

IS INFLUENCE MIGHTIER THAN SELECTION?

Forging agreement in discussion networks during a campaign

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Abstract

To what extent do social networks shape a person's vote choice? Using data on political networks gathered during a novel, multi-wave panel study conducted during the 2010 election cycle in the UK, we argue that although people may choose to discuss politics more often with those who hold similar political views, remaining disagreements in political discussion networks can still have a substantial impact on vote choice. Our study is the first large scale, general population sample survey to track changes in an individual's named political discussion partners over the course of an election campaign, and thus provides a unique opportunity to study the simultaneous processes of selection and influence in political discussion. We use these data to identify two social processes at work during the 9 months prior to the election: "selection", or the likelihood that people choose discussion partners based on their political views, and "influence", the convergence of views between discussion partners. We find little evidence that people select like-minded political discussants, but clear support for social influence on vote choice.

1 Introduction

Most people hold political views similar to those of friends and family members. In our research, respondents report sharing partisan preferences with more than 75% of named discussants, a proportion that cannot be due to chance alone. This finding isn't particularly surprising, given considerable evidence has already demonstrated that friends, family members and coworkers are likely to agree on political matters, including political partisanship (Jennings and Richard, 1981; Kenny, 1994), vote choice (Berelson, Lazarsfeld and McPhee, 1954; Huckfeldt and Sprague, 1991; Pattie and Johnston, March 2000; Nieuwbeerta and Flap, 2000; Huckfeldt and Sprague, 1995), and other political attitudes (Bienenstock, Bonacich and Oliver, 1990; Huckfeldt, Mendez and Osborn, 2004; Huckfeldt,

Johnson and Sprague, 2004; Pattie and Johnston, March 2000). The question is not *whether* people agree, it is *why* such high levels of agreement exist. More precisely stated, what mechanism(s) account for the high levels of observed political agreement: selection, influence or shared interests and preferences?

Previous attempts to address this question have often incorporated a cross-sectional sample survey design, in which main respondents are asked to give the names, political preferences, and other information about their own political discussion networks at a single point in time. Main respondent vote choice is modelled as a function of the preferences of named political discussants, while statistically controlling for the impact of key demographic attributes and other factors on vote choice. Studies of this kind, however, cannot control for the potential effects of selection: it may be that respondents have chosen to discuss politics only with others who already agree with them. Similar criticisms have also been levelled at research using aggregated contextual information to study the impact of the broader social context on individual vote choice (Pattie and Johnston, March 2000; ?).

Longitudinal survey data have proven more effective at teasing apart the impact of selection and influence, either alone or in combination with an experimental or quasi-experimental design. Klofstad (2007) finds social influence may drive increased participation among college students randomly assigned to dorms, while Nickerson (2005) finds evidence of spillover effects of voter mobilization experiments. However, neither of these studies addresses the impact of social context on partisan preferences. Two large survey studies with a panel component were able to demonstrate the impact of social influence, but only amongst marital and familial dyads (Jennings and Richard, 1981; Zuckerman, Fitzgerald and Dasovic, 2005).

This paper takes advantage of a new multi-wave election study conducted during the 2010 British general election cycle as part of the Cooperative Campaign Analysis Project (CCAP). The British CCAP includes measures of vote choice and political discussion networks on four different waves of the survey conducted over a 9 month period. We use methods that allow us to isolate the dynamic impact of influence and selection during the election. As a result, our results undoubtedly underestimate the contribution of both process to already high levels of political agreement in discussion networks prior to the study. Surprisingly, we find evidence that while influence is clearly at work to actively forge agreement in discussion networks during the time of the study, respondents do not appear to actively select like-minded political discussants during the 9 month period of study. Also contrary to expectations, we find that the family is an important source of persistent political disagreement. While people have more disagreements with peripheral contacts, they are much more likely to drop out of the network than familial contacts. Finally, we find that high levels of political disagreement may in some cases encourage sustained interaction and political engagement, once again contrary to previous findings.

2 Reaching agreement: selection and influence

This paper focuses on two mechanisms believed to underlie the high levels of observed political agreement: selection and influence. People may *select* political discussion partners who already hold similar political views. Democratic citizens may avoid undesirable discussants, and seek out compatible ones, in several ways. Directly, citizens may choose to associate or discuss politics only with those who share their political views. Selection of political discussants doesn't necessarily mean ending pre-existing relationships or befriending all Liberal Democrats that one meets; it can be as simple as choosing to sit at the opposite end of the table from politically conservative Aunt Edna at family gatherings. Indirectly, people make many other choices that shape their pool of available discussants. For example, one might choose to live in a neighborhood or city with a reputation for being "conservative", date only women who were opposed to abortion, or pursue an academic career in the hopes of spending time around other liberals.

Political agreement is not likely to be the foundation of most marriages, however, let alone most social interactions. Citizens who who don't or can't indirectly avoid dissent through choices of where to live and who to marry may instead try to avoid conflict by avoiding political discussion, either completely or at least with those who don't share the same political views (Ulbig and Funk, 1999; Eliasoph, 1998; Mansbridge, 1980; Fitton, 1973). In focus groups, people have reported avoiding discussion because "people are gonna think you're a terrible person if you don't believe exactly what they believe" (Conover, Searing and Crewe, 2002). Selection of political discussants may be motivated by a general fear of revealing preferences to others who are not trusted: "I'm just not that brave" volunteered one participant (Conover, Searing and Crewe, 2002).

Even assuming some degree of selection of friends or discussion partners on the basis of political views, however, doesn't preclude the possibility that people might be exposed to other views through social interaction. Relationships can rarely be turned on and off like a television, and it is much easier to change channels than to change discussion topics. As (Lazarsfeld, Berelson and Gaudet, 1968) point out, it is much easier to selectively choose media exposure on the basis of political agreement than it is to limit social relationships on the same basis, as politics often "comes up unexpectedly as a sideline or marginal topic in casual conversation." The authors provided numerous examples of the pervasive nature of political discussion in everyday life, ranging from families influencing one another to a waitress who switched her vote after overhearing "bits of conversation that were not intended for her" (Lazarsfeld, Berelson and Gaudet, 1968, 153).

If two people do not see eye to eye on a political issue, then there is a chance that they may *influence* each other. One partner may introduce new information that serves to shape or change the other's views. Both partners may seek a middle ground or compromise position to allow them to continue amicable discussions. Or combined social pressure may push one of the partners to a new political position even where reasoned discussion fails.

How often is observed agreement in political discussion networks the result of influence, and how often does it result from selection? In this section we outline the ways that influence and selection are expected to change agreement during the course of a single election campaign. Due to the limited time frame of the study, we cannot observe earlier events where influence and selection forged high levels of pre-existing agreement in political discussion networks. However, we can observe a series of decisions made by many individual citizens over the course of an election: decisions about both political discussion partners and partisan support. The discussion below traces the decision process of a single individual during the election, and identifies critical junctures at which we can test hypotheses derived from existing research about the mechanisms that may impact individual decision-making.

2.1 Selection

Do people talk about politics to the same people throughout a campaign, or do they more actively select discussion partners from among those available? In our research, we find that people change who they talk to about politics (or at least remember talking to) fairly frequently during the course of a single election campaign. Just over half (53-59%) of the discussants named in the one survey re-appear in the following wave. What factors may affect the likelihood of retaining discussion partners for a longer period of time? People may select on political similarity, preferring to talk about politics only or primarily with those who prefer the same political party (or those whose partisan leanings are unclear.) Other aspects of the relationship, such as marital or familial ties, or shared close friends, may increase (or decrease) the likelihood of ongoing discussions.

Selection, as noted above, can consist of both direct and indirect choices that might impact political agreement. We may increase the availability of like-minded partners through choices of where to live, work or marry, and/or choose to discuss politics with the friends with whom we already agree. In the relatively short 3-12 month campaign period under consideration, it is unlikely that many respondents are making major decisions (e.g., changing jobs, getting married) that will affect their pool of potential political discussants. Therefore, we expect that selection during a campaign will take the form of direct or active selection of discussants from amongst those available.

To identify the impact of selection on discussion networks, we will trace the decision process of a single citizen, whom we will call Paul. Initially, Paul names up to five people with whom he discusses politics, likely the friends and family members with whom he discusses other important matters (Klofstad, McClurg and Rolfe, 2009). Paul may find that none of his discussants disagree with him, or at least that none make their agreement known. Paul may still name different people as political discussants during the next wave of the survey, but this change in discussants could not be attributed to selection on the basis of political similarity.

What will happen to Paul if he runs into conflict while discussing politics? As noted above, it is possible that he may withdraw from political discussion altogether. If he withdraws completely, we would expect to see that either he named fewer discussants on subsequent waves of the surveys, or that he failed to participate in those waves altogether. Prior research has shown that disagreement can have a demobilizing effect on political engagement (?), and it stands to reason that this might extend to actively avoiding political discussion to avoid a contentious conversation. Therefore, the first hypothesis is: ***main respondents who experience disagreement during discussion will withdraw from political discussion or drop out of the survey.***

Alternatively, Paul may continue to discuss politics, but try to avoid the people whose views are not the same as his own. If Paul doesn't name the discussants with whom he has an acknowledged disagreement during subsequent survey waves, it may be that Paul is actively selecting for shared political views. To assess the rate of selection, we will need to compare the retention rate of politically similar discussants to those with whom the respondent does not agree. Therefore, the second hypothesis is: ***main respondents will be more likely to retain agreeable discussants.***

Democratic citizens don't only choose the people with whom they will (or won't) discuss politics, they also choose which newspapers to read, television channels to watch and political actors to believe. Active selection of political messages takes place across a range of sources, including both media messages and political discussants. Prior research has shown people can and do actively selective media sources on the basis of political agreement (Bennett and Iyengar, 2008; Iyengar and Hahn, 2009; Stroud, 2008). Citizens who are more engaged in politics, as well as those with stronger political identities, are more likely to select to receive only messages from sources with which they already agree (see also Zaller (1992)). It may be that a similar process is at work in selection of political discussion partners, with ***stronger partisans and more politically engaged subjects more likely to choose to discuss politics only with like-minded alters.***

Political agreement is not the only factor that affects the likelihood that Paul will retain a particular discussant in his political network, as the strength or closeness of the relationship is likely to also play a significant role. Prior evidence also suggests that strong ties are more likely than weak ties to persist over time (Brewer, 2000; Marin, 2004). In particular, the roles of spouse and family member are by definition relatively stable over time, and family members are more likely to be part of a stable core discussion network (Morgan, Neal and Carder, 1997). Additionally, dyadic ties that are embedded in a larger network of joint friendships are more persistent than relationships where those involved do not share other ties in common Hammer (1979); ?. Therefore, our third hypothesis is: ***main respondents will be more likely to retain spouses, family members and other close ties as political discussants, regardless of political agreement.***

Disagreement and closeness, then, are expected to work in opposite directions; disagreement decreasing the likelihood of ongoing political discussion and closeness increasing the chances that

discussion continues. But what is likely to happen when someone's spouse or sibling support a different political party? Close ties, including spouses and family members, are generally more likely to agree with the main respondent than other members of the network (Huckfeldt and Sprague, 1995; Jacobs, Lomax Cook and Delli Carpini, 2009; Mutz and Mondak, 2006; Nieuwbeerta and Flap, 2000). But when there is disagreement among spouses, family members or close friends, the opposing forces may interact in distinct ways. In statistical terms, closeness of the relationship may change not only the intercept, but also the slope of disagreement. It may be that disagreement increases discussion in close relationships, as both people try to change the other person's mind. Alternatively, it could be that disagreement in close relationships is particularly objectionable, and thus discussion is more likely to be avoided.

Existing research provides little guidance as to what we might expect in this case, and therefore we develop several hypotheses applying the guiding insight that political discussion is risky. Perceived risk of damage to the dyadic relationship, and the larger network in which it is embedded, may moderate the relationship between political disagreement and the likelihood of continuing to discuss politics.¹ Focus group participants spoke of fear of the loss of social status or the esteem of others, and the fear of having someone avoid them in other settings. Even if these negative effects do not transpire, the fear of them can be real, and might affect how people respond to disagreement. It is possible that all close relationships, including spouses, family members and close friendships, are relatively safe, in which case: **textitall close relationships may encourage more frequent expression of political disagreement.**

Alternatively, it may be that close relationships are not all the same, marital relationships might be felt to be a less risky dyad within which to discuss politics. If this is the case, then each distinct type of close relationship merits special consideration. Disagreeing with spouses is likely to be comparatively safe. The relationship is highly intimate and private, and for most couples, political disagreement is likely to be one of many discussion topics characterised by conflict. In fact, politics may even be safer ground for regular debate than the typical topics of disagreement such as money, sex, housework and children (?). Couples rarely, if ever, cite political squabbles as a major cause leading to divorce (?). ***Political disagreement may actually increase the amount of political discussion between spouses***, as each tries to convince the other to see a different point of view.

Political discussion with family members carries a more moderate risk, as family members who are not living together may not have other topics that provide space for underlying conflict to spill out. On the one hand, distant family members can easily be avoided or accommodated, much

¹This might be thought of as an additional test of two leading models of diffusion: "cohesion" (?) vs "structural equivalence" (Burt, 1987). The cohesion model is based on the assumption that closeness of a relationship and frequency of engagement build trust and influence, and thus we might expect that selection out of discussing politics with close friends, family members and spouses would be low because trust is generally higher (while risk is lower). Burt (1987) argues that people imitate their structurally equivalent contacts because they perceive that the act is proper for a person of their social stature. Thus, we might expect a main respondent would want to avoid discussing politics with a peer holding inappropriate views, or a peer who might think poorly of the main respondent's own views.

like other friends. Many of us are familiar with the caricature of the uncle who spouts on and on about politics at the family Christmas gathering. But year after year, this uncle is invited back. On the other hand, parents and their adult children may gravitate towards political debates as a means of working out conflict in other areas, although there is likely to be significant variation in the stability of such relationships across the broad definition of family members. Therefore, the hypothesis is: ***disagreement with family members may not follow a distinctive pattern.***

Disagreement with other close ties who are neither spouse nor family member is potentially the most fraught and delicate situation. Such relationships are clearly optional, and can be ended far more easily than a marriage or a long-standing family time. It is far easier to replace a close friend than it is to replace a mother or a husband. Secondly, close ties are generally embedded within a closeknit network, with multiple shared friendships. Therefore, any fallout between close friends is unlikely to be limited to the dyad, but will spillover and potentially fracture the larger network. Thus, disagreement carries a large risk of affecting the connection between the main respondent and her other contacts as well. Therefore, ***in close, non-familial relationships, disagreement may increase the likelihood that the main respondent and discussant will stop discussing politics*** (although they very likely still remain friends.)

2.2 Influence

Suppose, however, that some people continue to discuss politics with those who don't hold the same political views. Discussion and engagement with diverse viewpoints opens up the possibility of influence: one person may change his or her mind as a result of new information, social pressure, imitation of peers or some other psychological mechanism associated with making conditional choices (Rolfe, 2009). Influence does not flow only from discussant to main respondent, it can also flow the other direction with the result that one, two or all members of a social network may shift their political views. However, given that we have only limited information about the large networks within which main respondents are embedded, we will focus our discussion on situations in which the main respondent is influenced (or not) by his or her discussants rather than vice versa.

How then, might we expect political disagreement to affect the main respondent's voting intention during a campaign, and what other factors might also effect a change of voting intentions? Influence may depend less on dyadic disagreement with a single discussant, and more on the distribution of attitudes within the larger political discussion network. It could be that many people are conditionally responsive to the voting decisions of others with a majority focal point (Rolfe, 2009; ?; ?), changing views to support the political party favoured by the majority of their discussants. Or it could be that conditional responsiveness takes on a more linear form, with main respondents increasingly likely to switch vote choice as a greater proportion of their friends support a different candidate. Regardless of functional form, in both cases, we expect that ***as disagreement in a***

network grows, a respondent will be more likely to change her vote choice.

Alternatively, the likelihood of influence may not depend solely on the sheer number of discussants with whom the respondent disagrees, as it may be that disagreement with particular individuals has a disproportionate impact on vote choice. It could be that influence works through cohesion: with *respondents more likely to alter their decision as a result of disagreement with those to whom he or she is particularly close, such as spouse and family members.* Alternatively, it could be that influence works primarily through structural equivalence (Levine, 2005; Huckfeldt and Sprague, 1995); with *respondents more likely to alter their decision as a result of disagreement with structurally equivalent peers.*

Political disagreement with network members is not the only factor that may cause people to change their minds during the course of an election. Previous studies have identified two factors in particular as important: awareness and partisan strength(??). [expand](#) *Committed partisans and politically engaged citizens will be less likely to change their vote choice than those who are less politically aware or with a weaker political identity.*

3 Data and measurement

Data for the paper comes from a longitudinal panel study of the UK general population. Six waves of surveys were administered conducted over the internet by YouGov as part of the British Cooperative Campaign Analysis Project (BCCAP) during the period before and after the British general elections held on May 6, 2010.² This paper uses data gathered by the Oxford CCAP team during the final four waves: Wave 3 held just before the party conferences (September 2009), Wave 4 (January 2010), the pre-election Wave 5 (late April 2010) and the post-election Wave 6 (early June 2010.)

In each wave, respondents were asked to provide the initials of up to five people with whom they had discussed politics in the previous month. This question (or name generator) was designed to elicit only the names recent political discussants, not a list of political discussants in general. The one month time window is smaller than that used in previous studies of political discussion, including the Comparative National Election Project, the British Election Studies, the General Social Survey, and the South Bend study. The repeated use of this name generator over a 9 month period allows us to investigate changes in political discussion partners over time. Table 1 gives an example of how the original data looks from the perspective of the main respondent who provided the initials of up to 5 discussants recorded during each wave of the survey.

1405 respondents responded to the team portion of the initial CCAP wave, and all of those respondents were invited to participate in each of the subsequent waves included in this analysis. Not all respondents participated in every wave, and not all respondents who participated in a par-

²For more on the YouGov sample and procedures, see Twyman (2008). For more on the CCAP project, see Jackman and Vavreck (2010).

Table 1: Data structure with Main Respondent as primary unit of analysis

Main Respondent ID	Wave 3			Wave 4		
	Discussant 1	...	Discussant 5	Discussant 1	...	Discussant 5
1	SD	...	JT	SD	...	AR
2	ML	...	PF		...	
3	HY	...		CW	...	BP

ticular wave provided valid information about at least one discussant. 1211 respondents in at least one of the four waves, and just under a 1000 of these respondents provided network information on at least one of the waves. A total of 1042 respondents participated in at least two of the four chosen waves, almost three-quarters of whom ($n = 738$) provided valid discussant information on both of these waves.³

In order to study changes in the network, we must identify the discussants that were named more than once by a main respondent. The provided initials of discussants were matched across multiple waves of the study, and each unique discussant was identified.⁴ Thus, it is possible to trace both whether a discussant was named at a later date during the election, and how the presence of acknowledged disagreement within the dyad changes over time. The matching also allows the dataset to be transformed to focus on the dyadic relationship between main respondents and their named discussants, as indicated in Table 2. The transformed dataset includes 990 main respondents who named at least one discussant, 885 of whom participated in at least two waves and 738 of whom named discussants in at least two of the four waves. Main respondents participating in at least two waves named an average of 6.8 unique discussants, for a total of over 5000 unique dyads recorded.⁵

Table 2: Data structure with discussion dyad as primary unit of analysis

Discussant name	Main Respondent ID	Appears in wave 3	Appears in wave 4
SD	1	yes	yes
JT	1	yes	no
AR	1	no	yes
ML	2	yes	no
PF	2	yes	no
HY	3	yes	no
CW	3	no	yes
BP	3	no	yes

Acknowledged disagreement

After naming up to five discussants, respondents were then asked to indicate characteristics of the discussants, including whether their discussants are “likely to vote for a different political party.” Unlike the other large-scale surveys mentioned above, main respondents were not asked

³Note: $n = 468$ respondents participated in three waves, and $n = 180$ participated in all four waves.

⁴These matches were reviewed carefully, with the final match taking into account inconsistent use of initials or capitalization (e.g., J.S. vs jbs) and inalterable characteristics of the discussants (e.g., female, family member, foreign-born).

⁵5797 unique dyads altogether, 5418 involve respondents who participated on two or more survey waves, and 5012 involved respondents who named discussants on two or more waves.

to indicate specifically which party or candidate is supported by the named discussant. This procedure was intended to significantly reduce respondent burden,⁶ and is less error-prone than the traditional approach. On one prior study, respondents failed to correctly identify the partisanship of more than 30% of named discussants?. However, the mistakes were almost exclusively one-sided: respondents made overly optimistic assessments of how likely their discussants were to support the same political party, but almost never reported that discussants with similar preferences actually preferred a different party. Thus, our measure asks only about disagreement (which respondents rarely identify when it doesn't exist), but does not distinguish between agreement and uncertainty (as respondents themselves struggle to do this.)

Another point to note is that the rate of acknowledged disagreement is expected to increase closer to the election, as political discussion increases and party preferences solidify. Thus, aggregate levels of acknowledged disagreement observed at a point in time are not particularly informative about the relative impact of selection and influence. Increased awareness of disagreement works against selection and influence, with the net result being that acknowledged disagreement levels on average vary little over the course of the campaign. In line with previous research (Huckfeldt, Johnson and Sprague, 2004), we find that agreement in discussion networks does not increase during the campaign but hovers at around 20 and 24% of all dyads. The postelection wave actually has the highest level of acknowledged political disagreement. This does not mean that influence and selection are not occurring. It more likely means that there are oppositional processes at work that mask the effect of influence and selection.⁷ These countervailing trends highlight the importance of using the correct techniques to parse out the effects of selection and influence during the campaign, a point to which we return later in the paper.

Relationship with discussants

Respondents are also asked to indicate whether the discussant is a spouse, a family member, or a close friend of someone else on the list.⁸ The spouse and family member designations are coded as either 1 (the discussant is a spouse, or the discussant is a family member) or 0. The designation of a "close friend of someone else on the list" might indicate that the relationship between the respondent and named alter is particularly cohesive, as it is embedded in a larger network of ties Hammer (1979). It might also indicate that the two individuals are structurally equivalent, or are friends with the same people. As noted earlier, it is difficult to disentangle the concepts of cohesion and structural equivalence in an egocentric network, and thus we use indicators of all three types of close relationships: marital, familial, and embedded friendships. All three relationship variables

⁶It was quite successful in this respect, reducing the time required to provide basic political discussion network information from around 15 minutes to around 90 seconds on average?.

⁷A re-analysis of Huckfeldt, Johnson and Sprague (2004)'s results using an alternative method reveals an aggregate decrease in disagreement over time (Bello, 2011)

⁸13% of the discussants are spouses, 28% are other family members, and 18% are good friends with someone else on the list.

were coded such that there were no overlaps between the three categories (i.e., spouses are not also family members, and neither spouses nor family members are coded as close friends.)

Main respondent characteristics

Finally, the data contain important measures of main respondent characteristics collected as part of the study. Main respondent vote choice is measured on each wave of the survey, with respondents asked to indicate which party they plan to vote for in the coming election. Respondents who had not yet made up their mind were asked if they were leaning towards a particular party, and this information was also incorporated into the vote choice variable.

The binary distinction between respondents who had already decided which party they would support and those who were merely leaning towards a party is used as the basic measure of political identity strength. Two additional measures of strength of political identity were also collected and used in robustness tests: strength of their partisan identification (recorded on a three point scale), and a folded ideology scale (with 5 as extreme liberal or conservative, and 0 as middle of the scale) Iyengar and Hahn (2009). Both have been used in prior research, but the latter may not translate to the multi-party European context.

Political engagement, like strength of political identity, may affect both selection and influence. Previous studies of similar topics have employed a variety of measures for this construct, including education, political interest, political knowledge, and media use. While it is not appropriate to use more than one of these indicators for a single estimate, all are available in the CCAP data. Not all questions were asked on all survey waves. To maximize variation and minimize missing data, we use as a primary measure on average of political interest rated by the respondent on a four point scale; a question asked on all waves of the survey. Other measures of political engagement are used only for tests of model robustness.

Finally, we control for the mechanical effects of participation and network size at the individual level. Some respondents do not name any discussants on a given wave, although this may not be an accurate indication of whether the respondent discussed politics in the previous month (Bearman and Parigi, 2004) Additionally, the average number of discussants named in each wave may affect the likelihood that a discussant is retained in the network. It may be that a discussant named by someone with a larger network has a greater chance of re-appearing simply by chance. Alternatively, it could be that people with larger networks are more likely to forget alters (Brewer, 2000).

4 Results: Selection

Selection of political discussants may take place in many ways, but our focus is on the active selection of political discussants during a campaign season. In particular, we focus on whether

a discussant named by a respondent during one wave of the survey is named in one or more subsequent waves. The primary analysis of the selection process uses a transformed dataset where the unit of analysis is a unique discussant/respondent dyad, as described in Table 2 above.⁹

It may be that main respondents who discuss politics with someone who doesn't share the same viewpoint does not merely avoid discussing politics with that person in the future, as political conflict may have a more generally depressing impact on political engagement and subsequent willingness to discuss politics with anyone. A quick look at changes in network size conditional on political disagreement reported in the previous wave (Figure 4), based on respondent-level data, suggests that respondent engagement is affected by the experience of political disagreement with discussion partners, but that the the impact does not run in the expected direction, nor is the impact necessarily linear

Respondents who report no political disagreement with their discussants are on average almost 50% (9 percentage points) more likely to name fewer discussants on the following wave than those who experience high levels of political disagreement. In other words, disagreement can encourage sustained political discussion instead of discouraging it. Respondents who experience only moderate levels of acknowledged disagreement (less than half of named discussants), are less likely than those who experience either no or high levels of disagreement to name more discussants in the following wave of the survey. Thus, it would appear in the initial analysis that high levels of political disagreement actually encourage discussion relative to no disagreement, although there may be a negative impact of more moderate levels of disagreement, Although not reported in Figure 4, dsagreement has no impact on survey drop out rate, with relatively even average drop out rates across all levels of reported political disagreement on each wave of the survey. This lack of a relationship between disagreement and survey drop out persists after controlling for political interest and education.

Having seen that political disagreement does not have a negative impact on the main respondent's level of political engagement (and may even have a positive impact on discussion network size), we move on to our primary interest: assessing the impact of political disagreement on the likelihood that a particular discussant is named on a later wave of the survey. Figure 4 provides basic statistics showing the initial likelihood that a discussant has an acknowledged partisan difference, and conditional on (dis)agreement, the probability that a discussant will be named more than once. Over three-quarters of discussants do not have acknowledged disagreement with the main respondent, and about 4 in 10 of those (39%) are named as a discussant at a later date. The smaller number (22%) of discussants who are initially acknowledged as having a different partisan preference are somewhat less likely to be named at a later date (36%), although this difference is

⁹Discussants who are named in the final wave and discussants named by main respondents who only participate in one wave of the survey have no opportunity to appear at least twice, and are therefore excluded from the analysis.

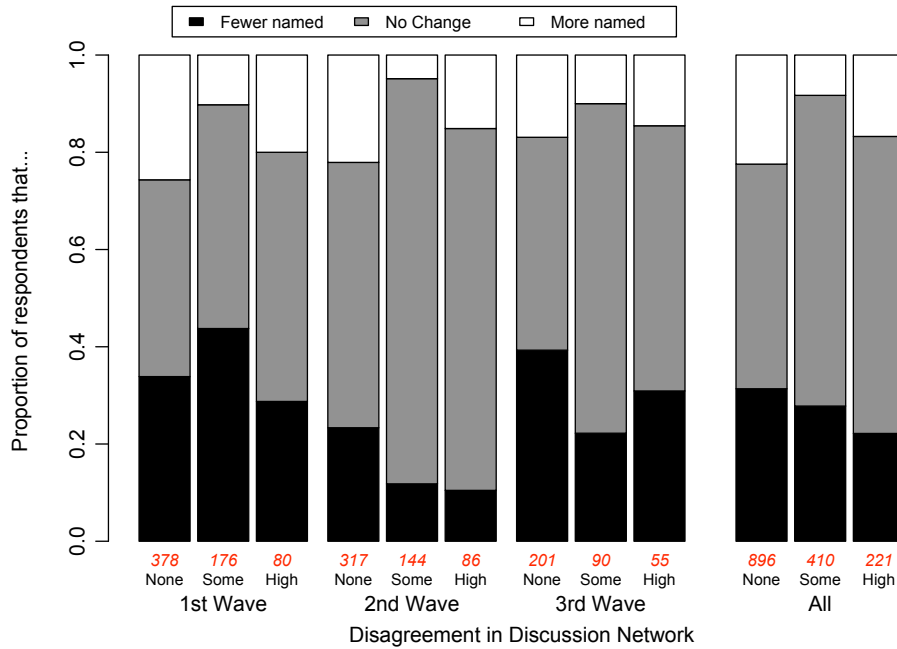


Figure 1: Change in network size following experience of disagreement

only borderline statistically significant ($p = .063$). Thus, initial analysis suggests that respondents do actively select discussants who do not disagree with them during a campaign, although the impact is relatively small.

However, there may be additional differences that contribute to this observed pattern. Perhaps discussants who disagree with the main respondents are less likely to be close friends, and therefore less likely to be named in the future because they are not as close to the main respondent. Or perhaps main respondents whose friends and family disagreed with them simply dropped out of the survey, and thus had fewer opportunities to name their discussants on other waves of the study. To control for these other explanations, we first transform the basic discussant dataset to align information on whether the dyad appears at each of three time period, t , (i.e., waves 4, 5 and 6) with information about whether dyadic disagreement was acknowledged during the previous time period, $t - 1$ (i.e., waves 3, 4 and 5). We then use a multilevel modelling strategy to account for characteristics of the dyadic relationship and attributes of the main respondent (?). Results appear in Table 3.

The first column of Table 3 presents results from the basic model involving no interactions. As expected, political discussion with spouses and family members is less likely to be ended than discussion with other friends, even close friendships. None of the political indicators, including dyadic disagreement, had any discernible effect on the likelihood of naming a political discussant again on the subsequent wave of the survey however. While it is surprising to see so little evidence

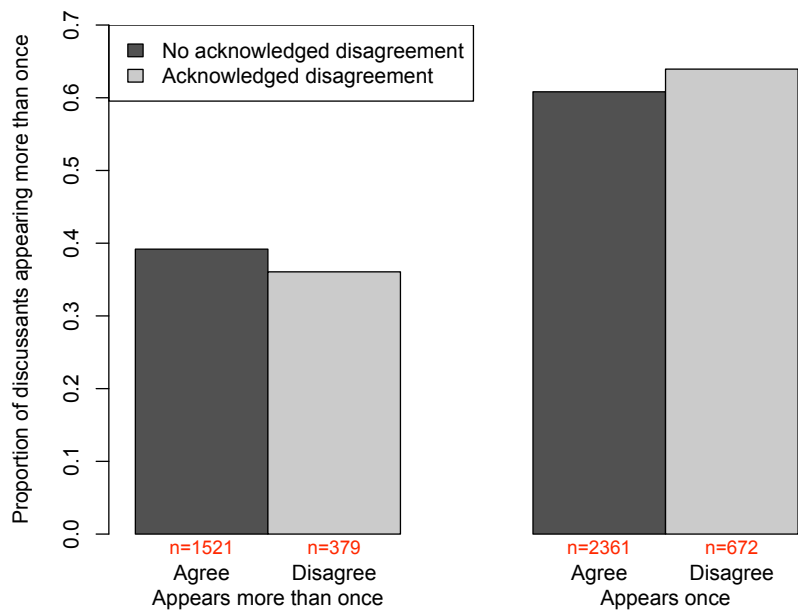


Figure 2: Proportion of discussants named once, conditional on political disagreement

of selection, this may be attributable to the relatively close nature of the relationships involved. Therefore, we must take a close look at the interactions of disagreement with both political and relationship variables to see if there are some situations in which selection may be at work.

The middle column of of Table 3 presents results from a model involving political interactions. Are respondents who are more political engaged or committed better equipped to select like-minded discussants? Once again, we find that political aspects of the relationship have no discernible impact on the likelihood that a discussant is named more than once. The interaction of interest and political disagreement do run in the expected direction, with more interested respondents more likely to not continue discussing politics with those who have different partisan preferences, however the estimated impact does not come close to being statistically significant.

The final column of the table models the interaction between relationship status and disagreement. Are respondents more or less likely to continue discussing politics with spouses, family members and close friends with whom they disagree? For the first time, political disagreement does have a significant impact on the likelihood of selection, but in the wrong direction. Instead of dropping discussants with different partisan preferences, respondents are more likely to retain discussants with whom they disagree so long as they are in a close relationship with their discussants. This effect is particularly strong and statistically significant for disagreement with spouses, but the impact of disagreeing with close friends (and to a lesser extent family) is also positive.

In other words, respondents continue to discuss politics with close friends, spouses and family

Table 3: Effect of disagreement on the likelihood of repeated presence in the network

	No interactions		Political interactions		Dyad interactions	
	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.
Relationship variables						
Spouse	0.40*	(0.027)	0.40*	(0.019)	0.38*	(0.021)
Family	0.15*	(0.016)	0.15*	(0.016)	0.14*	(0.018)
Friend of others	0.34 ⁺	(0.019)	0.34	(0.019)	0.017	(0.022)
Dyadic disagreement	0.002	(0.015)	0.002	(0.015)	-0.026	(0.023)
Main respondent attributes						
Political Interest	-0.045	(0.031)	-0.030	(0.034)	-0.044	(0.032)
Leaner	-0.0008	(0.014)	-0.0012	(0.016)	-0.0009	(0.014)
Relationship interactions						
Spouse*Disagreement					0.091*	(0.046)
Family*Disagreement					0.011	(0.037)
Friend of others*Disagreement					0.062	(0.040)
Political interactions						
Interest*Disagreement			-0.082	(0.070)		
Leaner*Disagreement			-0.0077	(0.032)		
Main respondent controls						
Any discussants named _t	0.26*	(0.027)	0.26*	(0.027)	0.26*	(0.027)
Number of discussants named _t	0.059*	(0.005)	0.059*	(0.005)	0.059*	(0.005)
Constant	-0.13*	(0.028)	-0.14*	(0.029)	-0.13*	(0.028)
Dyads	4017		4017		4017	
Main respondents	775		775		775	
<i>n</i>	5341		5341		5341	
AIC	5963.1		5965.7		5963.8	

⁺Significant at the 90% level

*Significant at the 95% level

members, **particularly** when they disagree with them. Spouses who do not support different parties are expected to re-appear in the network 84% of the time, while those who disagree with their partners are named again 95% of the time. Optimistically, this suggests that people may enjoy and pursue political discussion involving disagreement when it is a relatively safe topic of conversation.

Overall, these findings call into question previous work finding that disagreement is most common among peripheral contacts, like co-workers (Mutz and Mondak, 2006).⁷ Faas and Schmitt-Beck (2010, 110) concludes:

By discussing politics with family or friends, people can weave themselves into a protective cocoon where their views tend to be confirmed rather than challenged. Quite the contrary is the case for secondary relations: discussing politics more often with co-workers or neighbors leads to intensified experiences of disagreement.

Strictly speaking, these claims are true. At any given moment, people are more likely to agree with close friends and family than with more peripheral contacts. But a single snapshot of political discussion obscures the nature of political discussion over time, and the important role played by core network members in the maintenance of democratic diversity and disagreement. Close friends and family are the overwhelming source of persistent disagreement in political networks. Even though family members are less likely to disagree, they are more likely to re-appear in the network over time.

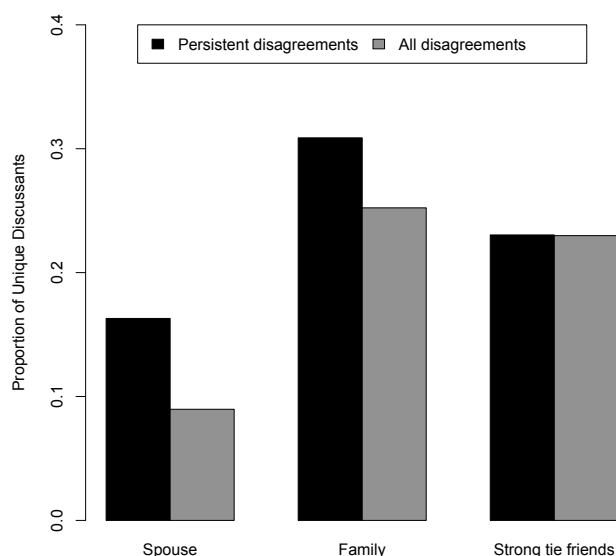


Figure 3: Sources of disagreement in political discussion networks: comparing overall disagreement with persistent disagreement

Figure 3 breaks down sources of disagreement among all discussants named at least once, and compares this to sources of disagreement among discussants who are named more than once. Non-family contacts make up two-thirds of unique discussants who disagree with the main respondent, and weak tie friendships comprise over half of that portion. Now, compare this to the sources of persistent disagreement, or disagreement with contacts that appear in the discussion network more than once. Family contacts are the single largest source of persistent disagreement, with the combined categories of spouse and family comprising almost half of discussants who disagree with the respondent yet are still named more than once. Spouses comprise less than 9% of all discussants who disagree, and over 16% of persistent discussants who disagree with the main respondent. Meanwhile, weak tie friendships are the source of persistent disagreements in less than 30% of all cases, largely because they are very unlikely to be retained as active political discussants.

5 Results: Influence

Moving on, we consider what happens to main respondents who are exposed to political disagreement: does exposure to disagreement increase the chances of the main respondent changing his or her vote choice? If respondents who are exposed to disagreement are more likely to switch parties, all else being equal, this would substantiate claims that friends and family members may influence each other's political choices. Our analysis of the influence process uses the dataset where the unit of analysis is a single main respondent interviewed on more than one occasion, as described in Ta-

ble 1 above.¹⁰ These data are then transformed to align the party choice of the respondent at time t (waves 4, 5 and 6), with respondent party choice, network disagreement and political identity strength at time $t - 1$ (waves 3, 4 and 5).

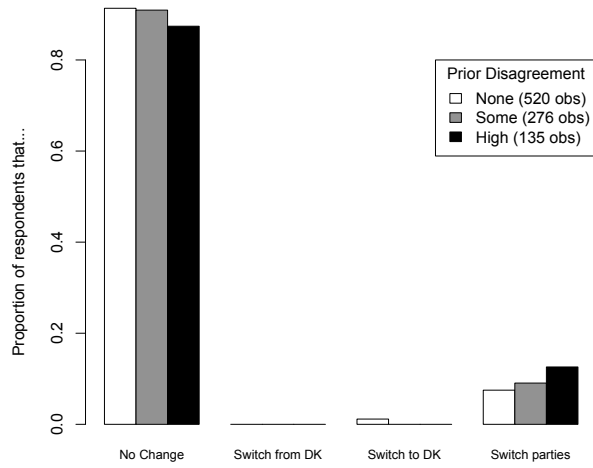
Are respondent's who report that they disagree with one or more of their discussants more likely to change their vote choice at a later point in time? Approximately 1 in 5 respondents changed their vote choice during the study.¹¹ Respondents who reported at least some disagreement in their political networks were more likely to switch party than those who never reported any disagreement (24% vs. 20%). However, this statistic does not take into account the temporal nature of social influence, as influence requires that disagreement come before vote change and not after.

The temporal nature of influence is partially addressed by Figure 5, describing what proportion of respondents change their vote between one wave (at time t) and the following wave (at time $t + 1$), dependent on the number of discussants they named with whom they had an acknowledged disagreement in the first time period (t). As can be seen, respondents who claim to have already decided who they will support in the election are less likely to change their minds than respondents who indicate they are merely leaning towards one party or the other. Nonetheless, even decided voters are more likely to change their vote choice when facing high levels of political disagreement, while leaning voters facing both moderate and high levels of disagreement are more likely to switch parties. On average across both decided and leaning voters, respondents who report high levels of disagreement with their discussants are significantly more likely to switch party choice in the following period than respondents who report no disagreement with their discussants (12.5% vs. 17%). Also noteworthy is the fact that indecisive respondents (i.e., those who do not indicate which party they are leaning towards) who do not disagree with any of their discussants are more likely than those who do not agree with one or more of their discussants to have made a definite party choice by the next survey wave.

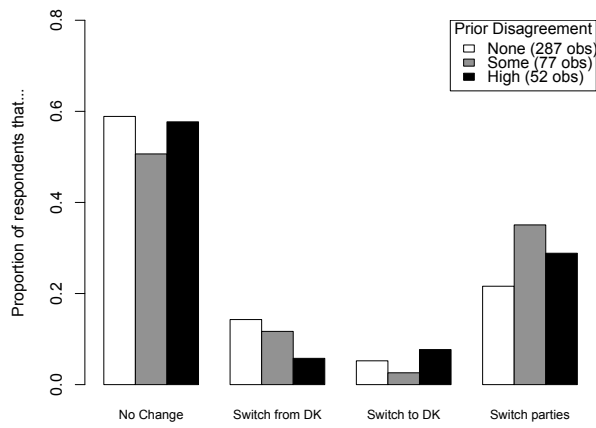
This estimate may be biased, however, as it does not take into account other factors such as political engagement and political identity strength that may also affect the likelihood that a respondent changes his or vote choice prior to the election. Kenny (1998) addressed this issue and also used change in vote choice as a proxy for social influence, but his analysis was limited to two points in time. At time $t = 1$, discussant network were elicited and respondent vote choice was recorded; at time $t = 2$, respondent vote choice was recorded for a second time and compared to respondent vote choice at $t = 1$. Our data, however, have a more complicated structure as respondents are asked about both discussants and vote choice at up to 4 different points in time.

¹⁰Main respondents who only participate in one wave of the survey have no opportunity to change their mind and are therefore excluded from the analysis.

¹¹Including only respondents who participate in at least two waves of the survey; party switchers are those who indicate an intention to vote for a particular party, or who indicate that they are leaning towards a particular party, and later indicate a different party.



(a) Decided voters



(b) Leaning voters

Figure 4: Change in respondent vote choice following experience of disagreement

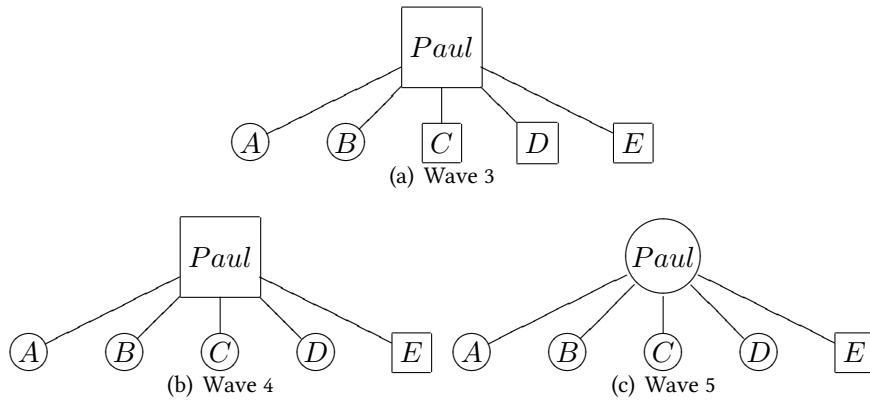


Figure 5: Sample vote choice distribution in a network at three time points

To illustrate the issues involved, consider the network of a fictitious sample respondent, Paul, whose networks appear in Figure 5. Square boxes represent one vote choice (e.g. Labour) and circles represent another (e.g. Conservative). Paul starts out as a Labour supporter, and three-fifths of his network concur. This means Paul agrees with 60% of his network. In wave 4, discussants C and D change their support to the Conservative party. Now Paul agrees with just one of the five discussants. In the final wave, Paul changes his support to conservative, meaning that now he agrees with 80% of his discussants—discussant E is the sole remaining supporter of the Labour party in Paul’s network.

What happens to disagreement in Paul’s network from wave to wave and how do these changes relate to Paul’s own vote switch from wave 4 to wave 5? Let’s simply walk through what we observed. Paul reports 40% disagreement in wave 3 ($t = 1$), 80% disagreement in wave 4 ($t = 2$), and only 20% disagreement in wave 5 ($t = 3$). His vote choice does not change between waves 3 and 4, but does change between waves 4 and 5.

This example shows how the multi-wave nature of the CCAP can be used to model social influence, where the dependent variable is whether the main respondent’s vote choice in the present (time t) differs from that provided on the previous wave ($t - 1$). This model isolates information from two subsequent waves of the survey, and assess whether disagreement in the first wave ($t - 1$) predicts a vote change on the second wave. Paul’s record would consist of two unique observations: the first using disagreement from wave 3 to predict vote change between waves 3 and 4, and the second using disagreement from wave 4 to predict vote change between waves 4 and 5. In the example above, we can see that Paul did not change his vote when the majority of his network agreed with him, but changed it when faced with broad disagreement. Thus, this model is similar to the model used in previous research (Huckfeldt and Sprague, 1995; Kenny, 1998), in focusing on changes between only two points in time. To estimate this relationship, we use a hierarchical mixed effects model structure that accounts for longitudinal data (Gelman and Hill, 2007; Rabe-Hesketh

Table 4: Models of Party Switching

	Test 1		Test 2		Test 3	
	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.
Main respondent attributes						
Political Interest	0.10*	(0.03)	0.07*	(0.03)	0.052	(0.033)
Leaning voter	0.15*	(0.016)	0.13*	(0.017)	0.13*	(0.017)
Political network attributes						
Prior wave network disagreement (0-1)			0.23*	(0.083)	-0.16 ⁺	(0.089)
Prior wave network disagreement ²			-0.21*	(0.097)		
Interaction terms						
Interest * Disagreement					0.25*	(0.12)
Leaner * Disagreement					0.17*	(0.058)
Constant	0.013	(0.026)	0.016	(0.026)	0.040	(0.027)
Random Effects						
	Std. Dev.	Std. Error	Std. Dev.	Std. Error		
3 Survey Waves ($t = 4 - 6$)	.0005	.023	.0006	.025	.0006	.025
Main Respondents	.022	.015	0.020	0.14	0.020	0.14
		$n=961$		$n=957$		$n=957$
AIC	1174		1150		1143	
n	2152		2128		2128	

⁺Significant at the 90% level

*Significant at the 95% level

**Significant at the 99% level

and Skrondal, 2005).¹²

Table 4 provides estimates of three versions of the influence model. The first model, in the far left column, simply confirms that the typical predictors of vote choice do perform as expected. Committed partisans are far less likely to switch their vote choice than respondents who are only leaning towards a particular party. After taking political identity strength into account, however, political engagement increases (rather than decreases) the probability that a respondent will support a different party on the next wave of the survey.

Does political discussion also impact vote choice, with disagreement increasing the probability of switching parties? The middle column of Table 4 addresses this question, incorporating a non-linear specification of prior wave network disagreement. Respondents who report having one or more discussants who hold different partisan preferences on one wave of the survey are clearly more likely to switch the vote choice by the next wave of the survey. This effect is not a strictly linear response to the proportion of discussants who disagree with the respondent, but peaks around the majority focal point of 50% disagreement.¹³

Are some respondents more resistant to influence than others, or does disagreement affect all respondents in the same way? This question is taken up by the third model in Table 4, and the answer is a resounding yes. The third model incorporates interaction terms between political disagreement and political engagement and identity commitment, and both interaction terms are positive. Politically engaged respondents are more likely to shift their party choice in response

¹²We do not estimate regressions that use both a transformed data structure (hierarchical data) with a longitudinal component, so higher order models are not needed.

¹³Comparisons of the two disagreement response functions confirm that that the non-linear specification is preferable.

to disagreement with discussants than those who are less interested in politics. Furthermore, less politically committed respondents who are only leaning one direction or the other are also more influenced by their discussants than stronger partisans. Disagreement actually strengthens the resolve of respondents who are strongly committed to their party of choice, or those who are not particularly interested in politics anyway. Political interest no longer has a significant independent impact on party switching once we account for how interest mediates the impact of social influence and disagreement.

These results are strong support for the operation of social influence on political attitudes and vote choice, even during the short time span of the 9 month period leading up to an election. The experience of disagreement in political discussion networks drives some people to change their views to eliminate that disagreement. The social influence process can be observed even after accounting for the main respondent's own level of political engagement and commitment, and is particularly strong among those with less firm political identities and high levels of political interest.

6 Conclusion

When we started this paper, we expected to find that both selection and influence contributed to forging agreement during the months prior to an election. We were aware from the beginning that our exclusive focus on the dynamic operation of influence and selection during the 9 month period prior to an election was likely to vastly underestimate the prevalence of both processes in the co-evolution of political opinions and political discussion networks. Nonetheless, the results in this paper have surprised us, and call into question several aspects of the conventional wisdom about political disagreement, selection and influence.

We expected to find that selection and influence were both contributing to agreement in political discussion networks, but were unable to find any evidence that people selected discussion partners based on political preferences. Using a novel data collection, we were able to isolate the process of social influence on vote choice, and confirmed that people can influence each other during the campaign season. These data were also used to isolate the process of selection of like-minded discussants (Ulbig and Funk, 1999), but the results were quite unexpected. People did not choose political discussion partners based on political considerations, they instead chose to discuss politics more frequently with their spouses, close friends and family members.

Strikingly, we found that political disagreement within these close relationships actually encouraged sustained political discussion instead of squelching it. As a result, spouses and family members contribute far more to exposure to sustained disagreement with political discussants than would be suggested by a cross-sectional survey. Workplace discussion may be the most fre-

quent source of disagreement at any single point in time (Mutz, 2002), but such studies may miss the crucial insight that political disagreements in close relationships are persistent and encourage high levels of political discussion. Yes people in the workplace and other peripheral contacts are more likely to disagree with the main respondent, but they are much more likely to drop out of the network as well. The value of disagreement in these ties is not to be understated. Thus, we find that political disagreement with spouses and intimates is actually the primary source of persistent disagreement.

Our findings also call into question the previously reported relationship between disagreement and participation. It may be possible to reconcile these differences, however, by recognizing that we employ a unique measure of political disagreement. Many studies ask respondents about more general perceptions of conflict and disagreement in political conversation, opening up the possibility that a general sense of fear and inefficacy might color reported levels of disagreement. As noted earlier, political discussion is often felt to be dangerous. In a democratic society, political discussion and debate is a ritual that is intended to take the place of more violent forms of war and conflict. Psychologists have found that people in weaker positions are more likely to perceive conflict, and also to avoid discussion and interaction with more powerful people ?. Thus, it isn't particularly surprising that subjective perceptions of conflict and participation are negatively related. Our measure, however, is better suited to avoiding this issue of tapping into subjective conflict perceptions by asking only about acknowledged partisan disagreement. More research is needed to fully explore the relationship, and assess more fully whether objective measures of political disagreement have a uniformly demobilizing impact.

Finally, there is little doubt that people are influencing one another during the campaign. A respondent and a discussant who have a disagreement acknowledged at one point in time are highly likely to eliminate that disagreement at a later point. Approximately a fourth of the time, disagreements are eliminated when a respondent switches parties. While main respondents are likely overestimating their own impact on their discussants, there is nonetheless a clear case to be made for social influence running in both directions.

Perhaps surprisingly, the net result of all the individual-level influence we observed is not increased levels of political agreement at the aggregate level, however. As soon as disagreement in one dyad is eliminated, new disagreements emerge and become acknowledged. It appears that social influence may contribute a great deal towards the forging of agreement in discussion networks, but neither selection nor influence eliminates exposure to political disagreement in close relationships during the campaign season.

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