Winter 2012

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Scott D. McClurg
Southern Illinois University, mcclurg@siu.edu

Michelle L. Wade
Northwest Missouri State University, mwade@nwmissouri.edu

Maja V. Wright-Phillips
Southern Illinois University Carbondale, majavw@siu.edu

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Scott D. McClurg *
Michelle L. Wade #
Maja V. Wright-Phillips ^

February 13, 2012

* mcclurg@siu.edu, Associate Professor, Departments of Political Science and Sociology, Southern Illinois University, Mailcode 4501, Carbondale, IL 62901

mwade@nwmissouri.edu, Assistant Professor, Department of History, Humanities, Philosophy and Political Science, Northwest Missouri State University, 800 University Drive, Maryville, MO 64468

^ majavw@siu.edu, Doctoral Candidate, Departments of Political Science, Southern Illinois University, Mailcode 4501, Carbondale, IL 62901

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This paper examines how interpersonal social networks help explain the voting behavior of men and women. We argue that the gender gap in voting is influenced by the partisan and gender composition of networks, rather than just the latter. Building on this foundation, we explain how gendering in network construction and impact helps create a cleavage between men and women even under conditions that are often close to "random mixing." Analysis of the 2000 American National Election Study shows the voting gap is related to men excluding women from political networks, men being less exposed to females who support Democrats, and men being more strongly influence by women who support Republicans. The principal conclusion of the paper is that the role of social networks in explaining gendered voting is a function of combined partisan and gender segregation, principally by men.

> *There appear to be three ways in which social relations contribute to the maintenance of political differences.*
>
> *First…it is necessary to have a social basis for a political interest. It would be difficult in contemporary America, for example, to maintain voting differences by sex, because there are few policy issues persisting over a period of time that affect men and women differently.…*
>
> *Second, a necessary condition for the persistence of political differences is their transmission to succeeding generations.…*
>
> *Finally, given the origin of a voting difference in one generation and the transmittibility of it to the next, another condition is necessary…[m]embers of the social groups involved must be substantially more in contact with one another, socially and physically, than they are with opposing groups.*
>
> Berelson *et al*., 1954, p. 74

This epigraph from *Voting* is a definitive statement on how social cleavages become politically significant. Although very few scholars directly challenge the Columbia researchers' theoretical claims, their example of "voting differences by sex" is striking in light of the gender voting gap that emerged in the last three decades of American politics (Ford 2006; Howell and Day 2000; Kaufman and Petrocik 1999; Wirls 1986). There is evidence that gender differences exist on policy (e.g., Box-Steffensmeier, *et al.* 2004) and that there is intergenerational socialization (e.g, Jenkins n.d.), satisfying two of the theoretical conditions for a political condition. However, the evidence suggesting that men and women have socially segregated interactions -- that there is "a social basis for a political interest" -- is less clear.

There is some social segregation between men and women in social institutions, particularly as it pertains to politics (Burns et al. 2001; Huckfeldt and Sprague 1995; Walsh 2004) and in specific institutional settings like the work place (McPhereson et al. 2001). Yet in relation to well-documented social homophily along racial and ethnic lines, gender differences in social interaction are relatively small (McPhereson et al. 2001). Social institutions like the Catholic Church and labor unions nevertheless provide more

opportunity for social segregation along religious and economic lines than do the social institutions that regulate social interaction between men and women. And while it is clear that barriers to gender equality still exist in contemporary America, expanded economic and social opportunities for women may have increased opportunities for cross-gender social contacts in social institutions at a time when the gender gap has emerged more clearly as a significant cleavage.

Yet despite this fact, there is a politically meaningful cleavage between the partisan behavior of men and women. This challenges the received wisdom about how social cleavages become politically meaningful and leads us to ask how does social interaction contribute – if at all – to gendered voting in American elections. We address this question by examining the relationship between gender, political preference, and social communication. Our analysis is guided by both traditional network explanations for voting behavior as well as the possibility of gendered social processes. Using survey data from the 2000 National Election Study, we find that there is a clear divide between the political networks of men and women that is related to partisanship and gender. Although women have a notable level of gender equality in their interactions, men are far more likely to only include men into political discussion. This segregation has consequences for the partisan signals respondents receive, with less political homophily in women's networks and men more likely to discount the impact of women in their evaluations.

Our results build on arguments about both social influence and gendered voting. Regarding the former, they suggest that the condition of social and physical separation is not necessary for the formation of cleavages. Although more stringent divisions may be

more politically potent, we should not overlook the power of less noticeable forms of segregation in the structure of discussion networks. In this case, the evidence suggests that political homophily among men and their discounting of women's opinions is sufficient support for gendered voting even when women do not exhibit the same characteritics. With respect to gendered voting, the results support an interpretation that the gap is driven by *men changing their behavior* rather than women coalescing together. While our data do not allow us to study dynamics underlying gendered voting, they illuminate a model for understanding those dynamics. Importantly, this model suggests that policy concerns shared by women will continue to be under-represented as men are more unified behind particular candidates and issues.

The Puzzle of Gendered Voting in a World Not Segregated by Gender

Explanations of the gender gap largely focus on the impact of political issues and opinions on male and female vote choice (Conover and Sapiro 1993). Research shows significant differences between men and women on "compassion issues," such as social welfare and racial equality, and on issues of war or violence (Norris 2003, 156). On domestic policy, women tend to be supportive of helping the disadvantaged (Cook and Wilcox 1991, 1111), creating jobs, reducing unemployment, providing government services (Box-Steffensmeier *et al.* 2004, 516), and environmental regulation (Howell and Day 2000). Women show less support than men on defense spending (Wirls 1986, 319). Women are also more likely to oppose capital punishment and the use of force in domestic law enforcement (Howell and Day 2000). Ironically, there appear to be few gender differences on opinions regarding (but not salience of) "women's issues" such as abortion and the Equal Rights Amendment (Box-Steffensmeier *el al.* 2004, 16; Norris

2003, 156). In addition to addressing *which* issues drive the gender gap, this research tries to determine whether it is the difference of opinion on issues or the salience of those issues that is the primary determinant of gendered voting (Chaney et al. 1998).

While significantly advancing our understanding of gendered voting, this literature does not consider how these differences are buttressed by social relations. As Berelson and his colleagues recognized, not all social cleavages are politically-relevant, and among those that are, there must be some social mechanism that sustains them. From their perspective, political fault lines depend in large part on levels of contact within and between groups. As levels of within-group contact increase and between-group contact decrease, they expected the political significance of a social cleavage to become more politically important. As noted above, the problem of applying this argument to the gender gap in voting is that there are ample opportunities for men and women to interact.

To be sure, men and women are not on equal ground when they interact with each other. Men are less likely to identify women as political discussants than women are to identify men (Klofstad *et al*. 2006; Huckfeldt and Sprague 1995). Women are less inclined to offer political opinions to others – i.e., political proselytizing – than are men, except when women candidates run (Hansen 1997). And men tend to see women as less knowledgeable about politics, potentially degrading social influence across gender lines (Mendez and Osborn 2010; Mondak and Anderson 2004; Huckfeldt 2001). Nevertheless, gender does not on the surface appear to be as important in producing segregation in social interaction than other factors such partisanship (MacKuen 1992; Finifter 1974), religion (Huckfeldt, Plutzer, and Sprague 1993), class (Marsden 1997), and other factors. This is because these other differences overlap with social institutions (such as parties,

churches, and unions) that buttress within-group relations. The one social institution most apt to affect gender gaps – marriage – works to bring their preferences and behavior *together*.

Altogether this presents a series of questions about the role of social networks and gender in voting. Is gendered voting related to men and women's social networks? If so, what process links social networks to voting? Is it a function of differences in the gender or partisan composition of the networks? Or, is a function of men and women being differently affected by the discussion partners?

Social Network Models and Gendered Voting

The Baseline Argument About Social Networks and Voting

In what ways might interaction in social networks be related to gendered voting in American elections? One possibility – which we consider the null hypothesis – is that gendered voting has nothing to do with social interaction between the sexes. If that is the case, it implies that the political differences of men and women might arise naturally from socialization differences between men and women (Gilligan 1982) or from their different socioeconomic circumstances (e.g., Box-Steffensmeier *et al*. 2004). Since men and women are not socially isolated in the U.S., this implies that social influence does not occur – or occur as strongly – across the sexes. Even if men and women interact and exchange political information, the idea is that gender is unrelated to the content of those interactions and their impact on political behavior. People are responsive to political information provided by members of their network, regardless of their gender and that of their discussants. If this is the case, we should find that the influence of one person upon

the voting behavior of another might be dependent on their network, but that process does not differ by the gender of the respondent or its distribution in the network.

Toward that end, we have two hypotheses derived from the social network literature. The first expectation is that a respondent's candidate preference is likely to mirror those of her discussants, *regardless* of the gender of the respondent or her discussants. When we examine discussant pairs, we expect that the level of political homophily is the same across the possible pairings of male and female respondents/discussants. A second hypothesis is that the influence of any particular network discussant is dependent on the rest of the network (Huckfeldt et al. 2004), a simple version of a network structure effect. As with the first hypothesis, the expectation is that this process is independent of the gender composition of the network and the respondent. These expectations, and others derived below, are displayed in Figure 1.

[Figure 1 about here]

Gender, Network Composition, and Voting

In contrast to this baseline network argument, gender identity might lead to gendered voting through social networks. One possibility focuses on what we will call composition effects. Underneath the social logic of voting is a focus on the communication of political information. As the network becomes more biased toward one political choice over another, we expect that this is communicated to voters, and they feel pressure to conform to their network. To the degree that there are significant differences in the networks of men and women, especially in ways that are politically relevant, we should expect a voting gap to emerge.

There are two possible ways that this might happen. First, men and women might exhibit partisan differences in their network. Since there is a partisan gender gap – with men being more Republican than women – we might find men and women have discussion networks that are more reflective of the parties they support. Note that the political composition of the network might be unrelated to gender in this case, especially after accounting for a person's partisanship. The implication is that a correlation exists between individual partisanship and network partisanship that is *not* contingent on respondent or network gender, but that is *relevant to their voting behavior.*

Yet the partisan balance of a network might also be a function of the gender of an individual and his or her discussion partners. For the reasons outlined by Berelson and his colleagues, we might expect stark political and social segregation in order for networks to produce a gender voting gap. But some segregation on those lines may be enough to produce an effect on voting. Indeed, previous research shows that despite increasing equality among men and women in work life, substantial differences exist among the sexes in terms of their access to professional advancement (Applebaum *et al*.. 2004), home responsibilities (Mezey 1978; Sapiro 1982), and types of organizational involvement (Burns, Schlozman, and Verba 2001).

A consequence of such differences is that men and women may be exposed to different opportunities for building networks that are related to these gendered processes. These, in turn, may create differential access to political information that is a function of both partisanship and gender. In particular, the notion is that women who have female discussion partners are more likely to be *even more* pro-Democratic. The logic of this is

that because women share both a partisan and gender identity, that they would be even more likely to support Democrats.

Gender, Network Structure, and Voting

Social influences on political behavior also depend on the clarity with which political information is communicated within networks, something that is dependent on how social interactions fits with other exchanges in a person's interpersonal networks (e.g., Huckfeldt et al. 2004). Though the clarity with which people perceive the political content in social relations is not independent of network composition and structure, neither is it entirely dependent on them. In particular, the clarity of information communicated between people is related to each discussant's position in the network. This is, of course, a process that could be gendered.

Along these lines, previous research (Huckfeldt, Brickell, and Sprague 1995, Chapter 10; Mendez and Osborn 2010) demonstrates a strong asymmetry in how political information flows between men and women. In particular, women are less likely to be named as political discussants by men, and men perceive women to be less knowledgeable about politics. To the extent that social influence depends on how clearly political information flows across networks, this research implies that the impact of a network on political behavior may differ in cross-gender dyads. Specifically, men should be less susceptible to influence from women because women are generally perceived as less important politically. Stated differently, men will discount information from women because they are seen as being less informed on political matters. Because of the asymmetry in these communication patterns, however, women should *not* exhibit the same sensitivity to the gender distribution of the network.

As Huckfeldt, Johnson, and Sprague (2004) demonstrate, survey respondents are more likely to accurately identify their discussant's political preferences when those preferences are shared by a majority of the remaining network. An implication of their argument is that, in determining how to vote, the influence of any one discussion partner depends on the cues provided by the rest of the network. We focus on the possibility that men and women might rely differently on these elements of the network as a function of the discussant's gender. In particular, men might be less influenced by a single discussant and more affected by the residual network when that discussant is a woman, and vice versa.

Data

To explore these hypotheses, we use data from the 2000 American National Election Study (ANES). In addition to the traditional questions the ANES includes for studying voting behavior, it solicits information on each respondent's social network. Toward this end, respondents were asked for up to four names of the people with whom they talk politics.[1] Respondents reported how they knew each discussant, how frequently they discussed politics, their perception of the discussant's political knowledge, and their perception of the discussant's vote choice.[2] We analyze these data in two ways. First, we examine the whole networks of men and women. For these analyses, the data are organized with the respondent as the unit of analysis and information on the network dispersed across columns. Second, we examine network dyads in order to get a handle on how specific discussants – and their political and gender characteristics – affect the

[1] Although this "political matters" generator seemingly taps only political networks, there are very few differences in the information provided in these scenarios when compared to the more general "most important matters" name generator (Burt 1985) used by sociologists (Klofstad *et al*. 2006).
[2] Variable descriptions and descriptive statistics are provided in Table A and B in the Appendix.

respondent's behavior. In these situations, the data are organized by respondent-discussant dyads. Because this over-represents respondents with larger social networks, we employ the procedure used by Huckfeldt *et al*. (2004) to correct for what they label social autoregression.[3]

In addition to including information on social networks, the primary advantage of the 2000 ANES data is that they come from a random sample of national respondents. Although there are other surveys that include more extensive measures of social influence measures (e.g., the 1996 Indianapolis-St. Louis Study), they are based in one or two communities. Although the gender gap undoubtedly exists in all manner of communities, those manifestations may be affected by a wide variety of factors that are difficult to control, such as female office holders or different norms toward the treatment of women.

There are two primary drawbacks to our data. First, the absence of interviews for a random sample of named discussants limits our analysis to respondent perceptions of network interaction. Because respondent perceptions of a discussant's vote preference depend upon both respondent partisanship and the distribution of voter preferences in the rest of the network (Huckfeldt, Johnson, and Sprague 2004), these data may understate levels of disagreement in networks and reflect reciprocal influence of the respondents on their network. On a related note, men and women may have notably different perceptions of the politics of their network partners. Second, we are unable to account for the influence of factors specific to the 2000 election that might influence the distribution of political preferences across networks or between men and women. In both cases, these

[3] The procedure is straightforward – we employ robust standard errors within respondent clusters and control for other aspect of the network outside of the particular discussant. See Huckfeldt, Johnson, and Sprague (2004) for additional details.

limits restrict our ability to make strong claims about causality, especially beyond this particular election.

Political Composition of Networks: The Impact of Gender and Political Preference

Female and Male Networks

We begin by examining the social networks of men and women. In Panel A of Table 1, we see that among all respondents, there are significant differences between men and women in regards to the size of their political networks, the average level of political discussion, the average level of support for Bush, the number of women in a network, and the intimacy in the network. Women are less likely to report having a political network than men and engage in less political discussion in their networks than men. Support for Bush also varies, with men showing more support for Bush than women. There are no differences in the proportion of Gore discussants in male and female networks. Female respondents are also more likely to report having higher numbers of women in their networks and more intimate networks -- meaning more family members -- than men.

[Table 1 about here]

When we compare only those men and women who can identify at least one discussant in Panel B of Table 1, we find that many of these differences disappear. This is surprising in light of research suggesting sex is not a predictor of social isolation (McPhereson et al. 2006). Yet, for example, the frequency of political discussion does not differ significantly for men and women. Differences in levels of support for Bush are also statistically insignificant. We do find that men still have larger political networks than women -- consistent with the research of McPhereson et al. 2006 -- remain less likely to include women in their networks, and report networks with lower levels of

intimacy than women. Interestingly, once women report having a political network, the average level of network political knowledge increases to a mean level of 1.29, while men's levels increase to 1.23. Notably we do not find women opting into all Democratic networks or men opting into all Republican networks, evidence that in the aggregate women and men are not sorting into partisan enclaves that would likely exist in religious and/or ethnic groups.

In broad strokes, this evidence sheds some light on our different hypotheses. It does not support the hypothesis that respondent gender is strongly related to the political signals received by men and women from their whole network, especially once we account for the lower propensity of women to name one or more discussants. On the other hand, these data show that there are strong and persistent gender differences in the people included by men and women in their networks. Since men are less likely to include women in their networks and women are more likely on average to be Democratic partisans than are males, this suggests that gender sorting in the selection of networks may lead to voting differences between men and women. However, as noted above, this is relationship is not so strong as to clearly account for the gender voting gap.

Political Cues Provided by Men and Women

We begin examining this possibility further by looking at levels of political agreement in vote choice between respondents and discussants broken down by gender. In Table 2, the most striking finding is that the highest levels of agreement in vote choice are between male respondents and male discussants who voted for Bush. Among male respondents with a male discussant, 52.7% voted for Bush indicating the highest levels of agreement between a respondent and a discussant are when both are male and Bush

supporters. In comparison, only 38.7% of male respondents' female discussants voted for Bush. A similar gender-partisan polarization occurs for female respondents. Among female respondents, we see that 47.6% of female discussants voted for Gore in comparison to 36.1% of male discussants. But what *is different* for women respondents is that their male discussants are not as ardently pro-Bush as they are with male respondents. This difference is attributable to female respondents reporting that male discussants have either "no" preference or support some "other" candidate.

[Table 2 about here]

Overall, this evidence shows gender homophily is related to partisan homophily; the gender composition of the network overlaps with the respondent's partisan cues. Because women have more females in their network and their male discussants are less likely to support Bush, our female respondents are exposed to more pro-Gore information than pro-Bush information. Interestingly, the political cues men receive are different, both because their male discussants are more supportive of Bush and because their networks are four times as likely to include other men. This is evidence of a straightforward composition effect, but also with gendering in balance of partisan cues and their strength. And most important for our purposes, it suggests that this imbalance in the information men and women glean from their network is only evident we when account for both gender and politics.

Table 3 takes the analysis one step further by examining discussant vote choice according to respondent vote choice and gender of both discussants and respondents (a dyad-level analysis). Among male respondents who voted for Gore, 77.7% of their female discussants also voted for Gore, compared to 61.8% of male discussants. Among

male respondents who voted for Bush, 72.2% of their female discussants also voted for Bush, compared to 73.6% of male discussants. This high level of agreement with both female and male discussants implies that male Bush supporters are highly discriminating about the women they let into their political networks. We also see that among female respondents who voted for Gore, 57.6% of male discussants also voted for Gore, compared to 66.7% of female discussants. Among female respondents who voted for Bush, 75.3% of male discussants also voted for Bush, compared to 67.6% of female discussants. Thus, female respondents who support Bush have more variation in their networks than their male counterparts.

Altogether these results suggest that gender may be functioning as a cue for agreement in political networks. For men, the level of support in the network is somewhat dependent upon gender. In fact, women may be serving as a cue for Democratic men, and men may be serving as a cue for Republican men. For women, though, it does not appear to make as much of a difference if the discussant is a man or woman. Again, the failure of men to include women in their networks has consequences for the political messages that they receive from their networks, generally pushing them in the direction of the Republican party.

In terms of Bereslon et al.'s conditions for a social cleavage, there is evidence of "random mixing" for females – women respondents talk to both men and women and get exposed to both Republican and Democratic messages. But the story is different for male respondents, who demonstrate evidence of segregation in that they are more likely to talk to men and those men are more strongly Republican. This effect is less related to the respondent's gender than it is to his or her own political leanings and the discussant's

gender. In a phrase, it seems that men are more choosy about whom they talk to about politics.

Partisanship, Network Gender, and Network Political Composition

The previous analysis shows that the composition of discussion networks is gendered. In relation to our hypotheses, this suggests that a standard network framework does not apply – partisanship is not the only factor in understanding the political composition of networks. Instead, it is the interaction between the discussant's gender and the respondent's political predilections. This occurs partly because gender overlaps with political preferences, allowing both men and women the ability to use it as a signal in identifying disagreeable network partners. At the same time, the fact that men are generally more resistant toward including women in their networks implies that when they do talk to women, they are more aware of potential political differences and only include them when they are agreeable discussants. In other words, discussant gender, might serve as a cue that activates partisanship and/or preference as a criterion for inclusion in the network.

To explore this idea further, we regressed the percent of a respondent's network support for Gore and Bush on respondent partisanship, the proportion of women in the network, and an interaction between the two. Individual level controls were added for education, age, union membership, marital status, and respondent gender, the last of which was also interacted with the network gender. Since people with larger political networks have more opportunities for exposure to disagreement, we control for the size of the network (Huckfeldt, Johnson, and Sprague 2001). The results are reported in Table 4.

[Table 4 about here]

Most interesting for our purposes is that the political content of respondent networks is a function of gender, partisanship, and the gender of the network. As interpreting these results is not straightforward just by looking about the statistical results (Friederich 1982), we plot the different combinations in Figure 2. The larger dots on each line represent the impact of network gender based on either gender (on the left hand side) or partisanship (on the right hand side) for how much of the network supports Bush and Gore. The small dots on either side of this estimate are the lower and upper boundaries of the confidence interval for the coefficient.

[Figure 2 about here]

Consider first the impact of network gender on the amount of Bush and Gore support for men and women. The most important differences here seem to be driven more by whether we're examining Bush network support versus Gore rather than the sex of the respondent.[4] In the model for Bush, the confidence intervals of men and women overlap with each other, suggest that there is not much difference in how they react to women in their network. That said, the coefficient for women is statistically significant at the .05 level and having more women in the network does make them *more favorable* to Bush. When looking at support for Gore in the network, we again see that differences between men and women are not stark. However, in this case both are likely to have more Gore supporters in their network if there are more women in their network.

[4] Although respondent gender was unrelated to the political composition of the network – ruling out the possibility that it is the primary source of differential gender cues – we re-estimated our models separately for men and women to allow for possible heterogeneity in how these processes operate. The results are similar to what are reported in Table 4 with a handful of exceptions. First, the effect of network gender on Bush support is statistically significant and positive for women, but remains statistically insignificant for men. Second, both the direct effect of network gender (.34 for men and .26 for women) and its interaction with partisanship on the composition of Gore vote is larger for men than women (0.10 and 0.07, respectively). The results are presented in Table A1 of the Appendix.

Overall, it seems that increased gender homophily is related to more clarity in women's networks in the sense that there is more support for both candidates (though much more for Gore). For men, having more women in their network makes the network significantly more pro-Gore.

Stronger still is the interaction of network gender and individual partisanship. Considering the results for average percent of the network supporting Bush, the graph shows that Republicans end up in more Bush-supporting networks but that independents' and Democrats' networks actually become *less* pro-Bush. Conversely, having more women in a network ends up making it comprised of a greater proportion of Gore supporters for *everyone regardless of their political preferences*.

[Figure 3 about here]

To see how this plays out, we display the impact of these variables on the political composition of networks in Figure 3. For purposes of this simulation, we computed the effects of these variables against a baseline respondent who was male, had a high school education, was married, not in a union, 45 years of age, and with a three-person social network. Panel B shows that the inclusion of women in social networks has a particularly strong impact on self-identified strong Democrats. Moving from a network with no women to a fully female network increases the proportion of Gore voters in the network by just over 50%. Independents are similarly affected, though the magnitude of the effect is slightly more than half that size. Finally, we see about a 10% increase among Republicans. A similar pattern occurs for the Bush proportion of the network. Among strong Republicans, moving from no females to a network that is entirely female *increases* the percentage of Bush support by approximately 20%. There is a positive

increase among independents, though the substantive effects are quite mild (and statistically insignificant when computed using Friederich's formula). And finally, it has a strong negative effect for Democrats.

It seems apparent that the political composition of networks is not differentiated solely, or even primarily, by the gender of respondents. It *is related* to the number of women in the network, in combination with respondent partisanship. To the extent that the gender gap in voting is based on cues received in social networks, it would seem that this comes primarily from the fact that partisanship is related to network composition and the simple fact that men are more Republican than are women. In other words, we cannot look at the proportion of men and women in a network to explain gendered voting. For Republicans, having more women in the network is associated with having more Bush and Gore supporters; for everyone else, it is associated with having more Gore supporters.

This implies that discussant gender serves as a way of alerting respondents – either by accident or on purpose – to how a person fits with their own politics. For men, having more women in their network jeopardizes their ability to have a supportive network. This may explain why men's networks exhibit more political homophily in Tables 2 and 3 -- bring women into the network cuts at the natural tendency of people to avoid disagreeable political discussants (Festinger 1957). Second – though more subtly and less strongly – this part of the process *is gendered* as men and women react differently. In particular, women are more sensitive to the combined role of partisanship and gender in screening the Republican parts of their networks while men are more responsive in the Democratic end.

Network Structure and Social Influence on Candidate Evaluation

We now turn our attention away from the composition of the network to its consequences for candidate evaluation. Even when men and women interact and supply each other with information that should cut at the core of the gender gap, we must also consider the possibility that this information has little or no consequence when exchanged between men and women. Therefore, we examine how the impact of men and women as discussants may be diluted through the distribution of preferences among other discussants. We do this by estimating an autoregressive model of social influence outlined in Huckfeldt, Johnson, and Sprague (2004) where the unit of analysis here is the discussant-respondent dyad. As respondents can appear more than one time in the data set, we correct for correlated errors using robust standard errors for respondent-clusters. The dependent variable is the change in the respondent's evaluation of Al Gore and George Bush from the pre-election survey to the post-election survey, coded so that positive numbers indicate increasing affection for the two candidates.

The social influence model includes two measures of social influence: (1) the discussant's political preference and (2) the amount of agreement with the discussant in the remainder of the network. We include a control for individual partisanship, the respondent's pre-election evaluation of Gore, and an interaction term between discussant vote and residual candidate support in the network. Unfortunately, our measure of discussant preferences may itself be a product of the respondent's preferences, meaning that our results are subject to endogeneity bias (Kenny 1994). We look to future work to

use different measures of discussant preferences – such as partisanship, which is a more stable measure – to attack this issue more directly.[5] We estimate the model separately for 1) change in feeling for Gore and Bush and 2) all permutations of respondent and discussant gender. We specifically look at whether our measures of social influence depend upon gender homophily in the respondent-discussant dyad.

Interpreting social influence in this model depends on evaluating an interaction between each discussant's vote preference and the preferences of the rest of the network. With two candidates, four type of gender-discussant dyads, and four values of the interacting term (the residual network can have 0, 1, 2, and 3 as possible values), we have thirty-two different statistical tests to evaluate. As this complicates interpretation, we report the statistical models in Tables C and D in the Appendix and focus our discussion on a summary of the statistical results and a graph of coefficient effects. Each coefficient listed in Table 5 shows the effect of the discussant -- direct influence -- on the change in feeling towards one of the candidates. There is strong evidence that candidate attitudes are embedded in social processes, with 20 of 32 of the coefficients obtaining some level of statistical significance. By itself, this is neither surprising (given previous research) or that interesting given our focus on gender.

[Table 5 about here]

[Figure 4 about here]

We first examine the results of the model of changing attitudes toward Gore. Here we see that there is significant influence from discussants of each gender to respondents of each gender. However, that influence is restricted to those networks in which there are no other Gore discussants or only one. And, as can been seen in Figure

[5] The 2000 ANES did not ask respondents for their perceptions of the discussant's partisanship.

4, it is in that area where there are the *least* differences between the different types of dyads. In other words, there seems to be social influence and it does not seem to be conditioned by the gender of the respondent or discussant. There are two additional observations to be made here. First, the impact of any discussant declines as the network becomes more supportive overall, demonstrating that there are declining returns from each discussant as the entire network becomes more supportive. Second, the declining effect of the discussant influence is less steep for same-gender pairs. The effect is not statistically significant for male-male pairs, but is for female-female pairs ($p<.10$) with up to two additional supportive discussants. All in all, the implication is that women and men seem to place at least slightly more emphasis on their same-gender discussants even in the context of more political cohesive networks.

A different pattern presents itself when examining feelings towards Bush. There is still a pattern of diminishing returns in the effect of a Bush-supporting discussant as the Bush support in the network grows, but it only occurs when men are the discussant. For men, as their network becomes more pro-Bush they are less likely to weigh the opinion of their discussants; that is especially true for male-male dyads where the individual discussant is not important after one other Bush voter is included. A different story emerges when we consider female discussants. For men, there are no meaningful "declining effects." If the network has no other discussants backing Bush or only one other, that single female Bush supporter has a strong positive effect on evaluations of both. If the respondent is a woman, having more Bush-supporting networks actually *increases* the impact of a pro-Bush female discussant.

Our interpretation of these complicated results is relatively straightforward. When women act according to the stereotype that they are more Democratic than men, their impact on candidate attitudes is in some sense unremarkable -- it is the same as any other discussant. However, when they act "out of character," they have an opportunity to exert significant influence. In those cases, it is because the socially-supplied information is more informative and novel, that it is more impactful. All in all, this story does not seem to be about gender and politics alone, but about their combined impact.

We are hesitant to draw strong conclusions about causality on the basis of this evidence, as endogenous influence and network selection serve as potential sources of statistical biases. However, the evidence is consistent with the argument that gender is important for understanding how much influence a discussant will have on a respondent's view of the candidates. The most consistent pattern we see is that females can influence people, but it is only under highly defined conditions. Otherwise, the social influence process in this case seems more related to the composition of networks.

Summary and Discussion

Overall, our results suggest that gendered patterns of social communication and network structure do play a role in contributing to the gender gap, though this role is far from simple. Given Berelson's remarks, this makes sense. Women are in substantial contact with men. Despite persistent differences among the sexes, they are not strictly separated according to any religious or other social institution that prohibit interaction. Further, we do not see the strong partisan divides between men and women that we see, for example, between African-Americans and whites. However, it is fairly evident from

our analysis that social communication is shaped by gender to some extent, most likely in combination with expected factors such as partisanship.

In terms of network structure, we find that discussant gender and partisanship are working together in order to influence respondents. For instance, we do not find that women are opting into all Democratic networks or that men are opting into all Republican networks. Rather, gender and partisanship are working together, though their influence may be different on male and female respondents. Gender homophily appears to be related to partisan messages as well. For men, gender may be functioning as a cue for agreement more so than for women. We find that men are less likely to include women in their networks, and when they do, they are more discriminating about the women they let into their networks. Strong partisans, in particular, are very selective about the women they include in their networks.

When examining discussant influence, we find that gender similarity of networks matters more for women than men. This is probably due to that fact that, as mentioned previously, men are heavily screening the women they let into their networks. On the other hand, effects of discussant knowledge do not appear to be gendered although this must be interpreted cautiously due to men's devaluation of women's political knowledge.

Previous research on the gender gap indicates there is no simple explanation, but multiple, interrelated causes. When examining the underlying foundations of social communication that might be contributing to this phenomenon, we find similar results in terms of complexity. While gendered patterns of communication appear to be contributing to the gender gap, they are certainly not the only factor affecting social communication between men and women.

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Figure 1. Possible Effects of Gender and Social Networks on Voting Behavior.

Source of Effect	Social Networks	Gendering in Social Networks	
		Composition	Communication
Political preferences	The respondent's vote is likely to correlate with the average network vote.	Women are more Democratic than men and therefore have more Democrats in their network. Women who have more women in their network will have more Democrats as well.	
Structure of network	The influence of a disagreeing discussant is dependent on the remainder of the network.		The impact of female discussants on males depends more heavily on the rest of the network. The impact of female discussants on female respondents will depend less on the rest of the network.

Table 1. Characteristics of Full Social Networks by Gender.

Panel A. All Respondents.

Network Property	Respondent Gender				Difference
	Male		Female		
	Mean	Std. Dev.	Mean	Std. Dev.	
Size	1.72	1.55	1.51	1.49	0.21*
Political Talk	1.34	1.07	1.24	1.08	0.11*
Political Knowledge	0.81	0.72	0.80	0.74	0.01
Gore Support	0.25	0.37	0.24	0.38	0.01
Bush Support	0.29	0.39	0.24	0.38	0.05*
Gender	0.22	0.31	0.31	0.37	-0.09*
Network Intimacy	0.25	0.37	0.32	0.40	-0.07*

*p<.05, two-tailed test

Panel B. Respondents Naming At Least One Discussant.

Network Property	Respondent Gender				Difference
	Male		Female		
	Mean	Std. Dev.	Mean	Std. Dev.	
Size	2.61	1.15	2.43	1.15	.18*
Political Talk	2.04	0.56	1.99	0.61	.05
Political Knowledge	1.23	0.52	1.29	0.51	-.06
Gore Support	0.41	0.39	0.42	0.41	-.01
Bush Support	0.47	0.40	0.42	0.42	.05
Gender	0.33	0.33	0.50	0.36	-.16*
Intimacy	0.38	0.40	0.52	0.40	-.14*

*p<.05, two-tailed test

Table 2. Discussant Political Preferences by Respondent and Discussant Gender.

	Female Respondents		Male Respondents	
Discussant vote	Female Discussant	Male Discussant	Female Discussant	Male Discussant
Percent Gore	47.6% (344)	36.1% (250)	48.6% (206)	34.5% (284)
Percent Bush	39.6% (286)	45.2% (313)	38.7% (164)	52.7% (434)
Percent Other / None	12.8% (93)	18.6% (129)	12.7% (54)	12.8% (106)
Total	100% (723)	100% (692)	100% (424)	100% (824)

Table 3. Discussant Vote Choice by Respondent Vote, Respondent Gender, and Discussant Gender.

	Respondent Vote Choice	
Discussant Vote Choice	**Gore**	**Bush**
Panel A. Male Respondent / Male Discussant		
Percent Gore	61.8%	17.1%
Percent Bush	28.2%	73.6%
Percent Other	10.0%	9.3%
Panel B. Male Respondent / Female Discussant		
Percent Gore	77.7%	20.7%
Percent Bush	11.2%	72.2%
Percent Other	11.1%	7.1%
Panel C. Female Respondent / Male Discussant		
Percent Gore	57.6%	16.7%
Percent Bush	24.8%	75.3%
Percent Other	17.5%	8.0%
Panel D. Female Respondent / Female Discussant		
Percent Gore	66.7%	24.3%
Percent Bush	22.2%	67.6%
Percent Other	11.1%	8.1%

Figure 2. The Effect of Gender Composition on the Political Composition of Social Networks for Men and Women.

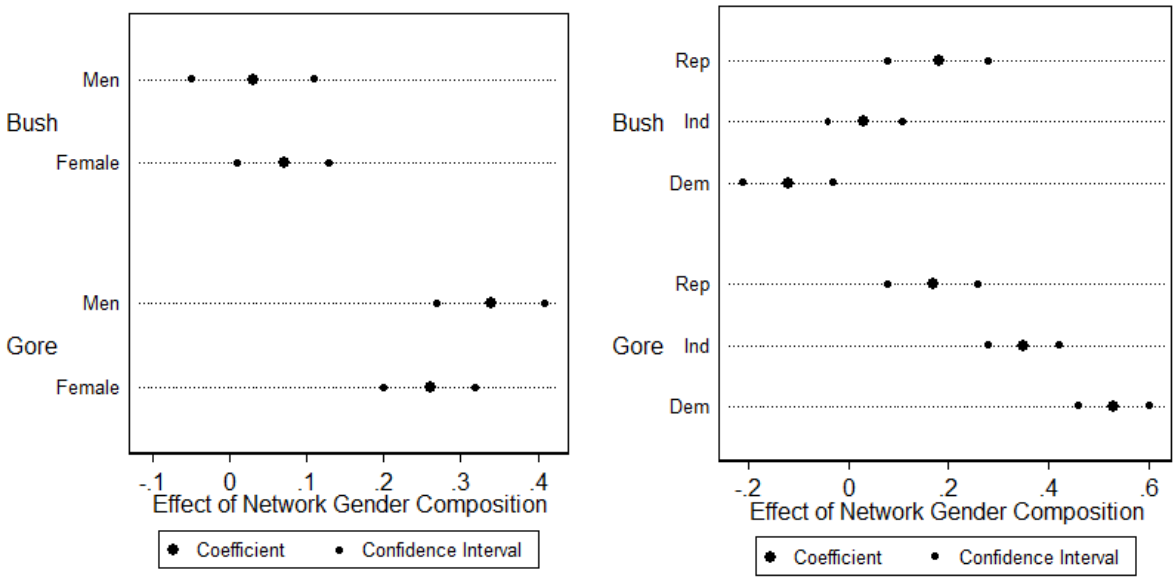
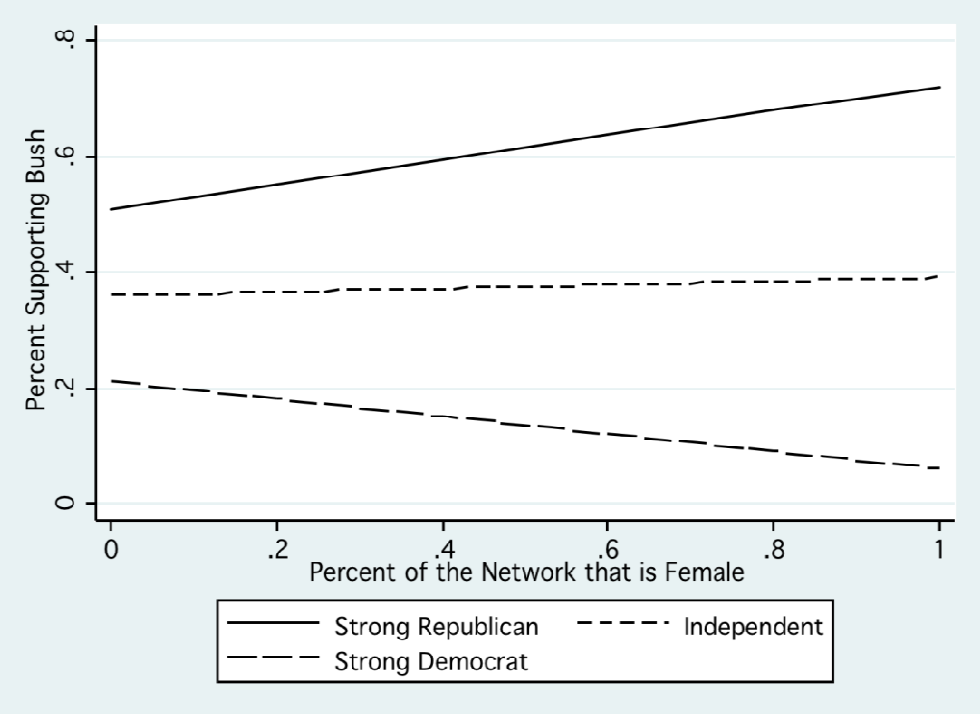


Figure 3. Candidate Support as a Function of Network Gender and Partisanship.

Panel A. Support for Bush Among the Respondent's Discussants.



Panel B. Support for Gore among the Respondent's Discussants.

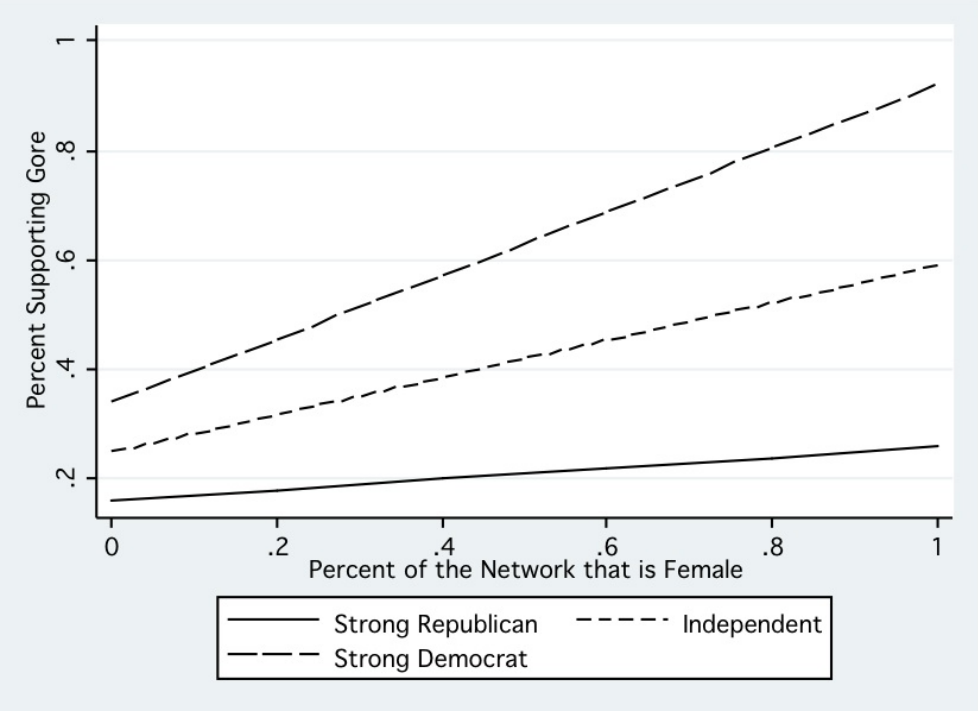


Table 4. The Effect of Respondent Partisanship and Network Gender Composition on Network Political Composition, OLS Regression.

	Percent of Network Supporting Gore		Percent of Network Supporting Bush	
Variables	**Coef.**	**S.E.**	**Coef.**	**S.E.**
Female	-0.01	0.02	-0.01	0.02
Education	0.01	0.00*	0.00	0.00
Age	0.00	0.00	0.00	0.00
Union Member	0.07	0.02**	0.02	0.02
Married	-0.02	0.02	0.04	0.02**
Partisanship	0.03	0.00**	-0.05	0.00**
Network Size	0.07	0.01**	0.11	0.01**
Network Gender	0.34	0.04**	0.03	0.04
Female * Network Gender	-0.08	0.04	0.05	0.05
Partisanship* Network Gender	0.08	0.01**	-0.06	0.01**
Constant	-0.06	0.05	0.01	0.05
N	1595		1595	
F	97.32**		101.30**	
R^2	0.38		0.39	
Root MSE	0.29		0.30	

*p<.05, two-tailed, **p<.01, two-tailed

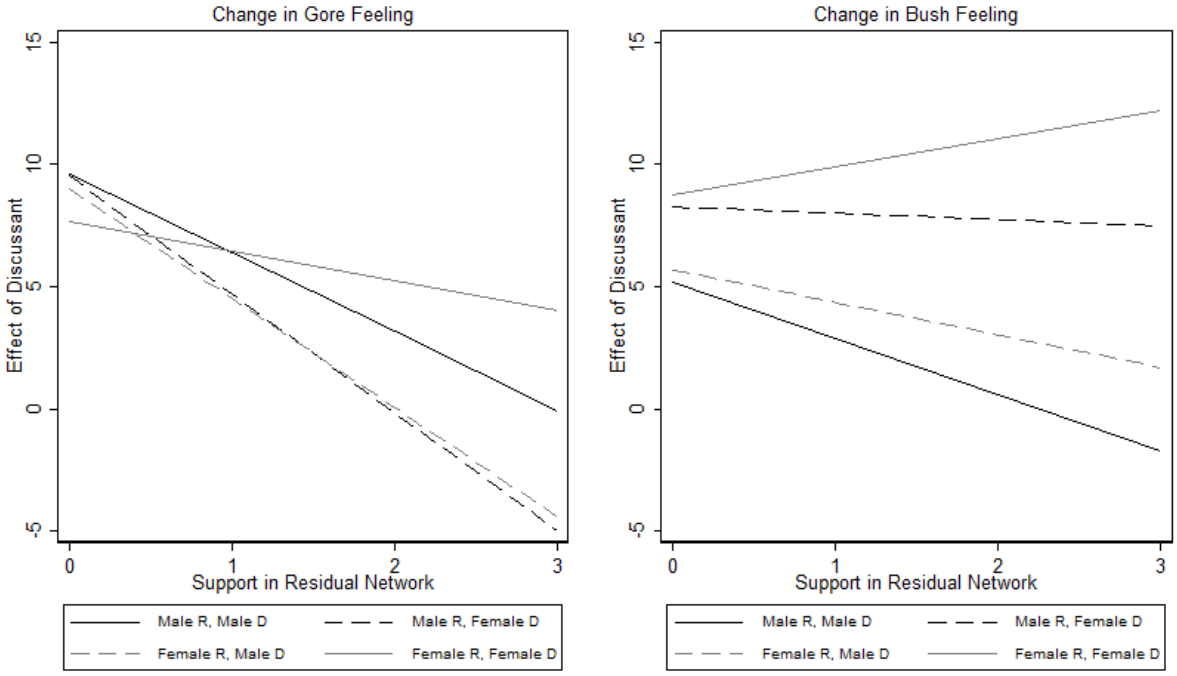
Dependent Variable: Average support for candidate in the network, all respondents.

Note: If a coefficient did not attain statistical significance, we rounded to two decimal places. If a coefficient attained statistical significance, we rounded to the highest possible decimal place up to two digits.

Table 5. Coefficients, T-Values, and Statistical Significances for Discussant Vote Based on Residual Network Support and Dyad Gender Homophily.

Dyad	Residual support	Coefficient	T-value	Statistical Significance		
				p<.01	p<.05	p<.10
Change in Gore Feeling Thermometer						
Male Respondent,	0	9.61	3.90	**x**		
Male Discussant	1	6.39	4.23	**x**		
	2	3.17	1.36			
	3	-0.05	0.01			
Male Respondent,	0	9.53	2.84	**x**		
Female Discussant	1	4.69	2.06		**x**	
	2	-0.15	0.04			
	3	-4.99	0.78			
Female	0	9.00	3.51	**x**		
Respondent, Male	1	4.53	2.49		**x**	
Discussant	2	0.06	0.02			
	3	-4.41	1.07			
Female	0	7.67	3.14	**x**		
Respondent,	1	6.46	3.82	**x**		
Female Discussant	2	5.25	1.89			**x**
	3	4.04	0.80			
Change in Bush Feeling Thermometer						
Male Respondent,	0	5.20	2.01		**x**	
Male Discussant	1	2.90	1.88		**x**	
	2	0.60	0.26			
	3	-1.70	0.43			
Male Respondent,	0	8.27	2.17		**x**	
Female Discussant	1	8.01	3.05	**x**		
	2	7.75	2.46		**x**	
	3	7.49	1.54			
Female	0	5.69	2.15		**x**	
Respondent, Male	1	4.36	2.45		**x**	
Discussant	2	3.03	1.18			
	3	1.70	0.41			
Female	0	8.78	2.91	**x**		
Respondent,	1	9.93	5.06	**x**		
Female Discussant	2	11.08	4.28	**x**		
	3	12.23	2.91	**x**		

Figure 4. Impact of Discussant on Change in Gore and Bush Feeling Thermometors based on Residual Support for the Discussant's Candidate Choice in the Network.



Appendix

Table A. Variable Descriptions and Statistics for Respondent-Level Data Set.

Variable	Description	N	Min, Max	Mean	Std. Dev.
Percent Supporting Gore	% of network discussants R believed voted for Gore	1650	0, 1	0.25	0.37
Percent Supporting Bush	% of network discussants R believed voted for Gore	1650	0, 1	0.26	0.38
Female	1=woman, 0=man	1807	0, 1	0.56	0.50
Education	Highest grade completed (17=17 or more)	1795	2, 17	13.64	2.31
Age	Respondent self-reported age (97=97 or older)	1798	18, 97	47.21	16.96
Union Member	Respondent self-reported member of union.	1795	0, 1	0.14	0.45
Married	Currently married.	1793	0, 1	0.52	0.50
Partisanship	Self-reported partisanship (-1 = Republican, 0 = Independent, 1 = Democrat)	1771	-1, 1	0.09	0.77
Network Size	Number of discussants named by R	1807	0, 4	1.59	1.52
Network Gender	% of network that are female	1800	0, 1	0.27	0.35

Table B. Variable Descriptions and Statistics for Dyad-Level Data Set.

Variable	Description	N	Min, Max	Mean	Std. Dev.
Change in Feeling Thermometer (Gore)	Gore Post-Election Feeling - Gore Pre-Election Feeling Thermometer	2863	-100, 100	-2.26	29.24
Change in Feeling Thermometer (Bush)	Bush Post-Election Feeling - Bush Pre-Election Feeling Thermometer	2870	-100, 100	0.92	31.39
Pre-Election Feeling Thermometer (Gore)		2875	0, 100	56.11	25.98
Pre-Election Feeling Thermometer (Bush)		2875	0, 100	55.62	26.30
Discussant Vote (Gore)	Respondent reported that Discussant voted for Gore	2664	0, 1	0.41	0.49
Discussant Vote (Bush)	Respondent reported that Discussant voted for Bush	2664	0, 1	0.45	0.50
Residual Support (Gore)	Number of other discussants supporting Gore in network.	2432	0, 3	0.80	0.91
Residual Support (Bush)	Number of other discussants supporting Bush in network.	2432	0, 3	0.92	0.99

Table C. Effect of Discussant Vote Choice on Respondent Evaluation of Gore by Respondent and Discussant Gender, OLS Regression with Clustered Standard Errors.

	Male Respondent				Female Respondent			
	Male Discussant		Female Discussant		Male Discussant		Female Discussant	
	Coef.	Std. Error	Coef.	Std. Error	Coef.	Std. Error	Coef.	Std. Error
Partisanship	7.01	0.60***	6.79	0.90***	6.16	0.66***	8.89	0.61***
Discussant Gore Vote	7.61	2.46***	9.53	3.35***	9.00	2.56***	7.67	2.44***
Partisanship x Discussant	-0.69	0.83	-0.21	1.09	0.14	0.91	-1.64	0.78**
Residual Gore Support	4.06	1.59**	7.44	2.77***	5.83	1.39***	2.38	1.55
Discussant Vote x Residual	-3.22	1.68*	-5.84	2.86**	-4.47	1.83**	-1.21	2.00
Pre-Election Thermometer	-0.72	0.03***	-0.76	0.05***	-0.76	0.04***	-0.84	0.03***
Constant	31.48	31.48	31.75	3.38	34.72	2.67***	41.59	2.55***
N	737		379		626		639	
F-test	109.22***		54.95***		86.01***		192.06***	
R^2	0.55		0.59		0.57		0.66	
Root MSE	19.21		19.21		18.76		18.51	

*p<.10, two-tailed test **p<.05, two-tailed test ***p<.01, two-tailed test

Table D. Effect of Discussant Vote Choice on Respondent Evaluation of Bush by Respondent and Discussant Gender, OLS Regression with Clustered Standard Errors.

	Male Respondent				Female Respondent			
	Male Discussant		Female Discussant		Male Discussant		Female Discussant	
	Coef.	Std. Error	Coef.	Std. Error	Coef.	Std. Error	Coef.	Std. Error
Partisanship	-5.81	0.71***	-5.22	0.89***	-6.49	0.72***	-7.06	0.83***
Discussant Bush Vote	5.20	2.59**	8.26	3.80**	5.69	2.64**	8.78	3.02***
Partisanship x Discussant	-1.15	0.87	-1.49	1.35	-0.08	0.88	-1.02	1.04
Residual Bush Support	4.90	1.51***	4.34	1.64***	4.42	1.57***	3.93	1.68**
Discussant Vote x Residual	-2.30	1.90	-0.26	2.30	1.33	1.90	1.15	2.01
Pre-Election Thermometer	-0.78	0.03***	-0.82	0.05***	-0.77	0.03***	-0.87	0.03***
Constant	39.57	2.67***	39.84	3.37***	37.34	2.62***	41.40	2.76
N	741		379		626		636	
F-test	134.82***		66.84***		101.56***		210.40***	
R^2	0.64		0.64		0.58		0.68	
Root MSE	17.53		18.36		20.55		20.18	

*p<.10, two-tailed test **p<.05, two-tailed test ***p<.01, two-tailed test