the treatment, but from the impact of the other variables associated with it.

In order to deal with these threats to causal inference, I employ coarsened exact matching (CEM) (Blackwell et al. 2009; Iacus et al. 2009, 2010). Matching techniques allow researchers to develop treatment and control groups that are *balanced*, or similar in all relevant respects except for their assignment to the treatment. More precisely, they seek to eliminate differences between the treatment and control in the distributions on the other independent variables affecting the treatment (Angrist & Pischke 2009; Gelman & Hill 2007). Once these pre-existing differences are eliminated, researchers can be more confident that any remaining differences between the treatment and control groups on the dependent variables are due to the treatment. Thus, matching restricts the sample to the “region of common support,” or the observations where the configurations of independent variables include members of both the treatment and control. CEM is a monotonic imbalance bounding matching estimator that seeks exact matches between treatment and control on each independent variable. The method is described in further detail in the appendix.

In the primary models presented in this paper, I develop a single dichotomous treatment variable measuring ties to either politicians or *cabos*. Subsequently, I check for the marginal effects of each type of social tie, using matching to balance the groups with and without the ties in question and at the same time controlling for the other type of tie. That is, matching estimates of the effects of knowing politicians also control for knowing *cabos*; matching estimates of the effects of knowing *cabos* also control for knowing politicians.

Caveats apply to this analysis. Different respondents are in the treatment group for each of the two treatment variables, and these groups are imbalanced in somewhat different ways. As a result, the region of common support is different for each treatment variable, and the matching procedure produces different matched treatment and control groups for each. This means that

the models are estimated on slightly different samples for each treatment variable. Inferences can be drawn safely only within the region of common support—that is, at levels of each independent variable for which there are cases in both the treatment and control groups. In addition, the fact that the models of the effect of each type of tie control for the other type of tie reduce the significance of estimated effects, especially because the effects of the alternative tie are necessarily estimated without matching.

Another important caveat applies. Matching methods assume that all confounding factors that threaten the ability to draw causal inferences are observed, and that once these factors have been matched upon, the process of assignment to treatment is orthogonal to the distribution of the outcome. If this assumption is violated, matching will not adequately deal with all barriers to inference.

### **Estimating the Causes and Consequences of Local Political Connections: The Case and Measures**

In this paper I examine the case of the local elections of 2008 in Juiz de Fora, Brazil. A city of about half a million residents in the state of Minas Gerais, about four hours inland from Rio de Janeiro, Juiz de Fora is relatively prosperous by Brazilian standards but in important ways typical of other Brazilian cities. First, as previously discussed, the city is typical in its ratio of politicians to citizens. Second, both elite and mass political culture are typical of other Brazilian municipalities. During the 2008 election campaign, the incumbent mayor, José Araújo, was a stand-in for the previous mayor, Alberto Bejani, who had been unseated in a major corruption scandal earlier that year. And parties remained weakly rooted at the mass level, with most citizens rejecting any party identification. The data analyzed here are from a survey of 1,089

Juiz de Fora residents conducted in November, 2008, just after the end of the second round election. Surveys were clustered in twenty-two randomly selected neighborhoods, with approximately fifty interviews per neighborhood.

The analysis assesses how social networks affect three citizen traits, measured with five dependent variables. First, political knowledge is a count of correct answers to five factual questions about the local election campaign, including the parties of the top two mayoral candidates, the name of the current mayor, the name of the city council candidate who received the highest number of votes in the first round election, and the number of seats on the city council; plus an indicator for whether the respondent was able to name all six mayoral candidates in the first-round election. Second, I examine two dimensions of political participation: electoral and campaign participation. Turnout is an ordinal variable measuring whether the respondent reports voting in the first and second round local elections. Campaign participation is also an ordinal variable formed by summing indicators for whether the respondent worked on a campaign, used campaign stickers, put up posters, attended a rally, or watched a televised debate during the most recent election campaign. Third, clientelism is operationalized using two variables: a measure of whether the respondent reports knowing “no one,” “one or two people,” “three to five people,” or “more than five people” who sold their votes; and a question asking whether the respondent believes it is “very good,” “good,” “bad,” or “very bad” to receive presents from politicians. The first question measures insertion into clientelistic networks, while the second measures normative acceptance of clientelism. Unfortunately, given the sensitivity surrounding vote buying, it was infeasible to ask directly whether respondents had traded something for their own votes.

Social networks and political discussion are measured using a number of variables. First and most importantly, I use a dummy variable for whether the respondent reports knowing *either* city council candidates or *cabos eleitorais*. Later I use separate dummy variables for whether the respondent knows each one individually. Second, I use an ordinal variable measuring the size of the reported intimate egocentric network, from 0 to 3. Third, I also control for the respondent's general level of political discussion using an index measuring the amount of political conversation reported, on a four-point scale, with friends, family, in the neighborhood, at bars and restaurants, and at work or school.

Is there any relationship between the size of the intimate egocentric network and local political connections? I focus here on *cabos eleitorais* because they, more than other political connections, are the kinds of "ordinary citizens" who would be most likely to be reported in response to the intimate network battery. It is impossible to know whether any given intimate egocentric network member is a *cabo eleitoral*. However, one way to get a handle on whether respondents list connections with *cabos eleitorais* in response to the network battery is to assess the percentage of respondents who provide the names of no network members, but who also say they know *cabos eleitorais* or politicians. If many respondents who say that they have no political discussants later report knowing *cabos eleitorais*, it will be clear that the standard battery does not completely measure such connections.

It turns out that 49 percent of those reporting no political discussants in response to the intimate egocentric network battery later say that they know someone who is a *cabo eleitoral*. Among those reporting at least one network member, the percentage is only slightly higher, at 53 percent. But perhaps the omission of these kinds of weak ties does not matter very much. This would be the case if network size as reported in response to the standard network battery

effectively proxied for unreported social contacts. Granted, most respondents do not report the *cabos eleitorais* in their networks; but perhaps respondents who report the largest egocentric networks are the same ones who have other unmeasured political contacts. I find low but significant correlations between the size of the intimate egocentric network and acquaintanceship with politicians ( $r = .08$ ) and *cabos eleitorais* ( $r = .12$ ), respectively. However, the correlation is far from strong enough for the intimate network to serve as a proxy for other kinds of connections.

Other independent variables were coded as follows. *Interest in local politics* is coded on a four-point scale. *Media attention* is an index ranging from 0 to 1, based on the mean of the number of days per week that the respondent reports accessing news on television, on the radio, on the Internet, and in newspapers. *Group memberships* is an index formed by summing indicators for whether the respondent reports belonging to a social club, a sports team, a union, or another group. *Education* is coded on a 15-point scale ranging from no formal education to graduate school completed. *Neighborhood education* is the mean of education for all respondents in each of the 22 neighborhoods sampled. Education serves as the only measure of social status in part because of nonresponse regarding household income. Age is coded in number of years.

## Results

I begin by considering the incidence of social connections to politicians and activists. *Three-quarters of the sample report knowing personally someone who is a candidate for city council.* Moreover, over half know a *cabo eleitoral* who is working for a candidate. Smaller proportions of the population, though, report having talked with a politician or a *cabo eleitoral*

about the election. In other words, for many respondents acquaintanceship with politicians and activists is incidental to other life activities, and it does not necessarily always come bundled with intense political discussion. Figures 1 through 3 demonstrate that these kinds of connections are associated with political interest, group memberships, and education. Nonetheless, what is perhaps surprising about these figures is the extent to which political connections are common even in groups that one would expect to have few such connections. Appendix Table 1 develops multivariate models examining how these and other variables affect the rates of local political connections.

*Figures 1, 2, and 3 here.*

How do local political connections affect behavior? Preliminary analysis suggests that these social ties affect political choices; 63% of those who reported voting in the first-round election claimed to know personally the city council candidate they supported.<sup>9</sup> I am primarily concerned, however, with networks' effects on *democratic engagement*, rather than on *vote choice*. To assess social networks' causal impacts, I match each "treatment group" member on the significant predictors from the models estimated in Appendix Table 1. The CEM procedure is discussed in further detail above and in the appendix.

Table 2 assesses the effects of social network connections to local political leaders on knowledge of local politics, participation, and clientelism, using a dichotomous variable for *either* type of connection. The fact that these models employ matching boosts confidence that the findings are due to the impact of social networks themselves, rather than being the spurious result of some associated variables. Exposure to local politicians and leaders affects three of the five dependent variables. While Brazilians with political connections do not appear to know

---

<sup>9</sup> 79% of respondents who reported the name of the city council candidate whom they had supported said that they knew the candidate personally.

more about politics, they are *much* more likely both to vote and to get involved in campaigns in other ways. In addition, local political connections are a strong predictor of the extent to which respondents know others who have traded their votes. Finally, the treatment is unrelated to attitudes towards receiving presents from politicians. In fact, the only robust effects from the clientelistic attitudes models are for education and age. This suggest that responses to the question about the desirability of trading one's vote where strongly conditioned by social desirability bias, and that those least sensitive to this bias have lower educational levels and are younger.

*Table 2 here.*

This analysis has developed a single “treatment” variable for respondents who know *either* city council candidates or *cabos eleitorais*. But which types of connections are more important? Do results hold when each is assessed individually? In Figure 4 I present the coefficients for the “treatment” variables from models in which matching is performed on each of the key independent variables individually. Since the two key “treatment” variables are moderately correlated at .31, and the number of observations in the matching model is reduced, the inclusion of both treatment variables simultaneously may reduce the ability to find either significant. Thus, I present results from two models for each treatment variable: one in which the treatment variable in question is entered without its pair (for instance, “Knows Candidate” is entered without controlling for “Knows Cabo”) and the other in which the pair is controlled (for instance, “Knows Candidate” is entered while controlling for “Knows Cabo”).

*Figure 4 here.*

The most important difference from the results presented in Table 2 is that while the combined treatment did not appear to have any effect on campaign-related knowledge,

disaggregating the two we find that each has an independent, though not overwhelmingly large, effect. These results hold in both the models controlling for both treatment variables and introducing each variable separately. Apart from knowledge, we find that the impact of political connections on turnout comes almost entirely from knowing candidates, not those who campaign for them. However, *cabos eleitorais* may be slightly more successful in stimulating other forms of campaign participation. Finally, both types of social ties insert respondents into vote trading networks, but neither has any effect on clientelistic norms.

### **Discussion and Conclusion**

These results provide strong evidence that social network connections to local politicians and activists are quite prevalent in Brazil, and that they have a powerful impact on citizens' democratic dispositions. A very high proportion of voters knows someone who is running for city council, and many also know someone who is campaigning for a candidate. In fact, in this survey 82 percent of respondents has at least one of the three kinds of network connections measured here. And just as the rate of acquaintanceship with city council candidates is quite high, the effects of such acquaintanceship on political behavior are quite pronounced. Brazilians learn about politics from and are mobilized by the politicians in their social networks. *Cabos eleitorais*, or grassroots campaigners, are also important agents of political socialization, though both rates of acquaintanceship and impacts are not quite as high as for city council candidates. In particular, *cabos eleitorais* seem surprisingly ineffective at stimulating turnout, though they do effectively mobilize their network members into other forms of political participation. Moreover, the results provide suggestive but not conclusive evidence that both city council

candidates and *cabos* are likely to target the members of their own social networks for clientelistic exchanges.

At the same time that network connections to politicians and activists are prevalent, however, they are not particularly democratically distributed. As is the case with many other political resources, those of higher status and who are more politically and civically engaged have greater access to both city council candidates and *cabos eleitorais*. At the same time, however, residents of *lower* status are also more likely to know both candidates and campaigners. Not only do the uneven distributions of social network connections threaten our ability to develop causal inferences, but they have a substantive implication. While politicians' and activists' social networks can serve as an important source of political socialization, their influence is necessarily limited by the extent of their reach.

In the introduction I situated this study in the context of the literature on direct democracy. What is happening in Brazil is far from direct democracy, with probably less than 1 percent of voters ever attempting public office. Nonetheless, at the local level the Brazilian political system does get an unusually high percentage of citizens personally involved in the dispute for elected office. Given the normative importance of theories of direct democracy and the generally recognized impossibility of implementation of such a system in large contemporary democracies, the Brazilian system's impacts on citizens and politicians should be investigated.

What are the effects and normative implications of Brazil's unique institutional structure at the local level? On the one hand, it certainly stimulates citizen engagement. In the 2008 local election campaigns, most Brazilians knew personally someone who was running for office: perhaps a cousin, a friend, a neighbor, a doctor, or a pastor. For those who had a social network member involved in the campaign, these personal connections provided a gateway to the political

world. On the other hand, these results provide suggestive evidence that citizens who knew politicians and activists were more likely to be offered something—perhaps a job, a hospital bed, money, or food—in exchange for their votes. This makes sense and coincides with qualitative evidence from field interviews. Clientelistic exchanges are most likely between politicians and casual acquaintances.

Moreover, even though personal connections to politicians and grassroots campaigners certainly provided opportunity for political conversation and mobilization, these conversations likely were far from the ones envisioned by advocates of direct and deliberative democracy. For the most part, political candidates and *cabos eleitorais* did not discuss ideological or policy issues with the members of their social networks. Brazil is a soccer country, and from the average citizen’s perspective the campaign process looks something like a soccer tournament at best: the most interesting part involves teams’ and players’ strategies and prospects for winning and losing, not their political platforms.<sup>10</sup> Social ties to politicians may provide some citizens with a team (or at least a player) to root for, but do not necessarily educate them on the substance of political decision making.

The arguments laid out here also have implications for the debate over the effects of Brazil’s combination of open-list proportional representation and extreme multipartism, providing grounds for a somewhat less negative evaluation of the effects of this unique institutional structure. At the local level, it turns out, Brazil’s electoral and party systems provide opportunities for quite high levels of citizen engagement with the political system. Until now, this effect has gone largely unrecognized in the debate over the system’s impact.

---

<sup>10</sup> This soccer analogy is a Brazilianized version of the “horserace” analogy often used in the study of American politics.

This research also uncovered two measurement issues that should be pursued further. First, it showed that the standard measures of social networks in the political behavior literature, ones concentrating on the three to five people with whom the respondent talks most frequently, are incomplete measures of a respondent's politically relevant social network. The factors affecting the reporting of the intimate egocentric network as well as the extent to which it is an effective proxy for other social network features, should be investigated further. Second, these results hint at the difficulty of measuring clientelism in the survey context, and at the importance of developing better, more sensitive but nonintrusive measurements.

This paper leaves open a few questions about Brazilians' political networks that should be pursued further. First, to what extent do these results generalize to the entire country? Up to what size of municipality is it common for Brazilians to know political candidates? It is fairly clear that these results probably do not apply to the megacities of Rio de Janeiro and São Paulo, both among the largest cities in the world. But do they apply in cities with populations of a few million residents, for instance Salvador or Belo Horizonte? A nationally representative, stratified survey could answer this question. And even more importantly, this paper leaves unanswered questions about how politicians and *cabos eleitorais* use their networks. While some of the mobilizing potential of networks may be due simply to casual socialization in the course of daily life, we may assume that politicians and campaigners intentionally seek out and mobilize the members of their own social networks. How they do so, though, remains for future exploration.

## Bibliography

- Almeida, Alberto Carlos. 2006. "Amnésia Eleitoral: Em Quem Você Votou para Deputado em 2002? E em 1998?" In *Reforma Política: Lições da História Recente*, ed. G. A. D. Soares and L. Rennó. Rio de Janeiro: Editora FGV.
- Almeida, Alberto Carlos. 2007. *A Cabeça do Brasileiro*. 2nd ed. Rio de Janeiro: Editora Record.
- Ames, Barry. 1995. "Electoral Strategy under Open-List Proportional Representation." *American Journal of Political Science* 39 (2): 406-33.
- Ames, Barry. 2001. *The Deadlock of Democracy in Brazil*. Ann Arbor: University of Michigan Press.
- Ames, Barry. 2002. "Party Discipline in the Chamber of Deputies." In *Legislative Politics in Latin America*, ed. S. Morgenstern and B. Nacif. Cambridge: Cambridge University Press.
- Anderson, Christopher J., André Blais, Shaun Bowler, Todd Donovan, and Ola Listhaug. 2005. *Losers' Consent: Elections and Democratic Legitimacy*. Oxford: Oxford University Press.
- Anderson, Christopher J., and Christine A. Guillory. 2003. "Political Institutions and Satisfaction with Democracy: A Cross-National Analysis of Consensus and Majoritarian Systems." *American Political Science Review* 91 (1): 66-81.
- Angrist, Joshua D., and Jörn-Steffen Pischke. 2009. *Mostly Harmless Econometrics: An Empiricist's Companion*. Princeton: Princeton University Press.
- Auyero, Javier. 2000. "The Logic of Clientelism in Argentina: An Ethnographic Account." *Latin American Research Review* 35 (3): 55-81.
- Bailey, Stefanie, and Peter V. Marsden. 1999. "Interpretation and Interview Context: Examining the General Social Survey Name Generator Using Cognitive Methods." *Social Networks* 21 (3): 287-309.
- Belli, Robert F., Michael W. Traugott, Margaret Young, and Katherine A. McGonagle. 1999. "Reducing Vote Overreporting in Surveys: Social Desirability, Memory Failure, and Source Monitoring." *Public Opinion Quarterly* 63 (1): 90-108.
- Berelson, Bernard R., Paul F. Lazarsfeld, and William N. McPhee. 1954. *Voting: A Study of Opinion Formation in a Presidential Campaign*. Chicago: University of Chicago Press.
- Bernstein, Robert, Anita Chadha, and Robert Montjoy. 2001. "Overreporting Voting: Why It Happens and Why It Matters." *Public Opinion Quarterly* 65: 22-44.

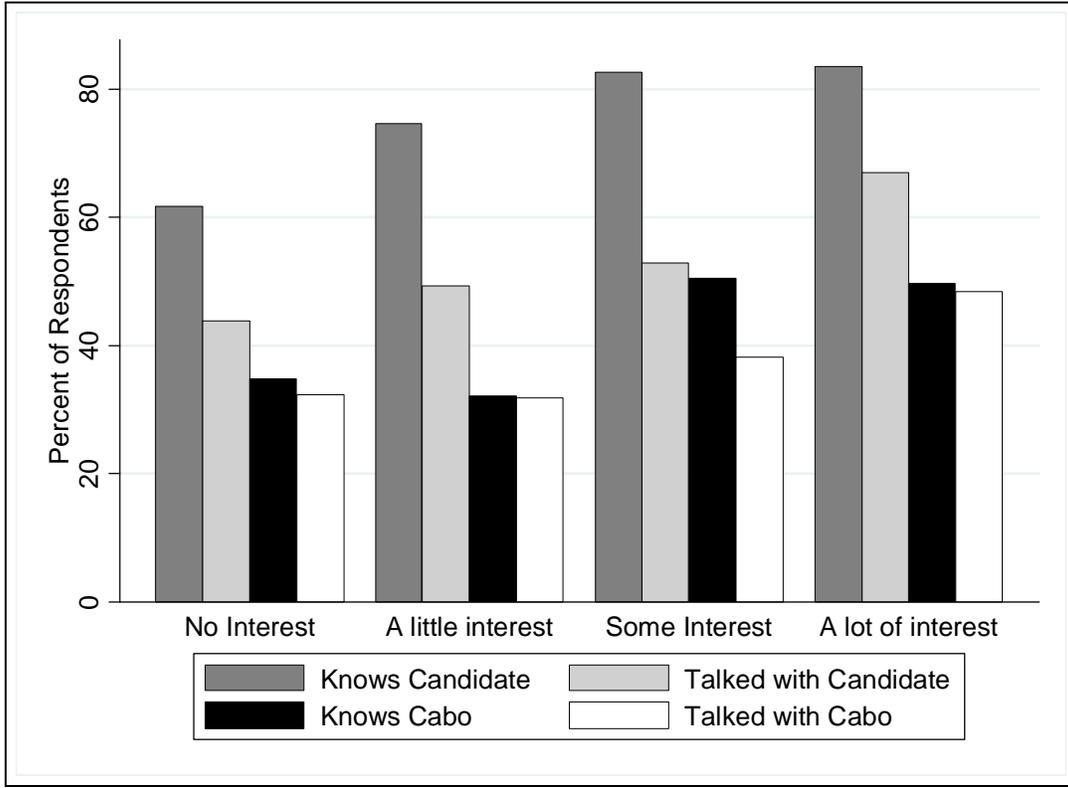
- Bezerra, Marcos Otávio. 1999. *Em Nome das "Bases": Política, Favor, e Dependência Pessoal*. Rio de Janeiro: Relume Dumará.
- Blackwell, Matthew, Stefano M. Iacus, Gary King, and Giuseppe Porro. 2009. "cem: Coarsened Exact Matching in Stata." *Stata Journal* 9 (4): 524-46.
- Blais, André , and Agnieszka Dobrzynska. 1998. "Turnout in Electoral Democracies." *European Journal of Political Research* 33: 239-61.
- Brusco, Valeria, Marcelo Nazareno, and Susan C. Stokes. 2004. "Vote Buying in Argentina." *Latin American Research Review* 39 (2): 66-88.
- Carey, John M., and Matthew Soberg Shugart. 1995. "Incentives to Cultivate a Personal Vote: A Rank Ordering of Electoral Formulas." *Electoral Studies* 14 (4): 417-39.
- Carreirão, Yan de Souza. 2007. "Identificação Ideológica, Partidos e Voto na Eleição Presidencial de 2006." *Opinião Pública* 13 (2): 307-39.
- Castro, Mônica Mata Machado de. 2007. "Eleitorado Brasileiro: Composição e Grau de Participação." In *Sistema Político Brasileiro: Uma Introdução*, ed. L. Avelar and A. O. Cintra. Rio de Janeiro: Fundação Konrad Adenauer.
- Clausen, Aage R. 1968. "Response Validity: Vote Report." *Public Opinion Quarterly* 32 (4): 588-606.
- Desposato, Scott W. 2006. "The Impact of Electoral Rules on Legislative Parties: Lessons from the Brazilian Senate and Chamber of Deputies." *Journal of Politics* 68 (4): 1018-30.
- Faughnan, Brian, and Elizabeth Zechmeister. 2011. "Vote Buying in the Americas." *AmericasBarometer Insights Series*, No. 57. Nashville, TN: Latin American Public Opinion Project, Vanderbilt University.
- Finkel, Steven E. 1987. "The Effects of Participation on Political Efficacy and Political Support: Evidence from a West German Panel." *Journal of Politics* 49 (2): 441-64.
- Finkel, Steven E., and Howard R. Ernst. 2005. "Civic Education in Post-Apartheid South Africa: Alternative Paths to the Development of Political Knowledge and Democratic Values." *Political Psychology* 26 (3): 333-64.
- Franklin, Mark N. 2001. "The Dynamics of Electoral Participation." In *Comparing Democracies 2: Elections and Voting in Global Perspective*, ed. L. Leduc, R. G. Niemi and P. Norris. Thousand Oaks, CA: Sage Publications.
- Gastil, John , E. Pierre Deess, and Phil Weiser. 2002. "Civic Awakening in the Jury Room: A Test of the Connection between Jury Deliberation and Political Participation." *Journal of Politics* 64 (2): 585-95.

- Gastil, John, E. Pierre Deess, Phil Weiser, and Jordan Meade. 2008. "Jury Service and Electoral Participation: A Test of the Participation Hypothesis." *Journal of Politics* 70 (2): 351-67.
- Gelman, Andrew, and Jennifer Hill. 2007. *Data Analysis Using Regression and Multilevel/Hierarchical Models*. Cambridge: Cambridge University Press.
- Gerber, Alan S., Donald P. Green, and Ron Schachar. 2003. "Voting May Be Habit-Forming: Evidence from a Randomized Field Experiment." *American Journal of Political Science* 47 (3): 540-50.
- Gonzalez-Ocantos, Ezequiel, Chad Kiewiet de Jonge, Carlos Meléndez, Javier Osorio, and David W. Nickerson. 2010. "Vote Buying and Social Desirability Bias: Experimental Evidence from Nicaragua." No. <http://www.yale.edu/leitner/resources/PMF-papers/Nicaragua.VoteBuying.pdf>.
- Huckfeldt, Robert, and John Sprague. 1995. *Citizens, Politics, and Social Communication: Information and Influence in an Election Campaign*. Cambridge: Cambridge University Press.
- Iacus, Stefano M., Gary King, and Giuseppe Porro. 2009. "Causal Inference Without Balance Checking: Coarsened Exact Matching." No. Cambridge, MA: Institute for Quantitative Social Science, Harvard University.
- Iacus, Stefano M., Gary King, and Giuseppe Porro. 2010. "Multivariate Matching Methods That Are Monotonic Imbalance Bounding." No. Cambridge, MA: Institute for Quantitative Social Science, Harvard University.
- International IDEA. 2008. "Voter Turnout Website. <<http://www.idea.int/vt/>>."
- Katz, Gabriel. 2008. "Policy-Based Abstention in Brazil's 2002 Presidential Election." Presented at Annual Meeting of the Midwest Political Science Association, April 3, Chicago.
- Kinzo, Maria D'Alva. 2004. "Partidos, Eleições e Democracia no Brasil Pós-1985." *Revista Brasileira de Ciências Sociais* 19 (54): 23-40.
- Kinzo, Maria D'Alva. 2005. "Os Partidos no Eleitorado: Percepções Públicas e Laços Partidários no Brasil." *Revista Brasileira de Ciências Sociais* 20 (57): 65-81.
- Kittilson, Miki Caul, and Leslie A. Schwindt-Bayer. Forthcoming. *Institutions as Democratic Ideals: Political Engagement and Gender Across Democracies*. Oxford: Oxford University Press.
- Klofstad, Casey A., Scott D. McClurg, and Meredith Rolfe. 2009. "Measurement of Political Discussion Networks: A Comparison of Two "Name Generator" Procedures." *Public Opinion Quarterly* 73 (3): 462-83.

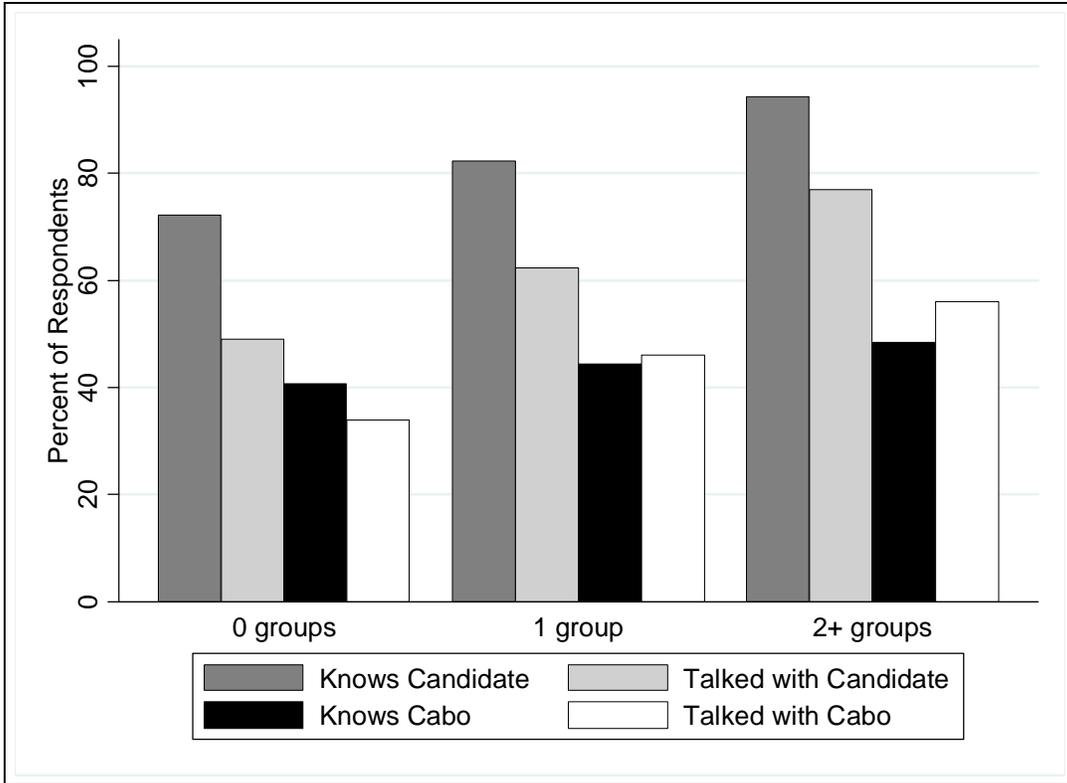
- Lazarsfeld, Paul F., Bernard R. Berelson, and Hazel Gaudet. 1948. *The People's Choice: How the Voter Makes up his Mind in a Presidential Campaign*. 2nd ed. New York: Columbia University Press.
- Leighley, Jan E. 1991. "Participation as a Stimulus of Political Conceptualization." *Journal of Politics* 53 (1): 198-211.
- Lin, Nan. 2001. "Guanxi: A Conceptual Analysis." In *The Chinese Triangle of Mainland China, Taiwan, and Hong Kong: Comparative Institutional Analyses*, ed. A. Y. So, N. Lin and D. Poston. Westport, CT: Greenwood Press.
- Luna, Juan Pablo, and David Altman. 2011. "Uprooted but Stable: Chilean Parties and the Concept of Party System Institutionalization." *Latin American Politics & Society* 53 (2): 1-28.
- Mainwaring, Scott. 1999. *Rethinking Party Systems in the Third Wave of Democratization*. Stanford: Stanford University Press.
- Mainwaring, Scott, and Anibal Pérez-Liñan. 1997. "Party Discipline in the Brazilian Constitutional Congress." *Legislative Studies Quarterly* 22 (4): 453-83.
- Maldonado, Arturo. 2011. "Compulsory Voting and the Decision to Vote." No. Nashville, TN: Latin American Public Opinion Project, Vanderbilt University.
- Mill, John Stuart. 1991. *Considerations on Representative Government*. Amherst, New York: Prometheus Books.
- Nicolau, Jairo. 2006. "Voto Personalizado e Reforma Eleitoral no Brasil." In *Reforma Política: Lições da História Recente*, ed. G. A. D. Soares and L. Rennó. Rio de Janeiro: Editora FGV.
- Norris, Pippa. 2004. *Electoral Engineering: Voting Rules and Political Behavior*. Cambridge: Cambridge University Press.
- Pateman, Carole. 1970. *Participation and Democratic Theory*. Cambridge: Cambridge University Press.
- Power, Timothy J. 2009. "Compulsory for Whom? Mandatory Voting and Electoral Participation in Brazil, 1986-2006." *Journal of Politics in Latin America* 1 (1): 97-122.
- Rennó, Lúcio. 2004. "Information and Voting: Microfoundations of Accountability in Complex Electoral Environments." No.: University of Pittsburgh.
- Rennó, Lúcio. 2006. "O Dilema do Rico: Número de Candidatos, Identificação Partidária e Accountability nas Eleições de 2002 para a Câmara dos Deputados." In *Reforma Política: Lições da História Recente*, ed. G. A. D. Soares and L. Rennó. Rio de Janeiro: Editora FGV.

- Rennó, Lucio, Amy Erica Smith, Matthew L. Layton, and Frederico Batista Pereira. Forthcoming. *A Qualidade da Democracia no Brasil e em Perspectiva Comparada: A Visão da Cidadania*. Rio de Janeiro: Editora FGV.
- Richey, Sean. 2009. "Hierarchy in Political Discussion." *Political Communication* 26 (137-152).
- Samuels, David. 2001. "Money, Elections, and Democracy in Brazil." *Latin American Politics & Society* 43 (2): 27-48.
- Samuels, David. 2002. "Progressive Ambition: Federalism and Pork Barreling in Brazil." In *Legislative Politics in Latin America*, ed. S. Morgenstern and B. Nacif. Cambridge: Cambridge University Press.
- Samuels, David. 2006. "Sources of Mass Partisanship in Brazil." *Latin American Politics & Society* 48 (2): 1-27.
- Stokes, Susan C. 2005. "Perverse Accountability: A Formal Model of Machine Politics with Evidence from Argentina." *American Political Science Review* 99 (3): 315-25.
- Traugott, Michael W., and John P. Katosh. 1979. "Response Validity in Surveys of Voting Behavior." *Public Opinion Quarterly* 43: 359-77.
- Traugott, Michael W., and John P. Katosh. 1981. "The Consequences of Validated and Self-Reported Voting Measures." *Public Opinion Quarterly* 45: 519-35.
- Vilaça, Marcos Vinícios, and Roberto Cavalcanti Albuquerque. 2003. *Coronel, Coronéis: Apogeu e Declínio do Coronelismo no Nordeste*. 4th ed. Rio de Janeiro: Editora Bertrand Brasil.
- "Voto, Eleições e Corrupção Eleitoral." 2008. Belo Horizonte: Vox Populi.
- Zucco, Cesar. 2009. "Ideology or What? Legislative Behavior in Multiparty Presidential Settings." *Journal of Politics* 71: 1076-92.

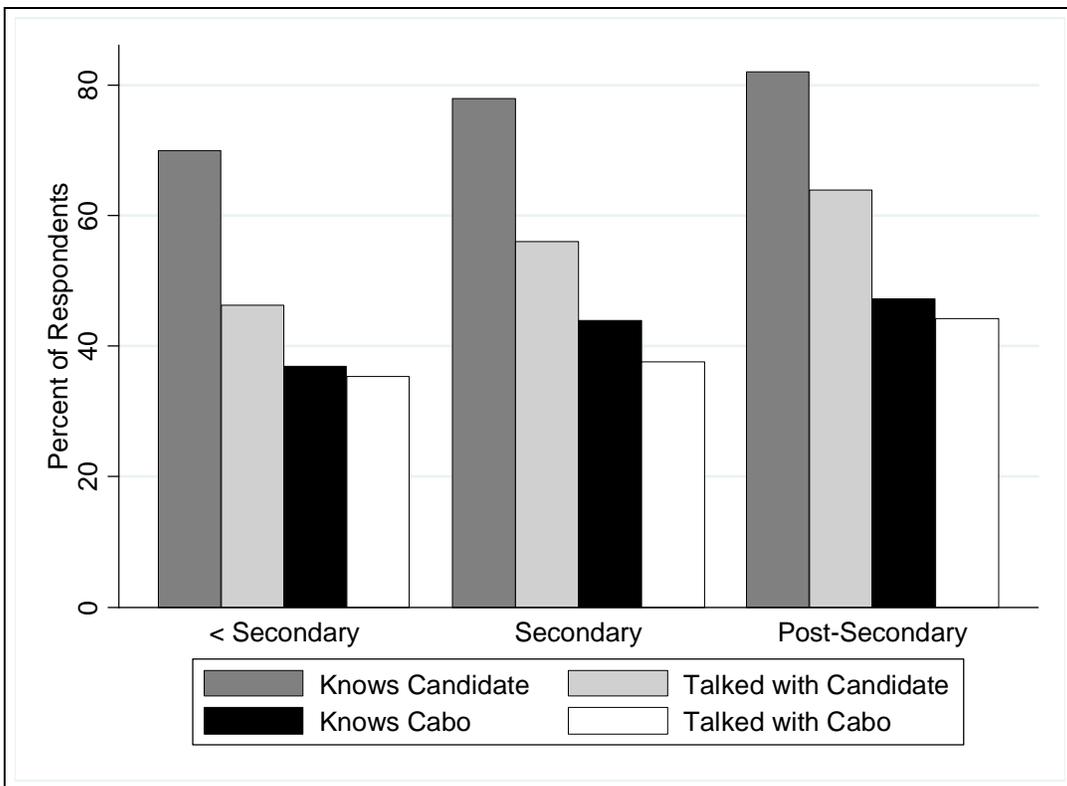
## Figures



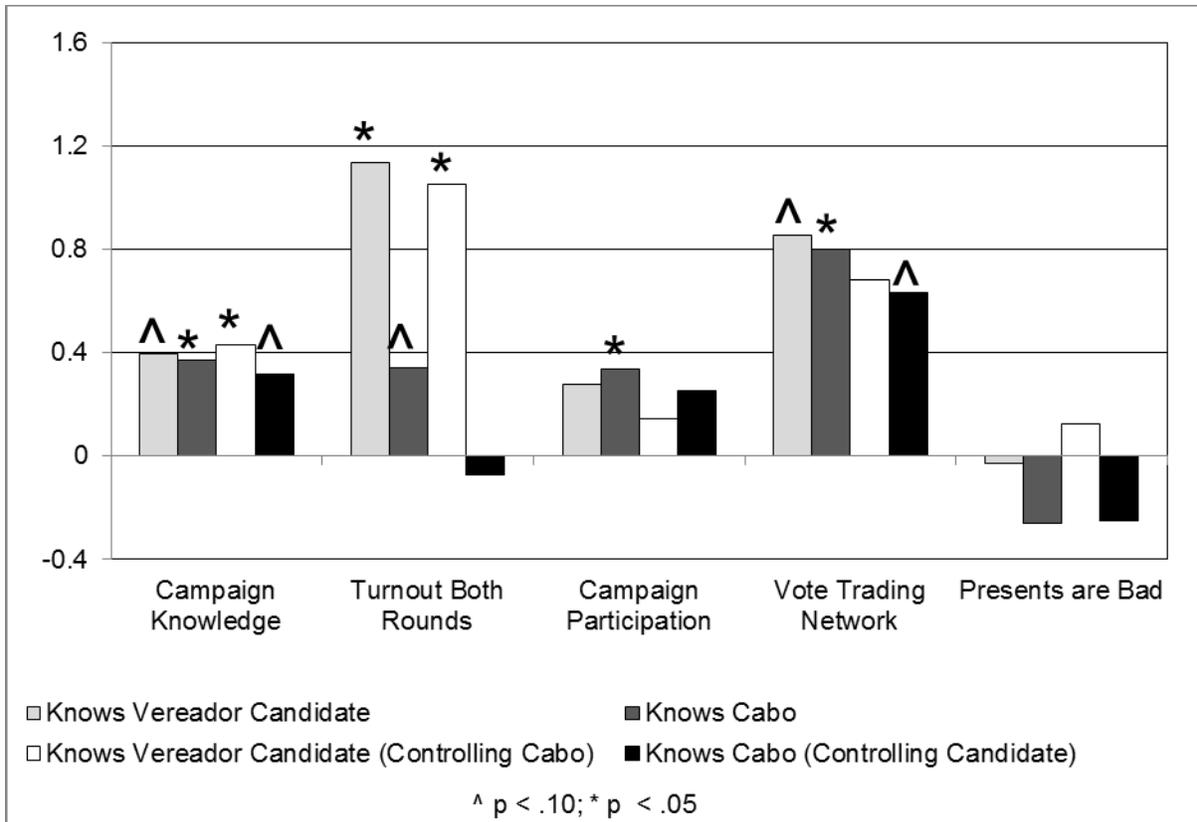
**Figure 1. Political Ties by Political Interest**



**Figure 2. Political Ties by Group Memberships**



**Figure 3. Political Ties by Educational Level**



**Figure 4. The Marginal Effects of Political Ties, by Type, Multivariate Analysis Using Matching**

## Tables

Table 1: Contact with Politicians and *Cabos Eleitorais*

	Percentage
Knows someone who is a candidate for city council	75.6
Knows someone who is a <i>cabo eleitoral</i>	55.5
Talked with a politician who asked for vote	41.4
<i>1-2 politicians</i>	16.5
<i>3-4 politicians</i>	11.3
<i>5 or more politicians</i>	13.7
Talked with a <i>cabo eleitoral</i> who asked for vote	39.3
<i>1-2 cabos</i>	15.1
<i>3-4 cabos</i>	9.0
<i>5 or more cabos</i>	15.2

Note: Percentages are weighted by neighborhood population, sex, and age.

Table 2. The Effect of Political Connections on Electoral Engagement (Using CEM)

	Campaign Knowledge	Turnout Both Rounds	Campaign Participation	Vote Trading Network	Presents are Bad
Political Connections	0.252 (0.254)	1.216*** (0.236)	0.508* (0.210)	1.455** (0.465)	-0.114 (0.286)
Intimate Egocentric Network Size	0.152 (0.098)	-0.023 (0.169)	0.287** (0.107)	-0.147 (0.184)	0.073 (0.140)
General Political Discussion	0.456** (0.147)	0.339 (0.228)	0.596*** (0.165)	0.297 (0.200)	0.167 (0.183)
Education	0.157*** (0.034)	-0.005 (0.039)	-0.043 (0.033)	-0.013 (0.057)	0.111*** (0.031)
Age	0.01 (0.007)	-0.030* (0.012)	-0.007 (0.006)	-0.032** (0.010)	0.017** (0.005)
Interest	0.157^ (0.085)	0.153 (0.156)	0.276* (0.125)	-0.055 (0.118)	0.09 (0.092)
Media attention	0.35 (0.561)	-0.745 (0.880)	0.656 (0.737)	0.389 (1.014)	0.391 (0.575)
Cutpoint 1	1.767* (0.760)	-2.048* (1.004)	0.288 (0.663)	2.342* (1.101)	-0.79 (0.745)
Cutpoint 2	2.889*** (0.796)	-1.375 (0.992)	2.401*** (0.676)	2.721* (1.126)	0.802 (0.684)
Cutpoint 3	3.619*** (0.793)		3.661*** (0.762)	3.131** (1.153)	2.576*** (0.704)
Cutpoint 4	4.409*** (0.775)		4.840*** (0.785)	3.673** (1.142)	
Cutpoint 5	5.200*** (0.786)		5.564*** (0.839)		
Cutpoint 6	6.501*** (0.888)				
<i>Number of observations</i>	503	503	503	503	479
<i>Pseudo R-squared</i>	0.046	0.09	0.052	0.058	0.023

Notes: Models are weighted by neighborhood population, sex, and age. Standard errors in parentheses are robust and clustered by neighborhood. Coefficients are significant at: ^  $p < 0.10$ ; \*  $p < 0.05$ ; \*\*  $p < 0.01$ .

## Appendix. Coarsened Exact Matching

The analysis uses coarsened exact matching in an attempt to mitigate concerns about selection into the two “treatments,” social ties to city council candidates and to *cabos eleitorais*. Appendix Table 1 presents hierarchical models of the factors affecting both types of connections. We see that political interest, education, group memberships, and general political conversation all promote network connections, while residents of higher status neighborhoods tend to have fewer connections to politicians. Given the fact that respondents very obviously self-select into political networks, matching will be important.

Appendix Table 1. Hierarchical logit models: Predictors of Social Network Connections

	Knows a City Council Candidate	Knows a <i>Cabo</i> <i>Eleitoral</i>
Political interest	0.254** (0.076)	0.199** (0.067)
Education	0.040^ (0.023)	0.050* (0.021)
Group memberships	0.489** (0.156)	0.393** (0.118)
Proportion of family and friends from neighborhood	0.057 (0.093)	0.042 (0.085)
Intimate egocentric network size	0.114 (0.083)	0.118 (0.074)
General political conversation	0.340** (0.105)	0.505** (0.099)
Neighborhood education	-0.144* (0.061)	-0.12 (0.077)
<i>Constant</i>	0.390 (0.588)	-1.396* (0.710)
<i>Number of observations</i>	1056	1056
<i>Rho (proportion of variance due to u)</i>	0.02	0.07
<i>Log pseudo-likelihood</i>	-538.28	-656.61

Notes: Models include a neighborhood-level random effect. Standard errors in parentheses. Coefficients are significant at: ^ p < 0.10; \* p < 0.05; \*\* p < 0.01.

The analysis uses coarsened exact matching (hereafter CEM) in an attempt to eliminate threats to causal inference that may derive from observed covariates  $\mathbf{X}$  that affect both the outcome  $Y$  and assignment to a dichotomous treatment  $T \in \{T_c, T_t\}$ , where  $T_c$  and  $T_t$  refer to the value of the treatment in conditions that we will call the treatment and the control (Iacus et al. 2009, 2010). CEM is a simple but powerful method of matching that assigns each observation to a point in  $k$ -dimensional space, where each axis in this space maps a covariate  $X_i, i \in 1, \dots, k$ . Exact matching algorithms retain only those observations located at points occupied by at least one observation for which  $T = T_c$  and at least one observation for which  $T = T_t$ . In other words, all observations in either the treatment or control that do not have an exact match on all values of the covariates are discarded. Traditional exact matching algorithms may lead to loss of the great majority of the data, especially when  $\mathbf{X}$  includes continuous variables for which it may be nearly impossible to find observations with exact matches. CEM's innovation is to "coarsen" the  $X_i$ , grouping similar values on each variable together in theoretically and empirically meaningful ways. A variable for income, for instance, might be recoded into quintiles of the income distribution or, in the Brazilian case, numbers of minimum wages received per month. A variable for educational attainment by year completed might be recoded into school levels (i.e., elementary school, middle school, high school, university). Each "coarsened" variable thus has fewer values, increasing the probability that matches can be found in both the treatment and control without loss of theoretically relevant precision. Each  $k$ -dimensional point in the new, coarsened space is called a stratum or, using the language of histograms, a bin.

Beyond its intuitive simplicity, CEM has a number of advantages as a method of matching. It is a member of the Monotonic Imbalance Bounding (MIB) family of matching algorithms, meaning that the analyst defines the maximum amount of imbalance through the

matching design, rather than discovering the degree of imbalance only after performing the matching algorithm. Second, it meets the *congruence principle*, meaning that the matching algorithm retains the dimensionality of the data, rather than reducing the matching criterion to a unidimensional score such as occurs in propensity score and Mahalanobis distance matching. This avoids the possibility of two very different configurations of the data being mapped onto the same point on a unidimensional scale. Third, it is approximately invariant to measurement error and bounds estimation error in the ultimate causal quantity of interest.

In this paper, I developed a matched sample for each of the three treatment variables separately. I chose to do so rather than to treat them as ordinal components of a single latent variable. These social network features are each theoretically distinct, and an ordinal measure summing the incidences of all three would fail to differentiate among the very different kinds of connections being measured. From a statistical perspective, moreover, combining the three network variables into a single measure for the purpose of matching would result in an over-narrowing of the data set, since the covariates affecting treatment vary from one treatment to another.

Appendix Table 1 describes the features of the matching solution for each of the three treatment variables. The  $L_1$  statistic is a measure of the difference in the proportion of the sample in each stratum and runs from 0 to 1, where 1 represents complete imbalance (i.e., no overlapping strata) and 0 represents complete balance. We can see that each matching solution yielded complete balance on the independent variables included in the model, but that each also resulted in a pruning of the number of observations in both the treatment and control groups. This pruning naturally restricts the conclusions we can draw to the region of common support.

Appendix Table 2. Results from Coarsened Exact Matching on Three Treatment Variables

	Knows Either	Knows a City Council Candidate	Knows a <i>Cabo</i> <i>Eleitoral</i>
L1 (Imbalance) pre-matching	0.637	0.591	0.543
L1 (Imbalance) post-matching	0.000	0.223	0.272
Number of strata	463	463	463
Number of strata matched	91	101	140
Number of treatment observations	879	820	545
Number of treatment observations matched	355	352	313
Number of control observations	199	258	533
Number of control observations matched	153	190	348

Note: Matching performed using cem routine for Stata, developed by Blackwell et al. (2009).