Do Disagreeable Political Discussion Networks Undermine Attitude Strength?

Running Head: Disagreeable Networks and Attitude Strength

Abstract:

How attitudes change and affect behavior depends, in large part, on their strength. Strong attitudes are more resistant to persuasion and are more likely to produce attitude-consistent behavior. But what influences attitude strength? In this paper, we explore a widely discussed, but rarely investigated, factor: an individual's political discussion network. What prior work exists offers a somewhat mixed picture, finding sometimes that disagreeable networks weaken attitudes and other times that they strengthen attitudes. We use a novel national representative dataset to explore the relationship between disagreeable networks and attitude strength. We find, perhaps surprisingly, no evidence that disagreements in networks affect political attitude strength. We conclude by discussing likely reasons for our findings, which, in turn, provide a research agenda for the study of networks and attitude strength.

Key Words: Political Discussion, Networks, Attitude Formation, Attitude Strength

Few topics have received as much scholarly attention as attitude formation. Scholars have isolated how socialization, daily experiences, communications, and social context influence the attitudes people hold (e.g. Eagly and Chaiken 1993; O'Keefe 2016). Yet attitudes only seem to shape behavior when they are "strong" and a growing body of evidence shows "strong" attitudes resist change and influence behavior (Krosnick and Petty 1995; Krosnick and Smith 1994; Miller and Peterson 2004; Visser, Bizer, and Krosnick 2006). While various factors have been shown to influence attitude strength—including cognitive elaboration, attitude relevant experiences, age, self-interest, and value relevance—much remains to be done.[1] Visser et al. (2006, 59) explain that "Attitude strength has been a focus of serious empirical interest among psychologists for decades, yet our understanding of this complex construct, its constituents, and the causal processes in which it plays a part is at an early stage."

One potential influence on the strength of citizens' issue attitudes that has received discussion, but relatively little empirical study, is the nature of one's political discussion network. While the influence of discussion networks on the *content* of citizen attitudes and on political participation has received a great deal of attention (e.g. Huckfeldt, Johnson, and Sprague 2004; Huckfeldt and Sprague 1995; Lupton, Singh, and Thonrton 2015; Mutz 2006; Nir 2005), the role of social networks on the *strength* of issue attitudes is less well understood (Visser and Krosnick 1998, 1403). For example, we are aware of only one nationally representative study focusing specifically on the relationship between citizens' real-world discussion networks and attitude strength regarding political issues (Visser and Mirabile 2004), one which suggests that disagreeable networks weaken issue attitudes. We contribute

[1] See, for example, Bizer et al. (2004), Boninger, Krosnick, and Berent (1995), Druckman and Bolsen (2011), Eveland (2004), Glasman and Albarracin (2006), Haugtvedt and Wegener (1994), Krosnick and Petty (1995), Lavine, Borgida, and Sullivan (2000), Visser, Bizer, and Krosnick (2006), Visser and Krosnick (1998).

to this work, as well as related studies concerning network disagreement and ambivalence toward political candidates (e.g. Mutz 2002b) and research on disagreement in small group deliberative contexts (e.g. Farrar et al. 2009; Levendusky, Druckman, and McLain n.d.; Wojcieszak and Price 2010), with a larger, representative dataset across a host of political issues and multiple measures of political disagreement within discussion networks. These attributes of our study enable us to make a more generalized statement regarding the relationship between interpersonal disagreement and issue attitude strength than prior work.

We find scant evidence that disagreeable political networks vitiate attitude strength. In other words, individuals appear to be able to hold strong political attitudes even in generally disagreeable social contexts. Our study thus contributes to the literatures on attitude strength and political discussion networks by highlighting theoretical reasons for positive or negative relationship between disagreement and attitude strength. Importantly, our "non-results" (i.e., finding neither a positive nor a negative relationship) provide a clear blueprint for future research on attitude strength and networks – the details of which we discuss in our conclusion. More generally, our findings have implications for the viability of deliberative politics and contribute to our knowledge of how networks shape democratically relevant attitudes and behaviors.

Previous Research

Strong attitudes are, by definition, those that endure and impact cognition and behavior (Krosnick and Petty 1995). Attitude strength was originally seen as an explanation for why some attitudes lead individuals to take actions, while other attitudes do not. Put simply, "strong attitudes matter" (Wojcieszak 2012, 225). Attitudinal strength is a continuum across which higher strength coincides with increasing degrees of influence on thinking and behavior. Beyond this basic definition,

strong attitudes may be characterized by a variety of attributes, including subjective importance, certainty, and extremity, *inter alia* (e.g., Miller and Peterson 2004; Visser, Bizer, and Krosnick 2006). While these attributes are often positively correlated, they nevertheless represent distinct attributes of strong attitudes that may possess different antecedents and consequences (Visser, Bizer, and Krosnick 2006; Wojcieszak 2012). Our specific focus will be on these strength related features and, particularly, the characteristics of extremity, i.e., an attitude report near the ends of a continuum (Abelson 1995), and importance, which refers to the "amount of psychological significance a person ascribes to an attitude" (Visser, Bizer, and Krosnick 2006, 3).

Scholars have identified various drivers of strong attitudes or, more specifically, important and/or extreme attitudes (Krosnick and Petty 1995). Boninger et al.(1995) highlight three key antecedents of subjective importance: self-interest, social identification (i.e., is the attitude relevant or important to a cherished group), and value-relevance. The connection between an attitudinal object and these three factors may occur through social communication, as in Bolsen et al.'s (2014) study of party cues and their influence on importance. Meanwhile, a variety of factors have been identified as proximate causes of extreme attitudes (Judd and Brauer 1995; Tesser, Martin, and Mendolia 1995). Elaboration and the 'use' of the attitude play a particularly important role in this process, with frequent cognitive elaboration on, and expression of, an attitude leading to greater extremity (Abelson 1995; Judd and Brauer 1995; Tesser, Martin, and Mendolia 1995). On the other hand, extremity may be undercut by the acquisition of new beliefs inconsistent with the prior attitude, which thereby leads to greater ambivalence (i.e., a strength characteristic negatively related to extremity; Huckfeldt, Mendez, and Osborn 2004; Keele and Wolak 2008; Mutz 2002a). Notably, Boninger et al. (1995) postulate a connection between the two characteristics; importance motivates thinking about an attitude, as well as biased information search, which in turn prompts further extremity.

Our focus concerns how the composition of an individual's political discussion network affects the extremity and importance, and hence overall strength, of their issue attitudes. By network we refer "to the people with whom a given person communicates on a direct one-to-one basis" (Mutz 2006, 10).[2] By "composition", we refer to the extent of disagreement present in the network.[3] Notably, there remains a lack of insight and study concerning how social networks, including political discussion networks, affect the strength of citizens' issue attitudes. This is a particularly glaring gap given the fundamental role of networks in affecting what political and non-political opinions people hold: "Social relationships define our fundamental human experience, from our sense of self to our preferences… [Individuals] are the products of their social environment. They reflect…norms of their social networks and not their own individual preferences" (Sinclair 2012, xi, xvi).

What relationship should we expect to see between the disagreeable discussion networks attitude strength (in terms of extremity and importance)? Existing research and theory suggest two divergent outcomes which we review below.[4] Ultimately, the presence of these competing lines of thought necessitates further empirical explorations of how these variables relate to each other.

Negative Effects

One prominent line of thinking suggests a negative relationship; that is, individuals in disagreeable networks should express attitudes that are less extreme, important, etc., than those in

[2] There exist alternative uses of the term network in political science, as in studies focused on the network qua network (Ward, Stovel, and Sacks 2011). Our use of the term is consistent with the broader literature on interpersonal discussion groups (e.g. Huckfeldt, Mendez, and Osborn 2004; Mutz 2002a).

[3] The literature on political discussion networks frequently mixes terms such as disagreeable, diverse, and heterogeneous. We use the term disagreeable in part due to the nature of our measures of discussion network composition, one of which refers explicitly to "disagreement" between discussion partners.

[4] We do not study differences between discussion and no discussion. It may be that discussion per se affects attitude strength, but we are interested in how exposure to different types of networks affects attitude strength conditional on participating in some discussion. Few individuals report having no discussion partners and we exclude these individuals from our analyses.

agreeable networks. This difference is typically cast in terms of the informational content of discussions in these environments Disagreeable discussion partners may provide individuals with considerations that conflict with their prior attitudes; to the extent that these considerations are accepted and stored in long-term memory (Zaller 1992), individuals should become more ambivalent on the issue and hence report less extreme attitudes given that that extremity is "necessarily negatively correlated" with ambivalence (Visser, Bizer, and Krosnick 2006, 56). Likewise, the presence of disagreement may prompt individuals to engage in less biased information searches as a prelude to the social defense of attitudes, which may also lead to the acquisition of considerations that contrast with the prior attitude (Levitan and Wronski 2014). These new considerations may also prompt a weakening of attitude importance by, for instance, changing perceptions of the connection between a political issue and one's self-interest, group identities, or personal values. Alternatively, the presence of disagreement may mean that individuals are exposed to social pressures from both sides of the issue, which may lead to weakened attitudes as individuals remain unclear about the connection between the attitude and their group. Regardless of the specific mechanism, this line of reasoning nevertheless points to a negative relationship between extremity, importance, and disagreeable discussion networks.

There is some existing empirical work suggesting the validity of the foregoing argument. First, studies concerning the results of structured discussions or deliberations often show evidence of attitude change, which is an indicator of weakened attitudes (Andersen and Hansen 2007; Barabas 2004; Gastil, Black, and Moscovitz 2008; Luskin, Fishkin, and Jowell 2002). In addition, the literature on political discussion networks has tended to show a positive relationship between disagreeable networks and candidate ambivalence (Huckfeldt, Mendez, and Osborn 2004; Mutz 2002a). While suggestive, neither literature may be dispositive for our question: whether non-structured interpersonal discussions with disagreeable peers weakens attitudes. While the literature on structured discussions/deliberations does

provide strong evidence that discursive disagreement can lead to weakened issue attitudes, these studies focus on a very particular context, one that typically features the provision of high-quality information and design aspects that may prompt enhanced motivation to consider this information with an open-mind (see: Kuklinski et al. 2001). These features are potentially crucial for the underlying finding of weaker attitudes, but ones that are likely lacking in realistic, less structured environments. Moreover, while attitude change is the general finding of this literature, some work on this topic shows an inconsistent and weak relationship between disagreement and attitudes (Farrar et al. 2009, 2010; Wojcieszak and Price 2010). The latter literature on non-structured discussions and candidate ambivalence is perhaps more relevant, but ultimately focuses on a distinct attitudinal object (candidates) that may elicit distinctive processes of attitude formation and updating (cf. Lodge, McGraw, and Stroh 1989; Zaller 1992).

The most substantial evidence that non-structured disagreeable discussions lead to weakened issue attitudes is offered by Visser and Mirabile (2004).[5] Visser and Mirabile (2004) describe four studies: two involving student participants who briefly participated in computerized discussion groups (i.e., manipulated, artificial social networks) on the issue of a mandatory community service requirement for university students; a third study involving student participants who described their real social networks and the disagreeableness of their network members' opinions on the issue of capital punishment; and a fourth study similar to the previous one but using a nationally representative telephone survey of U.S. adults. Visser and Mirabile found that individuals in disagreeable networks reported attitudes that were less extreme and subjectively important, and also less certain and more

[5] Levitan and Visser (2008, 2009) also explore the relationship between attitude strength (as measured by stability and change) and network disagreement. However, neither study measures the attributes we are interested in here and thus must infer that disagreement is weakening attitudes because of their influence on these characteristics.

ambivalent, than those in more agreeable networks. However, in their studies Visser and Mirabile (2004) also provide respondents with strong persuasive messages following group discussion and before attitude expression.[6] Thus, while this is important evidence supporting a negative relationship between disagreeable networks and strength, it may be the case that disagreeable discussions only negatively affect issue attitudes in the presence of strong or high-quality information, which may be lacking from most peer discussions given the generally low levels of political interest and knowledge held by citizens (Delli Carpini and Keeter 1996).

Positive Effects

There is good evidence to suggest that disagreeable discussions with peers in a non-structured setting may weaken an individual's issue attitudes. However, there are also reasons to expect that stronger attitudes may also emerge. While disagreeable networks may provide an individual with evidence concerning alternative viewpoints, there is no guarantee that citizens process this information with an accuracy motivation in mind. Indeed, in many cases individuals will come to social discussion with prior attitudes, which can trigger processes of defensive bolstering (Lerner and Tetlock 1999). In particular, when encountering disagreeable information individuals may automatically retrieve their prior attitude on the subject, which will in turn bias resulting cognitions in favor of this attitude and motivate the individual to counter-argue the incoming information with an end-result being a strengthening of the original attitude (Lodge and Taber 2006; Redlawsk et al. 2010; Redlawsk 2002). As noted earlier, this type of cognitive elaboration is generally associated with an increase in attitude

[6] In addition, subjects were told prior to the experiment that they would have to engage in social discussions with the other subjects in the experiment, which likely primed a social accountability motivation that enhanced adherence to group norms (a la Tetlock 1983). Moreover, the discussion occurred in a captive-audience environment where subjects could not readily avoid disagreeable information as other work on social disagreement suggests they might try to do. Thus, their results are perhaps suggestive that disagreeable discussion is associated with greater attitude change and weaker attitudes in very specific types of discursive interactions, but not necessarily of groups or disagreeable conversations per se.

extremity (Tesser, Martin, and Mendolia 1995). Importance may also increase insofar as these experiences of disagreement prompt feelings of identity threat from those on the other side, and associated feelings of anger, which may prompt even more biased styles of cognition (as in MacKuen et al. 2010). This line of thinking thus suggests the possibility of positive effects on attitude strength emanating from disagreeable networks due to a backlash effect.[7]

There exists empirical evidence from the literatures on structured and non-structure discussions that support the foregoing expectation. First, Eveland (2004) shows that anticipated interpersonal discussions of politics prompts greater cognitive elaboration which is a strong correlate of strength. Second, while Levitan and Wronski (2014) show that disagreeable groups prompt information gathering, they cannot rule out that this occurs due to the operation of a disconfirmation bias that would prompt the type of backlash effect noted earlier and thus stronger attitudes. Third, Price, Cappella, and Nir (2002) show that engagement in structured deliberations led to increases in respondents' awareness not just of rationales for opposing viewpoints but *also* for the respondent's own attitude, which could theoretically be used to both counter-argue opposing viewpoints and reaffirm one's own (see also: Wojcieszak 2012b). These three studies support the possibility that heterogeneous discussion prompts individuals to elaborate on the issue and, importantly, the reasons why they believe what they believe. Cognitive elaboration and attitude rehearsal, as has been noted, is positively related to attitude extremity (Bizer and Krosnick 2001; Visser, Bizer, and Krosnick 2006). Meanwhile, in generating reasons for supporting a particular position on an issue, an individual is likely to better see the potential

[7] Note that while individuals with strong prior attitudes may be best able to engage in this type of counter-arguing, even individuals with weak priors may engage in this type of elaborated thought rehearsal and hence experience more extreme, and perhaps important, attitudes as a result. Indeed, those with weak priors would seem to have more room for positive movement in terms of strength than those who already possess strong attitudes due to a ceiling effect among the latter.

connection between the causes of attitude importance (e.g. perceived self-interest or value relevance) and their attitudes, potentially leading to enhanced importance as well (Boninger et al. 1995).

More direct evidence supportive of this subject comes from a series of studies by Wojcieszak (Wojcieszak 2010, 2012b; Wojcieszak and Price 2010). Wojcieszak and Price (2010), for instance, show that exposure to disagreement in online group discussions concerning same sex marriage did not prompt attitude change in the aggregate but did lead those predisposed to oppose same sex marriage to take even more extreme attitudes on the matter. Likewise, Wojcieszak (2010) shows that participants in a neo-Nazi online group reported more extreme attitudes when they also reported having peers with generally dissimilar political views. Finally, Wojcieszak (2012) finds that extreme participants in a structured deliberation on sexual minority results polarized, i.e. reported more extreme attitudes, after participation and exposure to disagreement. Notably though, participants that deemed their attitude important prior to engagement did not polarize and experienced less anger due to participation, suggesting some potential for differences across importance and extremity. The results of these studies are consistent with the theoretical account offered earlier, and indeed are based on a similar theoretical explanation rooted in biased cognitions, and thus provide important evidence in support of the positive effects expectations.

Ultimately, the important point of the preceding sections is that there are sound theoretical reasons to expect a variety of responses to network disagreement, including responses that vary by dimension of strength (e.g. less extremity but no change in importance, etc.) and that more evidence is required.

Empirical Analysis

To test the impact of disagreeable, as opposed to agreeable, political discussion networks, we expand on the aforementioned test by Visser and Mirabile (2004) in a number of ways. First, we

examine issue attitude strength across eight political opinions whereas most studies focus on a single issue at a time. Variation in issue content helps guard against the possibility that effects differ across various issue categorizations (e.g. hard vs. easy, moral vs. economic). Second, we rely on a nationally representative sample of the U.S. adult population. This is crucial because younger individuals tend to report weaker attitudes and, thus, the use of a convenience (e.g. student) sample, as in Visser and Mirabile (2004), may make the likelihood of finding shifts in attitude strength more likely than they would be in a general population; we discuss and analyze this possibility later.[8] These attributes of our study provide us with some room for making a more generalized statement regarding the relationship between interpersonal disagreement and attitude strength than prior work.

Third, we use two distinct measures of network disagreement that reflect recent methodological debate within the discussion literature. How to properly conceptualize, and thus measure, social disagreement is a knotty problem as Klofstad et al. (2013, 122–124) discuss. Existing work within political science has fallen into two camps on this point. One, associated most closely with Huckfeldt et al. (2004), utilizes a measurement where disagreement occurs when a respondent and their discussant either vote for different candidates or identify with different parties. The other camp, associated with Mutz (2006), includes questions tapping the respondent's *perception* of disagreement (i.e., questions asking respondents to indicate how much they agree/disagree with the political views of their partners). Visser and Mirabile (2004) utilize this latter strategy in their survey-based studies. In our analyses, we will utilize *both* types of disagreement measures, enabling a test of the robustness of any observed

[8] In addition, in their sole study using a national sample, Visser and Mirabile analyze only respondents who reported pro-death penalty attitudes making the actual sample non-representative (e.g., it is likely skewed in a conservative direction), which may matter insofar as conservatives and liberals exhibit different styles of cognitive reasoning (Lyons et al. 2016) that influences the relationship between disagreement and strength; we make no such restrictions. While several related studies rely on subsets of nationally representative samples to study investigator-orchestrated deliberations (c.f. Wojcieszak and Price 2010, 2012), our work follows the approach used by Visser and Mirabile to focus on the impact of respondents' "ecological," or naturally occurring, discussion networks.

differences to issues of measurement. The measures we use are thus 'general' and not issue-specific disagreement measure, which may affect our conclusions insofar as they lead to noisier estimates insofar as disagreements in general accompany agreements on specific issues (or vice versa). We will return to this important point in the conclusion.

Ultimately, the use of a nationally representative sample necessarily has trade-offs, including the obviously observational nature of the data. Yet for the reasons just stated, we believe that we are better positioned to provide generalizable claims regarding the influence of social networks on attitude strength than much prior work.

Data and Methods

We use data from the American National Election Studies' (ANES) 2008-2009 Panel Study to test for the relationship between network composition and attitude strength. The panel was completed online with monthly surveys conducted between January 2008 and September 2009. Participants in the panel were recruited via random digit dialing methods. We analyze data from Waves 9 and 10 of the panel, where attitude strength and network characteristics were measured.[9] Wojcieszak (2012) makes clear that, in studying the impact of discussion networks, one must differentiate various components of attitude strength including importance, extremity, certainty and intensity (as differential effects are possible). We focus on two measures available on the ANES: extremity and importance.

Our measures of attitude extremity and attitude importance were included on Wave 10.[10] Respondents were asked for their opinion on a 1-7 scale on the eight policies measured in the panel

[9] The response rates (AAPOR RR3) for both waves was 26% (see DeBell, Krosnick, and Lupia 2010, Table 11). Analyses of attrition effects suggest that attrition for the panel was "modest" in nature (DeBell, Krosnick, and Lupia 2010, 71). All analyses use post-stratification weights to account for potential biases introduced by differential rates of survey participation and attrition.

[10] Visser and Mirabile also focused on ambivalence and certainty. Unfortunately, the ANES did not contain ambivalence or certainty measures with regards to these specific issues so we cannot test for the relationship between network disagreement and these outcomes. Visser et al. (2006, 56) note that attitude extremity is "necessarily negatively correlated" with

study. Issue extremity is simply the folded issue scale with higher scores indicating more extreme responses to the original issue attitude question. Issue importance was measured in a follow-up question wherein respondents were asked to indicate "how important is this issue to you personally" on a 1-5 scale ranging from "Not at all important" (1) to "Extremely important" (5). Table 1 lists the eight issues as well as summary statistics.

[Insert Table 1 About Here]

Our core independent variable is political disagreement within one's discussion network. [11,12] Respondents were asked a battery of social discussion network items on Wave 9 of the Panel. Respondents were first asked to indicate whether they had talked with anybody about "government and elections" over the past 6 months; 82.9% indicated that they had and were asked the remainder of the networks battery beginning with a name listing exercise where the respondent could name up to 8 discussion partners. Nearly three-fourths of respondents (71.7%) provided three or more names. Respondents were then asked a battery of items concerning the first three named discussants.[13] While this measure is based upon perceived disagreement, there is some evidence that such perceptions are

ambivalence; to the extent that politically disagreeable networks are associated with decreased extremity, then, they should also be associated with increased ambivalence among these individuals. We do note that Visser and Mirabile also consistently found a negative relationship between network disagreement and importance.

[11] The social network battery also includes measures tapping other elements of network diversity that could plausibly be connected to attitude strength and which we include in our models. These measures capture diversity related to gender, religion, and race. Notably, none of these variables was negatively associated with attitude strength; in fact, gender and religious diversity are associated with *higher* levels of subjective importance, although not consistently so across the issues.

[12] While the network data stem from the respondent's own perceptions, prior work shows that individuals tend to be accurate when estimating the partisan leanings of their discussion partners (Huckfeldt, Johnson, and Sprague 2004). Social networks, of course, are not completely exogenous to people's preferences due to social homophily (McPherson, Smith-Lovin, and Cook 2001). However, shared social characteristics, such as gender or race, and shared geography appear to play a greater role in this process than shared political views (Sinclair 2012). Moreover, as Sinclair notes, "there is no evidence that respondents have selected their discussion network based upon disagreement" (99). Ultimately, we use an analytical strategy similar to Sinclair's and "control for the social characteristics that generate homophily" by including controls such as gender, race, and education (16).

[13] Those who indicated they had no discussions with anyone were obviously not asked to identify discussion partners and are therefore excluded from the analysis.

more consequential than actual disagreement within a deliberative group setting (Wojcieszak and Price 2012).

The network battery allows us to create two distinct measures of network disagreement (see: Klofstad, Sokhey, and McClurg 2013). First, respondents were asked to indicate "in general, how different are (Discussant Name)'s opinions about government and elections from your own views" with responses ranging from "Not Different at All" (1) to "Extremely Different" (5). *General Disagreement* is a measure formed by taking the average of responses for all named partners (M = 2.25, SD = 0.79; Range: 1-5). Meanwhile, respondents were also asked to indicate the partisan loyalties of their named discussion partners. *Partisan Disagreement* is a measure created by first taking the absolute difference between the respondent and each discussant and then averaging across those differences (M: 1.50, SD: 1.28; Range: 0-6). The two measures are positively correlated (r = 0.50). Following Klofstad et al. (2013) we will analyze separate models for each disagreement variable.

The results reported in the following section stem from OLS regressions.[14] We include in our models a variety of individual-level control variables, many of which have been shown to be associated with attitude strength.[15] These controls include political interest, ideology, partisanship, and demographics (age, age squared, education, income, race, and gender). These variables are not only related to factors that may lead to stronger attitudes such as increased elaboration (e.g. interest), self-interest (e.g. age for attitudes on medical support for older Americans), and the relationship between an attitude and the respondents' values (e.g. ideology), but they also serve as controls for homophily-related processes (see Fn. 13). We also include network-related controls that may affect the nature and

[14] We provide replications of our results using ordered logistic models in the Supplementary Materials; our conclusions are the same.

[15] For instance: age (Visser and Krosnick 1998); race, gender, and income (Bolsen and Leeper 2013; Boninger, Krosnick, and Berent 1995).

extent of political information available in one's social network; these include network size, additional indicators of tie diversity (gender, religious, and race; see Fn. 12), tie strength, and network sophistication (Lyons and Sokhey 2014; Sinclair 2012; Sokhey and McClurg 2012). Details on the coding of these independent variables can be found in the Supplementary Materials. We will focus just on the effects of network disagreement in our figures below; the Supplementary Materials contain the full model results which are consistent the results shown in the text.

Results

Figures 1 graphs the OLS coefficients (i.e., marginal effect) of network disagreement on issue extremity and importance by issue; see the Supplementary materials for full regression results. Figure 1 tells a rather clear story: there is little evidence that individuals within disagreeable networks report less extreme or important issue attitudes than those in agreeable networks. Across the 32 marginal effects reported in Figure 1, only one of them shows a statistically significant effect at $p < 0.05$, one which is in the negative direction (general disagreement reduces attitude extremity on same sex marriage). That we fail to see effects across an array of issues is important because it suggests that the lack of significant effects is not tied to the particular characteristics of any one issue, although we must be cautious here given that our data is observational in nature and nature of our measures.

[Insert Figures 1 and 2 About Here]

There is one case in Figure 1 where a significant, and negative, coefficient does emerge, which raises the question of why this issue (same sex marriage) deviates from the broader pattern. We believe the results are likely being driven by a confluence of factors that highlight the potentially hard to meet conditions under which disagreeable discussion networks may undermine issue strength characteristics. First, the issue was likely rendered more salient due to an exogenous political shock in the form of a

California State Supreme Court decision striking down the state's ban on same sex marriage in May 2008. Notably, a Google Trends search for the terms "same-sex marriage" and "gay marriage" shows a spike in use of these terms during the week of May 11-May 17th, i.e., the time-period when the decision was handed down. Perhaps more importantly, there also exists in the trends data a gradual increase in use of these terms during the month of October when the wave containing the attitude strength measures was in the field; see Figure 2. In addition, while same sex marriage was/is a polarizing issue across partisan lines, it seems plausible that this issue is an 'easy' issue (e.g. Carmines and Stimson 1989) and one where, in general, attitudes were undergoing a change over time. Thus, the issue may have been both ripe for discussion given its prominence (i.e., the Court decision and movement in many states to allow same-sex marriage), easy to discuss given its symbolic and non-technical nature, and subject to varying perspectives given that it did polarize parties. However, even in this best-case scenario, the substantive effect of network disagreement on issue extremity was quite modest in nature; the adjusted marginal value for individuals at the 75th percentile on this disagreement variable is 2.93 (95% CI: 2.80, 3.06), for instance, while the expected value for respondents at the 25th percentile is 3.11 (95% CI: 2.98, 3.24). This lone significant result thus points both to the conditions under which we may expect network disagreement to matter and also the limits of disagreement's influence.

Robustness Checks

We conducted a variety of analyses to probe the potential limits of these findings; all analyses reported below are presented in the Supplementary Materials.

First, we leveraged the panel structure of the ANES data to enhance the internal validity of our analyses. Importantly, attitude strength was also assessed on the first wave of the panel survey (in January 2008) for part of the sample. We thus re-ran the analyses reported in Figure 1 while also controlling for Wave 1 strength, such that the coefficients for the disagreement measures now capture

whether disagreement is associated with *changes* in strength. Our results are broadly the same. Partisan disagreement does not significantly affect attitude importance on any of the issues. Likewise, partisan disagreement is a null predictor on 7 of the 8 issues for attitude extremity; the exception is whether the government should pay for medical care. With regards to general disagreement, similar results again emerge, i.e., a significant negative effect on extremity on the issue of same sex marriage as well as a now significant negative coefficient for importance on this issue as well. These latter results likely reflect the special confluence of events surrounding same sex discussed earlier. Moreover, the substantive effect of disagreement remains small in these cases. Ultimately, controlling for prior attitude strength does not meaningfully change our conclusions.

Second, we tried interacting network disagreement with the respondent's prior attitude report to examine the plausible argument that disagreement would matter more for those with weaker starting attitudes. We predominately found non-significant interaction terms in these analyses. Moreover, the specific nature of the interaction varied quite widely; while in some cases a positive slope emerged (i.e., a stronger negative influence of disagreement among those with weak priors than those with strong prior attitudes), in other cases the slope was flat (i.e., prior strength did not matter in the least) or even a negative (but again non-significant) difference wherein those with weak attitudes in W1 may have indicated *stronger* ones in W10 due to disagreement. Thus, it does not appear that prior attitude strength meaningfully moderated the role of network disagreement in this dataset.

Third, we also explored the potential role of discussion frequency, albeit indirectly. It may be the case that disagreement has a stronger effect when disagreeable discussions occur frequently. Unfortunately, the ANES Panel Survey does not contain measures of discussion frequency. However, we do have a measure of the perceived closeness between the respondent and his/her named discussants. We use this measure of closeness in models interacting tie strength and disagreement as a

rough proxy for frequency of discussion under the assumption that there exists a positive relationship between the two features of the discussant's relationship. The vast majority of these interaction terms are negative as one would expect, i.e., a greater effect among stronger ties, although the interaction coefficients are null in the vast majority of cases. These results again point to the robustness of our initial findings, although further work using a direct measure of discussion frequency is required to fully test this possibility.

Finally, we also explore the relationship between disagreement, age, and attitude strength. As noted earlier, Visser and Krosnick (1998) find that attitudes tend to be stronger in "middle adulthood than during early or late adulthood" (1389); we find similar results in our analyses, especially for attitude importance, although there is some variation across the issues. It is thus possible that disagreement may have a stronger effect among younger respondents due to their possessing weaker attitudes in general. We thus explored whether age and age squared moderate our results, with age squared included to capture the non-linear relationship between age and attitude strength just discussed. In general these interaction terms are insignificant. However, a plotting of the interaction terms typically reveals a greater degree of influence for disagreement among the young, and in some cases the elderly, than the middle aged. These analyses are consistent with the argument made earlier, i.e., that a college based sample, as used in Visser and Mirabile (2004), may over-estimate the effects of disagreement, although we must be cautious here due to issues of statistical power.

The key point emanating from these analyses is that the findings reported in Figure 1 appear to be robust and, thus, give us confidence in the potential insignificance of network disagreement for attitude extremity and importance and, hence, strength.

Conclusion

Gordon Allport long ago declared "the concept of attitudes…probably the most distinctive and indispensable concept in contemporary American social psychology," with "no other term [appearing] more frequently in the experimental and theoretical literature" (Allport 1935, 798). Subsequent decades have shown that it is *strong* attitudes that ultimately matter for behavior and cognition (Krosnick and Petty 1995; Krosnick 1988; Miller and Peterson 2004; Wojcieszak 2012) this article we have investigated a potentially crucial influence on this important concept, network disagreement, and found little evidence that individuals in disagreeable networks report substantially weaker or stronger attitudes than those in more agreeable discussion networks.

Understanding the causes of attitude strength is crucial because of the key role played by strong attitudes on behavior and cognition (Krosnick and Petty 1995). As discussed earlier, the supposition that disagreeable networks might weaken attitudes has grounding in both theory and in some prior empirical work (Barabas 2004; Huckfeldt et al. 2004; Levitan and Visser 2008, 2009; Luskin et al. 2002; Mutz 2002b; Visser and Mirabile 2004). Alternatively, the possibility of disagreeable networks strengthening attitudes has some basis in the extant literature, as well (e.g., Wojcieszak 2010, 2012). It is thus, worth pausing to consider why we found such lackluster results for network disagreement in the present study. We suggest three possibilities. First, our findings may stem from the nature of our measures concerning network disagreement.[16] In particular, our measures capture overall levels of disagreement, not issue-specific disagreement. While it is plausible that an individual that says they hold extremely different views on government from their discussant(s) will also disagree on more specific issues, this is it not necessarily the case; general disagreement may be accompanied by issue specific agreements. That we find no relationship here then puts a boundary condition on the general

[16] We thank an Anonymous Reviewer for raising this issue.

influence of one's discussion network and suggests future nationally representative studies of networks might consider issue-specific measures.[17]

A second possibility, albeit one that is difficult to assess, is that the context of our study – during a national general election – mitigated or otherwise swamped the influence of networks on attitude strength. It could be that the election context, or the specific context of a survey interview about such an election, primes distinct considerations from those that would otherwise be salient to citizens, thus suggesting no relationship when one exists at other times. For instance, an electoral context may increase the salience of citizens' partisan loyalties, thereby leading to a stronger incentive to counter-argue contrary points of view (and this may blunt the vitiating force of disagreeable discussions). This is even more speculative than our first point but demands some attention to unravel whether the influence of discussion networks is contingent on timing and survey type.

Finally, our finding that there is no significant difference in attitude strength based on the extent of general disagreement in a person's discussion network may be informative in its own right. Our results provide little support for the claim that a *general* climate of disagreement is associated with weaker issue attitudes. While this leaves open the possibility that *issue-specific* disagreements are so associated, it is important to remember that individuals do not appear to perceive much issue specific disagreement with their peers (Goel, Mason, and Watts 2010); thus, even if such disagreements do prompt weaker attitudes, they may be so limited in scope that the substantial impact is nevertheless small. On the other hand, our results are consistent with other interpretations. For instance, the lack of a clear result may highlight the potential for an unknown moderator leading to offsetting effects of

[17] That said, we do note that our results are consistent across issues, our non-findings hold if we aggregate all issues by taking an overall average, and are robust to non-linear estimation of the effects of disagreement (see Appendix OF). Even so, it is possible that issue specific disagreement measures may matter on some issues. The main challenge to including such measures, at least on nationally representative surveys, would be space.

disagreement, although we explored the most obvious one (age). Alternatively, our results are consistent with those of Levendusky et al. (n.d.) who find that *both* agreeable and disagreeable discussions prompt greater elaboration and attitude importance to an equal degree. In other words, our results are also consistent with the possibility of a true null difference between types of discussion networks. Given the important normative role accorded to political discussion, which we discuss below, investigating these possibilities is an important area for future work. In fact, perhaps the central contribution of our findings is to highlight the just discussed possibilities which warrant further investigation.

Of course, our study has important limitations that must be acknowledged. Our data is observational, which necessarily limits our ability to draw causal inferences. In addition, our results are limited by the nature of our measures as just discussed. Moreover, we do not possess a direct measure of discussion frequency and thus cannot fully test the possibility that this characteristic moderates the influence of discussion. Ultimately, we must leave these important points to future work. On the other hand, we do believe that our study has certain advantages as well. The use of a national representative sample and the focus on multiple issues increases the external validity of our study. This research may also have a reasonable claim to internal validity despite the observational design. First, there is no evidence that attitude strength shapes discussion groups (i.e., a reverse relationship; Sinclair 2012; Sokhey, Baker, and Djupe 2015). In the current data set, respondents who reported more important or extreme attitudes during Wave 1 of the survey generally did not report being in more disagreeable networks later on; the few exceptions to this pattern, meanwhile, tended to point in opposite directions (i.e., to more disagreement on one measure and more agreement on the other). We thus appear to be correctly estimating a model of attitude strength as a function of discussion group composition. Future work will be needed to replicate our findings, elaborate on the potential mechanisms linking social

disagreement to strength, and further increase the robustness of results, but we believe the current study provides a sound launching off point for these analyses.

Understanding why networks may not affect attitude strength, or whether they do so only under certain conditions, is important both empirically and normatively. Disagreeable discussions have been linked to both positive and negative normative outcomes. On the one hand, disagreeable social networks have been linked to desirable outcomes such as increased tolerance (Mutz 2002b; Pattie and Johnston 2008). On the other hand, disagreeable networks seem to reduce political engagement (Mutz 2006) and weaken partisan identities, which connects to engagement and collective responsibility of government (Fiorina 1981; Klofstad, Sokhey, and McClurg 2013; Lavine, Johnston, and Steenbergen 2012). Thus, disagreement may have a normatively mixed influence on politics. However, the normative meaning of interpersonal disagreement depends on the strength of the attitudes that emerge from disagreeable discussions. Even if disagreeable discussions shape cognition in the short term, in other words, without strength-related consequences such network effects, both positive and negative, are unlikely to impact political behavior in the long-term. There are thus few more important topics to further explore than the implications of networks on attitude formation.

References

Abelson, Robert P. 1995. “Attitude Extremity.” In *Attitude Strength: Antecedents and Consequences*, eds. Richard E. Petty and Jon A. Krosnick. Mahwah, NJ: Lawrence Erlbaum Associates, 25–41.

Allport, Gordon. 1935. “Attitudes.” In *Handbook of Social Psychology*, ed. C. Murchison. Worcester, MA: Clark University Press.

Andersen, Vibeke Normann, and Kasper M. Hansen. 2007. “How Deliberation Makes Better Citizens: The Danish Deliberative Poll on the Euro.” *European Journal of Political Research* 46(4): 531–56.

Barabas, J. 2004. “How Deliberation Affects Policy Opinions.” *American Political Science Review* 98(04): 687–701.

Bizer, George Y., and Jon A. Krosnick. 2001. “Exploring the Structure of Strength-Related Attitude Features: The Relation Between Attitude Importance and Attitude Accessibility.” *Journal of Personality and Social Psychology* 81(4): 566–86.

Bizer, George Y., Penny S. Visser, Matthew K. Berent, and Jon A. Krosnick. 2004. “Importance, Knowledge, and Accessibility: Exploring the Dimensionality of Strength-Related Attitude Properties.” In *Studies in Public Opinion: Attitudes, Nonattitudes, Measurement Error, and Change*, Princeton, NJ: Princeton University Press, 215–41.

Bolsen, Toby, James N. Druckman, and Fay Lomax Cook. 2014. “The Influence of Partisan Motivated Reasoning on Public Opinion.” *Political Behavior* 36(2): 235–62.

Bolsen, Toby, and Thomas J. Leeper. 2013. “Self-Interest and Attention to News among Issue Publics.” *Political Communication* 30(3): 329–84.

Boninger, David S, Jon A Krosnick, and Matthew K Berent. 1995. “Origins of Attitude Importance: Self-Interest, Social Identification, and Value Relevance.” *Journal of Personality and Social Psychology* Vol. 68(No. 1): 61–80.

Boninger, David S, Jon A Krosnick, Matthew K Berent, and Leandre R Fabrigar. 1995. “The Causes and Consequences of Attitude Importance.” In *Attitude Strength: Antecedents and Consequences*, eds. Richard E Petty and Jon A Krosnick. Mahwah, NJ: Lawrence Erlbaum Associates.

Carmines, Edward G., and James A. Stimson. 1989. *Issue Evolution: Race and the Transformation of American Politics*. Princeton, NJ: Princeton University Press.

DeBell, Matthew, Jon A. Krosnick, and Arthur Lupia. 2010. *Methodology Report and User’s Guide for the 2008-2009 ANES Panel Study*. Palo Alto, CA and Ann Arbor, MI.

Delli Carpini, Michael X, and Scott Keeter. 1996. *What Americans Know About Politics and Why It Matters*. New Haven: Yale University Press.

Druckman, James N., and Toby Bolsen. 2011. “Framing, Motivated Reasoning, and Opinions About Emergent Technologies.” *Journal of Communication* 61(4): 659–88.

Eagly, Alice H, and Shelly Chaiken. 1993. *The Psychology of Attitudes*. Fort Worth, TX: Harcourt, Brace, Jovanovich.

Eveland, William P. 2004. “The Effect of Political Discussion in Producing Informed Citizens: The Roles of Information, Motivation, and Elaboration.” *Political Communication* 21: 177–93.

Farrar, Cynthia et al. 2009. “Does Discussion Group Composition Affect Policy Preferences? Results from Three Randomized Trials.” *Political Psychology* 30(4): 615–47.

———. 2010. “Disaggregating Deliberation’s Effects: An Experiment with a Deliberative Poll.” *British Journal of Political Science* 40(2): 333–47.

Fiorina, Morris P. 1981. *Retrospective Voting in American National Elections*. New Haven: Yale University Press.

Gastil, John, Laura Black, and Kara Moscovitz. 2008. “Ideology, Attitude Change, and Deliberation in Small Face-to-Face Groups.” *Political Communication* 25(1): 23–46.

Glasman, Laura R., and Dolores Albarracin. 2006. “Forming Attitudes That Predict Future Behavior: A Meta-Analysis of the Attitude-Behavior Relation.” *Psychological Bulletin* 132(5): 778–822.

Goel, Sharad, Winter Mason, and Duncan J Watts. 2010. “Real and Perceived Attitude Agreement in Social Networks.” *Journal of Personality and Social Psychology* 99(4): 611–21.

Haugtvedt, Curtis P., and Duane T. Wegener. 1994. “Message Order Effects in Persuasion: An Attitude Strength Perspective.” *Journal of Consumer Research* 21(1): 205–18.

Huckfeldt, Robert, Paul E Johnson, and John Sprague. 2004. *Political Disagreement: The Survival of Diverse Opinions within Communication Networks*. Cambridge: Cambridge University Press.

Huckfeldt, Robert, Jeanette Morehouse Mendez, and Tracy Osborn. 2004. “Disagreement, Ambivalence, and Engagement: The Political Consequences of Heterogenous Networks.” *Political Psychology* 25(1): 65–95.

Huckfeldt, Robert, and John Sprague. 1995. *Citizens, Politics, and Social Communication*. Cambridge: Cambridge University Press.

Judd, Charles M., and Markus Brauer. 1995. “Repetition and Evaluative Extremity.” In *Attitude Strength: Antecedents and Consequences*, eds. Richard E. Petty and Jon Krosnick. Mahwah, NJ: Lawrence Erlbaum Associates, 43–71.

Keele, Luke, and Jennifer Wolak. 2008. “Contextual Sources of Ambivalence.” *Political Psychology* 29(5): 653–73. http://dx.doi.org/10.1111/j.1467-9221.2008.00659.x.

Klofstad, Casey A., Anand Edward Sokhey, and Scott D. McClurg. 2013. “Disagreeing about Disagreement: How Conflict in Social Networks Affects Political Behavior.” *American Journal of*

Political Science 57(1): 120–34.

Krosnick, Jon A. 1988. "The Role of Attitude Importance in Social Evaluation: A Study of Policy Preferences, Presidential Candidate Evaluations, and Voting Behavior." *Journal of Personality and Social Psychology* 55(2): 196–210.

Krosnick, Jon A, and Richard E Petty. 1995. "Attitude Strength: An Overview." In *Attitude Strength: Antecedents and Consequences*, eds. Richard E Petty and Jon A Krosnick. Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.

Krosnick, Jon A., and Wendy R. Smith. 1994. "Attitude Strength." In *Encyclopedia of Human Behavior*, ed. Vilanayur S. Ramachandran. San Diego, CA: Academic Press, 279–89.

Kuklinski, James H., Paul J. Quick, Jennifer Jerit, and Robert F. Rich. 2001. "The Political Environment and Citizen Competence." *American Journal of Political Science* 45(2): 410–24.

Lavine, Howard, Eugene Borgida, and John L Sullivan. 2000. "On the Relationship between Attitude Involvement and Attitude Accessibility: Toward a Cognitive-Motivational Model of Political Information Processing." *Political Psychology* 21(1): 81–106.

Lavine, Howard G., Christopher D. Johnston, and Marco R. Steenbergen. 2012. *The Ambivalent Partisan: How Critical Loyalty Promotes Democracy*. Oxford: Oxford University Press.

Lerner, Jennifer S., and Philip E. Tetlock. 1999. "Accounting for the Effects of Accountability." *Psychological Bulletin* 125(2): 255–75.

Levendusky, Matthew S., James N. Druckman, and Audrey McLain. "How Group Discussions Create Strong Attitudes and Strong Partisans." *Research & Politics*.

Levitan, Lindsey Clark, and Penny S. Visser. 2008. "The Impact of the Social Context on Resistance to Persuasion: Effortful versus Effortless Responses to Counter-Attitudinal Information." *Journal of Experimental Social Psychology* 44: 640–49.

———. 2009. "Social Network Composition and Attitude Strength: Exploring the Dynamics within Newly Formed Social Networks." *Journal of Experimental Social Psychology* 45(5): 1057–67.

Levitan, Lindsey, and Julie Wronski. 2014. "Social Context and Information Seeking: Examining the Effects of Network Attitudinal Composition on Engagement with Political Information." *Political Behavior* 36(4): 793–816.

Lodge, Milton, Kathleen M McGraw, and Patrick Stroh. 1989. "An Impression-Driven Model of Candidate Evaluation." *The American Political Science Review* 83(2): 399–419. http://www.jstor.org/stable/1962397.

Lodge, Milton, and Charles S Taber. 2006. "Motivated Skepticism in the Evaluation of Political Beliefs." *American Journal of Political Science* 50(3): 755–69. http://www.jstor.org/stable/3694247.

Lupton, Robert N., Shane P. Singh, and Judd R. Thonrton. 2015. “The Moderating Impact of Social Networks on the Relationships Among Core Values, Partisanship, and Candidate Evaluations.” *Political Psychology* 36(4): 399–41.

Luskin, Robert C., James S. Fishkin, and Roger Jowell. 2002. “Considered Opinions: Deliberative Polling in Britain.” *British Journal of Political Science* 32(3): 455–87.

Lyons, Jeffrey, and Anand Sokhey. 2014. “Emotion, Motivation, and Social Information Seeking about Politics.” *Political Communication* 31: 237–58.

Lyons, Jeffrey, Anand E. Sokhey, Scott D. McClurg, and Drew Seib. 2016. “Personality, Interpersonal Disagreement, and Electoral Information.” *The Journal of Politics*.

MacKuen, Michael, Jennifer Wolak, Luke Keele, and George E. Marcus. 2010. “Civic Engagements: Resolute Partisanship or Reflective Deliberation.” *American Journal of Political Science* 54(2): 440–58.

McPherson, Miller, Lynn Smith-Lovin, and James M Cook. 2001. “Birds of a Feather: Homophily in Social Networks.” *Annual Review of Political Science* 27: 415–44.

Miller, Joanne M., and David A. M. Peterson. 2004. “Theoretical and Empirical Implications of Attitude Strength.” *The Journal of Politics* 66(3): 847–67.

Mutz, Diana C. 2002a. “The Consequences of Cross-Cutting Networks for Political Participation.” *American Journal of Political Science* 46(4): 838–55. http://www.jstor.org/stable/3088437.

———. 2006. *Hearing the Other Side: Deliberative versus Participatory Democracy*. Cambridge: Cambridge University Press.

Mutz, Diana C. 2002b. “Cross-Cutting Social Networks: Testing Democratic Theory in Practice.” *American Political Science Review* 96(1): 111–26.

Nir, Lilach. 2005. “Ambivalent Social Networks and Their Consequences for Participation.” *International Journal of Public Opinion Research* 17(4): 422–42.

O’Keefe, Daniel J. 2016. *Persuasion: Theory and Research*. 3rd ed. Thousand Oaks, CA: Sage.

Pattie, Charles, and Richard Johnston. 2008. “It’s Good to Talk: Talk, Disagreement, and Tolerance.” *British Journal of Political Science* 38: 677–98.

Price, Vincent, Joseph N. Cappella, and Lilach Nir. 2002. “Does Disagreement Contribute to More Deliberative Opinion?” *Political Communication* 19: 95–112.

Redlawsk, David. 2002. “Hot Cognition or Cool Consideration?” *Journal of Politics* 64(4): 1021–44.

Redlawsk, David P., Andrew J.W. Civettini, and Karen M. Emmerson. 2010. “The Affective Tipping Point: Do Motivated Reasoners Ever ‘Get It’?” *Political Psychology* 31(4): 563–93.

Sinclair, Betsy. 2012. *The Social Citizen: Peer Networks in Political Behavior*. Chicago: University of

Chicago Press.

Sokhey, Anand E., Andy Baker, and Paul Djupe. 2015. “The Dynamics of Socially Supplied Information: Examining Discussion Network Stability Over Time.” *International Journal of Public Opinion Research* 27(4): 565–87.

Sokhey, Anand Edward, and Scott D. McClurg. 2012. “Social Networks and Correct Voting.” *The Journal of Politics* 74(3): 751–64.

Tesser, Abraham, Leonard Martin, and Marilyn Mendolia. 1995. “The Impact of Thought on Attitude Extremity and Attitude-Behavior Consistency.” In *Attitude Strength: Antecedents and Consequences*, eds. Richard E. Petty and Jon A. Krosnick. Mahwah, NJ: Lawrence Erlbaum Associates, 73–92.

Visser, Penny S., George Y. Bizer, and Jon A. Krosnick. 2006. “Exploring the Latent Structure of Strength-Related Attitude Attributes.” In *Advances in Experimental Social Psychology*, ed. Mark P. Zanna. San Diego, CA: Academic Press, 1–67.

Visser, Penny S., and Jon A. Krosnick. 1998. “Development of Attitude Strength over the Life Cycle: Surge and Decline.” *Journal of Personality and Social Psychology* 75(6): 1389–1410.

Visser, Penny S., and Robert R. Mirabile. 2004. “Attitudes in the Social Context: The Impact of Social Network Composition on Individual-Level Attitude Strength.” *Journal of Personality and Social Psychology* 87(6): 779–95.

Ward, Michael D., Katherine Stovel, and Audrey Sacks. 2011. “Network Analysis and Political Science.” *Annual Review of Political Science* 14: 245–64.

Wojcieszak, Magdalena E. 2010. “‘Don’t Talk to Me’: Effects of Ideologically Homogenous Online Groups and Politically Dissimilar Offline Ties on Extremism.” *New Media & Society* 12(4): 637–55.

———. 2012a. “On Strong Attitudes and Group Deliberation: Relationships, Structure, Changes, and Effects.” *Political Psychology* 33(2): 225–42.

———. 2012b. “On Strong Attitudes and Group Deliberation: Relationships, Structure, Changes, and Effects.” *Political Psychology* 33: 225–42.

Wojcieszak, Magdalena, and Vincent Price. 2010. “Bridging the Divide or Intensifying the Conflict? How Disagreement Affects Strong Predilections about Sexual Minonrities.” *Political Psychology* 31(3): 315–39.

———. 2012. “Fact Versus Perceptions: Who Reports Disagreement During Deliberation and Are These Reports Accurate?” *Political Communication* 29(3): 299–318.

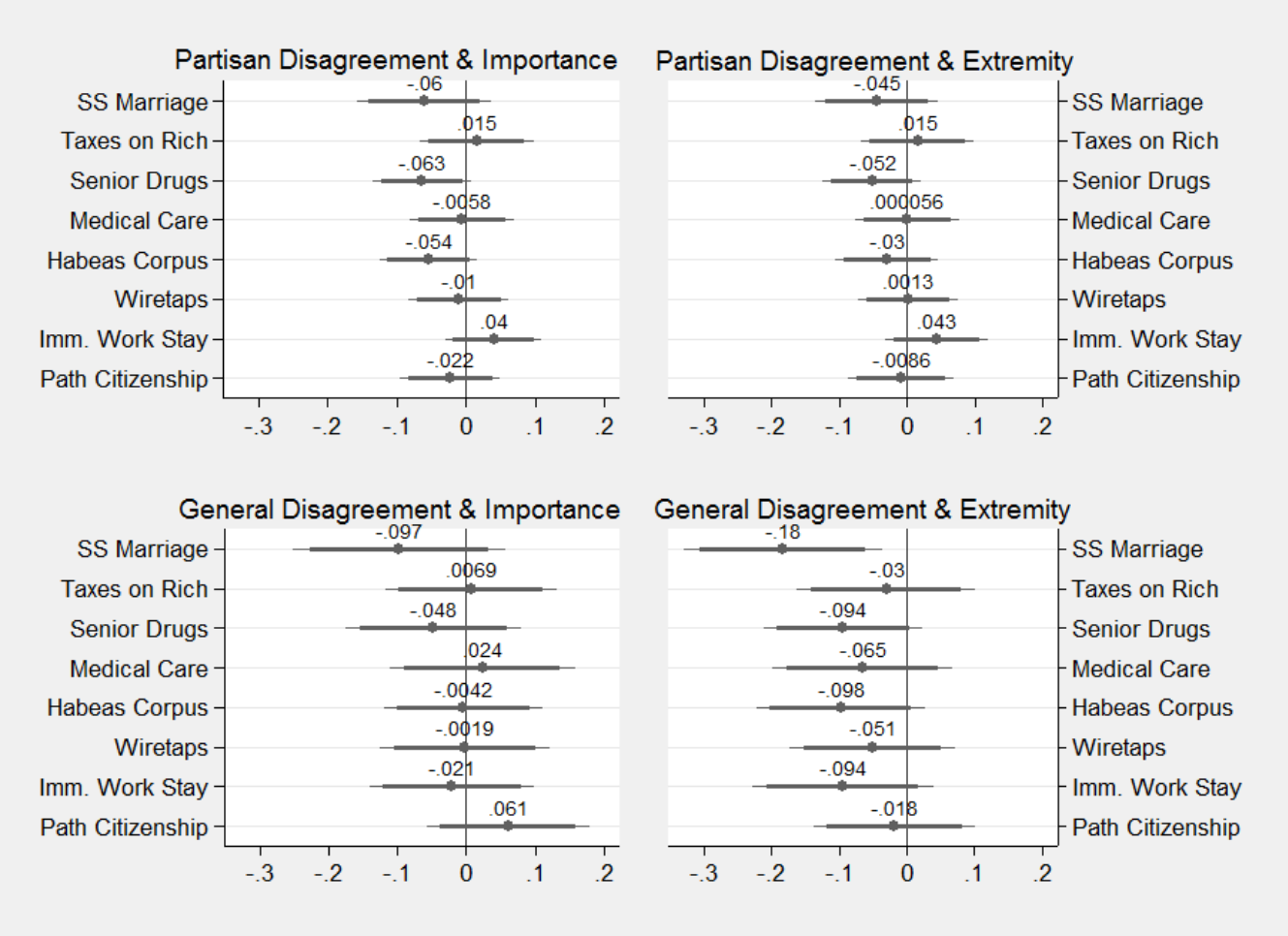
Zaller, John. 1992. *The Nature and Origins of Mass Opinion*. Cambridge [England] ; New York: Cambridge University Press.

Table 1: Summary Statistics for Individual Attitude Measures

Attitude Topic:	Preference (1-7 Scale; Higher = More Liberal):	Extremity (1-4 Scale; Higher = More Extreme):	Importance (1-5 Scale; Higher = More Important)
There Should be a Constitutional Amendment Banning Same-Sex Marriage	4.32 (2.34)	3.00 (1.26)	2.88 (1.44)
Raise Taxes on Those Making > 200,000/yr	4.88 (2.13)	2.99 (1.16)	3.26 (1.21)
Gov't Should Pay for Prescription Drugs for Low Income Seniors	5.49 (1.83)	3.08 (1.11)	3.43 (1.17)
Federal Gov't Should Pay for Necessary Medical Care for All Americans	3.96 (2.35)	3.04 (1.17)	3.71 (1.08)
Suspected Terrorists Should Have Habeas Corpus Rights	5.03 (2.09)	3.03 (1.14)	3.44 (1.14)
The Gov't Should Obtain a Court Order to Wiretap Suspected Terrorists	4.78 (2.25)	3.12 (1.08)	3.50 (1.17)
Illegal Immigrants Can Have a 3-Year Work Stay Before Leaving	3.16 (2.15)	2.98 (1.19)	3.46 (1.22)
Path to Citizenship for Illegal Immigrants	3.99 (2.23)	2.93 (1.12)	3.35 (1.20)

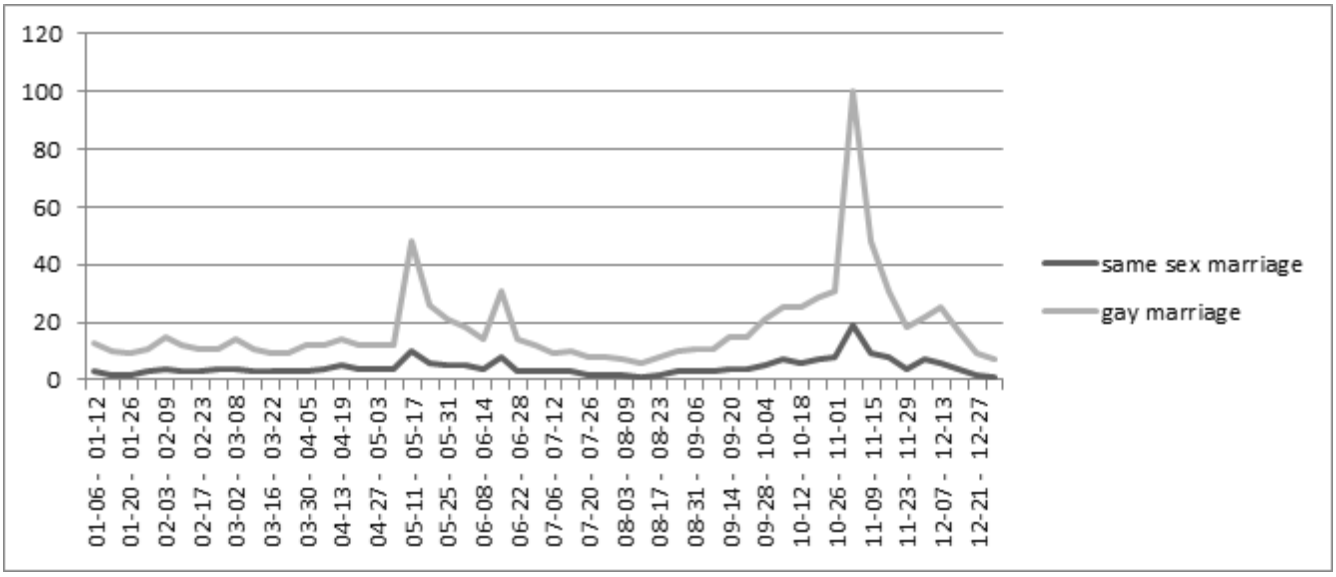
Notes: Cell entries are sample means with standard deviations in parentheses.

Figure 1: Political Disagreement and Attitude Strength on an Issue by Issue Basis



Notes: Markers provide the unstandardized OLS coefficient for disagreement on attitude strength on an issue by issue basis, with bars representing 95% and 90% confidence intervals. The upper panel uses Partisan Disagreement while the lower panel uses General Disagreement. Separate plots are provided for importance (left) and extremity (right). All models include control variables; full results can be found in the supplementary materials.

Figure 2: Interest in Gay/Same-Sex Marriage, 2008, Via Google Search Trends



Data Source: Google Trends (www.google.com/trends); Note: Results are presented by week. The big spike later in the year comes from a period after the completion of the ANES wave where attitude strength was measured