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The Political Consequences of Gender in Social Networks

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Abstract

Scholars of behavior remain focused on the citizenry's ability to acquire high quality information that can enable political action and choice. One of the primary concerns to emerge from socially-driven investigations into this is whether networks yield similar effects for all people. We extend this discussion to explore a source of variance widely ignored in social network studies – gender. While there is near universal agreement that men and women should experience different kinds and degrees of social influence, an extensive literature review generates conflicting expectations about exactly how such dynamics should manifest. Thus, as a critical first step, we revisit prominent, network-based explanations of political participation to determine whether established findings hold across sex differences. We find that they do not. Our results point to the existence of distinct “social logics” for men and women that change how we think about the efficacy of discussion and disagreement in a democratic society.

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Network research has moved steadily toward an embrace of the deliberative framework, assessing citizens' potential for acquiring high quality information across lines of disagreement – information that can enable political action and choice (e.g., Jacobs et al. 2009; Ryan 2011; Sokhey and McClurg 2012). Though network researchers have never been shy about the normative implications of their work (see, especially, Berelson et al. 1948; Lazarsfeld et al. 1954), Mutz (2006) has offered the particularly potent formulation that we face a trade-off between an informed and an active public. Disagreement with others creates significant opportunities for increased learning and tolerance, but simultaneously suppresses political participation. Underlying a rapidly maturing literature on this potential “democratic dilemma” are long-simmering questions about whether networks yield similar effects for all types of people (e.g., Djupe and Gilbert 2009; Huckfeldt et al. 2004; McClurg 2003).

We extend this discussion to explore a source of variance widely ignored in social network studies – gender. We ask whether the tradeoff between an informed and participatory citizenry is universal, or whether it breaks down around this key demographic. While there is near universal agreement that men and women experience different kinds and degrees of social influence, an extensive literature review generates conflicting expectations about exactly how such dynamics should manifest. Thus, as a critical first step we revisit prominent, network-based explanations of political participation to determine whether established findings hold across sex differences.

Our results point to the existence of distinct “social logics” for men and women that change how we think about the efficacy of discussion and disagreement in a democratic society. We find that exposure to socially-supplied expertise consistently benefits women more than men. However, we uncover inconsistent gender-based differences in effects from interpersonal disagreement. Thus, the findings present a different sort of “mixed bag” for democratic functioning: we do not necessarily observe a fundamental tradeoff between disagreement and participation (Mutz 2006), but

also cannot claim that social expertise is a universal “good” when it comes to addressing participatory deficits (McClurg 2006a).

Ultimately, our effort is important for two reasons: First, while previous empirical work shows substantial, gender-based political inequities in information stocks (Atkeson and Rapoport 2003; Delli Carpini and Keeter 1996) and rates of participation (Burns, Schlozman, and Verba 2001), our findings demonstrate that social ties are not automatic barriers to greater female involvement in politics. If women reacted negatively to social network stimuli and men did not, it would be yet another barrier to gender equity in the American political system. The second contribution we make is in how to think about network effects. The literature has focused attention on demonstrating differences in the *construction* of men’s and women’s networks (e.g., Huckfeldt and Sprague 1995) – that is, in the particular supply of discussion partners in networks. Though we are not the first to consider heterogeneous responses to social stimuli (e.g., see work on disagreement by Huckfeldt and Mendez 2008; Mutz 2006), we bring gender squarely into focus, documenting the difference in degree to which men and women *respond* to socially-supplied information. In turn, this tack highlights the need for a unified theory of political network influence – a theory that more fully acknowledges the complex manifestations resulting from the intersection of gender, social structure, and psychological factors.

Political Participation, Social Communication, and Gender

Social network communication is hypothesized to hold important consequences for participation in American politics. As noted, the important questions have been framed most prominently by Diana Mutz (2006), who calls attention to political conversations that cross lines of difference (she labels these “cross-cutting discussions,” though elsewhere they are called political disagreements [Huckfeldt et al. 2004; Klostad et al. 2013; Leighley 1990; see also Berelson, Lazarsfeld, and McPhee 1954]). Mutz concludes that there is a democratic dilemma in which

exposure to disagreement assists opinion formation, moderation, and tolerance, but does so at the expense of participation due to the creation of ambivalence and social accountability pressures.

While there is some debate about whether (Leighley 1990) and under what conditions (McClurg 2006b; Djupe and Gilbert 2009; Klostad et al. 2013) socially-experienced disagreement tends to depress participation, others have found that different elements of network interactions actually increase participation. The central argument along these lines has been a recognition that networks facilitate participation by giving people opportunities to learn about politics through political talk (Kenny 1992; Lake and Huckfeldt 1998; McClurg 2003), especially with people who know a lot about politics (Huckfeldt 2001; McClurg 2006a; Richey 2008).

Most of this research focuses on how people behave as a consequence of the characteristics of their social network. That is, most network approaches to understanding citizen politics depend on information flow, and in particular, focus on the availability of specific types of information. Generations of work have taken up this line of inquiry, presenting evidence that citizens' political choices and activity depend on their patterns of social interaction (Beck 1991; Berelson, Lazarsfeld, and McPhee 1959; Books and Prysby 1991; Gilbert 1993; Huckfeldt 1986; Huckfeldt and Sprague 1995; see Sokhey and Djupe 2011 and Zuckerman 2005 for reviews).

One way to characterize this research is to think of it as devoting considerable attention to issues of network *construction* – studying discussant selection (Huckfeldt and Sprague 1987), network size (Leighley 1990), discussion frequency (Lake and Huckfeldt 1998; Mendez and Osborn 2010), communication quality (Huckfeldt, Levine, et al. 1998; Huckfeldt, Beck, et al. 1998; Huckfeldt, Sprague, and Levine 2000), disagreement (Leighley 1990; McClurg 2006a; Mutz 2006), and network structure (Huckfeldt, Beck, et al. 1995). Less attention has been given to the study of *response* – i.e.,

the impact of such communication across types of people with different characteristics.¹ Some work has added levels of complexity, observing at least some of the interactions between network exposure and responsiveness to social information. For example, Huckfeldt and colleagues (2004) have argued that social influence is contingent (“autoregressive”), with discussion dyads exerting influence when the discussion partner’s views are in line with the rest of the network.² It is on the contingency of *response* to social networks that we focus most of our attention.

The Gender Basis of Social Influence

Research from across the social sciences finds that men and women have differently composed social worlds and that they experience these worlds differently. Though arguments rage about the nature of the differences and the conditions under which they emerge, that there are differences is not in dispute. These differences, demonstrated in terms of personality and social, economic, and political engagement, should be closely connected with the forces of social influence experienced by men and women. We briefly consider how gender differences condition social network construction, before turning our attention to how we expect gender to structure responses to networks. Based on previous research, we find that there are conflicting expectations about how the sexes should react to socially-supplied information.

Exposure to Social Information

One potential source of heterogeneity in political participation by men and women is due to network construction. On this point, work from across the social and behavioral sciences complements extant political science efforts (see Djupe and Sokhey 2013 for an overview). Men and women have equally-sized “important matters” networks (Marsden 1987; Moore 1990), but women’s core networks tend to be populated with family at higher rates. From this perspective,

¹ To be fair, there are exceptions to this statement. For example, some research examines individual heterogeneity in disagreement (Huckfeldt and Mendez 2008; Huckfeldt and Sprague 1995; Mutz 2006; Ulbig and Funk 1999).

² See also Djupe and Gilbert 2009, Huckfeldt et al. 1998 and McClurg 2006b for related takes on social influence conditioned on the broader social context.

differences in the composition of the network are driven by a combination of the structural locations of men and women (Moore 1990), and differences in the priority (or choice) of maintaining close relationships (e.g., Gilligan 1982). Evidence supporting the latter notion is extensive. Generally speaking, women's social networks are more homophilous (Huckfeldt and Sprague 1995; McPherson, Smith-Lovin, and Cook 2001; Ridgeway and Smith-Lovin 1999); their associational involvements are even more so (Popielarz 1999; McPherson and Smith-Lovin 1982, 1986). These patterns appear to be related to findings that women tend to trust those with whom they have direct relationships, while men trust those sharing group affiliations (Maddux and Brewer 2005).

More germane to the study of political discussion networks, Huckfeldt and Sprague (1995) examine spousal pairs, presenting a blended structural-choice perspective on gendered network construction. Among spouses, men are less likely to name their spouse as a discussant and tend to perceive their spouse as less politically competent – a finding that holds beyond spousal pairs (Mendez and Osborn 2010). This translates into reduced political discussion rates with women, since expertise is a strong predictor of discussion (Huckfeldt 2001). Note, however, that while husbands may not name wives, wives still name husbands, which highlights the importance of the social structure. One consequence of women having high numbers of men as political discussion partners is that women also tend to have greater access to (at least perceived) political experts than men (Djupe and Sokhey 2013). Thus, if women can borrow the network of a “strategic partner,” they can still gain access to participatory resources (Aldrich, Reese, and Dubini 1989; Burt 1998; McPherson et al. 2001: 424).

Taken together, this literature suggests that women's networks are different than men's. If the construction of “important matters” networks is similar to political networks, then women should have smaller, less disagreeable networks that host less political discussion. However, it is

important to recognize that social relations between men and women maintain in the context of resource differences. While this may reinforce the attitudes that perpetuate the inequalities of the “gender system” (Ridgeway and Smith-Lovin 1999), it also means that women have access to political resources via their networks that they might not otherwise choose. More concretely, men’s and women’s political networks may not be as distinct as they might otherwise be based on choice alone.

Responses to Social Networks

While men’s and women’s networks may have differences in composition, that evidence does not address whether network variables act on men and women in the same ways and to the same degree. Our analysis will elucidate just this – whether men and women *respond differently* to the information supplied by their networks. One promising avenue of research highly relevant to gendered response comes from studies of personality. Numerous scholars have found gender differences in the “big 5” inventory of personality traits (see, e.g., Costa, Terracciano, and McCrae 2001; Feingold 1994; Lynn and Martin 1997; Schmitt et al. 2008 and related reviews). Men tend to score higher in assertiveness and openness to ideas, whereas women tend to score higher on anxiety, agreeableness, extraversion, and openness to feelings (e.g., Costa, Terracciano, and McCrae 2001).³ Importantly, the traits on which women score higher, especially agreeableness and extraversion, are just those that would predict sensitivity to social pressure (Eagly and Wood 1991; Feingold 1994).⁴ A wide variety of supportive evidence buoys this perspective in other literatures, including strands of feminist theory (e.g., Gilligan 1982; Belenky et al. 1986), gender and public opinion research (e.g.,

³ Interestingly, these differences emerge more strongly in developed nations, though exactly why this is the case is of some dispute (see Schmitt et al. 2008; Wood and Eagly 2002).

⁴ Two studies find evidence that some aspects of the Big 5 personality traits are related to exposure to disagreement in networks. Mondak (2010) reports that more agreeable people have less disagreement as network size increases, and that the extraverted do not shy away from disagreement. Mondak also finds that gender moderates the effect of extraversion on the desire to engage in discussion before forming opinions, with men expressing less interest in discussion the more extraverted they are (2010: 143). Gerber et al. (2010) find select effects of personality traits as they interact them with agreement to shape rates of discussion. The results are nuanced, and in their analysis the traits that appear most proximate to affecting political discussion are extraversion and openness.

Atkeson and Rapoport 2003; Conover 1988; Kaufman and Petrocik 1999; Ulbig and Funk 1999), and work on risk taking (Bromiley and Curley 1992) and negotiations (e.g., Stuhlmacher and Walters 1999).⁵

There are several reasonable – and ultimately conflicting – conclusions to draw from these basic personality differences. First, as women may be more susceptible to social influence than men (since men are more willing to take social risks, fight, and brook disagreement), we would see *larger network effects for women across the board*. Second, given personality differences with respect to agreeableness, women may be particularly sensitive to disagreement. Therefore *we might expect women to experience a larger suppressing effect from network disagreement on political participation*. However, counter to the last hypothesis, it is possible that women’s conflict avoidance will translate into a reduced susceptibility to disagreement. That is, a drive to avoid conflict may entail ignoring dissonant signals. Thus, we might expect that *women will experience a smaller suppressing effect of disagreement on participation*. Lastly, since men downplay expertise, especially women’s, and because women might be more susceptible to social influence generally, we expect that *the positive effects of network expertise on participation should be greater for women*.

Analysis Overview

We examine whether construction of and responses to social networks follow gendered patterns in the context of three previous studies, all of which appeared in the pages of the *AJPS*. After first examining the construction of men’s and women’s social networks, we replicate and extend Mutz’s (2002) analysis of the American component of the 1992 Cross-National Election Study. We then replicate and extend McClurg’s (2006a) investigation of participation using 1996 Indianapolis-St. Louis Study data. Finally, we look for additional confirmation of gender dynamics with the more contemporary data of the 2008-09 ANES panel study, following Klofstad et al.’s

⁵ Please see pages 1-2 of the Supplementary Information document for an extended discussion of these supporting literatures.

(2013) discussion of different measures of disagreement. In each case, we interact gender with the key social network variables so we can assess whether the effects for men and women are different from zero, and whether they are different from one another.⁶

To be clear, our primary focus in replicating and extending these studies is to advance a conversation about gender and social influence. In that sense, looking for the presence and significance of gendered patterns across three very different, prominent studies is a strength of our approach. Indeed, the data sets span different elections, use different name generators, contain different measures of disagreement and expertise, and represent different populations (the ISL is from two communities) – they allow us to reconsider statements of sample-level effects. At the same time, the considerable data and design differences necessitate that we exercise caution in making any conclusive statements about network effects in mass publics more generally – such pronouncements would be premature and are not the aim of this effort.

Results: Network Construction

We begin with a brief comparison of the construction of men’s and women’s networks using these three datasets. Table 1 shows the differences in the number of discussion partners (network size), levels of discussion, levels of disagreement, and access to political expertise across the three datasets used.⁷ The results do not consistently support the notion that men’s and women’s networks are differently composed. Women’s networks are *not* significantly smaller – they are statistically indistinguishable from men’s in all three datasets. There is suggestive evidence that women’s networks host less political discussion, but it is only statistically significant in the 1996 ISL, and was not asked in the 2008/09 ANES. Most interesting is that women face as much disagreement as men

⁶ Interaction tests on these specifications were conducted in *Stata* 12 using the “margins” suite of commands, and following the recommendations of Brambor et al. (2006) and Kam and Franzese (2007). In the Supporting Information document (pp. 10-26) we present alternative specifications and numerous robustness checks, including split models by gender (a la Burns et al. (2001)), and fully-interactive, pooled models.

⁷ Please see pages 3-4 of the Supporting Information document for an additional test and discussion using the 1996 ISL data. This test leverages the ISL design to compare networks from randomly assigned name generators.

do, though in the 2008/09 ANES men face more disagreement using both measures of disagreement (we discuss these measures further in subsequent sections). We see these patterns despite consistent findings that women have higher levels of conflict avoidance and agreeableness (e.g., Costa, Terracciano, and McCrae 2001). And, the results are equivocal about women's access to socially-supplied expertise: it is higher in 1992, indistinguishable in 1996, and less in 2008 (though this too is different—a measure of formal education and not perceived expertise [please see the SI]). Djupe and Sokhey (2013) report that women's access to expertise is higher in the 2000 ANES sample. Together, these inconsistent findings do not support a conclusion that women and men purposefully construct their social worlds differently—women's networks are not smaller and more homogenous. Instead, this pattern is consistent with work on the “gender system” which notes that interaction across genders is extensive, even as it justifies inequality to some participants (Ridgeway and Smith-Lovin 1999). Of course, these results do not eliminate the possibility that men and women *respond* to their networks differently, which is what the following replications and extensions are designed to assess.

Study 1: Cross-Cutting Talk and Political Participation

In Mutz's original investigation of the participatory consequences of networks (2002), she argues that disagreement depresses political involvement by creating ambivalence about political choices, and stimulating feelings of conflict avoidance. She tests this theory with several data sets, including a study funded by the Spencer Foundation and the American component of the 1992 CNES. We focus on the second data set.

Table 1 – Men’s and Women’s Political Networks in Three Samples

	<i>1992 CNES</i>			<i>1996 ISL</i>			<i>2008/09 ANES</i>		
	Men	Women	p	Men	Women	p	Men	Women	p
Network size	3.35	3.39	.67	2.60	2.53	.47	2.31	2.25	.20
Discussion [†]	1.30	1.24	.14	1.56	1.43	.00	—	—	
Disagreement [‡]	.55	.56	.76	0.44	0.42	.50	—	—	
General Disagreement							1.87	1.74	.00
Partisan Disagreement							1.04	.94	.07
Expertise [*]	.76	.90	.02	1.22	1.23	.73	8.85	8.44	.03

Sources: 1992 CNES, 1996 ISL, 2008/09 ANES. P values are for t-tests.

To test her hypothesis, she created a measure of cross-cutting talk based on each survey respondent's perceptions of how people in their network voted.⁸ For each discussion partner identified by the respondent, the relationship was coded zero if the respondent believed they preferred the same presidential candidate, one if either the respondent or her discussant did not vote or was indifferent, and two if they had different preferences altogether. This measure was summed across all discussants named by the respondent to create a measure of the volume of cross-cutting discussion, and served as the principal independent variable in her analysis.⁹ The principal dependent variable is based on standard ANES-type questions that ask (separately) whether a respondent worked on a campaign, displayed a sign or bumper sticker, donated money, tried to persuade another person how to vote, or attended any meetings/rallies. Summary statistics on all variables are reported in the Supporting Information document.

Our replication of Mutz's analysis, estimated with a negative binomial count model, is recorded in the second column of Table 2.¹⁰ The results support precisely the same conclusions as her original paper – as she hypothesized, respondents who report higher levels of exposure to “cross-cutting” talk are less likely to participate, while those embedded in larger and more politically-oriented networks (gauged with more frequent discussion) have a higher probability of involvement. Consistent with years of research, education, income, and partisan preferences affect participation (and do so in sensible ways). Also consistent with what we know about participation (Burns, Schlozman, and Verba 2001), we observe a gender difference in which females are less likely to participate than men.

⁸ Respondents to the American component of the 1992 CNES were asked to identify up to four people with whom they discussed “important matters.” They were also asked to identify whether there was an additional – 5th – person with whom they discussed “political matters.” Klostad et al.'s (2009) analysis of these two name generators suggests that both yield similar information.

⁹ Mutz includes two additional social network measures, one of which measures the size of the network and another that captures the volume of political talk in the network. The second measure was derived by summing responses to a question asking whether the respondent talked politics with each discussant often, sometimes, or never.

¹⁰ In the original article, Mutz uses an ordered probit model. As the participatory index is a count with over-dispersion, we replicate using a negative binomial model, as this is a more appropriate approach for the data (Long 1997).

Table 2. Effect of Network Disagreement on Participation in Electoral Activities, Replication of Mutz (2002).				
	Replication of 1992 CNES Analysis		Modeling Gender 1992 CNES Analysis	
	β^*	s.e.	β^*	s.e.
<u>Network Variables</u>				
Cross-Cutting Talk	-.17	.08*	-.01	.11
Frequency of Discussion	.16	.06**	.07	.09
Network Size	.11	.02**	.08	.03**
<u>Control Variables</u>				
Interest	.45	.07**	.46	.07**
Education	.07	.02**	.06	.02**
Republican	.08	.05 ^{.11}	.08	.05 ^{.10}
Democrat	.20	.05**	.19	.05**
Age	.00	.00	.00	.00
Income	-.01	.03	-.01	.03
White	.13	.12	.11	.12
Female	-.18	.07*	-.40	.22 [#]
<u>Interactions with Gender</u>				
Cross-Cutting Talk*Female			-.29	.16 [#]
Freq. of Discussion*Female			.16	.12
Network Size*Female			.04	.04
Constant	-2.26	.28**	-2.09	.30**
N	946		946	
Likelihood Ratio χ^2	170.92 [^]		175.48 [^]	
α^*	.14 [^]		.14 [^]	

* p<.05, **p<.01, [#] p<.10, all two tailed tests

[^] p<.01, one-tailed Chi-Square test

Data: 1992 Cross-National Election Study

Of greater interest to us are the results in the second column, which present the estimates from Mutz’s original model, but include interactions between gender and the three network variables. To properly test and interpret the dimensions of the network interactions with gender (Brambor et al. 2006; Kam and Franzese 2007), we present Figure 1. Though not all the interaction terms are significant in the Table 2 models, that fact does not preclude significance at some portion of the range and further exploration of interaction terms is always recommended (Brambor et al. 2006; Kam and Franzese 2007). The figure shows the marginal effects of each network variable for men and women (Panel A), and the marginal effect of gender across the range of cross-cutting talk (i.e., network disagreement) in Panel B.¹¹ In other words, Panel A shows whether the network effects are distinguishable from zero for men and women, and Panel B shows whether the network effects for men and women are distinguishable from one another for the key variable of cross-cutting discussion.

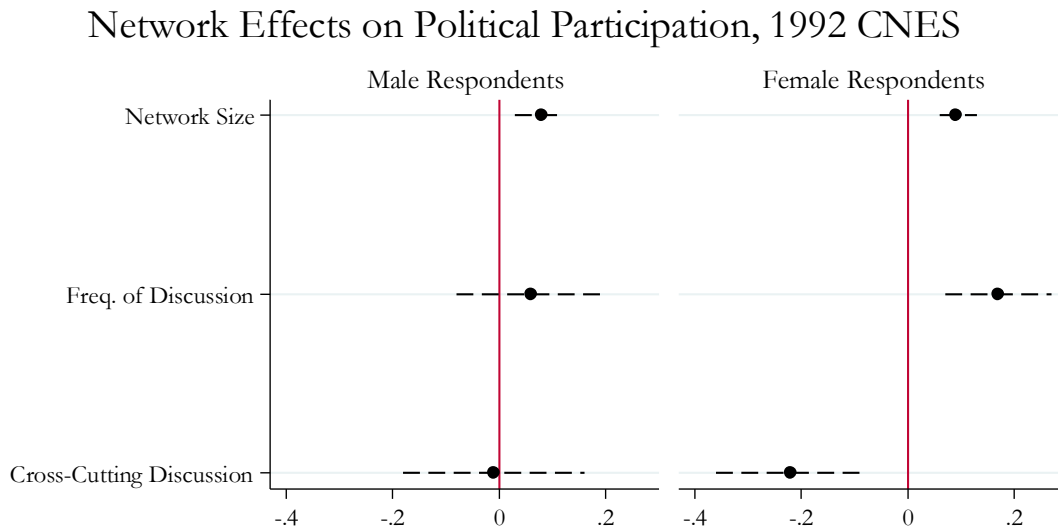
For men, the effect of cross-cutting talk is almost zero and fails to achieve statistical significance (Panel A); however, for women the effect is in the expected negative direction, is much larger, and is statistically significant. That is, in this sample we see evidence that cross-cutting talk has little effect on the participatory behavior of men, but depresses it for women. A difference also emerges when we look at the effect of the frequency of political talk. Although the effect is positive for both men and women, it is considerably larger and is only statistically different from zero for women.¹²

¹¹ All marginal effect calculations – for all models presented in the paper and SI – hold the other variables in the model specification at their mean values. The estimated marginal, conditional effect of x on y is the first derivative of $\hat{y}$ with respect to x : $\frac{\partial \hat{y}}{\partial x} = \hat{\beta}_x + \hat{\beta}_{xz}z$ (Kam and Franzese 2007: 61).

¹² In the SI on p. 12, we examine the marginal effect of gender across frequency of discussion – there is a significant difference between men and women across the lower range of the measure.

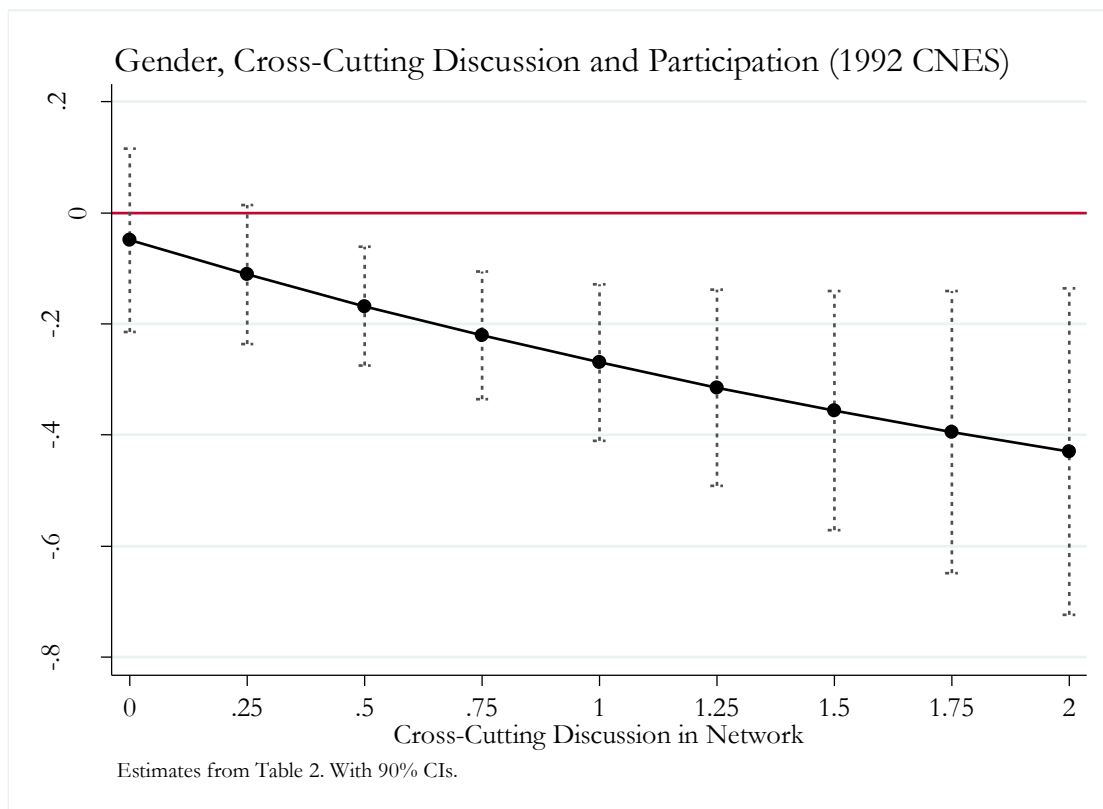
Figure 1. Examining Gender * Network Interactions, 1992 CNES

A. The marginal effect of network characteristics on participation, by gender



Estimates from Table 2. The dots are marginal effects and the dashes are 90% CIs.

B. The marginal effect of gender, across the range of network disagreement



Estimates from Table 2. With 90% CIs.

Panel B allows us to assess whether the effects of cross-cutting talk are distinguishable between men and women, and across what range of the measure. In short, the effects of cross-cutting talk are distinct for women versus men in all but the most agreeable networks (leftmost part of the figure). The most disagreeable networks, of which there are relatively few (hence the large confidence intervals), drops political activity of women by just over .4 acts compared to men.¹³

The results provide initial evidence that social communication affects men and women differently. Of course, this also raises interesting questions about the source of the gender gap in political participation. Burns, Schlozman, and Verba (2001) argue that much of the inequality stems from differential individual resources in the form of civic skills. And, while they also emphasize the importance of “institutional treatment” – such as the structure of family life – for producing differences in resource stocks, their handling does not consider the receipt and use of information from a social network. Our findings suggest that the gender gap in participation is related to an interaction between gender and the information environment beyond civic skill development. This supports previous work indicating that network effects on the development of skills and the receipt of recruitment efforts are starkly differentiated by gender, and can serve to constrain women’s resource acquisition (Djupe, Sokhey, and Gilbert 2007).

Study 2: Socially-Supplied Political Expertise and Political Participation

Building on work by Huckfeldt (2001), McClurg (2006a) offers a counter hypothesis to partly resolve Mutz’s democratic dilemma (2002, 2006). He suggests that people who have more political expertise in their social network are more likely to participate, and that this positive effect should be larger than the negative consequences of political disagreement. To test his argument, he draws on data from the 1996 Indianapolis-St. Louis (ISL) Study. The principal independent variable for his analysis is based on respondents’ perceptions of how much each of their discussants knows

¹³ To aid in substantive interpretation, in the SI we plot changes in predicted counts for the key interactions in 1992 (disagreement), 1996 (expertise) and 2008-09 (disagreement, network education).

about politics, the answers to which are averaged across all discussants named by the respondent.¹⁴ He also controls for discussion across lines of political difference by measuring the percentage of dyads that *share* the respondent's vote preference (in his original analysis, lower scores indicate more disagreement), and levels of political talk by summing the total frequency of political discussion (this is highly correlated with network size).¹⁵ The principal dependent variable in his analysis is similar to Mutz's, except that he does not include whether respondents reported attempting to persuade someone how to vote as part of his participatory index. The results of our replication and extension – a negative binomial model (following McClurg's modeling strategy in the original article) – appear in Table 3.

Again our replication in Column 2 reaches the same conclusions as the original analysis. Respondents exposed to greater political knowledge (sophistication) in the network are more likely to participate, as are those who experience greater levels of political talk and lower levels of disagreement. Also of importance is the strength of a respondent's partisan predilections, the number of groups to which she belongs (Leighley 1996), her interest in politics, her level of contact from campaigns (Green and Gerber 2000), and her household income. The main effect of gender is not significant in this model.

Of course, we are more interested in what happens when we allow for the possibility that these network effects vary on the basis of the respondent's gender – these results appear in the second column of Table 3. Following the same practice as above, we present Figure 2, which shows network effects for men and women (compared to zero) in Panel A, and compared to each other for

¹⁴ Respondents were asked whether each discussant knew a lot, some, or just a little about politics. As Huckfeldt's (2001) analysis of this same question demonstrates, these perceptions are strongly influenced by actual levels of discussant knowledge.

¹⁵ In the SI document, we present versions of the models with network size included as an additional control (the same pattern of results holds).

Table 3. Effect of Network Disagreement and Sophistication on Participation in Electoral Activities, Replication of McClurg (2006).				
	Replication of 1996 ISL Analysis		Modeling Gender 1996 ISL Analysis	
	β^*	s.e.	β^*	s.e.
<u>Network Variables</u>				
Volume of political talk	.04	.02**	.03	.02
% Agreeing discussants	.27	.13*	.30	.18 [#]
Average political knowledge	.36	.14*	.11	.19
<u>Control Variables</u>				
Education	-.02	.06	-.02	.06
Household income	.09	.04*	.07	.04
Age	.01	.00	.01	.00
Group memberships	.15	.03**	.16	.03**
Respondent knowledge	.04	.07	.03	.07
Interest	.50	.10**	.48	.10**
Strength of partisanship	.20	.06**	.20	.06**
Political contact	.73	.10**	.73	.10**
Female	-.10	.11	-.99	.41*
<u>Interactions with Gender</u>				
Vol. of political talk*Female			.03	.03
% Agreeing disc.*Female			-.08	.26
Avg. Political Know*Female			.52	.27 [#]
Constant	-4.95	.42**	-4.50	.45**
N				
Likelihood Ratio χ^2				
α^*				
		995		
		230.51 [^]		
		.48 [^]		
		995		
		236.15 [^]		
		.47 [^]		

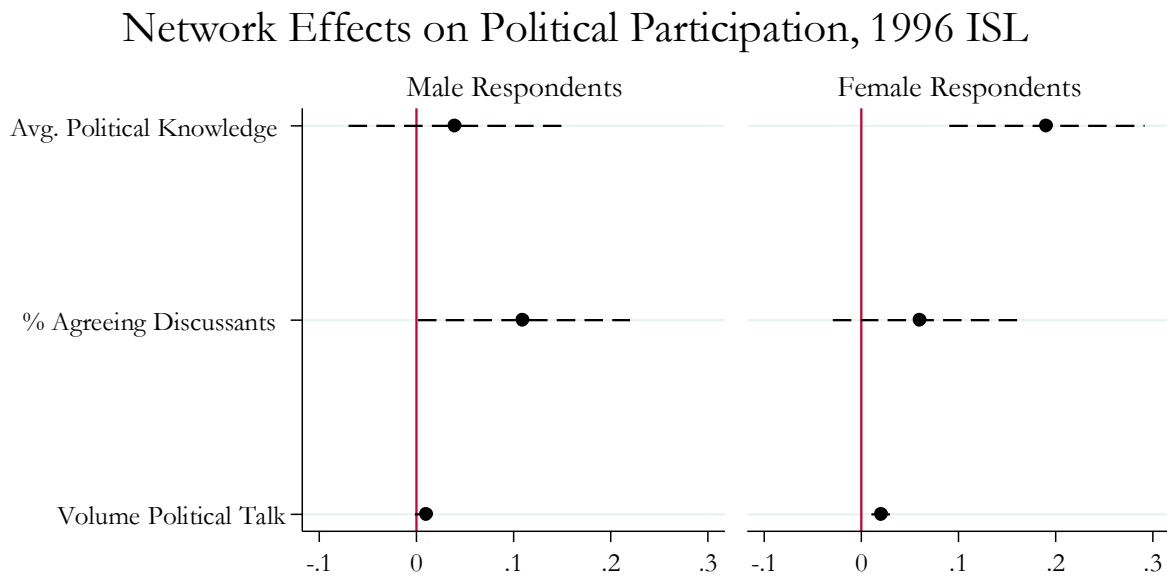
* p<.05, **p<.01, [#] p<.10, all two tailed tests

[^] p<.001, one-tailed Chi-Square test

Data: 1996 Indianapolis-St. Louis Study

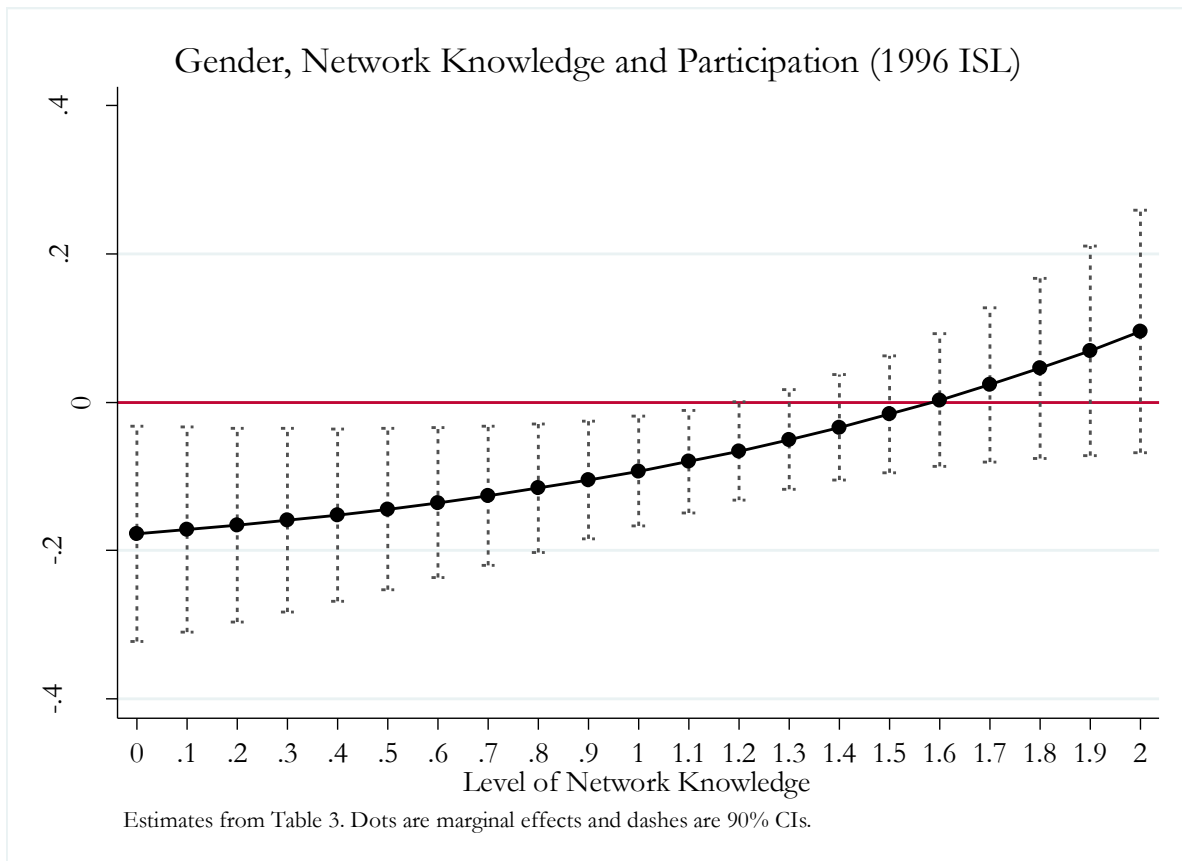
Figure 2. Examining Gender*Network Interactions, 1996 ISL

A. The marginal effect of network characteristics on participation, by gender



Estimates from Table 3. Dots are marginal effects and dashes are 90% CIs.

B. The marginal effect of gender on participation across the range of network expertise



the key variable of network expertise in Panel B. From Panel A we can see that for men, agreement¹⁶ is barely distinguishable from zero (at the $p < .10$ level); expertise and the volume of political talk have insignificant effects. Among women the effects of expertise are positive and statistically distinct from zero, while agreement is not significant and political talk has a small effect distinguishable from zero.

Viewed against the 1992 CNES estimates we see a different pattern with respect to disagreement. However, the more notable conclusion from this result is that women appear to benefit from greater exposure to political information (talk), and from higher quality socially-supplied information (expertise). Importantly, the effect of expertise is clearly statistically distinguishable between men and women: women benefit from socially-supplied expertise, while men do not. Panel B of Figure 2 demonstrates that the effects for men and women are distinguishable. Women engage in fewer political acts when they have low expertise levels in their networks, and the effect is indistinguishable from the effect on men's political activity only at the upper range of the measure. Put another way, socially-supplied expertise acts as a significant subsidy for women, serving to equalize participation rates between the sexes. Again, we see that a central finding from an important piece of social network research breaks down by gender.

Study 3: The 2008-09 ANES Panel Study

Because the two datasets employed thus far are somewhat dated, we examine men's and women's responses to their networks with a more contemporary study. A social network battery was added to the September, 2008 wave of the 2008-09 ANES Panel Study, and included questions that vary from those traditionally asked in studies such as the 2000 ANES, 1996 ISL, 1992 CNES, and 1984 South Bend Study. Though these differences make comparability with prior datasets more

¹⁶ It is convention in the literature to talk about disagreement (coded high), though McClurg (2006a) coded his variable so that agreement is high and disagreement low. We follow his usage of "agreement" in this section, though the meaning is the same as with previous mentions of *disagreement*.

difficult, these data remain quite useful for our principal concern: checking the robustness of gendered patterns of social influence.

In addition, the 2008-09 study does have its own set of advantages.¹⁷ Chief among these is that the network battery contains two measures of disagreement: one generated by asking respondents about the partisanship of their named discussants, and the other by asking them about the overall difference between their named discussants' opinions and their own. Klofstad, Sokhey and McClurg (2013) refer to these measures as "partisan" and "general" disagreement, respectively, and find that the measures yield distinct patterns of effects (in terms of direction, size, and statistical significance) on engagement, preferences, and political participation.

We follow Klofstad et al. in how we construct the network measures and in our presentation of separate models for each type of network disagreement. Aside from this, we diverge from their effort as we attempt to specify models that are as consistent as possible with those employed by Mutz and McClurg. There are unavoidable differences – some measures used in the 1992 CNES and 1996 ISL are not available in the 2008-09 ANES study (namely, frequency of political discussion in networks, and a conventional measure of network expertise), and a few included in the 2008-09 study are not available in either the 1992 CNES or the 1996 ISL (e.g., political efficacy). The participation index is similar to those presented in the previous section,¹⁸ and poisson regression results appear in Table 4.¹⁹ We present separate models for "general" (Column 2) versus "partisan" disagreement (Column 3), including interactions between gender and the network variables in both

¹⁷ Despite the differences in the content and question wording, our confidence in observed network effects may actually be greater versus other studies, given that there is a clearly established temporal ordering (with the network measures appearing in September of 2008, and the participation measures administered in November of that same year).

¹⁸ The index runs 0-5, and sums respondents' reports with respect to joining a protest/rally/demonstration, giving money to a political organization, attending a meeting, inviting/recruiting someone to a meeting, and distributing information or advertisements ($\alpha=.75$)

¹⁹ Both poisson and negative binomial models were estimated; diagnostics indicated that poisson models were the more appropriate choice given the distribution of the participatory index.

models. As with the other sets of analyses, summary statistics for all variables, additional specifications, and additional graphs of substantive effects appear in the SI document.

The results reflect a blend of the previous sets of estimates. Network size exerts a similar pull on political activity in the models;²⁰ disagreement (regardless of type) predicts less participation, while network education (the proxy for expertise in these models) is positively signed in both specifications. To fully test and interpret the gender interactions, we follow the previous routine and present Figure 3 – this shows whether the effects for men and women are distinguishable from zero (Panels A and B), as well as whether they are distinguishable from each other (Panels C and D).

The effects of network size are similar between men and women across the two models; consistent with the results from previous years, a larger network boosts political activity. Jelling with the 1996 results, we see that only among female respondents – across specifications – is the marginal effect of network education on participation distinguishable from zero. Panel C assesses whether these effects of network education (in the general disagreement specification; left column of Table 3) are statistically distinguishable between men and women. While there is no portion of the range where the 90% confidence intervals do not cross zero, at the high end of network education the effects are suggestive ($z=1.50$; $p=.13$) that women receive a distinct boost in their political activity from more educated discussants.

“General disagreement” does not emerge as statistically significant for either men or women (Panel A), but the negative effects of “partisan disagreement” (Panel B) are distinguishable from zero among men, but not women. The suppressing effect of partisan disagreement for men is consistent with the ISL findings (Table 3), and both of these results stand in contrast to the patterns

²⁰ Unfortunately, discussion frequency was not asked about each named discussant in the network battery. As an additional control, in the Supporting Information we present alternate specifications in which we include a non-network related measure of discussion frequency (the number of days per week the respondent reports discussing politics) (pp.23-26). This measure is a significant predictor of participation, but does not meaningfully alter the results with respect to network education and disagreement.

Table 4: The Effect of Two Types of Network Disagreement & Network Sophistication on Political Participation – 2008-09 ANES

	General Disagreement Specification		Partisan Disagreement Specification	
	β	s.e.*	β	s.e.*
<u>Network Variables</u>				
Discussant Disagreement	-.01	.03	-.05	.02**
Average Education Level in Network	.01	.02	.03	.02 [#]
Network Size	.15	.06*	.12	.06 [#]
<u>Control Variables</u>				
Education	.13	.02**	.11	.02**
Household Income	.01	.00*	.01	.00 [#]
Strength of Partisanship	.02	.02	.02	.02
Age	.01	.00**	.01	.00**
Interest	.18	.02**	.18	.02**
Efficacy (external)	.05	.02**	.05	.02**
Non-White	.01	.05	.02	.05
Female	-.31	.33	-.07	.35
<u>Interactions with Gender</u>				
Disc. Disagreement*Female	.02	.04	.03	.03
Network Education*Female	.03	.02	.00	.02
Network Size*Female	.00	.08	.02	.08
Constant	-1.52	.26**	-1.58	.27**
N		1909		1726
Likelihood Ratio χ^2		405.16**		355.64**

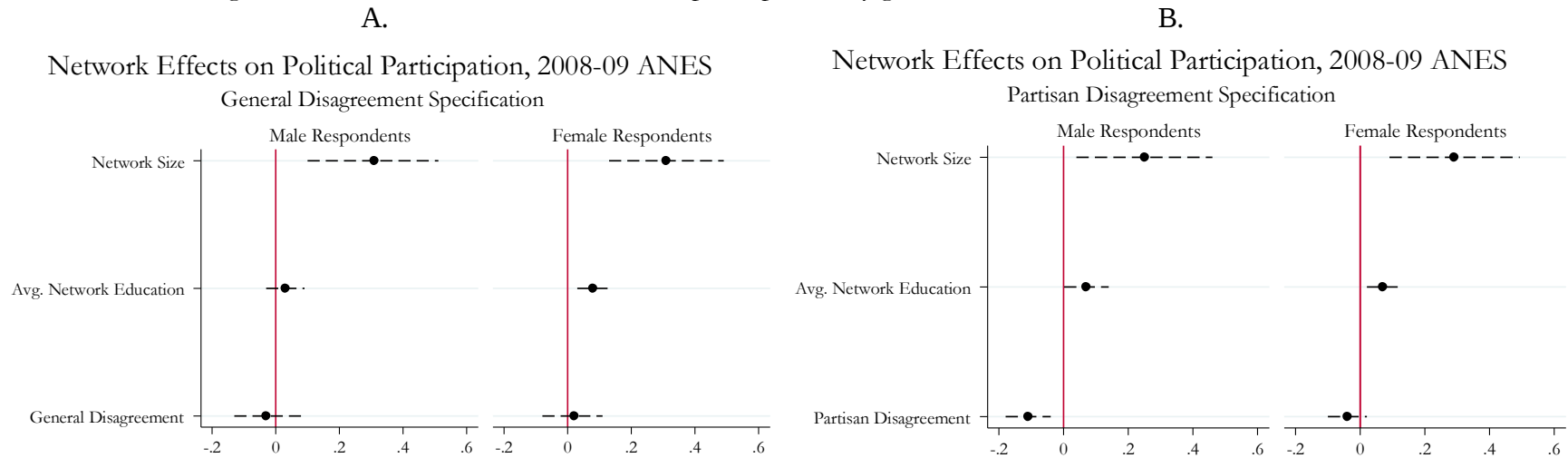
Data: 2008-09 ANES Panel Study.

[#] p<.10,* p<.05, **p<.01, all two tailed tests

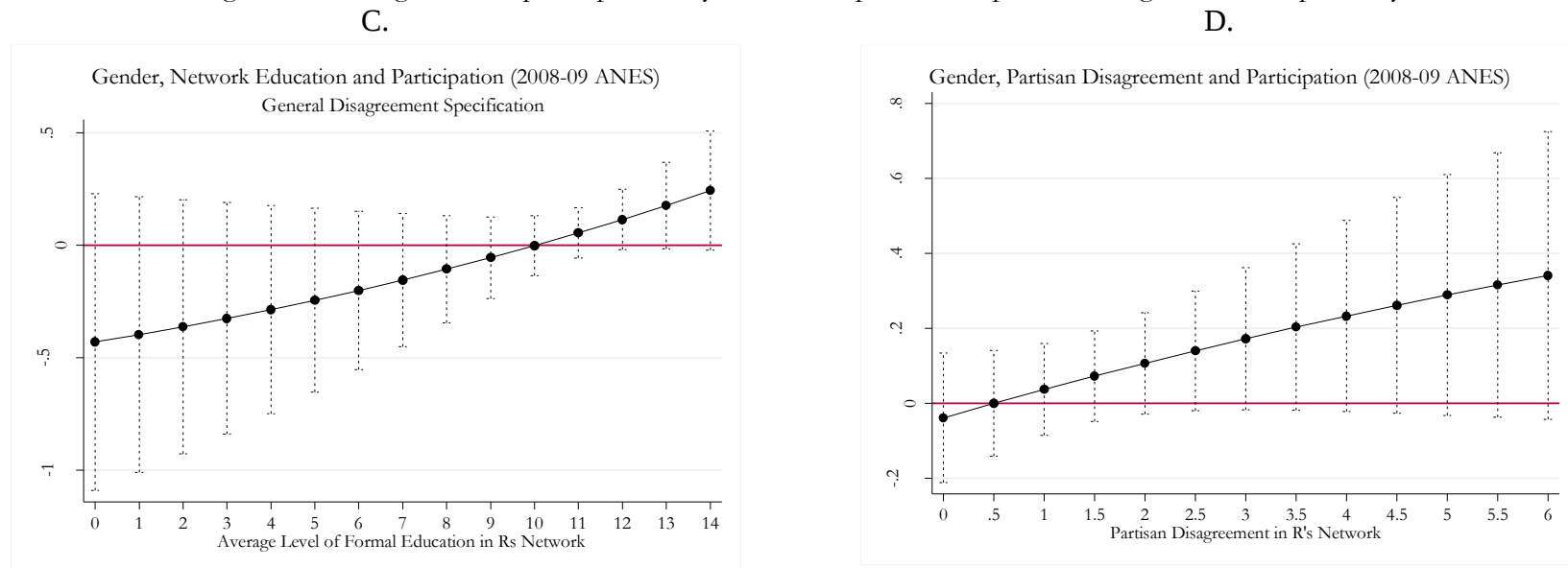
Note: Respondents reporting no discussants (networks of size zero) are excluded. Both negative binomial and poisson models were estimated; diagnostics indicate the poisson models to be more appropriate.

Figure 3: Examining Gender*Network Interactions, 2008-09 ANES, Estimates from Table 4 with 90% CIs

Panels A-B. The marginal effect of network characteristics on participation, by gender



Panels C-D. The marginal effect of gender on participation, by network expertise and partisan disagreement, respectively



revealed in the 1992 CNES (Table 2). Panel D tests whether this effect is distinguishable by gender. Again, the effects are not distinguishable with 90% confidence, but they are very close for most of the range of the measure ($z=1.51$; $p=.13$ at its closest), suggesting the potential for men's political participation to be suppressed in the face of even relatively low levels of disagreement.

Discussion and Conclusion

Multiple generations of research have found persuasive evidence that citizens' political choices cannot be understood without considering social sources of information. Many scholars press the argument that individuals are socially embedded, that they exercise imperfect control over their information sources, and that this makes them pervious to the political cues constantly available to them. To be sure, people are not defenseless against the onslaught of socially-supplied communication, and a number of studies have documented just how personal commitments, network composition, and social contexts serve to moderate the influence of discussion partners.

However, research in this area has largely avoided considering how the sociology and psychology of gender may constrain social influence. Despite powerful evidence from across the social sciences suggesting that gender will affect how social influence works, quite a bit of the extant research has not examined gender seriously, and some studies have not even controlled for it (Erickson 2006). And, what research exists in political science has been focused more on network construction – on the different social experiences men and women are exposed to – rather than on men and women's differential responses to such socially-supplied information. Drawing on a considerable body of research from sociology, psychology, economics, women's studies, and, our own discipline, we argue that this is a serious oversight with serious implications for democratic practice.

Scholars studying social influence continue to be concerned with two essential characteristics of networks: their levels of disagreement and their levels of expertise. We have revisited prominent

studies linking these concepts to rates of political participation, and these second looks reveal that men and women respond to their social networks in significantly different ways. Distinctions emerge in different samples, with different measures, and appear not to be limited by time or politics – they are present across a decade and a half, and across three distinct electoral contexts (the 1992, 1996, and 2008 presidential elections).

These results do not support the blanket hypothesis generated from personality differences that women are more susceptible to social influence than men, with consistently larger effects. We also do not find consistent evidence that women are more strongly affected by disagreement; instead we find in some instances that *men* are more demobilized by disagreement. The inconsistencies, which may be the result of varying ways of capturing disagreement, not to mention the effects of time and model specification, keep a conclusion out of reach. As of yet, we are not able to comment on whether conflict avoidance weakens the role of network effects on women, or whether some other mechanism is at play. Instead, we do find that network expertise operates in a consistent manner, boosting the political activism of women to a greater degree than it does for men. Therefore, the one reasonable conclusion to draw is that while the “gender system” may perpetuate the perceived inequalities between men and women (Ridgeway and Smith-Lovin 1999), women are able to draw on this imbalance to greater participatory effect.

In our view, these results point to an overdue reconciliation of social network and social psychological approaches (see also Mendelberg 2005). While pioneering work in the social sciences recognized the importance of both social pressures and individuals’ psychological orientations to those pressures (see, e.g., Berelson, Lazarsfeld, and McPhee 1954; Festinger 1957; Homans 1961; Sherif et al. 1954), work in political science distanced itself from the consideration of social communication by the time of *The American Voter* (Campbell et al. 1960; for a review, see Zuckerman 2005). Recent studies of social network effects have paid more explicit attention to the response-side

of social influence (e.g., Huckfeldt and Mendez 2008), but considerable work remains. It is undeniable that gender underlies commonly-observed social network effects, but the constellation of mechanisms needs further attention. Personality batteries hold some promise (Gerber et al. 2010; Mondak 2010), though the related expectations considered here did not find much support. Instead, perhaps concepts more closely tied to politics – such as conflict avoidance – could be employed to considerable benefit (Mutz 2002; Ulbig and Funk 1998).

In closing, we return to what Mutz has labeled the democratic dilemma – the notion that exposure to diverse political views induces higher levels of political tolerance and more moderate opinions, but at the same time inhibits participation in the political process. Although subsequent work has qualified this claim (e.g., McClurg 2006a), our investigation suggests that an important part of the story has been missed. Looking at gender and civic skill acquisition in the institutions of adult life, Djupe, Sokhey, and Gilbert (2007: 907) note that “[i]f exposure to political difference produces a gendered response, the resulting representational problem is specific, group-centered, and even more troubling than the one previously advanced, which is diffuse and pluralist.”

We do find a gendered response, but one with unclear normative implications. Exposure to knowledgeable discussants is a consistent facilitator of women’s participation, but not men’s. In some studies, disagreement suppresses women’s participation, while its results either disappear or work to disadvantage men in others. Taking gender seriously means that we do not necessarily observe a fundamental tradeoff between disagreement and participation (Mutz 2006), but also cannot claim that social expertise is a universal “good” when it comes to addressing participatory deficits (McClurg 2006a).

Research from across the social and behavioral sciences points to the need to examine gendered patterns of social influence, but does not provide clear theoretical expectations. We answer this call, but leave with additional questions. What emerges is a need to consider why we sometimes

observe differences, and to examine the conditions that serve to create differences in the response to social information. Fully understanding why women seem to benefit from socially supplied expertise, but understanding why the effects of disagreement sometimes break out by gender surely necessitates resolving the tensions between: 1) the traits of men and women themselves (shaped by socialization, personality, and genes); 2) the implications of different conceptualizations and measurements of core network concepts (Klofstad et al. 2013); 3) the constraints imposed by semi-voluntary structural locations and different institutional treatments (e.g., Burns, Schlozman, and Verba 2001), some of which serve to maintain the “gender system” (Ridgeway and Smith-Lovin 1999); and 4) the demands and opportunities of different electoral conditions/environments. Resolving this tension is beyond the scope of the current effort, but we urge researchers to design studies with this in mind, to further explore the mechanisms involved, and above all, to take gendered social dynamics seriously.

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