Voter Mobilization in Intimate Networks

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Abstract

Political scientists have long observed that interactions within intimate networks such as the household are correlated with higher and concordant turnout behavior. However, it is unclear whether these correlations arise due to social influence, selection, or a shared context, and, if the first, whether it is indeed the intimacy of networks that moderates social influence. This article locates the study of voter mobilization in intimate networks within the context of partisan campaigns and presents examples of studies that apply different strategies to identify social influence between family members, friends, and neighbors. Looking to future advances, the article emphasizes design-based approaches, the collection of detailed covariate data on network characteristics, and collaborations with partner organizations to experimentally test theories of indirect voter mobilization.

Keywords

mobilization; voter turnout; intimate networks; social networks; friendship networks; causal inference; field experiments

The social nature of voting has long been acknowledged by political scientists who have observed that interactions between individuals are correlated with higher and concordant turnout behavior (Glaser 1959; Huckfeldt and Sprague 1992, 1995). Social interactions and relationships are also assumed to play a key part in activating citizens to engage in election campaigns, for instance through canvassing (Han 2016; Neuenschwander and Foos 2018;

Rosenstone and Hansen 1993; Verba, Schlozman, and Brady 1995). Rolfe (2012, 121) sums up the social logic of politics in her claim that "all turnout is, in a sense, mobilized, with much of the mobilization occurring indirectly." Some of the most important social interactions in the context of voter mobilization happen between individuals connected via strong ties, like family, household members or friends – the focus of this chapter.

By voter mobilization we refer to an intentional and non-coercive action by a political actor or ordinary citizen to cause another individual to participate in an election. Mobilization is a key mechanism used by political actors to overcome the collective action problem inherent in the turnout decision (Aldrich 2006; de Rooij, Green, and Gerber 2009; Rogers, Goldstein, and Fox 2018; Rolfe 2012). Mobilization attempts often aim at *activating* underlying political preferences, identities, or norms (Foos and de Rooij 2017a; Rogers, Fox, and Gerber 2013; Rogers, Goldstein, and Fox 2018; Valenzuela and Michelson 2016). This can be contrasted with attempts to persuade individuals to change those attitudes, which we define as political persuasion.[1] Mobilization is hence defined via both the intent and the outcome of the action undertaken by the political actor or citizen. At the aggregate level, mobilization strategies aim at changing the partisan composition of the electorate through a differential mobilization mechanism, where the Get-Out-The-Vote (GOTV) intervention has a larger positive turnout effect on party supporters than on supporters of other parties, while leaving party preferences unaffected (Foos and John, 2018; Holbrook and McClurg, 2005). While "direct mobilization" refers to the attempts of political actors to mobilize voters, for instance through door-to-door canvassing, "indirect mobilization" refers to the diffusion of these mobilization effects from citizen to citizen within social networks (Rolfe 2012, 122–123).

Since the causal identification revolution that originated in economics but quickly spread to political science, researchers have increasingly used randomized field experiments to test if

voter contact really *causes* direct mobilization, that is, whether contact by a political actor causes an increase in turnout among citizens who were contacted (Green, Aronow, and McGrath 2013; Green and Gerber 2008). The related debate on indirect mobilization, about if and to what extent voter mobilization spreads ("spills over") within intimate networks such as the family or friendship circles, has long been characterized by similar identification challenges.

The fact that the study of social networks originated in sociology (Lazer 2011; McClurg and Young 2011) initially isolated the study of indirect voter mobilization from the identification revolution. At a time when the study of direct voter mobilization had already been taken over by randomized field experiments, even as recently as a decade ago there were only a handful of studies that used methods of causal inference to identify indirect mobilization effects within intimate networks (Klofstad 2007; Nickerson 2008). Zuckerman's (2005) seminal volume, for instance, lacks a discussion of causally identified work, or the problems related to the causal identification of social influence within networks. The difficulties in identifying indirect mobilization effects are exacerbated by the problem of interaction between network members (Gerber and Green 2012; Manski 1993) and smaller spillover effects, making well-powered designs relatively rare (Fowler et al. 2011). In the decade since Zuckerman's volume, however, we have seen a growing number of studies that apply various methods of causal inference to a broad set of questions about indirect mobilization effects, addressing voter mobilization within couples, families, and households (Bhatti et al. 2017, 2018; Dahlgaard 2018; Foos and de Rooij 2017b; Klofstad 2011; Sinclair, McConnell, and Green 2012).

In this chapter we argue that since direct mobilization attempts by political parties or other political actors are often aimed at activating underlying preferences, identities, or norms, we can work together with these actors to vary appeals aimed at activating those

theoretical mechanisms, which then diffuse within networks. The most famous example of direct mobilization studies following this strategy of *implicit mediation analysis* (Gerber and Green 2012; Green, Ha, and Bullock 2010) are the series of studies on social pressure and voter mobilization (Gerber, Green, and Larimer 2008; Green and Gerber 2010). Foos and de Rooij (2017b) use a similar implicit mediation strategy to vary the partisan intensity of mobilization appeals by telephone canvassers that spill over within two-voter households.

In what follows, we first lay out the theoretical and empirical challenges of studying indirect voter mobilization within intimate networks. We then provide examples of research that tests theories of indirect voter mobilization within the household, within the family, and in friendship networks. We specifically focus on studies that combine design-based approaches to causal inference with detailed observational data on network characteristics -- often taken from public registers and large databases maintained by non-governmental organizations such as political parties (Foos 2018) or third parties (Hersh 2015) -- to answer questions about the conditions under which indirect voter mobilization occurs or to gain insights into theoretical mechanisms using implicit mediation strategies. We also point to some methodological considerations when studying moderators and mediators and suggest promising avenues for future research.

Theoretical and Empirical Challenges of Studying Intimate Networks

By intimate networks, the literature usually refers loosely to networks composed of strong ties. "Strong ties" are defined by "the amount of time, the emotional intensity, the intimacy (mutual confiding), and the reciprocal services" exchanged between individuals that compose

the tie (Granovetter 1977, 1361). Since Granovetter's (1977) path-breaking study, intimacy has been considered a key moderator of social influence between individuals. The degree of intimacy is therefore often used as a synonym for the strength of a tie. However, intimacy is not the same as the frequency with which individuals interact. The relationship between parents and their grown-up children provides an example of why the two constructs are related, but distinct. Although many grown-up children do not interact daily with their parents, there is still a sense of trusting and relying on each other, a strong emotional bond. There is hence a direct relationship between the concept of intimacy and the trust that exists between two or more members of a network.

Intimate relationships should both create and be built on trust. Given this trust, individuals within an intimate, long-term relationship should be more likely to exchange information openly, given the opportunity to do so. As Huckfeldt and Sprague (1987) wrote, for information to be useful to a receiver, the receiver must be able to rely on the accuracy of the information. An open exchange of information is likely to enhance its accuracy. In trusting relationships, individuals should also feel more comfortable discussing even challenging topics since they have a strong interest in the long-term viability of the relationship, which might necessitate conflict or political disagreement in the short term. Intimate networks are therefore hypothesized to withstand more political disagreement than less intimate relationships (Foos and de Rooij 2017b; Morey, Eveland, and Hutchens 2012). In addition, intimate relationships play an important role in maintaining a sense of self and in fostering social belonging, both determinants of individuals' susceptibility to social influence (Cialdini and Goldstein 2004).

Many researchers deduce from these theoretical considerations that voter mobilization should be the stronger, the more intimate the relationship between individuals. As Sinclair (2012, 12) writes: "Greater effects should also reflect the intensity of the relationship (e.g.,

individuals are more influenced by family than by friends and by those with whom they have more frequent conversations than by those with whom they converse less). More intense relationships are more likely to confer a sense of identity and value on the individual […]." In contrast, others have claimed that information exchanged between weak ties might be more useful to the individual because it is more likely to be new information (Granovetter 1977; Huckfeldt and Mendez 2008).

Measuring Intimate Networks

There are important measurement issues that complicate drawing general conclusions regarding voter mobilization in intimate social networks from existing studies. The first issue is that social networks are conceptualized in two different ways in the literature. Some studies focus on existing networks and ask about the extent to which political discussion occurs in such networks. Thus, the focus is on whether members of the same intimate networks discuss politics with each other. Other studies define networks on the basis of political discussion— that is, the network consists of those with whom an individual discusses politics.

A second issue concerns who is asked to identify the existence of a network tie. For political discussion networks in particular, scholars might use only one respondent's evaluation of who is in the network. Such egocentric networks can be inaccurate in the sense that a listed network member might not perceive the same tie. We are probably more likely to remember influential than non-influential individuals, and individuals with higher status (Fowler et al. 2011). There might also be social desirability bias in which, and how many, individuals to list. In addition to inaccurately assessing the existence of a tie, network members might also misperceive the opinions and behaviors of others in their network (Huckfeldt and Sprague 1987).

One solution is to measure "organic social networks" (Fowler et al. 2011) directly, to obtain objective data on the whole network. However, as Nickerson writes in Fowler et al. (2011, 463), "researchers very rarely find readily observable networks," which fit these criteria. Nevertheless, in many countries, whole network data is available on households, and in some Nordic countries such as Denmark, also on families.

Context, Selection, or Influence

Apart from issues of measurement, the basic challenge of research on mobilization in social networks is to disentangle self-selection into networks, shared contextual influences, and genuine social influence between individuals within a network (Fowler et al. 2011; Rogowski and Sinclair 2012).

We graphically distinguish contextual effects, selection, and influence in Figure 1. Contextual effects occur when exogenous aspects of the environment of individuals within the same intimate network impact those individuals simultaneously (Fowler et al. 2011, 446); for instance, the effect on voter turnout of two individuals forming a couple, both exposed to the same mobilization message, who had a baby together or who experienced an increase in their household income. These effects are indicated by the arrows between the exogenous effects and the network at timepoint one (T_1) and timepoint two (T_2) in Figure 1.

[Insert Figure 1 here]

Selection effects occur because individuals sharing similar characteristics, attitudes, and behaviors form a network, either by chance ("random clustering") or by choice and/or circumstance ("homophily") (Fowler et al. 2011, 446; Sinclair 2012, 6). This can be due to either direct selection on political variables such as partisanship or political interest or selection on correlated variables such as education or personality type. Couples might form,

for example, in part because they share a similar interest in politics and/or worked together on a political campaign, which in turn will impact their propensity to vote. More likely though, they form among those sharing similar sociodemographic characteristics such as education, class, and ethnicity, which relate (albeit imperfectly) to political attitudes and behavior (Sinclair 2012, 6). Selection therefore occurs either because of affinity or because sharing the same environment implies that individuals' chance of meeting individuals with similar sociodemographic characteristics might be higher than meeting different individuals (Huckfeldt and Sprague 1987). This selection effect is displayed in Figure 1 as the arrows between T_0 and T_1, at which point the network forms.

Finally, social influence within a network occurs when a change in an individual's feelings, attitudes, or behaviors is caused by another individual in that network. Mobilization within (intimate) social networks constitutes social influence. Social influence effects are displayed by the arrows between individual A and B (i.e., within the network) at T_1 and T_2. Consequently, it is important to distinguish the impact of such mobilization on, for instance, voter turnout from contextual and selection effects.

Notwithstanding the widely recognized importance of identifying causality within networks, Rogowski and Sinclair (2012) show, based on a survey of eighty-nine articles published in major political science journals between 2005 and 2014, that the majority of studies on the impact of social influence in networks on some political or social outcome did not employ any explicit causal identification strategy. When it comes to disentangling contextual, selection, and social influence effects within intimate networks, scholars have broadly employed three different empirical strategies. First, the inclusion of covariates or matching on observables (e.g., Cutts and Fieldhouse 2009; Huckfeldt and Sprague 1995; Mutz 2006), the use of panel data (e.g., Klofstad, Sokhey, and McClurg 2013), and finally, design-based approaches (Dunning 2012) such as randomized spillover experiments and

natural experiments (e.g., Dahlgaard 2018; Foos and de Rooij 2017b; Klofstad 2011; Nickerson 2008; Sinclair 2012).

Empirical Evidence

Most empirical studies of voter mobilization aim at identifying social influence in a specific social context such as the household (Fieldhouse and Cutts 2012; Foos and de Rooij 2017b; Nickerson 2008) or the neighborhood (Enos 2016; Foos et al. 2019; Gay 2012). We briefly review this research.

The Household and the Family

The household is the most frequent context in which concordant turnout behavior is studied. Family or household members are regularly named as the most frequent discussion partners (Mutz 2006, 126; Sinclair 2012, 27). Moreover, observational studies have shown that the turnout behavior of couples is highly correlated (Glaser 1959; Straits 1990; Verba, Schlozman, and Burns 2005). The attention that the household receives as a context of voter mobilization is partly a function of the opportunistic fact that households are more easily identifiable than other social contexts. They have clear boundaries and can be identified based on a common address. Neighborhoods or friendship circles, in contrast, are not always easy to pinpoint objectively and their identification relies to a greater extent on individuals' subjective perceptions and self-reports (Enos 2017). The fact that households are more easily identifiable than other social contexts might have contributed to the fact that they are over-represented in the study of voter mobilization in social networks.

There is some empirical evidence based on observational studies and randomized field experiments that voter mobilization attempts by canvassers are more successful in two-voter

households (Cutts and Fieldhouse 2009; Nickerson and Rogers 2010). Moreover, the only existing spillover experiment that directly compares spillover effects of a randomized door-to-door canvassing campaign between different contexts shows that spillovers are more pronounced within the household than within the neighborhood, measured as the postcode in which the individual resides (Sinclair, McConnell, and Green 2012). In other words, the effect of canvassing a randomly chosen household member on the turnout of their fellow household members is greater than on the turnout of their neighbors.

As discussed, one important difficulty that researchers who study voter mobilization in intimate networks encounter is distinguishing between the household as a shared context, which exposes couples to the same exogenous influences, and the social influence that occurs between household members (Manski 1993). Moreover, it is very difficult to disentangle the household as a space of frequent and sustained social interaction from the personal relationships between long-term couples and between parents and children. It is hence unclear whether mobilization effects between spouses and other family members are driven by the fact that they spend a lot of time together or by the intimacy of the relationship, which makes interaction more meaningful.

Multiple illustrative examples of how these different contexts can be distinguished are provided by a team of Danish researchers, who effectively combine access to unusually detailed register data on Danish voters with advanced methods of causal inference such as field experiments and regression discontinuity designs to address important causal questions in the political socialization literature (Bhatti et al. 2017, 2018; Dahlgaard 2018). Bhatti et al. (2018) show, based on a regression discontinuity design, that couples who move in together just before an election are both more likely to vote and more likely to display the same turnout behavior than comparable couples who decide to move in just after an election. They estimate that the effect of sharing the same household on turnout amounts to around four to

nine percentage points (Bhatti et al. 2018). In another paper, Bhatti et al. (2017) show that the effects of a GOTV text message spill over between children and parents, but these effects are conditional on sharing the same household. Moreover, Dahlgaard (2018) also uses a regression discontinuity design that exploits the timing of elections to show that parents of a child turning eighteen just before an election are significantly more likely to vote. Finally, in the Canadian context, Mahéo (2018) shows, by means of a randomized spillover experiment in Quebec's elementary schools during the 2017 municipal electoral campaign, that civic education of children spills over to increase their parents' political knowledge and turnout by 2-3 percentage points, although the effects are estimated with some uncertainty. The studies by Bhatti et al. (2017), Dahlgaard (2018), and Mahéo (2018) therefore provide evidence of trickle-up socialization within families and complement causal evidence on legislators showing that children's gender affects parents' voting behavior in the US Senate (Washington 2008). Together, the studies discussed in this section show how the shared household is a key venue for indirect mobilization.

Intimate Networks beyond the Household

If individuals do not share the same household, researchers can use panel data and exploit random or quasi-random assignment mechanisms, such as randomly assigned roommates in university dorms, to identify the effects of sustained social interactions on political participation (Klofstad 2011, 2015). The great advantage of these studies is that they can estimate the effects of sustained interaction between individuals over a long period of time. Klofstad (2015) finds, for instance, that exposure to political discussion with a randomly assigned roommate in the first year of college results in a greater likelihood of participation in partisan and other political groups and of contacting elected officials, not only while in college but many years after. He finds, though, that the impact on voter turnout is minimal

(Klofstad 2015). Unfortunately, these studies also come with the disadvantage that individuals are randomly assigned to an entire bundle of treatments that come with sharing the same room with another person. It is therefore impossible to identify the exact mechanism through which social influence takes place. However, egocentric network data collected pre- and post-treatment, in combination with random assignment, potentially provides great opportunities for measuring the effects of social interactions on political mobilization.

Voter Mobilization Mechanisms

Political scientists tend to agree that informal political discussions within social networks are of fundamental importance for engagement with and active participation in politics. But of course, not all networks are equal, nor are the contexts in which they exist. Questions about the moderating impact of characteristics of intimate networks (and their members) and of the context in which they exist on voter mobilization are a promising avenue for further research. In addition, questions remain about how exactly social influence operates, that is, about the mediators through which social influence impacts participation.

Moderators

The question of whether some types of social networks, and under what conditions, are more likely to generate discussion and to transform such discussion into increased engagement and participation has been a major focus of the literature. We have already argued that intimacy should be considered as one such characteristic of the social ties that make up a network. Other characteristics, such as political preferences and attitudes, and sociodemographic characteristics, are related to individuals. Of particular interest has been the impact of heterogeneity in members' characteristics within, and to some degree across, networks and its

impact on outcomes such as voter turnout. How this heterogeneity interacts with intimacy in impacting voter mobilization has so far received little attention. One complicating factor is that due to selection, intimate networks are particularly likely to be homogeneous in terms of the sociodemographic characteristics and political preferences and attitudes of their members. Moreover, most of the characteristics of interest are difficult if not impossible to randomly assign to individuals, raising issues of causality—for example, one cannot easily isolate the causal impact of gender.

Broadly, there are four sets of questions that are of interest regarding the moderating impact of characteristics of intimate networks (and their members) and of the context in which they exist on voter mobilization:

1. What types of conditions/contexts increase the likelihood of indirect mobilization in intimate networks? (E.g., are certain types of campaign messages more likely to spill over in households than others; or are certain neighborhoods more conducive for indirect mobilization by neighbors?)

2. How do differences between intimate networks in sociodemographic characteristics and political preferences and attitudes impact political discussion and voter mobilization? (E.g., is voter mobilization resulting from an exogenous GOTV message more likely in households with a higher household income than in those with a lower household income?)

3. To what extent is political discussion and voter mobilization more likely to occur in homogeneous than in heterogeneous intimate networks? (E.g., are partisan heterogeneous networks less likely to discuss politics than homogeneous networks; but also, are partisan heterogeneous networks less likely to respond to exogenous voter mobilization attempts?)

4. To what extent are network members with certain characteristics more likely to discuss politics and/or to mobilize other members, and to what extent are network members with certain characteristics more responsive to mobilization or persuasion efforts? (E.g., are the spillover effects within households of GOTV messages on turnout greater for women than for men?)

None of these questions has yet been addressed exhaustively, but there are two areas in particular that provide fruitful grounds for future research. The first concerns the role of partisanship and the second the role of gender and other forms of sociodemographic diversity. In discussing the latter, we will focus on the third and fourth questions.

Partisanship

In its origins, the study of social influence within intimate networks was firmly located within partisan environments (Berelson, Lazarsfeld, and McPhee, [1954] 1986; Huckfeldt and Sprague 1987, 1992; Lazarsfeld, Berelson, and Gaudet 1948). The question how the partisan context conditions direct and indirect voter mobilization and political discussions within networks has therefore long been relevant to researchers associated with the intellectual tradition of the Columbia School (Holbrook and McClurg 2005; Huckfeldt and Sprague 1987; Mutz 2006). Since the causal revolution of the late 1990s, the science of voter mobilization has largely lost this focus on the partisan nature of election campaigns. Most spillover studies have been conducted with non-partisan organizations aimed at increasing turnout across the board (Nickerson 2008; Sinclair, McConnell, and Green 2012). However, theory leads us to believe that individuals act differently in partisan than in non-partisan contexts (Foos and de Rooij 2017a; Foos and John 2018; Nickerson 2005). For instance, it has been suggested that partisan voter mobilization messages might function as social identity cues, rallying support for the team and pitting party supporters against each other (Green,

Palmquist, and Schickler 2002; Rogers, Fox, and Gerber 2013; Rogers, Goldstein, and Fox 2018). Nevertheless, as Green (2013) has recognized, there still exists an "empirical deadlock" when it comes to studying the causes and effects of partisanship.

In an innovative field experiment, Perez-Truglia and Cruces (2017) show that highlighting an individual's political donations to her neighbors increases the donations of supporters of the local majority party and decreases those of supporters of the minority party. Foos et al. (2019) use a similar strategy to test whether indirect mobilization effects between neighbors vary with the share of rival party supporters in a neighborhood. They find that these effects are weaker in neighborhoods with a larger share of households supporting a rival party. Moreover, they show that spillovers to rival party supporters usually originate in mixed neighborhoods where the share of mixed partisan households is higher, suggesting that spillovers within neighborhoods are not independent from those within households.

Partisan Heterogeneity

Hersh and Ghitza (2018) show that around 70 percent of married couples in the United States live in homogeneous partisan households. Only around 10 percent are registered with opposing parties. Hersh and Ghitza (2018) also find that individuals in heterogeneous households are less likely to vote than individuals in homogeneous households. However, this pattern can occur for many reasons other than differing levels of intra-household mobilization. As we find using a randomized spillover experiment, spillovers from partisan mobilization attempts are actually stronger in heterogeneous than in homogeneous households, and stronger still if the partisan intensity of the message is exogenously increased (Foos and de Rooij 2017b). These two results are not contradictory. There can be a strong positive correlation between the degree of partisan homogeneity in an intimate network and the turnout of network members, but this correlation can be due to selection effects and shared political context, not social influence between network members. We also find that

heterogeneous households, on average, have a lower turnout rate in elections than homogeneous households. This is not surprising, given that if both partners are highly politically engaged, they might not want to share the household with someone who supports a major political competitor. At the same time, those mixed partisan households that survive, and do not dissolve, have likely found ways of dealing with disagreement, either by "agreeing to disagree," or by taking political disagreement as a source of entertainment. Moreover, political parties have fewer strategic incentives to target mixed partisan households than homogeneous households because they assume that they might inadvertently mobilize supporters of rival parties. We show that if mixed partisan households are actually contacted, indirect mobilization effects are stronger than in homogeneous households. Since we hold detailed data on validated previous turnout, this heterogeneous effect is not a function of different baseline turnout levels (Foos and de Rooij 2017*b*). Thus, the direct comparison between observational and experimental finding shows that both can be true at the same time: Only a relatively small minority of households are mixed on partisan type, but as Morey, Eveland, and Hutchens (2012) predicted, those that exist are more likely to withstand disagreement.

Gender Diversity

In examining the role of gender in voter mobilization within the context of intimate networks, two questions that stand out are: 1) whether men and women differ in their probability of discussing politics with network members of the same and opposite sex; and, 2) whether men and women differ in the extent to which they are effective at mobilizing others and the extent to which their turnout behavior is susceptible to social influence.

Observational studies provide some evidence in answer to the first question but many likely suffer from the accuracy and social desirability biases that result from relying on self-reported (discussion) networks. Such studies suggest that, in comparison with men, women

have lower levels of political interest, (perceived) political knowledge, and political efficacy and are less likely to indicate that they discuss politics regularly (Banwart 2007; Bennett and Bennett 1989; Carpini and Keeter 1996, 2000; Dow 2009; Gidengil, Giles, and Thomas 2008; Mendez and Osborn 2010; Mondak and Anderson 2004; Verba, Burns, and Schlozman 1997; Wolak and McDevitt 2011). And although both women and men are most likely to list members of their own sex as political discussion partners (Elder and Greene 2003; Huckfeldt and Sprague 1995, 196), women are more likely than men to list members of their intimate network—that is, family and close friends (Elder and Greene 2003; Huckfeldt and Sprague 1995, 198). At the same time, there is no longer a gender gap in electoral participation in advanced democracies, and where it exists, women appear to be slightly more likely to vote than men (e.g., Coffé and Bolzendahl 2010).

The question as to whether women are more likely to be mobilized to vote than men has not received much attention. In a rare study examining gender differences in the response to social pressure messages to turn out to vote, Weinschenk et al. (2018, 53) find "little to no evidence of gender differences in receptivity to social pressure cues in the context of political participation." Moreover, using data from Foos and de Rooij (2017b) and Sinclair, McConnell, and Green (2012), de Rooij, Foos, and Matsuno (2019) confirm this finding with regards to direct mobilization effects, but tentatively show that indirect mobilization effects within households do vary by gender. Their findings suggest that, if there is at all a difference, it is women who are more effective at mobilizing the men in their households than the other way around. These results are consistent with studies suggesting that while women perceive their political opinions to be slightly more influenced by their husbands than vice versa, the actual effect of gender is small compared to characteristics such as age and political involvement (Miller, Wilford, and Donoghue 1999); they are also in line with the broader

literature which finds that there is "little evidence of overall gender differences" (Carli 2017, 45) in influenceability between men and women outside the context of intimate networks.

Taken together then, the limited evidence seems to suggest that women are more likely than men to (indicate they) turn to family members as their main political discussion partners, but that if political discussion within the family does occur, the impact on turnout is no greater for women than for men. Questions remain, though, as to whether gender differences exist in indirect mobilization depending on the political issue under discussion, the nature of the discussion, and the gender composition (same-sex or different-sex) of the network.

Other Sociodemographic Diversity

Due to selection effects, social networks tend to show limited diversity in terms of sociodemographic traits other than gender (McPherson, Smith-Lovin, and Cook 2001). Intimate networks based on marriage and family ties, or those consisting of other strong ties, show extensive homophily when it comes to race and ethnicity in particular, but also in terms of religion, and, to a lesser extent, education, occupation, and class (McPherson, Smith-Lovin, and Cook 2001). As Hersh and Ghitza (2018) show, even though intermarriage between supporters of different parties is relatively infrequent, ethnic intermarriage is even much less frequent in the United States than mixed partisan marriages. If intimate networks do show diversity, it is likely that the types of individuals that form such heterogeneous networks differ in important ways from those who do not—for example, they might be more open-minded when it comes to issues of diversity.

It is assumed that sociodemographic heterogeneity of (discussion) networks exposes individuals to alternative viewpoints and increases tolerance of and empathy with members of other groups (Boisjoly et al. 2006, 1902), which might in turn affect political behavior and turnout (Leighley and Matsubayashi 2009, 826). However, there are only a few studies that

empirically test this argument (Leighley and Matsubayashi 2009, 829), particularly in the context of intimate networks.

A handful of studies have utilized random assignment of first-year college roommates to study the impact of sociodemographic heterogeneity on predispositions and behaviors. Although a relationship with a roommate is not necessarily an intimate one, living together is likely to foster cooperation and positive affect (Van Laar et al. 2005, 331). Van Laar et al. (2005) and Boisjoly et al. (2006) utilize the random assignment of first-year college roommates to test whether students who were assigned a roommate from a different racial/ethnic group exhibit different attitudes and behaviors over time than those who were not. Van Laar et al. (2005) find that ethnic heterogeneity in general reduces prejudice and that being assigned an African American outgroup roommate increases the heterogeneity of a student's friendship circle.

In another noteworthy study testing the impact of sociodemographic heterogeneity on political behavior, Marx, Pons, and Suri (2018) conducted a field experiment on electoral registration in Kenya for which canvassers were randomly assigned to a junior teammate and a senior manager. They find that ethnic diversity within randomly assigned teams of canvassers decreased the effort canvassers spent on registering households; however, this was not the case for ethnic diversity between managers and canvassers. Although relationships between canvassers are also not necessarily intimate, this study is a great example of how researchers might go about randomly constructing networks (Nickerson 2011).

Mediators

Even when studies on indirect mobilization effects are successful in isolating social influence from selection and contextual effects, questions remain as to how exactly social influence operates (in a given context). As Nickerson puts it "researchers cannot generally manipulate

communication within a social network, so the content of conversation and interactions are not only endogenous but also in a black box" (Fowler et al. 2011, 463). Nevertheless, many authors have speculated about the mechanisms through which social influence can be exerted.

When it comes to opening the black box of voter mobilization, the main focus has been on the distinction between the mechanism of informational updating and of conforming to social norms and/or social pressure regarding turnout (e.g., Sinclair 2012). Both these mechanisms might explain the effectiveness of voter mobilization in intimate networks, which we defined as an intentional and non-coercive action by one network member that causes another member to participate in an election. A less discussed, but related, mechanism is that of social belonging, which suggests that the need to nurture close relationships motivates behavior (Cialdini and Goldstein 2004). In addition, there are alternative mechanisms that we would not classify as voter mobilization, but which nonetheless might explain, for instance, intra-household spillover effects of campaign messages. We can think of a household member simply imitating the behavior of another household member, a household member being exposed to the direct mobilization attempt targeted toward another member (e.g., overhearing a conversation with a canvasser), or a household member reducing the costs associated with voting by, for instance, sharing a ride to the polls (Nickerson 2008, 55).

Information

Scholars have suggested that one reason why indirect mobilization is effective is that it provides information about the opportunity to vote (Rolfe 2012, 15) and/or about the political parties and candidates and their proposed policies (Sinclair 2012, 8–11). Cialdini and Goldstein (2004) suggest that someone's susceptibility to social influence can be interpreted as a function of the need to meet certain human goals. One such goal is the need to form an

accurate perception of reality and to behave accordingly (Cialdini and Goldstein 2004, 591). Information relevant to the election aids in deciding if and how to vote, and for whom.

Social Norms and Social Pressure

Another reason that indirect mobilization is said to be effective is because individuals tend to conform to the social norms of their networks. Norms are "socially shared definitions of the way people do behave or should behave" (Paluck 2009, 596). As such norms are beliefs, albeit a "special category of beliefs—beliefs that are perceived to be socially shared regarding prevalent or prescribed behaviors" (Paluck, 2009, 596). Commonly, a distinction is made between descriptive and injunctive norms. Whereas the former refer to what individuals perceive that others typically do, the latter refers to what individuals perceive that others typically think they should do (Cialdini and Goldstein 2004, 597). Probably the most famous injunctive norm with regard to voting is that it is a civic duty (Downs 1957) Although changing an actual norm in an existing social network might be difficult, Paluck (2009) argues that it may be more effective to change the perception of norms rather than to change norms themselves in order to influence behavior. Alternatively, studies have used social pressure as a mechanism to enforce social norms. In a by now famous study, Gerber, Green, and Larimer (2008) show how mailers promising to publicize individuals' turnout to their household or their neighbors after the election substantially increased turnout. It is not unlikely that social pressure exerted within the household is just as, if not more, effective as long as the norm of voting is present (Sinclair 2012, 11). Interestingly though, this does not necessarily imply that individuals who comply with a norm have internalized the norm.

Social Belonging

A final reason why indirect mobilization is effective, in particular in the context of intimate networks, is related to a second human goal suggested by Cialdini and Goldstein (2004, 591) to explain why someone might be susceptible to social influence: to develop and maintain meaningful social relationships. Direct mobilization attempts are more effective when they are in-person, face-to-face, and deemed authentic (Rogers, Goldstein, and Fox 2018). But individuals are even more likely to respond to requests from individuals with whom they share a close relationship. As Cialdini and Goldstein (2004, 598) suggest: "we use approval and liking cues to help build, maintain, and measure the intimacy of our relationships with others. We also move closer to achieving these affiliation-orientated goals when we abide by the norms of social exchange with others, such as the norm of reciprocity." Thus, instead of viewing indirect mobilization as due to informational updating or conforming to social norms regarding voting behavior, we might view responses to mobilization efforts by our loved ones as part of an ongoing process of exchange between partners aimed at maintaining a meaningful relationship: "Sure, I will join you when you go vote, so you don't have to go alone."

Methodological Considerations

While randomized spillover experiments and natural experiments have contributed much to our ability to causally identify social influence between citizens, researchers struggle to open the "black box" (Fowler et al. 2011; Sinclair, McConnell, and Green 2012). There are a number of methodological reasons why it is difficult to causally identify mechanisms that could moderate or mediate the effect of social influence between network members on engagement with and active participation in politics (Bullock, Green, and Ha 2010; Green, Ha, and Bullock 2010). The most important reason is that while the exogenous shock to the network is randomly assigned, potential mediators or moderators, most of the time, are not

randomly assigned (Bullock, Green, and Ha 2010). They are observational covariates, either measured pre-treatment, in the case of a moderator, or post-treatment, in the case of a mediator. This leaves us with a problem: even if we measure an effect of the treatment conditional on a potential moderator, or the effect of a treatment on a potential mediator, this moderator or mediator could be correlated with an unspecified number of other potential unobserved moderators or mediators. This is also the reason why simple mediation models where researchers insert a potential mediator X into a regression of Y on Z would most likely produce a biased (and overly large) estimate of X (Green, Ha, and Bullock 2010). We can of course "control" for other potential mediators or moderators in our model, but this strategy is as prone to bias as any other modeling strategies using covariates to control for observed confounders in observational studies.

For our purposes then, to identify how network characteristics condition, and how the motivations underlying interactions between network members mediate, social influence, is a much bigger challenge than one might anticipate. Even if we can measure potential moderators and mediators of social influence, we can never be sure if the measured moderator or mediator is not just merely correlated with one or a combination of unobserved moderators or mediators. There are several strategies to address these issues, and none will succeed without strong theoretical foundations.

In our own work, we have used a combination of unusually detailed covariate data on network characteristics, including potential confounders, and an implicit mediation analysis to shed more light on potential mechanisms (Foos and de Rooij 2017b). Our strategy was to both measure a potential moderator—party support—and activate this moderator by either adding or subtracting a randomly assigned element—the partisan intensity of the message—from the content of the treatment. We hypothesized that if partisan heterogeneity is really moderating social influence between household members, then priming partisanship should

result in larger effects on turnout than a low partisan intensity message. Of course, this strategy is far from perfect. In an ideal scenario, we would have liked to also directly measure potential mediators such as the level of political discussion. Finding that our high partisan intensity treatment had a larger effect on political discussion than our low partisan intensity treatment would not have provided enough evidence in support of the mechanism that higher turnout in heterogeneous households is mediated by increased levels of political discussion; however, we could have potentially ruled out alternative mediators. In the end, we agree with Green, Ha, and Bullock (2010) that any moderation and mediation analysis will be a slow and gradual process. However, this should not prevent us from combining different strategies to make progress on these important questions.

Future Research

In looking to the future of work on intimate networks we suggest the potential for collaboration with political actors in designing field experiments to determine mobilization efforts that are most effective at activating underlying preferences, identities, or norms, and studying how effects diffuse within networks and under what conditions. Moreover, we dare researchers to move beyond these studies by exploiting or actively facilitating the formation of new ties (Klofstad 2007) and encouraging the formation of stronger ties to test causal assumptions about observed correlations between network characteristics and voter mobilization in real-life election campaigns.

Employing those strategies, we can hope to make further progress on some long-standing questions in the fields of political socialization and political behavior that are characterized by strong theory, strong claims about mechanisms, and correlational evidence, but weak causal identification of effects or mediators. We therefore challenge the field to continue the

pioneering work of the Columbia School (Berelson, Lazarsfeld, and McPhee [1954] 1986; Lazarsfeld, Berelson, and Gaudet 1948) and scholars working in this tradition (Huckfeldt and Sprague 1992, 1995; McClurg 2003; Rolfe 2012; Zuckerman 2005), but approach the identification of social influence from a design-based perspective (Bhatti et al. 2018; Foos and de Rooij 2017b; Klofstad 2011; Sinclair 2012).

We outline four different research approaches for broadening the evidence base on the social logic of voter mobilization. First, more experiments are needed that explicitly compare spillover effects of randomized GOTV interventions between different social contexts, such as the multilevel experiments conducted by Sinclair (2012) and Sinclair, McConnell, and Green (2012), and across networks made up of people with varying (combinations of) traits, like partisanship or sociodemographic characteristics. The difficulty of measuring social contexts other than the household could be alleviated by employing panel studies that enable individuals to define their own perceived social contexts pre-treatment (Enos 2017).

Second, when researchers conduct field experiments, we advocate that they collaborate with legitimate political actors to study the social logic of voter mobilization in order to increase the realism of interventions and to test causal theories of voter mobilization in partisan environments. Political parties and political groups have an inherent interest in questions related to voter mobilization and are often willing to collaborate with researchers on field experiments.

Third, whenever possible, efforts should be directed at combining design-based approaches with large and detailed observational data on network characteristics. Careful thinking about research design combined with rich panel register data can allow researchers to disentangle contexts such as the household and the family (Bhatti et al. 2017) or the household and the couple, which are usually highly correlated (Bhatti et al. 2018). Public registers (Bhatti et al. 2018) and large databases maintained by non-governmental

organizations such as political parties (Foos 2018; Foos and de Rooij 2017b) or third party vendors (Hersh 2015) will also prove useful for other reasons. They allow us to obtain network data on individuals which are measured unobtrusively and are not subject to expansiveness and attractiveness biases plaguing egocentric network data (Fowler et al. 2011). Moreover, these types of data potentially allow us to follow networks and individuals who make up those networks over time, monitoring changes in network structure, and exploring the formation and dissolution of networks (Bhatti et al. 2018); they also allow us to estimate the duration and persistence of social influence within networks. Detailed data on voting intentions collected over more than ten years by UK Labour party canvassers, for instance, allowed Foos (2018) to investigate whether persuasion effects between a parliamentary candidate and voters decayed over time.

Finally, the field should move more decisively into employing treatments that could affect the level of a specific mediator to which an individual is exposed. A promising strategy would be to use implicit mediation analysis to deploy a treatment that manipulates the theoretical underpinnings of intimacy. One obvious treatment would be to encourage subjects to engage in self-disclosure, for instance by sharing personal stories with each other. Broockman and Kalla (2016), for instance, employ the psychological strategy of perspective-taking in their persuasion field experiment. One obvious step further would be to randomly assign the content of the persuasive appeal. A different potential strategy would use encouragement designs to randomly assign the frequency and intensity of meetings between network members or exploit the fact that our knowledge of the data generation processes leading to the formation of romantic relationships is increasing. If users of dating apps are introduced to "matches" once they cross a specific threshold on a continuous homophily index, working together with a dating website, an entrepreneurial researcher could for

instance apply a regression discontinuity design to identify the effects of being encouraged to date a person on their subsequent political behavior.

We have laid out how the study of indirect voter mobilization in intimate networks has been characterized by fundamental theoretical and methodological challenges. We argue that the field can make progress by utilizing design-based approaches of causal inference within real-word contexts, such as those of partisan campaigns. In doing so, collaborating with political actors and obtaining access to de-identified data, which includes extensive pre-treatment information on individual characteristics, is key. We further encourage researchers to explore different social contexts and different types of networks, and to use implicit mediation strategies or (if possible) the direct manipulation of mediators, to probe the theoretically derived mechanisms that underpin indirect voter mobilization.

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Figure 1: Context, selection, and influence
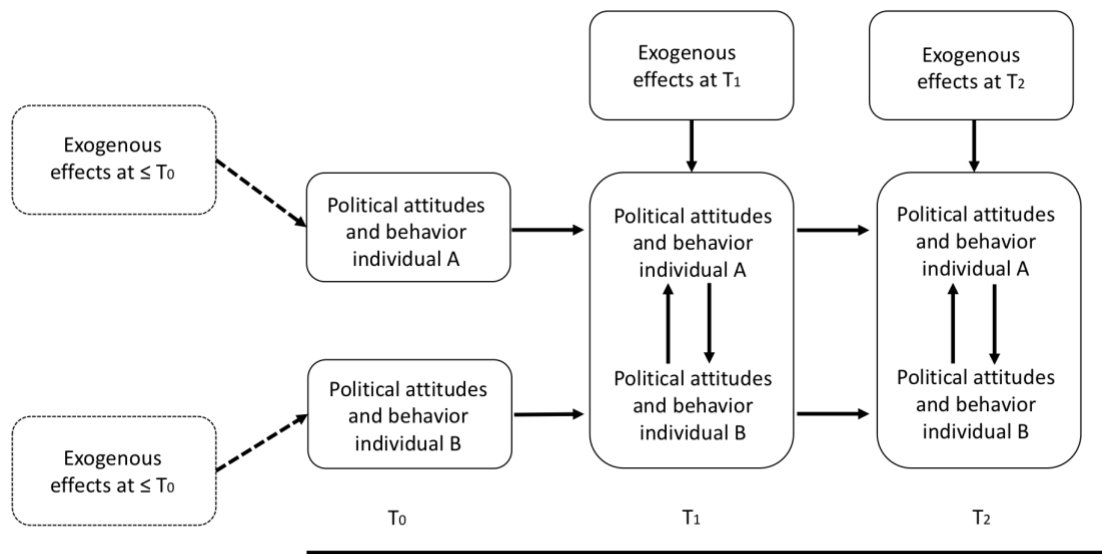
Note

1 For definitions of persuasion see for instance Mutz, Sniderman, and Brody (1996); Perloff

(2003).