

**The Dynamics of Socially Supplied information:  
Examining Discussion Network Stability over Time**

Anand E. Sokhey, Andy Baker, and Paul Djupe (2015). "The Dynamics of Socially Supplied Information: Examining Discussion Network Stability over Time." *International Journal of Public Opinion Research* 27(4): 565-587.

Anand E. Sokhey  
Assistant Professor  
Dept. of Political Science  
*University of Colorado-Boulder*  
[anand.sokhey@colorado.edu](mailto:anand.sokhey@colorado.edu)  
p. 303-492-6563  
f. 303-492-0978

Andy Baker  
Associate Professor  
Dept. of Political Science  
*University of Colorado-Boulder*  
[Andy.Baker@colorado.edu](mailto:Andy.Baker@colorado.edu)  
p. 303-492-1733  
f. 303-492-0978

Paul A. Djupe  
Associate Professor  
Dept. of Political Science  
*Denison University*  
[djupe@denison.edu](mailto:djupe@denison.edu)  
p. 740-587-6310  
f. 740-587-6601

**Abstract**

It is often assumed that core political discussion networks are stable, governed by self-selection. But do individuals name the same political discussants over time? What factors predict retaining previously named people? And, does the dropping of discussants make networks more homogeneous? Using original panel studies from across the Americas (Brazil, Mexico, and the United States), we present some of the first answers to these fundamental questions. Across cases that vary in national context, geographical scope, and length of time between interviews, a common narrative emerges. There is considerable fluidity in the naming of political discussants through time. However, the forces of agreement and intimacy that drive discussant selection and retention fail to appreciably change the average political leanings within networks.

*Keywords:* social networks, panel data, discussion, disagreement, dyads

Generations of work have demonstrated that interpersonal communication is one of the more important ways through which citizens engage the political world (e.g., Berelson, Lazarsfeld, & McPhee, 1948; Huckfeldt & Sprague, 1995; Laumann, 1973; Lazarsfeld, Berelson, & Gaudet, 1968; Mutz, 2006). Citizens model behavior for others to see and emulate, they recruit one another to become involved in politics, and they communicate—even across lines of difference—to influence each other and shape the breadth of their informational horizons. Thus, the particular people within earshot are essential forces in shaping the public presence of citizens, leading us to devote attention to understanding with whom people talk about politics.

It is often assumed, at least implicitly, that core political discussion networks are stable (e.g., Marsden, 1987). Previous work has discussed the essential tensions between choice and constraint—between agency and structure—involved in shaping discussion networks from a variety of vantage points with various creative designs, though *almost all have been time invariant*. While our understanding of discussant choice has been furthered through investigations of the correlates of the presence of discussants in social networks, a near exclusive reliance on cross-sectional data has limited the kinds of analyses that can be performed and the kinds of questions that can be asked (for related discussions, see Bello & Rolfe, 2014; Eveland, Morey, & Hutchens, 2011; Sokhey & Djupe, 2011). Thus, we know surprisingly little about how political discussion networks change over time. In fact, we lack even basic descriptive data on whether the same people are renamed across waves,<sup>1</sup> we have few to no examinations of the correlates of retention, and we certainly have no comparisons based on time and location. In this paper, we join a slowly growing chorus to remedy this defect by addressing the following

---

<sup>1</sup> For two recent exceptions, see Sinclair (2012) and Bello and Rolfe (2014).

questions: How stable are core political discussion networks? What explains which discussion partners are dropped over time and which are retained? Importantly, does the exercise of individual agency lead to more agreeable networks over time?

To address these questions, we look at panel surveys that contain repeated discussant name generators.<sup>2</sup> These are spaced somewhere between six weeks and four years apart, allowing us to look at short and long term dynamics. We analyze panels of discussant name generators in the Western Hemisphere's three largest countries—Brazil, Mexico, and the United States—thereby incorporating more than just the U.S. context that has largely dominated studies of discussant choice (e.g., Huckfeldt, Johnson, & Sprague, 2004; Mutz, 2006; though see Huckfeldt, Beck, Dalton, & Levine, 2005). Moreover, each survey contains sufficient information to operationalize choice and constraint. By choice (aka agency), we mean individuals' selection of social information sources based upon their preferences—preferences for things such as agreement or learning. In contrast, constraint (aka social structure) refers to how individuals' social environments shape and limit the choice sets from which they select social information sources.

In the end, we find evidence for both choice and constraint—that individuals do exercise agency, but that they may not be able to overcome apparent constraints. There is considerable fluidity in the naming of discussants and evidence that agreement and intimacy facilitate retention. However, processes of discussant selection and retention fail to appreciably move average network characteristics—in other words, we find no evidence that networks become more agreeable as individuals drop and retain certain discussants. Taken together, our findings

---

<sup>2</sup> For a similar approach, see Bello and Rolfe 2014.

build on recent efforts looking at selection and influence (Bello & Rolfe, 2014). The results illuminate what is happening in networks over time and affirm that social structure and individual agency are both important in shaping political networks, regardless of time or place. In the following section, we begin by discussing some of the theoretical imperatives for examining networks over time.

### **Models of Social Information Acquisition and Democratic Politics**

At base, questions about network stability are directly tied to fundamental questions and debates about social information acquisition that have existed since the 1950s. While the Columbia School researchers (Berelson, et al., 1954) considered political networks to be an extension of social groupings such as class and religion, subsequent advances took a more atomistic approach, focusing on the relationship of one person to another and highlighting individual agency. Though these debates were predated by the early conceptual advances of Simmel (1964), they were effective in highlighting sociology versus economics, or, put differently, the tension between social structure (constraint) and individual agency (choice).

In an initial foray within the sociological perspective, *Voting* poses social influence on the vote as beginning—by assumption and by fact—in the family, which is closely connected to the primary social groups of which the family is a part (Berelson, et al., 1954). In their model, heterogeneity may infiltrate personal networks if citizens have friends and political discussion partners from outside of those primary groups, but this choice process remains highly constrained by the broader social environment (in their case the Republican leaning city of Elmira, New York in 1948).

Subsequent investigations into the social influence process continued to presume a close link between network and primary group, only slowly relaxing this assumption through the

explicit measurement of differentiation from the environment. For example, a “primary group first” approach is clear in *Bonds of Pluralism* (Laumann, 1973), in which groups composed of ethnicity, religion, and occupation are the central units of analysis. Here, the fundamental question is about the degree to which these groups are internally unified. Laumann uses an index of dissimilarity, which captures the divergence between social group uniformity within networks and their distributions in the broader environment. Similarly, Fischer (1982, pp. 40-41) assigns to network ties a source through a hierarchical rule prioritizing family over “just friends,” even though the sources may be multiple. His subsequent analyses proceed to probe the diversity of ways in which people are connected, which complicates the initial assumption of hierarchy and points the way forward for future work (e.g., Bearman & Parigi, 2004). These details aside, the essential point that emerges from both efforts is that social structure heavily shapes the content of personal relations—content that proves difficult, though not impossible, to shift.

In the contrasting economic view, socially supplied information is important, but individuals are not at all bound by the social structure (Downs, 1957). In Downs’ classic treatment, individuals seek to reduce the costs of acquiring valuable information to help answer, in this case, political questions. Toward those ends, social sources that are expert and share the values of the information seeker are more highly valued as they most efficiently fill information requests (though see Calvert, 1985). Thus, by assumption, time is irrelevant and social relations are not sticky, which leaves individuals free to flit from person to person depending on which has the best, most germane, and cheapest information.<sup>3</sup>

---

<sup>3</sup> For a more balanced and time-sensitive rational choice perspective on social relations, see Homans (1958).

The contrast could not be starker between these two early perspectives. In the sociological approach, social relations largely flow out of primary social groups like ethnicity, religion, and occupation. Because of the continued embeddedness of individuals within those groups, particular social relations should be relatively stable (Feld, 1997) and only vary when disruptive forces—for example, urbanization or education—come into play (for a related discussion, see Mollenhorst, Volker, & Flap, 2014). By contrast, the economic view of Downs (1957) emphasizes the primacy of individual needs with little consideration of the dictates of ongoing group memberships.

Subsequent research began to explore the obvious tensions and complementarities between these perspectives. Some of the earliest work explored the degree to which individual political engagement (choice) could shape the content of political networks, contingent on the neighborhood (constraint). Huckfeldt and Sprague (1987) found that individuals were not helpless in the face of social pressure, but they also did not have anywhere near total control over who they talked politics with (Huckfeldt, 1986; Huckfeldt & Sprague, 1987). At the same time, the reciprocation of discussant identification (i.e., both ego and alter naming each other) was extraordinarily low, even among spouses, reinforcing the sometimes blurred boundaries of choice and constraint (Huckfeldt & Sprague, 1995). Despite these empirical innovations, the basic tension and lack of resolution remained in the literature, although often under newer names: social cohesion versus structural equivalence (e.g., Burt, 1987; Huckfeldt & Sprague, 1991; Kenny, 1998), the creative interplay between moths and flames (Huckfeldt & Mendez, 2007), the relative stability of networks across experimentally manipulated name generators (Sokhey & Djupe, 2013), and the agency of individuals to find and utilize political experts (Ahn, Huckfeldt, & Ryan, 2010).

For the most part, both generations of research have omitted a description of how social networks change over time from their empirical analyses, largely because they have relied heavily on cross-sectional network measures. This is the case despite the fact that they make strong theoretical statements about the nature of networks through time. Most notably, Huckfeldt and collaborators have developed various creative dynamic models of the selection process, but all the models are seeded by estimates derived from cross-sectional data. In the earliest examination in this regard, Huckfeldt (1986) uses the Detroit Area Study to assess the selection of same-class status discussion partners, finding that there is a significant constraint imposed by the neighborhood context that interacts with personal preference (see also Laumann, 1973). Similarly, Huckfeldt and Sprague (1995) adapt Huckfeldt's (1986) dynamic model. Here, the role of disagreement takes a political form, as encounters are shaped by the supply of discussants in the context, but individuals may exercise choice in selecting discussants, often seeking to avoid disagreement. One difference from Huckfeldt's (1986) research is that Huckfeldt and Sprague (1995) recognize that relationship duration is conditioned by a variety of factors: disagreement, intensity of opinions and discussion, structural setting, and minority status (Huckfeldt & Sprague, 1995, p. 149; see also Huckfeldt, et al., 2004). Though they draw on Downs (1957), their articulation of whether a discussant is named at any moment recognizes two processes—choice and constraint—that are both time dependent.

The difference between the choice and constraint models of social information seeking matters for our understanding of democratic politics. Of particular importance is how each model treats disagreement, and, as such, we drive to the heart of the democratic dilemma posed by Mutz (2006): Disagreement within discussion networks moderates policy attitudes and augments tolerance, but it depresses participation (see also Price, Capella, & Nir, 2002). At the poles, the

democratic dilemma is likely operative and severe. On the one hand, if encounters with those who disagree are fleeting and occasion negative reactions (maximal effects of choice), then individual opinions are seldom tested through clashes with opposing ideas. On the other hand, it is also possible that engagement with disagreeable partners is ongoing and stable (maximal constraint), reinforced by social structural position. In this case, individuals may be overwhelmed with opposition and their political engagement may be restrained. However, there is a third possibility in which both choice and constraint operate, and individuals both meet their own information demands and sustain sufficient motivation to participate in politics (e.g, Djupe & Sokhey, 2014): Respondents may attempt to jettison disagreeable discussants, but the social structure imposes a distribution on their replacements, encouraging engagement with—or, at least, exposure to—the community’s opinions. That is, the sense of repeat play in relationships girded by the social structure may serve an essential role in the normative role of disagreement, providing a gentler challenge and preserving individual agency that is still reasonably constrained by the social structure.

### **Causes of Discussant Retention**

Ultimately, to address these questions and the methodological shortcomings of previous work, one needs theory and data that directly address the persistence of social network construction and, in particular, discussion retention through time. We propose an empirical model of discussant maintenance that explores the central tensions in social network studies between agency and social structure. Fortunately, elements in previous (and comparable “ego-centric”) studies permit us to draw distinctions between the essential aspects of choice and those of structural constraint. Choice items capture features of the discussant relationship that the individual would (presumably) find desirable according to classic theoretical statements (Downs,



1957; Huckfeldt & Sprague, 1995; McPhee, 1963). These include expertise, disagreement, and a lack of conflict. That is, discussion partners are valuable to the extent that they know more than the ego, and their judgments are probably worth more (heuristically) when they are rooted in agreement. Likewise, a partnership may last longer when a respondent need not avoid conflict within it. A reasonable summary measure that captures elements of all three of these features is the frequency of topical discussion within a dyad (e.g., Huckfeldt, 2001). For example, Mutz (2006) notes that agreement facilitates rates of discussion.

In contrast, social structural elements are outside the bounds of immediate individual control. There are myriad ways to capture this, but a sensible way to think of them is as being related to access through shared memberships in a family (e.g., Zuckerman, Dasovic, & Fitzgerald, 2007), organization (e.g., Djupe, Sokhey, & Gilbert, 2007; Finifter, 1974; Huckfeldt et al., 1993; Mutz & Mondak, 2006), or geographical unit (e.g., Baker, 2009; Huckfeldt & Sprague, 1995). A way to characterize the relative importance of structural location is through intimacy, which proceeds from nuclear family to kin to non-kin friends to coworkers and acquaintances (Fischer, 1982). These roles are not independent of each other but may overlap. In this way, we can assess the effect not only of each type of structural tie, but also of the degree of overlapping, additive ties. Furthermore, we consider the extent to which discussion pairs are enveloped within networks of strong ties. While weak ties may be strong disseminators of information (Granovetter, 1974), discussants may be more likely to be retained when network members have strong ties (i.e., they know each other).

### Research Design and Data

To examine the dynamics of discussant retention, we turn to three panel studies: the 2008 Franklin County (U.S.) Presidential Election Panel Study,<sup>4</sup> the 2006 Mexico Panel Study,<sup>5</sup> and the 2002-2006 Two-City Brazil Panel Study (Baker, Ames, & Renno, 2006). Collectively, these datasets provide the benefits of panel data with repeated network name generators—a rarity in work on discussion networks—while incorporating varied national contexts (the United States vs. Latin America), scopes (country vs. community), and lengths of time between panel waves.

The 2008 Franklin County Presidential Election Study was designed in the spirit of classic and contemporary community studies (e.g., Berelson et al., 1948; Huckfeldt & Sprague, 1995).<sup>6</sup> It was crafted with the explicit goal of examining network composition and usage across a presidential election cycle and contains three panel waves: an original sample collected in late March/early April, 2008 (following the Ohio presidential primary), a second survey sent to respondents to the original wave in mid-September (after the parties' conventions and during the heart of the campaign), and a final follow-up conducted in mid-November after the general election. The time gap between waves one and two—that is, between the primary and

---

<sup>4</sup> The panel grew out of an initial sample of registered voters surveyed following the 2008 Ohio presidential primary (additional information redacted for submission).

<sup>5</sup> Project personnel and funding sources related to the Mexico 2006 Panel Study have been redacted for submission.

<sup>6</sup> Franklin County (Columbus, Ohio) is in many ways representative of the U.S. electorate (Hawkings & Nutting 2003). The initial sample (and panel) generally mirrors the 2008 American National Election Study (ANES) in terms of its partisan and ideological composition.

conventions, which we focus on here—was five months. Our analyses are limited to panelists who completed all three waves of the study.<sup>7</sup> In each wave, respondents (i.e., “R,” or the egos) were asked over 30 questions about their self-reported networks (i.e., “D,” their alters, or discussants) that were in place the month prior to receiving the survey.<sup>8</sup>

The 2006 Mexico Panel Study is the only nationally representative sample of our three datasets, but it is similar in spirit to the Franklin County Study in that it sought to track changes

---

<sup>7</sup> 4,548 registered voters were randomly sampled from the Franklin County voter file and sent a mail questionnaire (930 sampled voters proved to have invalid addresses). 817 respondents completed the initial survey, producing a response rate of 22.6% for the March sample (AAPOR response rate 2). Follow-up surveys were then sent to (eligible) respondents—496 returned the post-convention questionnaire (response rate 2, 61.9%), and 493 the post-election survey (response rate 2, 61.8%). 404 eligible respondents completed all three questionnaires for an overall panel retention rate of 50.6%. Importantly, difference-in-means tests reveal no evidence that initial levels of average network agreement were related to individuals’ decisions to stay in the panel.

<sup>8</sup> The wording of the Franklin County name generator was as follows: “From time to time, people discuss government, elections and politics. Looking back over the last few months, we would like to know the people you talked with about these matters. These people might be relatives, spouses, friends, or acquaintances. Please think of the first four people that come to mind, and circle the answer to each question for each person.” Respondents reported on the characteristics of their named discussants in each wave. We use the information on reported discussant characteristics in the initial wave to model retention.

in political behavior during a presidential election cycle. It too had three waves, although we use only wave two (May) and wave three (July, within two weeks after the July 2 election).<sup>9</sup> These two waves contained political discussant name generators, with egos asked to name the three people with whom they most discussed politics (Baker, 2009).<sup>10</sup> Egos were then asked a few follow-up questions about each alter. These data are not as rich as the American community study data, but the battery did capture some essential elements of choice (i.e., disagreement) and structural constraint (*via* the nature of their relationship—e.g., spouse or work friend, etc.).

Finally, the Two-City Brazil Study (with representative samples of the mid-sized cities Caxias and Juiz de Fora) offers a different value-added characteristic: repeated questions across election cycles. We use waves two and five of this six-wave panel study, which spanned the

---

<sup>9</sup> In Mexico, the first wave response rate was 56%, calculated as the number of completed interviews divided by the number of houses contacted. The rate of panel retention between waves two and three was 66%, calculated as a percent of wave two respondents who responded in wave three. There is some evidence that those who responded to waves two and three (i.e., the panelists) had more agreeable networks than those who responded to wave two but then fell out in wave three, although the substantive effect is small (mean agreement for panelists = .67; mean agreement for non-panelists = .60,  $t = 2.3$ ,  $df = 919$ ). Respondents reported on the characteristics of their named discussants in each wave. We use the information on reported discussant characteristics in the initial wave to model retention.

<sup>10</sup> The wording of the Mexico name generator was as follows: “Could you name the three persons with whom you most frequently talk about politics? Would you mind telling me the first and last name, or just the first name and the last name initial?”

October 2002 and October 2006 presidential elections.<sup>11</sup> Wave two occurred in August 2002, just before the legal start to the media campaign but two months after the campaign's official start. Wave five in June 2006 occurred at a similar time relative to the 2006 presidential election contest. These were the waves of the project with political discussant name generators—egos were asked to name the three people with whom they most discussed politics, and they then provided follow-up information about relationships with and vote preferences of their alters.<sup>12</sup>

The panel designs thus offer different time gaps between name generators, but the three different country settings also provide important variation in party systems. The United States has a balanced two-party system, whereas Mexico and Brazil have multiparty systems. This naturally affects the underlying rates of agreement (Huckfeldt, Ikeda, & Pappi, 2005) and the availability of disagreeing potential discussion partners. For example, in the United States in 2008, the probability that two randomly chosen voters agreed on their candidates, given the presidential election outcome, was .49, whereas these probabilities were lower for the respective

---

<sup>11</sup> In Brazil, the first wave response rate was 74%, calculated as the number of completed interviews divided by the number of houses contacted. The rate of panel retention between waves two and five was 44%, calculated as a percent of wave two respondents who responded in wave five. Difference-in-means tests reveal no evidence that initial levels of average network agreement relate to panel attrition.

<sup>12</sup> The wording of the Brazil name generators was as follows: "Could you please indicate the names of the three people with whom you most converse about politics?" Respondents reported on the characteristics of their named discussants in each wave. We use the information on reported discussant characteristics in the initial wave to model retention.

elections in Mexico (.32) and Brazil (.32 in 2002 and .41 in 2006). Importantly, one commonality across the three studies is particularly advantageous: Interpersonal agreement is measured in the same way, as “partisan,” or, technically, candidate-based agreement (Klofstad, Sokhey, & McClurg, 2013). Respondents were asked to name their own vote preference and to indicate the preferences of their discussants.<sup>13</sup>

Of course, given the countless cultural, historical, and institutional differences among the three countries, we will be unable to pinpoint the precise cross-national source of variation in results should they emerge. If results are similar, however, we can be more confident in claiming that the underlying dynamics of discussant retention are invariant to national contexts. This identification of descriptive and inferential patterns is a reasonable first step that can help researchers design future studies that select on appropriate institutional or cultural variations.

In the following sections, we first present descriptive statistics on the naming of network discussion partners over multiple waves and across the three studies. We then model this retention of discussants across time periods, building from the frameworks of choice and constraint. Next, we turn to explore the network implications of individual agency, modeling whether average levels of agreement in networks shift in response to the dropping of discussants.

---

<sup>13</sup> There are points of comparability and non-comparability in the wordings of the name generators in the three studies (for a review of this methodology, see Sokhey & Djupe, 2013). All three request explicitly political discussants, and all three provided a maximum number of discussants in the query. The main divergence is that the Franklin County (American community) sample provided a cap of four discussants, while the two Latin American samples capped the number of discussants at three.

Finally, we take up one last observable implication of the dynamics of choice and constraint: the shifting of prioritization of retained discussants, as captured by changes in the order in which they were named (Huckfeldt & Sprague, 1995).

### **Network Retention: Descriptive Statistics**

To examine the naming of discussants across time, we had research assistants record which discussant names were mentioned in both waves.<sup>14</sup> Descriptive results are reported in Table 1. Our level of analysis is the dyad, and we report the rate of discussant retention as the percentage of discussants named in the earlier wave that were renamed in the later wave.

*[Insert Table 1 about here]*

Two findings jump out with respect to the percentages reported. First, and perhaps most importantly, we find that the highest retention rate is only 53%. In other words, we do not observe a pattern where the same discussants are always re-named. If name generators capture core networks (Klofstad et al., 2009; Marsden, 1987; Sokhey & Djupe, 2013), they clearly appear to be capturing different parts of the core at different times (a point to which we will return shortly). Second, time clearly affects the rate of retention. The results in Table 1 are

---

<sup>14</sup> In the Franklin County study, not all respondents wrote down identifiable information (either first names, initials, or other markings) that could be used to directly code discussant dyads across panels. Thus, our examination of discussant (re-) naming is limited to the approximately 60% of panelists (244) that provided names or initials that could be matched. Difference-in-means tests revealed no evidence that there is something systematically different about respondents who provided names versus those who filled out the battery but left name slots blank.

arranged according to the increasing time gap between respondent re-interviews. When the gap is six months or less, the rates of retention hover around 50%. Notably, these figures are very similar to those found by Bello and Rolfe (2014) in their study of repeated name generators within a single U.K. election campaign: About half of discussants reappear in later waves. Similarly, Sinclair (2012) finds, using just a one-month gap in the United States during its 2008 campaign, that 23% of respondents repeated no names while only 22% of renamed all discussants. As the time between interviews grows, the percentage of discussants renamed drops, hitting a trough of 28% over the four-year time gap in Brazil. Time matters, then, but the difference in the rate of retention between a two-month gap and a 48-month gap is only 25 percentage points. In sum, the more overwhelming pattern is one of remarkable fluidity in discussion networks through time, which calls us to examine the factors that predict discussant retention.

### **Modeling Discussant Retention**

Our models of discussant retention appear in Tables 2 (Franklin County) and 3 (Latin America). Although there are a number of differences in the specific measures available to us across the data sets (with the Franklin County study containing much more detailed discussant information), all three allow us to examine basic elements of choice and constraint as they structure network composition over time. The list of independent variables includes various measures of respondent traits, discussant traits, and the nature of their relationship. The appendix details how each of our independent variables is measured. For each data set, we use logistic regression to predict discussant retention as a function of respondent and relational traits. The unit of analysis is the dyad, and the dependent variable is 1 for a retained discussant and 0 for a dropped discussant. Standard errors are clustered on the respondent to account for non-



independence, because respondents can appear multiple times (depending on the number of discussants they named in the earlier wave) in the dataset (e.g., Gujarati & Porter, 2009; Steenbergen & Jones, 2002).

*[Insert Tables 2 and 3 about here]*

Across samples, respondent traits such as education and interest play a minimal role in structuring re-naming. Younger adults are more likely to retain discussants in Franklin County and Mexico, and the wealthy are more likely to retain them in Brazil. In the United States, male respondents are about 12 percentage points less likely to re-list a discussant as they go from one electoral context to another (i.e., over the five months from the primary to the general election).<sup>15</sup>

Rather, the most explanatory purchase is found in the covariates capturing structure (i.e., the respondent's relationship with the discussant). The dominant effect across all settings is whether the discussant is a spouse or (when spouse was not asked, as in Mexico) a close relative. Spouses are quite likely (roughly 30 percentage points more so in Franklin County) to re-list

---

<sup>15</sup> We do not give gender issues more attention as, unfortunately, we do not have the gender of named discussants in the Brazil and Mexico studies. However, we would note that in the Franklin County (U.S. community) data a number of interesting additional patterns emerge when incorporating the gender of the discussant, and information on the content of discussions (another unique feature of these data). In addition to finding that women are less likely to drop discussants (Table 2), and that re-named female discussants are more likely to be demoted (Table 6), additional analysis reveals that when women do switch-out discussion partners, that the result is more focused topical discussion (i.e., the discussion of fewer issues within networks).

each other as political discussion partners, and this effect size is mirrored in the Brazil data. In both Latin American settings, persons listed as friends (the baselines) are more likely to be dropped than spouses and close relatives, with other kinds of relatives often falling somewhere in between. Interestingly, in the data where we can most thoroughly operationalize structural constraints—the U.S. case—the number of contexts in which the respondent sees the discussant face to face (including the neighborhood, church, workplace, and organization) has no effect on re-naming (bottom, Table 2). That said, when the discussant knows other named discussants (our only approximation of network density in these data sets), discussants are about 20 percent more likely to be re-named.

Of course, we see quite a bit of evidence that forces relating to choice also influence discussant retention. Agreement matters across all three studies; the effect sizes are comparable in Latin America and are slightly bigger in Franklin County. In Brazil and Mexico, dyads featuring agreement in the earlier wave are more likely to survive than those featuring disagreement; in Franklin County, agreement on a presidential candidate in the first wave predicts retention in the subsequent wave. Further, in the U.S.-based community study, an additional important force is frequency of interaction. As we might expect, the more frequently a respondent talks with a discussant, the more likely she is to re-name that discussant. In sum, we find evidence that both structure and choice matter for discussant retention. The structural availability of one's spouse is a major determinant of maintenance, whereas on the choice side, individuals tend to be less likely to retain discussants with whom they disagree.

### **Do Patterns of Retention Make Networks More Agreeable?**

Because agreement is one criterion that respondents use when deciding which discussants to retain, a resulting assumption might be that networks should converge toward political unity

over time. If so, this would highlight the primacy of choice. We investigate this possibility with three OLS models, each reported in Table 4. The dependent variable is the average amount of agreement in R's network at time two, measured as the share of named discussants with whom they agree. The unit of analysis is now the respondent. The key independent variables are the number of discussants dropped between times one and two, as well as a lagged dependent variable (i.e., network agreement at time one). We also control for network size.

*[Insert Table 4 about here]*

The results clearly show that individuals do not tidy up their networks to make them more agreeable through time, as the dropping of discussants has no effect on the average level of agreement in networks. The coefficients on the number of dropped discussants across all three models are statistically indistinguishable from zero. Instead, the baseline level of agreement at time one appears to lock in the degree of agreement at time two as long as the time gap is short; the much smaller coefficient in Brazil suggests that the effect decays across the four-year difference in waves. The interpretation of these effects is open, but one likely explanation is that while individuals may exercise choice over particular discussion partners, their replacements continue to be drawn from the same pool—one with equivalent average political leanings. Therefore, individuals prioritizing agreement in retention decisions do not reify self-selection, and this does not mean that the balance of information they receive changes. Instead, these results indicate that individual agency lives in tension with structural constraints, at an equilibrium shaped by the bounded strength of individual preference.

### **Do Individuals “Shuffle” Retained Discussants?**

Of course, retention decisions are not the only data that can be gleaned from name generators in a panel design. Respondents also list discussants in a certain order, and from a

substantive perspective there is reason to think that name order matters. Existing work has found that order tends to track with frequency of discussion and agreement—it is structured by intimacy and access (Beck, 1991, 2002; Burt, 1986; Huckfeldt & Sprague, 1995, pg. 109-110), and is related to the accessibility of the discussants' attitudes (Huckfeldt 2007; Huckfeldt, Levine, Morgan, & Sprague, 1998). While “sociometric order” is a methodological artifact of obtaining networks from survey questions, it potentially conveys important information about the structure of social networks (specifically, “the core”), and about how individuals use their networks.

Across waves of a panel, some of the discussants retained in the network are promoted in the order listed, while some are demoted. Consider Table 5, which reports the percentage of retained respondents who were promoted (i.e., moved up in the order in which they were named), demoted (i.e., moved down in the order in which they were named), or left unmoved. In Franklin County, the modal occurrence (just under half) among retained discussants was promotion, whereas in Latin America respondents tended to mention their retained discussants in the same order. Do demotion and promotion conform to the same dynamics as retention? Is this an information rich signal or random noise?

*[Insert Table 5 about here]*

In Table 6 we model demotion (1 if demoted, 0 if promoted or mentioned in the same order) with much the same list of independent variables as used in Tables 2 and 3. The unit of analysis is again the dyad, although we now limit the sample to dyads with a retained discussant. While there is some variation in the dynamics of demotion across studies, the evidence indicates that it is not simply random reordering. In the Franklin County data, a number of relational variables affect demotion. Perhaps most importantly, those who share a presidential candidate

choice are 16 percentage points less likely to be demoted, as are those who have more frequent political discussions (by 14 percentage points). Women are more likely to be demoted, reinforcing some findings that women's political contributions tend to be devalued in networks (Djupe & Sokhey, 2013; Mendez & Osborn, 2010). And, consistent across two studies, spouses are much less likely to be demoted.

*[Insert Table 6 about here]*

The results in the Latin American studies are shaded more strongly toward social structure. In contrast to the results of the Franklin County model, several respondent characteristics have significant effects, but in ways that are roughly inconsistent: The wealthy are more likely to demote discussants in Mexico, but higher education predicts less demotion in Brazil. Younger males are more likely to demote their discussants in Brazil, though these effects are not present in the other studies. Most notably, agreement does not have an effect in the two Latin American studies; the signs are negative, but the coefficients are small. Instead, family ties in both studies have relatively strong, negative effects on demotion. In sum, although the evidence is less conclusive when it comes to “shuffling” behavior, looking across the three studies we again see evidence of choice and constraint at work, even when we limit our focus to retained discussants.

### **Conclusion**

Using panel studies with repeated network name generators, we have presented one of the first investigations—and to the best of our knowledge, the only cross-national comparison—of whether and how interpersonal discussion networks change over time. The three studies vary on a number of important dimensions, but many of the results are clear, consistent, and remarkable. There is considerable fluidity in the political networks of the mass public. Individuals are

upending sizable portions of their social worlds, churning through discussants as they navigate the political realm. This happens across countries and grows stronger across time. Moreover, these observed shifts in the composition of networks and discussion partners are driven by a confluence of individual agency under structural constraints.

At this point, we have no reasonable indication that these results are the product of measurement error or flawed survey questions—after all, they stem from classic ways of thinking about and measuring social network content. Instead, we are led to think more broadly about the role that the social context plays in providing a continuing supply of discussion partners from a distribution. That is, though there is considerable churning in citizens' social networks, that fluidity continues to refresh a politically equivalent core network. The results from experiments with name generators—although from a cross-sectional perspective—indicate as much; there is a great deal of similarity in core networks, indicating that discussion partners serve many masters (Klofstad et al., 2009; Mollenhorst, Volker, & Flap, 2014; Sokhey & Djupe, 2013). Even for special purpose networks, individuals are drawing from the same social structural location to populate them.

From this perspective, resistance to shifts in the network come from the preferences of individuals, as well as from structurally reinforced relationships such as family and group membership. However, note our rhetorical shift in the previous sentence, which is gained from considering time. Both structure and choice can signal resistance to broader forces in the social environment that bring potential discussion partners in front of citizens. Previous work has certainly acknowledged the tension between the context and the network, indicating that individuals are forced to select discussion partners from those accessible (Huckfeldt et al., 2004; Huckfeldt & Sprague, 1995). What that work has not done is acknowledge the dual role played

by the social environment, which can provide reinforcement for particular relationships while encouraging fluidity through supply (see also Bello & Rolfe, 2014, for a similar discussion).

The consistency of the results obtained across communities and countries, around distinct electoral events, and over varying periods of time suggests that scholars should pay close attention to what are (potentially) universal social dynamics. However, given that there was essentially no way to know these reported outcomes prior to analyzing these data, the choice of cases (the design) was not composed to test for the differential effects of institutions, the political environment, or cultural differences. That is clearly an avenue for future study, in which we could usefully begin to understand if there is an institutional or cultural path that encourages dialogue across lines of difference, or whether there truly are universal tensions between choice and constraint.

### References

- Ahn, T. K., Huckfeldt, R., & Ryan, J. B. (2010). Communication, influence, and informational asymmetries among voters. *Political Psychology, 31*(5), 763-787. doi: 10.1111/j.1467-9221.2010.00783.x
- Baker, A. (2009). Regionalized voting behavior and political discussion in Mexico. In J. I. Domínguez, C. Lawson, & A. Moreno (Eds.), *Consolidating Mexico's democracy: The 2006 presidential campaign in comparative perspective* (pp. 71-88). Baltimore, MD: Johns Hopkins University Press.
- Baker, A., Ames, B., & Renno, L. R. (2006). Social context and campaign volatility in new democracies: Networks and neighborhoods in Brazil's 2002 elections. *American Journal of Political Science, 50*(2), 382-399. doi: 10.1111/j.1540-5907.2006.00190.x
- Bearman, P. B. & Parigi, P. (2004). Cloning headless frogs and other important matters: Conversation topics and network structure. *Social Forces, 83*(2), 535-557. doi: 10.1353/sof.2005.0001
- Beck, P. A. (1991). Voters' intermediation environments in the 1988 presidential contest. *Public Opinion Quarterly, 55*(3), 371-394. doi: 10.1086/269269
- Beck, P.A. (2002). Encouraging Political Defection: The Role of Personal Discussion Networks in Partisan Desertions to the Opposition Party and Perot Votes in 1992. *Political Behavior, 24*(4), 309-337. doi: 10.1023/A:1022549726887
- Bello, J. & Rolfe, M. (2014). Is influence mightier than selection? Forging agreement in political discussion networks during a campaign. *Social Networks, 36*, 134-146. doi: 10.1016/j.socnet.2013.06.001



- Berelson, B. R., Lazarsfeld, P. F., & McPhee, W. M. (1954). *Voting*. Chicago: University of Chicago Press.
- Burt, R. S. (1986). A note on sociometric order in the General Social Survey network data. *Social Networks*, 8(2), 149-74. doi: 10.1016/S0378-8733(86)80002-8
- Burt, R. S. (1987). Social contagion and innovation: Cohesion versus structural equivalence. *American Journal of Sociology*, 92, 1287–1335.
- Calvert, R. L. (1985). The value of biased information: A rational choice model of political advice. *Journal of Politics*, 47(2), 530-555.
- Djupe, P. A., & Sokhey, A. E. (2014). The distribution and determinants of socially-supplied political expertise. *American Politics Research*, 42(2), 199-225. doi: 10.1177/1532673X13486924
- Downs, A. (1957). *An economic theory of democracy*. New York: Harper & Row.
- Eveland, W. P., Jr., Morey, A. C., & Hutchens, M. J. (2011). Beyond deliberation: New directions for the study of informal political conversation from a communication perspective. *Journal of Communication*, 61(6), 1082-1103. doi: 10.1111/j.1460-2466.2011.01598.x
- Feld, S. L. (1997). Structural embeddedness and stability of social relations. *Social Networks*, 19(1), 91-95. doi: 10.1016/S0378-8733(96)00293-6
- Fischer, C. S. (1982). *To dwell among friends: Personal networks in town and city*. Chicago: University of Chicago Press.
- Granovetter, M. (1973). The strength of weak ties. *American Journal of Sociology*, 78, 1360–80.
- Gujarati, D. & Porter, D. 2009. *Basic econometrics*. Boston: McGraw-Hill Irwin.

- Guttman, A. & Thompson, D. (1996). *Democracy and disagreement*. Cambridge: Belknap Press.
- Hawkings, D., & Nutting, B., eds. (2003). *CQ's politics in America 2004: The 108<sup>th</sup> Congress (politics in America)*. Washington, DC: Congressional Quarterly Press.
- Homans, G. C. (1958). Social behavior of exchange. *American Journal of Sociology* 63(6), 597-606.
- Huckfeldt, R. (1986). *Politics in context: Assimilation and conflict in urban neighborhoods*. New York: Agathon Press.
- Huckfeldt, R. (2001). The social communication of political expertise. *American Journal of Political Science*, 45(2), 425-438. doi: 10.2307/2669350.
- Huckfeldt, R., Beck, P., R. J. Dalton, & J. Levine. (1995). "Political Environments, Cohesive Social Groups, and the Communication of Public Opinion." *American Journal of Political Science* 39(4): 1025-54. doi: 10.2307/2111668
- Huckfeldt, R., Ikeda, K., & Pappi, F. (2005). Patterns of disagreement in democratic politics: Comparing Germany, Japan and the United States. *American Journal of Political Science*, 49(3), 497-514. doi: 10.1111/j.1540-5907.2005.00138.x
- Huckfeldt, R., Levine, J., Morgan, W., & Sprague, J. (1998). Election campaigns, social communication, and the accessibility of perceived discussant preference. *Political Behavior* 20(4), 263-294. doi: 10.1023/A:1024866630373
- Huckfeldt, R., & Sprague, J. (1991). Discussant effects on vote choice: Intimacy, structure, and interdependence. *Journal of Politics*, 53(1), 122-58. doi: <http://dx.doi.org/10.2307/2131724>
- Huckfeldt, R., & Sprague, J. (1995). *Citizens, politics, and social communications: Information and influence in an election campaign*. Cambridge: Cambridge University Press.

- Huckfeldt, R., Johnson, P. E., & Sprague, J. (2004). *Political disagreement: The survival of diverse opinions within communication networks*. Cambridge: Cambridge University Press.
- Klofstad, C., McClurg, S., & Rolfe, M. (2009). Measurement of political discussion networks: A comparison of two 'name generator' procedures. *Public Opinion Quarterly*, 73(3), 462-83. doi: 10.1093/poq/nfp032.
- Klofstad, C., Sokhey, A. E., and McClurg, S. (2013). "Disagreeing about disagreement: How conflict in social networks affects political behavior." *American Journal of Political Science*, 57(1), 120-134. doi: 10.1111/j.1540-5907.2012.00620.x
- Lazarsfeld, P. F., Berelson, B., & Gaudet, H. (1968). *The people's choice: How the voter makes up his mind in presidential campaigns*, 3rd ed. New York: Columbia University Press.
- Laumann, E. O. (1973). *Bonds of pluralism: The form and substance of urban social networks*. New York: John Wiley and Sons.
- Marsden, P. V. (1987). Core discussion networks of Americans. *American Sociological Review*, 52(1), 122-131.
- McPhee, W., with Smith, R. B., & Ferguson, J. (1963). A theory of informal social influence. In McPhee, W., (ed.), *Formal theories of mass behavior* (pp. 74-103). London: Collier-Macmillan, Free Press.
- Mendez, J., & Osborn, T. (2010). Gender and the perception of knowledge in political discussion. *Political Research Quarterly*, 63(2), 269-279. doi: 10.1177/1065912908328860
- Mollenhorst, G., Volker, B. & Flap, H. (2014). Changes in personal relationships: How social contexts affect the emergence and discontinuation of relationships. *Social Networks*, 37, 65-80. doi: 10.1016/j.socnet.2013.12.003

- Mutz, D. C. (2006). *Hearing the other side: Deliberative versus participatory democracy*. Cambridge: Cambridge University Press.
- Price, V., Cappella, J., & Nir, L. (2002). Does disagreement contribute to more deliberative opinion? *Political Communication*, *19*(1), 95-112. doi: 10.1080/105846002317246506.
- Simmel, G. (1964). The web of group affiliations. In Wolff, K. H., & Bendix, R. (Eds.), *Conflict and the web of group affiliations*. Trans. R. Bendix. New York: Free Press.
- Sinclair, B. (2012). *The social citizen: Peer networks and political behavior*. Chicago: University of Chicago Press.
- Sokhey, A. E., & Djupe, P. A. (2011). Interpersonal networks and democratic politics. *PS: Political Science and Politics*, *44*(1), 55-59. doi: 10.1017/S1049096510001861.
- Sokhey, A. E., & Djupe, P. A. (2013). Name generation in interpersonal political network data: Results from a series of experiments. *Social Networks* *36*, 147-161. doi: 10.1016/j.socnet.2013.02.002.
- Steenbergen, M., & Jones, B. (2002). Modeling multilevel data structures. *American Journal of Political Science*, *46*(1), 218-237. doi: 10.2307/3088424.
- Zuckerman, A. S., Dasović, J. & Fitzgerald, J. (2007). *Partisan families: The social logic of bounded partisanship in Germany and Britain*. New York: Cambridge University Press.

## Tables

<b>Table 1: Descriptive Statistics, Political Discussant Retention (Dyads)</b>			
Quantity of Interest:	<b>Mexico 2006<sup>a</sup></b>	<b>Franklin<sup>b</sup> County, OH 2008</b>	<b>Two-City<sup>c</sup> Brazil, 2002 - 2006</b>
<i>Time Between Waves</i>	Waves 2 to 3 (2-month gap)	Wave 1 to 2 (5-month gap)	Waves 2 to 5 (4-year gap)
<i>% Discussants Renamed in Subsequent Wave</i>	52.9%	46.4%	28.2%
<i>Number of Dyads</i>	2,155	968	3,743

Source: <sup>a</sup> 2006 Mexico Panel Study; <sup>b</sup> 2008 Franklin County Presidential Election Study; <sup>c</sup> Two City Brazil Panel Study

**Table 2: Correlates of Political Discussant Retention  
Franklin County, OH 2008**

Covariates:	Retained from Wave 1 to 2 (5-month gap)			$\Delta^b$
	$\beta^*$	(SE) <sup>a</sup>	<i>p</i>	
<i>Respondent (R) Traits</i>				
R's age	-.01	(.01)		
R's income	.05	(.07)		
R's education	-.01	(.08)		
R is male	-.50	(.20)	**	-.12
R's political interest	-.17	(.18)		
R's partisan strength	.10	(.09)		
<i>Relational Traits</i>				
D knows more about politics than ego	.18	(.20)		
D-R agree: both voting for same candidate	.39	(.18)	**	.10
Discussion frequency b/w D and R	.67	(.14)	***	.32
R is conflict avoidant w/ D	-.27	(.22)		
D is female	-.23	(.16)		
D knows other discussants of R	.77	(.35)	**	.19
D is R's spouse	1.25	(.22)	***	.29
Contexts shared w/ D	.09	(.12)		
Constant	-1.83	(.85)	**	

N=740,  $\chi^2=119.78^{***}$ ,  
pseudo  $r^2=.14$

Model statistics

Source: 2008 Franklin County Presidential Election Study.

<sup>a</sup> Standard errors are clustered by main respondent.

<sup>b</sup> Change in predicted probability in *Y* across full range of independent variable (with other covariates held at their means).

\*\*\*  $p < .01$ , \*\*  $p < .05$ , \*  $p < .10$  (two-tailed tests)

**Table 3: Correlates of Discussant Retention, Latin America: Mexico 2006 & Brazil 2002-06**

Covariates:	Mexico 2006: Retained from Wave 2 to 3 (2-month gap)				Brazil, 2002-2006: Retained from Wave 2 to 5 (4-year gap)			
	$\beta^*$	(SE) <sup>a</sup>	<i>p</i>	$\Delta^b$	$\beta^*$	(SE) <sup>a</sup>	<i>p</i>	$\Delta^b$
<i>Respondent (R) Traits</i>								
R's age	-.01	.00	***	-.20	-.00	.00		
R's wealth	.04	.18			.07	.04	*	.15
R's education	.01	.02			.01	.01		
R is male	.02	.06			-.07	.05		
R's political interest	-.03	.04						
R's general discussion frequency (not w/ D)	-.00	.03			-.01	.04		
R's partisan strength	.00	.04			-.04	.05		
<i>Relational Traits</i>								
D-R agree: both voting for same candidate	.12	.06	*	.05	.11	.05	**	.04
D-R agree: both abstaining or undecided	-.15	.28			.14	.14		
D-R disagree (baseline)	—				—			
D is R's close relative	.33	.08	***	.13				
D is R's distant relative	.10	.10						
D is R's acquaintance	.16	.08	*	.06				
D is R's friend (baseline)	—							
D is R's spouse					.72	.13	***	.27
D is R's child					.52	.14	***	.19
D is other kind of relative of R					.46	.12	***	.16
D is R's neighborhood friend					.17	.13		
D is R's work or school friend					-.13	.13		
D is other kind of friend of R (baseline)					—			
Constant	.06	.17			-1.36	.26		
Model statistics	N=2,120, $\chi^2=38.67^{***}$ , pseudo $r^2=.02$				N=3,164, $\chi^2=139.71^{***}$ , pseudo $r^2=.04$			

Sources: Mexico 2006 Panel Study, Two-City Brazil Panel Study

<sup>a</sup> Standard errors are clustered by main respondent.

<sup>b</sup> Change in predicted probability in *Y* across full range of independent variable (with other covariates held at their means).

\*\*\*  $p < .01$ , \*\*  $p < .05$ , \*  $p < .10$  (two-tailed tests)

**Table 4: Does Discussant Retention Make Networks More Agreeable?**

Predicting Average Network Agreement, Time 2

Covariates:	<b>Mexico 2006</b>		<b>Franklin County, OH 2008</b>		<b>Brazil Two City, 2002-2006</b>	
	$\beta^*$	(SE)	$\beta^*$	(SE)	$\beta^*$	(SE)
<i>Network Characteristic</i>						
<i>Controls</i>						
Average agreement, time 1 (lagged DV)	.40***	(.04)	.43***	(.06)	.12***	(.04)
Network size, time 1	.01	(.02)	.01	(.03)	.02	(.03)
<i>Respondents' Behavior</i>						
Number of discussants dropped between times 1 and 2	.01	(.02)	.00	(.02)	.01	(.02)
Constant	.39***	(.06)	.47***	(.13)	.52***	(.08)
Model statistics	N=567, F=34.5***, adj. R <sup>2</sup> =.17		N=227, F=16.03***, adj. R <sup>2</sup> =.17		N=650, F=3.26**, adj. R <sup>2</sup> =.01	

Source: 2008 Franklin County Presidential Election Study. Mexico 2006 Panel Study, Two-City Brazil Panel Study

Note: Unit of analysis is main respondent (panelist); analysis is conducted on network averages. \*\*\*  $p < .01$ , \*\*  $p < .05$ , \*  $p < .10$  (two-tailed tests)



**Table 5:** Descriptive Statistics, The Order of Naming among Retained Discussants (Dyads)

% of Dyads that:	<b>Mexico 2006<sup>a</sup></b> (2-month gap)	<b>Franklin County, OH 2008<sup>b</sup></b> (5-month gap)	<b>Two-City Brazil 2002 – 2006<sup>c</sup></b> (4-year gap)
<i>Were listed in the same order in the network</i>	53.9	25.6	46.4
<i>Were moved forward (promoted) in the network</i>	24.6	48.8	27.1
<i>Were moved backward (demoted) in the network</i>	21.6	25.6	26.5
<i>Number of Retained Dyads</i>	1,141	449	1,056

Source: <sup>a</sup> 2006 Mexico Panel Study; <sup>b</sup> 2008 Franklin County Presidential Election Study; <sup>c</sup> Two City Brazil Panel Study

**Table 6: The Correlates of Political Discussant Demotion**  
 Retained Discussants Demoted in Order of Listing (1=demoted)

Covariates:	Mexico			Franklin County, OH 2008			Brazil Two City		
	$\beta^*$	(SE) <sup>a</sup>	$\Delta^b$	$\beta^*$	(SE) <sup>a</sup>	$\Delta^b$	$\beta^*$	(SE) <sup>a</sup>	$\Delta^b$
<i>Respondent (R) Traits</i>									
R's age	-.00	(.00)		.01	(.01)		-.01**	(.00)	-.15
R's income	.68***	(.25)	.16	.14	(.09)		.07	(.06)	
R's education	-.02	(.02)		-.09	(.10)		-.03*	(.02)	-.12
R is male	.00	(.09)		-.28	(.28)		.18*	(.09)	.05
R's political interest	.02	(.05)		.11	(.24)				
R's partisan strength	.03	(.06)		.00	(.13)		.03	(.09)	
<i>Relational Traits</i>									
D knows more about politics than ego				-.05	(.32)				
D-R support same candidate	-.08	(.09)		-.90***	(.29)	-.16	-.08	(.09)	
Discussion frequency				-.43**	(.20)	-.14			
R is conflict avoidant w/ D				-.31	(.34)				
D is female				.47*	(.27)	.08			
D knows other discussants of R				-.10	(.46)				
D is R's spouse				-2.0***	(.43)	-.27	-.76***	(.16)	-.17
D is R's close relative	-.44***	(.09)	-.11						
Contexts shared w/ D				-.18	(.21)				
Constant	-1.00	(.24)		.20	(.95)		-.63	(.43)	
Model statistics	N=1,097, $\chi^2=32.04$ ***, pseudo $r^2=.03$			N=374, $\chi^2=47.82$ ***, pseudo $r^2=.16$			N=880, $\chi^2=39.96$ ***, pseudo $r^2=.04$		

Source: 2008 Franklin County Presidential Election Study. Mexico 2006 Panel Study, Two-City Brazil Panel Study

<sup>a</sup> Standard errors are clustered by main respondent. <sup>b</sup> Change in probability across full range of variable (other covariates at means).

\*\*\*  $p < .01$ , \*\*  $p < .05$ , \*  $p < .10$  (two-tailed tests)