JOURNAL OF COMMUNICATION

Journal of Communication ISSN 0021-9916

ORIGINAL ARTICLE

Encountering ''Difference'' in the Contemporary Public Sphere: The Contribution of the Internet to the Heterogeneity of Political Discussion Networks

Jennifer Brundidge

Department of Radio-Television-Film, University of Texas, Austin, TX 78703, USA

This study explores the intersection of media use, political discussion, and exposure to political difference through a focus on how Internet use might affect the overall heterogeneity of people's political discussion networks. Advanced and tested herein is the inadvertency thesis, *which theorizes that limitations of selective exposure processes combined with weakened social boundaries found in the online environment suggest that people may be exposed to at least some additional political difference online, if only inadvertently. Hierarchical regression and mediation analyses confirm that online political discussion (directly) and online news (directly and indirectly) bear small yet significant relationships to the overall heterogeneity of political discussion networks, and that partisanship moderates the relationship between online political discussion and political discussion network heterogeneity.*

doi:10.1111/j.1460-2466.2010.01509.x

In the last decade or so, the Internet has revolutionized the structure of the public sphere by creating a virtually unlimited number of news sites and forums for political discussion, and by blurring and making more porous the boundaries between ''news'' and ''discussion,'' far-flung geographic locations, and private and public spaces—all manifesting the very ''fluid and sprawling quality,'' so characteristic of the ''contemporary public sphere'' (Dahlgren, 2005). One of the major academic themes to emerge from this environment has revolved around questions about the extent to which the Internet might contribute to or detract from the normative goals of plurality and diversity embodied in the concept of ''deliberative democracy'' (e.g., Habermas, 1989).

Predictions have varied widely, but have generally stemmed from two broad theoretical arguments. The first argument is that Internet use is detrimental to deliberative democracy because it facilitates increased selective exposure. According

Corresponding author: Jennifer Brundidge; e-mail: jbrundidge@mail.utexas.edu

to this line of thought, people will use the increased control provided by new media to increasingly selectively expose themselves to likeminded others and ideologically consonant information and to avoid exposure to political difference (e.g., Galston, 2002; Sunstein, 2001). The most prominent advocate of this position is Sunstein (2001), who writes that the Internet will foster "enclave" communication among politically homogeneous citizens, yielding polarization of opinions, widening political divides between extreme sides on public issues. The second argument is that Internet use contributes to deliberative democracy by increasing people's exposure to political difference through the weakening of social boundaries and the bridging of geographical divides. This is a particularly hopeful possibility; especially given recent trends in residential balkanization and related concerns that Americans are increasingly being physically separated from people unlike themselves (Mutz, 2006).

Which possibility has actually materialized? Perhaps due, in part, to an inadequate integration of theory on the issue, research findings have been somewhat equivocal and relatively limited in scope. Although there is a growing body of research that examines the ways in which certain types of Internet use may or may not expose people to political difference, it has tended to separate the "online world" from the "offline world" and focus specifically on the mechanisms involved with online selectivity (e.g., Garett, 2009; Iyengar & Hahn, 2009; Knobloch-Westerwick & Meng, 2009; Wojcieszak & Mutz, 2009). This research helps to specify individual mechanisms by which people are exposed to political difference in one online context or another, which is an essential piece of the puzzle. But it does not give any overall assessment of the extent to which these mechanisms contribute collectively to the heterogeneity of people's political discussion networks in the broader context of the contemporary public sphere, which includes not only online discussion and online news media, but also "face-to-face" forums of discussion and traditional news media.

Therefore, one central question motivates the current investigation: Above and beyond traditional mechanisms (which include "face-to-face" discussion, traditional news media use, macrolevel/geographically situated heterogeneity, and individual differences) does online political discussion and news use contribute to political discussion network heterogeneity? Informing the hypotheses that eventually stem from this central question is the theoretical proposition (what I will later more fully define as the "inadvertency thesis") that *exposure to political difference, whether online or offline, is neither solely a function of human selectivity nor structurally weakened social boundaries, but rather the extent to which the structural boundaries of the contemporary public sphere combine with selective exposure processes and individual differences to facilitate opportunities for inadvertent exposure to political difference.*

Exposure to political difference

Why should we care about exposure to political difference? Democratic theory has long considered diversity an essential component to a healthy and pluralistic democracy. In particular, political discussion among heterogeneous groups of citizens

is thought to produce a ''high scale of mental activity,'' ''the mutual uplifting of minds'' (Mill, 1859/1998), and an ''enlarged mentality,'' or more sophisticated opinions (Arendt, 1968). Public opinion resides not in the finite minds of individuals but among heterogeneous networks of citizens engaging in a deliberative process—the ''epistemic dimension'' of democracy (Habermas, 2006).

Recent empirical research lends credence to theory, demonstrating that exposure to political difference has several tangible benefits, including accuracy in people's perception of the distribution of public opinion, which is likely to promote a sense of legitimacy for democratic outcomes (Huckfeldt, Beck, Dalton, & Levine, 1995), the facilitation of certain forms of political learning, including people's ability to generate reasons for their political opinions (Price, Cappella, & Nir, 2002) and their ability to differentiate among ideologically distinct attitudes (Gastil, Black, & Moscovitz, 2008), and a stimulus effect on political participation when discussion among heterogeneous networks is combined with news media use (McKuen, 1990; McLeod, Scheufele, & Moy, 1999; Scheufele, Nisbit, Brossard, & Nisbit, 2004). Indeed, most studies on exposure to political difference indicate largely procivic consequences (for exception see Mutz, 2002, 2006).

Exposure to political difference in the contemporary public sphere

Part of the confusion over whether or not the Internet increases or decreases people's exposure to political difference seems to stem from an underlying assumption that the logic of the ''online world'' somehow dramatically defies what we know about human psychology, social structures, and how they might interact.

Human psychology is by most accounts a relative constant, unlikely to vary with the passage of time and the vagaries of technological development (see Neuman, 1991). The structures of the public sphere, however, do change, as we can clearly observe online, but the general properties of social structure itself should remain much the same. Thus, in evaluating the major theoretical arguments extended about the Internet and exposure to political difference, it is important to examine the validity of their theoretical underpinnings, at both the psychological and structural level. In the next few paragraphs I examine each of these two arguments or what I will refer to as the *selective exposure thesis* and the *weakened boundaries thesis*. I then offer an alternative model of exposure to political difference, the *inadvertency thesis*, which integrates and expands upon the former arguments, while also attempting to address their theoretical weaknesses.

The selective exposure thesis

The first and most widely proffered theoretical argument is the ''selective exposure thesis.'' This argument rests on the general claim that as people gain increasing control over communication, they will exercise an increasing tendency for selectivity in discussion partners and exposure to information. It invokes the long-standing theory of selective exposure, which posits that people have a need for cognitive consistency and will therefore seek out likeminded perspectives while avoiding

nonlikeminded perspectives (e.g., Festinger, 1957; Frey, 1986), and simply maps it onto the Internet, hypothesizing an amplification in selectivity due to the increased control derived from the purposive way that the Internet is used. One possible result of increased selectivity is an overall decrease in people's exposure to political difference, contributing to increased political fragmentation (e.g., Galston, 2002; Sunstein, 2001). Yet there are problems with both the psychological and structural-level claims of the selective exposure thesis.

At the psychological level, there have been amendments to the original theory of selective exposure seemingly unaccounted for by those proposing a massive decrease in people's overall exposure to political difference (e.g., Galston, 2002; Sunstein, 2001). First, people's *aversion* to political difference may not be as strong as originally imagined, especially when considered among a whole host of social goals (Huckfeldt, 2007)—despite some evidence that people seek supportive messages, research has generally been unable to demonstrate that people avoid contradictory messages (Festinger, 1957; Frey, 1986; Rhine, 1967; Sears & Freedman, 1967). A second amendment evolves from the research finding that partisan individuals are the most likely to selectively attend to information (e.g., Graber, 1984; Stroud, 2008). Mutz (2006), for example, found a curvilinear relationship between partisanship and exposure to disagreement such that those identifying themselves as "strong Democrats" or "strong Republicans" are less likely to be exposed to political disagreement when discussing politics, whereas moderates are more likely to be exposed (although "strong Democrats" are significantly more likely to than "strong Republicans") (Mutz, 2006). One possible explanation for this is that partisans find their political beliefs more "chronically" accessible than nonpartisans (Price & Tewkbury, 1997). These beliefs are thus more likely to govern patterns of selection. Partisans may also have a greater need to regulate their emotions through the reinforcement of political beliefs (Valentino, Hutchings, Banks, & Davis, 2008). In short, "disagreement is less likely to be tolerable for the committed true believer" (Huckfeldt, Johnson, & Sprague, 2004, p. 23).

In terms of the structural-level claim that the Internet itself promotes increased selectivity, we find only partial support. There is a good deal of evidence supporting the idea that the structural features of the Internet promote the seeking of similarity (e.g., Bimber & Davis, 2003; Iyengar & Hahn, 2009; Mutz & Martin, 2001). Yet there is little evidence that people are using the Internet to *actively avoid* political difference. In fact, the research of Garrett (2009) found that although the structural features of the Internet facilitate people's seeking of viewpoints that reinforce existing positions, they do not comparably promote avoidance of challenging viewpoints. He argues that the Internet is imperfect in its ability to "weed out" certain partisan perspectives. Typing in the phrase "prochoice" as a search term, for example, yields results both for and against this position (Garrett, 2005).

Overall then, it appears that the psychological and structural mechanisms involved with selectivity are somewhat weaker than what the original theory of selective exposure suggested and what Sunstein (2001) and others seem to assume. At the

psychological level, although people may seek out likeminded others, they do not necessarily mind or avoid encountering nonlikeminded others. Selective exposure may not then be nearly as psychologically pervasive or as powerful as once suggested (e.g., Kinder, 2003; Zaller, 1992). Zaller (1992), for example, concludes: "Most people . . . are simply not so rigid in their information-seeking behavior that they will expose themselves only to ideas that they find congenial. To the extent selective exposure occurs at all, it appears to do so under special conditions that do not typically arise in situations of mass persuasion" (p. 139). Additionally, at the structural level, the Internet may not facilitate quite as much control as once thought. Even if people are selective, they may not always be successful, leaving open the possibility of inadvertent exposure to political difference.

The weakened social boundaries thesis

The second general argument is that weakening social boundaries at the structural level of the public sphere may actually increase people's exposure to political difference. Unlike the selective exposure thesis, the weakening social boundaries thesis is really more of a collection of arguments than any one coherent theory. The general principle that binds these arguments together is that new media may reduce or overcome the costs and environmental/structural constraints traditionally associated with heterogeneous political discussion. There are at least four central ways this may occur:

First, the geographic boundaries that determine the heterogeneity of a particular population do not bind the Internet. Whether or not people take advantage of it, there is ample opportunity for people to expose themselves to diversity online. The Internet makes possible the formation of heterogeneous networks extending across the globe and the examination of a virtually unlimited set of diverse information sources, including many that might not be locally available—"the onward rush of electronic communications technology will presumably increase the diversity of available ideas and the speed and ease with which they fly about and compete with each other" (Page, 1996, p. 124). Cyberspace, it seems, "is a place where difference is not hard to find" (Dahlberg, 2001). The same cannot always be said for physical space.

The notion that the macrolevel heterogeneity of the online population could influence exposure to political difference at the individual level receives some indirect support from research that examines the relationship between individual-level behavior and geographically situated population characteristics. Indeed, classical sociological theory stresses the importance of social structures in maintaining and constraining political processes (e.g., Durkheim, 1974). Findings in the late 1970s and early 1980s, for example, illustrate the influence of structural heterogeneity on the constitution of individual social networks and on associational affiliations (Blau, 1977; Blum, 1984; Feld, 1984; Verbrugge, 1977). Even more particular to the concerns of this study, Scheufele, Hardy, Brossard, Waismel-Manor, and Nisbet (2006) recently found that political and racial heterogeneity at the county level help

to predict the heterogeneity of political discussion networks at the individual level. In a similar fashion, perhaps, individuals may be more likely to be exposed to political difference online than they otherwise might, due to the macrolevel heterogeneity of the online population.

A second means by which people may be exposed to political difference online is through blurred and porous boundaries between one communicative space and the next. These boundary characteristics translate into online news media and forums of political discussion that are tightly connected in time and space, allowing citizens to discuss news with others near or at the same time that they receive it. It is furthermore not always clear when one is reading the news online and when one is discussing politics. This is because the delineation between discussion and news is substantially blurred online, where communication can occur on various levels at the same time (Dahlgren, 2005). Brundidge (2010; in press) refers to this environment as one with increased "traversability" or the ability to traverse with relative ease from one communicative space to the next. This occurs as the Internet facilitates the sharing of political perspectives through news comments, hyperlinks, and interactive communication technologies, such as social networking sites, chat rooms, discussion boards, and e-mail. Traversing seamlessly from one form of discourse to the next potentially provides an increased number of opportunities for people to encounter a number of diverse political perspectives.

A third mechanism involves blurred boundaries around what actually constitutes a "political" online space. People may go to an online breast cancer support group for example, and may inadvertently be exposed to a heterogeneous political discussion on the U.S. healthcare system.

The likelihood of this sort of inadvertent exposure to political difference in an otherwise apolitical space receives empirical support in both "face-to-face" and online contexts. In the face-to-face case, research suggests that the workplace is particularly likely to foster discussion among diverse sets of individuals because it is a relatively apolitical place, not likely to be selected based on the political preferences of those who work there (Mutz, 2006; Mutz & Martin, 2001; Scheufele et al., 2004, 2006). Conservative Republicans, for example, may prefer to discuss politics with other conservative Republicans, but may find only liberal Democrats at their place of work (Huckfeldt et al., 2004). In the online case, Wojcieszak and Mutz (2009) recently found that exposure to political difference is most likely to take place in apolitical, as opposed to explicitly political, chat rooms, suggesting that it happens somewhat unexpectedly, while people are meeting to discuss topics other than politics. Cornfield (2005) furthermore found that 36% of Internet users report encountering campaign news and information on the Internet not as a result of a directed search, but by accident while online for an altogether different purpose.

A final mechanism involves porous boundaries between the private and public spheres, which may facilitate the formation of "weak ties." Weak ties, according to Granovetter (1973), are likely to provide access to novel information that people might not otherwise hear from their more tightly knit, inner social circle. Recently,

for example, Boase, Horrigan, Wellmann, and Rainie (2006, p. 55) found that Internet use may be transforming the shape of communities from small tightly knit associations to far-reaching social networks, inhabiting "socially and spatially dispersed networks through which they maneuver to be sociable, to seek information, and give and get help."

Through all these means, the boundaries between people and exposure to political difference may be weakened, potentially facilitating increased political discussion network heterogeneity. There is some empirical support for this outcome. Research has, for example, clearly demonstrated that politically heterogeneous communities can and do exist online (e.g., Barber, Mattson, & Peterson, 1997; London, 1993; Stromer-Galley, 2002). National-level survey research furthermore reveals that Internet users are more likely than nonusers to be exposed to a variety of political arguments, including those that run counter to their own political views, and that just over half of Internet users prefer neutral news sites (34%) or sites that challenge their point of view (20%), whereas only 28% prefer sites that share their point of view (Horrigan, Garrett, & Resnick, 2004). In 2002, about a quarter of the U.S. adult population visited web sites that provided information about specific issues or policies that interest them, whereas 8% said they visited sites that share their point view and 13% said they visited sites that have different views (Howard, 2005).

Overall, however, the empirical support for increased exposure to political difference as a result of Internet use is somewhat limited and indirect. The weakened social boundaries thesis is furthermore theoretically insufficient, especially at the psychological level. On the face of it, one might conclude that people would dramatically expand the heterogeneity of their political discussion networks online. This seems unlikely to be the case. Selective exposure processes, as we have seen, persist to some extent.

A third possibility: the inadvertency thesis

Thus far, we have examined two possibilities for the impact of the Internet on exposure to political difference. The first was the selective exposure thesis. Here, we see that certain types of Internet use do indeed facilitate the seeking out of likeminded perspectives. But when examining the theory of selective exposure itself along with its subsequent amendments, we find that people may be exposed to political difference in social contexts that facilitate inadvertent exposure to political difference. By the same token, we are unlikely to see an extreme pull toward increased heterogeneity, as the weakened social boundaries thesis, might suggest. Rather, the two theses, each with legitimate claims, must be considered in tandem. The question thus becomes: "What might facilitate *inadvertent* exposure to political difference in online contexts?" The answer: Weakened social boundaries.

Therefore, with this third possibility, "the inadvertency thesis," I propose that: Due to selective exposure processes, people are unlikely to actively take advantage of weakened social boundaries to *purposively* seek out political difference, but are nevertheless likely to be exposed to at least some political difference through the

phenomenon of *inadvertency*. Inadvertency is facilitated online through (a) less than perfect online selective exposure strategies, (b) nonavoidance of encounters with political difference, and (c) weakened social boundaries between far flung geographic locations, between one discursive space and the next (blurred and porous boundaries creating increased "interspatiality), between political and apolitical spaces of communication, and between the private and the public spheres.

The macrolevel consequences assumed by Sunstein (2001) and others may therefore be misguided; online political discussion and news use are unlikely to lead to huge decreases in people's exposure to political difference and increased political fragmentation. In fact, there should not be a strong pull in either direction, toward homogeneity or toward heterogeneity. Rather, there should be a *small increase* in people's exposure to political difference to the extent that they are exposed more political difference online than they otherwise would be, if only inadvertently.

There are, however, individual differences, which may make inadvertency more or less likely. People who do not engage in news use or discuss politics at all, or who are not politically efficacious or knowledgeable, for example, seem less likely to encounter political difference to the extent that there is little opportunity to do so. Similarly, partisans may be motivated to construct particularly rigid communication environments that make inadvertent exposure to political difference less likely.

Clearly, inadvertency is not the only way people are exposed to political difference, whether online or offline. A few people may even seek it out—the "hardcore" (Noelle-Neumann, 1986), for example—but for most people, inadvertency may be the most common means.

Hypotheses

Inadvertent exposure to political difference may occur online in a number of different ways. Perhaps the most obvious way is through online political discussion. In essence, exposure to political difference via online political discussion may happen in much the same way exposure to political difference occurs at the workplace. As previously suggested, the workplace has been found to be particularly conducive to exposure to political difference because people do not typically select a workplace based upon the ideological leanings of the people that work there—people may therefore inadvertently develop heterogeneous political discussion networks at work without explicitly "selecting" them (Mutz, 2006). Similar reasoning applies to the Internet because of limits on selective exposure and weakened social boundaries associated with the technology. Anything that adds to the total extent of political discussion in the context of inadvertency is likely to add to a person's net experience of political difference, therefore:

H1: Frequency of online political discussion is positively related to political discussion network heterogeneity.

Another, perhaps less obvious mechanism by which people may become engaged in heterogeneous political discussion is through online news use. This is because,

whether online or offline, news and political discussion tend to go hand in hand, one leading to the other (e.g. Shah et al., 2005). Quite simply put, the more people learn about political issues through the news, the more they have to talk about. The more the people talk, the more opportunity they have to expand the heterogeneity of their discussion networks, if only inadvertently.

Online news use may furthermore provide some novel and particularly direct links to political discussion, due to the traversability (Brundidge, 2010; in press) of the online public sphere. Blurred and porous boundaries between online discursive spaces allow people, for example, to be reading about the news online and in the very next moment be blogging about it, posting a response on a website bulletin board, chatting about it, or e-mailing someone about what they read, weakening the boundaries between news and heterogeneous political discussion.

It also seems likely that online news use would facilitate heterogeneous political discussion offline and particularly at the workplace. This is because of the intimate connection between the Internet and many places of work. A Pew Internet Project report, for example, suggests that 57 million organizational members (62% of all employed workers) in the United States have Internet access (Fallows, 2002). Given the central role of the Internet at many places of work, people may be reading online news and then be speaking to someone in the next cubicle or around the "water cooler" in the very next moment. This seems less likely to be the case with a newspaper, for example. Although "extracurricular activities" such as reading the news online may be to some extent be frowned upon at some places of work, this activity is far less conspicuous than reading the newspaper, which would be quite awkward in almost any work setting. The workplace is, in turn, a likely place for people to be exposed to political difference.

Another, more psychological and purposive explanation (if not an inadvertent one) for why news use might contribute to increased political discussion among heterogeneous networks, is that it prepares individuals for the rigor of such discussion. Previous research, however, has typically treated news media use as an outcome of political discussion network heterogeneity (e.g., Scheufele et al., 2004). One proposed reason for this relationship is that a diversity of perspectives stimulates individual need for information on a broader range of subjects (McLeod, Sotirovic, & Holbert, 1998). This proposition is bolstered by some uses and gratifications literature, which suggests that individuals will pay more attention to news information when it is anticipated that they will discuss it with politically dissimilar others (McLeod & Becker, 1974). It seems likely that the process could work in reverse as well: When people pay more attention to news and information, they feel more comfortable discussing it within politically heterogeneous networks. This should be the case both online and offline.

All in all, by contributing to the frequent discussion of politics online, at work, and potentially elsewhere:

H2: Online news use is positively related to political discussion network heterogeneity.

H2a: The relationship between online news use and political discussion network heterogeneity is mediated by the frequency of online political discussion.

H2b: The relationship between online news use and political discussion network heterogeneity is mediated by the frequency of political discussion at the workplace.

Finally, as previously argued, partisanship seems likely to exert a negative influence on exposure to political difference, even among those who frequently discuss politics or read the news online, because it makes opportunities for inadvertency less likely, therefore:

H3: The relationship between online political discussion and political discussion network heterogeneity is moderated by partisanship.

H4: The relationship between online news use and political discussion network heterogeneity is moderated by partisanship.

Methods

Data

The primary data source used to test these hypotheses is a nationally representative survey data set collected by The Cornell University Survey Research Institute in October and November of 2003, using CATI methods ($N = 781$). I am indebted to Dietram A. Scheufele, who was the principal investigator for the original study. The response rate was 55% based upon AAPOR definitions (Research definition Response Rate 3). For measures of macrolevel structural independent variables, however, additional data sets are employed. To the primary data set, Scheufele et al. (2006) added measures of macrolevel structural heterogeneity from other sources. *Structural political heterogeneity* was assessed based on county-level voting tallies from the 2000 Presidential election obtained from the Center for Congressional and President Studies at American University (www.american.edu/academic.depts/spa/ccps/research.html), using a county-to-zip-code conversion for assigning values to each case. For *structural racial heterogeneity*, data from the 2000 Census conducted by the U.S. Census Bureau (www.census.gov) were added to the Cornell data by matching on zip code in each data set.

Measures

Sociodemographic variables

Sociodemographic variables were included in analyses as controls. The age of respondents was an open-ended continuous item ($M = 50.1$, $SD = 17.2$). *Sex* was coded with female equal to 0 and male equal to 1 (54.8% female and 45.2% male). *Education* was an open-ended continuous item that asked respondents to report their total number of years of schooling ($M = 14.6$, $SD = 3.0$). Race was coded with non-White equal to 0 and White equal to 1 (80.2%). *Income* was evaluated by asking respondents to report their total household income for the previous year (2002)

by selecting from 10 categories ranging from *$10,000 or less* to *101,000* or more ($Mdn = \$50,000–\$60,000$).

Political attitudes/political knowledge

Ideology, partisanship, political self-efficacy, and factual political knowledge were also included in the model. These variables were included as standard predictors of political behavior, but also for their relevance to exposure to political difference in previous research (e.g., Mutz, 2006). *Ideology* ($M = 4.2$, $SD = 1.4$) was measured by computing the mean of two 7-point scale items. One item asked about the respondents' fiscal ideology and the other asked about social ideology, with 1 being *very liberal* and 7 being *very conservative*. The measure for *partisanship* ($M = .61$, $SD = .49$) was assessed through the use of an item that asked about party affiliation (*Republican, Democratic, Independent,* or *other)*. This item was dummy coded to create a measure of partisanship, with Republicans and Democrats coded as 1 and all other categories coded as 0. *Political self-efficacy* was measured by computing the mean of three items (1 = *strongly agree*, up to 10 = *strongly disagree*) that assessed respondent beliefs about their ability to understand and influence government processes ($M = 5.8$, $SD = .93$). *Factual political knowledge* ($M = 2.6$, $SD = 1.2$, $\alpha = .63$) was an additive index of four items tapping correct identification of public figures and knowledge of current events. These were: (a) *Do you happen to know what job or political office is held by Dick Cheney?*, (b) *Whose responsibility is it to determine if a law is constitutional or not? Is it the president, the Congress, or the Supreme Court?*, (c) *How much of a majority is required for the U.S. Senate and House to override a presidential veto?*, and (d) *Do you happen to know which party currently has the most members of the House of Representatives in Washington?*

Macrostructural-level heterogeneity

As previously suggested, macrolevel heterogeneity at the county level predicts network heterogeneity at the individual level. Measures of structural-level heterogeneity were therefore included in analyses (Scheufele et al., 2006). Structural heterogeneity (*presidential candidate preferences and race/ethnicity)* was assessed by estimating the probability that two individuals randomly selected from a county population will be from a different group, either in terms of their presidential candidate preferences or in terms of their race/ethnicity category. The equation used to calculate this was as follows:

$$\text{Structural heterogeneity} = 1 - \sum_{i=1}^{N} s_{ij}^2, \quad (1)$$

where s_{ij} is the share of group $i(i - 1, \ldots, \text{N})$ in county j (Scheufele et al., 2006). In short, the proportions of each different category in a county were squared, added together, and subtracted from one. This measure of structural heterogeneity, originally employed by Scheufele and his colleagues, was based on previous research examining comparative ethnolinguistic fractionalization (e.g., Alesina,

Develeeschauwer, Easterly, Kurlat, & Wacziag, 2003; Easterly & Levine, 1997; Mauro, 1995). This equation also resembles the Mueller and Schuessler's index of qualitative variation (see Agresti & Agresti, 1977; Mueller, Schuessler, & Costner, 1977). Using this equation, political and racial structural heterogeneity was calculated for each county. Political structural heterogeneity was calculated by looking at the proportion of total county votes that each presidential candidate (i.e., George W. Bush, Al Gore, Ralph Nader, and other candidates) received in the 2000 election ($M = .51$, $SD = .45$) and racial/ethnic structural heterogeneity was calculated through the use of census data on race and ethnicity within the county population ($M = .33$, $SD = .19$).

News media use (offline and online)

Newspaper news use ($M = 6.2$, $SD = 2.5$) and *television news use* ($M = 6.0$, $SD = 2.7$) were each created by computing the mean of two items (from 0 = *never* to 1 = *very rarely*, up to 10 = *all the time*) that asked about attention to newspaper coverage of *national* and *international* public affairs (newspaper news use) and attention to television coverage of *national* and *international* public affairs (television news use). *Online news use* was similarly created by computing the mean of two items (from 0 = *never* to 1 = *very rarely*, up to 10 = *all the time*) that asked about the frequency with which respondents searched online for information on *international* and *national issues* ($M = 2.1$, $SD = 2.9$).

Political discussion

Offline political discussion was assessed through the use of four separate items (from 0 = *never* to 1 = *very rarely*, up to 10 = *all the time*) measuring the frequency of political discussion at *work* ($M = 3.6$, $SD = 2.9$), *church* ($M = 2.5$, $SD = 2.4$), and *nonchurch community/volunteer group* ($M = 3.0$, $SD = 2.5$), and with *family* ($M = 5.8$, $SD = 3.0$). *Online political discussion* was assessed by computing the mean for two separate items (from 0 = *never* to 1 = *very rarely*, up to 10 = *all the time*) that asked about the frequency of political discussion via *chat/instant messaging* and *e-mail* ($M = .85$, $SD = 1.4$).

Political discussion network heterogeneity

Network heterogeneity ($M = 18.3$, $SD = 9.7$) was computed based on the approach by Scheufele et al. (2004, 2006). On a 10-point scale, these items assess how frequently respondents discuss politics with (a) men, (b) women, (c) people with extreme right views, (d) people with extreme left views, (e) people who are Democrats, (f) people who are Republicans, and (g) people of a different race or ethnicity.

For the items measuring the frequency of discussion with either males or females, male respondents were recoded as scoring "0" for the frequency of discussion with men, and female respondents were recoded as scoring "0" for discussion with women, with the assumption that the discussion of politics with members of the same sex does not create an increase in gender heterogeneity. Ideology and political party preference were similarly recoded, with discussion with partners of the same

ideological preferences recoded as 0. Ideological heterogeneity was assessed using respondents' self-placement on two 7-point ideological scales (economic and social) ranging from very liberal to very conservative. Political heterogeneity was further evaluated through the use of an item assessing political party identification that asked respondents if they were registered Democrats, Republicans, or Independent/Other Party. Democrats who discussed politics with other Democrats were coded "0" for that discussion item, as were Republicans who discussed political issues or candidates with other Republicans. Finally, the measure of frequency of discussion with an individual of a different race or ethnicity remained unaltered because it measured heterogeneity directly. The ideological, political (party), race, and gender heterogeneity items were then totaled into a combined index of overall heterogeneity of political discussion, based on the respondents' standardized differences between their own characteristics and those of their discussion partners (Scheufele et al., 2004, 2006). Collectively, these items create a total discussion heterogeneity scale, with higher scores on this scale indicating greater heterogeneity in political discussion partners in terms of gender, ideology, political party identification, and race/ethnicity.

As with many measures used in survey research, this measure of network heterogeneity is not direct, but a proxy measure, and does not constitute "network analysis." This measure, however, has been employed successfully in previous research (e.g., Scheufele et al., 2004; 2006).

Results

The most central motivation for this study was to explore the extent to which Internet use contributes to the overall heterogeneity of people's experience of political discussion, and thereby provide a starting point for testing the theoretical claims embedded in conceptualizations of online "selective exposure," "weakened social boundaries," and "inadvertency." Toward this end, hierarchical regression and mediation analyses were used.

The hierarchical regression analysis examined the extent to which online discussion and online news use contribute to a model of network heterogeneity and the extent to which partisanship moderates this contribution (Table 1). All control variables were included in the first block, followed by the main effect variables (online news use, online discussion, and partisanship) in the second block, followed by the interaction terms in the third block (two separate regression analyses were used for each interaction term). The main effect variables were standardized by centering them before the interaction terms were created in order to avoid multicollinearity problems between the interaction term and its components.

The results support the first hypothesis, yielding a small yet significant relationship between online political discussion and network heterogeneity ($\beta = .08$, $p < .05$).

The second hypothesis was also supported, with online news use ($\beta = .09$, $p < .01$) as the only significant news use variable in the model.

Finally, it was hypothesized that partisanship would moderate the relationships between online discussion and network heterogeneity and online news and network

Table 1 Hierarchical Regression Explaining Network Heterogeneity

Variable	Beta Coefficient
Block 1	
Sex	−.02
Age	−.06*
Education	.02
Race	.02
Income	.001
Political knowledge	.07*
Political self-efficacy	.02
Ideology (conservative)	−.02
Structural racial heterogeneity	.05
Structural political heterogeneity	.07*
Work	.33***
Family	.29***
Church	.06
Volunteer association	.22***
Newspaper news	−.01
Television news	.05
General Internet use	−.09*
Block 2	
Online news	.09**
Online discussion	.08*
Partisanship	−.20***
Block 3	
Interaction	
Online discussion × partisanship	−.07*
Block 1: Adj. R^2	.50
Block 2: Adj. R^2	.54
Total Adj. R^2	.55
F	41.08***

Note: Regression entries are standardized beta coefficients. $N = 781$.
$^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$.

heterogeneity. Only one of these hypotheses was supported, with online discussion moderated by partisanship ($\beta = -.07$, $p < .05$). That is, the relationship between online political discussion and network heterogeneity was stronger for nonpartisans than for partisans. For purposes of illustration (Figure 2), the means of the four subgroups were graphed: (a) partisans/low online political discussion, (b) partisans/high online political discussion, (c) nonpartisans/low online political discussion, and (d) high Internet use/high political discussion (Figure 1).

Also significant in the model were age ($\beta = -.06$, $p < .05$), partisanship ($\beta = -.20$, $p < .001$), political knowledge ($\beta = .07$, $p < .05$), structural political heterogeneity ($\beta = .07$, $p < .05$), political discussion at work as the strongest

predictor in the model ($\beta = .33$, $p < .001$), political discussion with family ($\beta = .29$, $p < .001$), and political discussion at volunteer associations ($\beta = .22$, $p < .001$), and interestingly, general Internet use was actually inversely related to network heterogeneity ($\beta = -.09$, $p < .05$). The overall predictive value of the model was quite high, explaining over half of the variance (Adj. $R^2 = .55$).

In addition to the direct and moderated relationships tested in the regression model, it was hypothesized that the influence of online news use on political discussion network heterogeneity would be mediated by both frequency of online political discussion and political discussion at the workplace. These hypotheses were tested through the use of a multiple mediation model (Preacher & Hayes, 2008). The model used 5,000 bootstrapped bias corrected resamples. There are at least three notable advantages to the bootstrap approach: First, it does not require normal sampling distributions for direct and indirect effects. Second, it allows for the simultaneous testing of multiple mediators, while controlling for correlations between those mediators. Finally, it provides a confidence interval (CI) for the difference in the predictive power of the mediators.

Consistent with the hypotheses, adding the mediators reduces the direct effect of online news use from $\beta = .26$ to $\beta = .13$, which shows that the unique effects of online political discussion and political discussion at the workplace partially mediate the direct effect (Figure 2). The bootstrapped 95% bias corrected CIs show that online discussion (.003, .12) and discussion at the workplace (.10, .23) are both significant mediators.

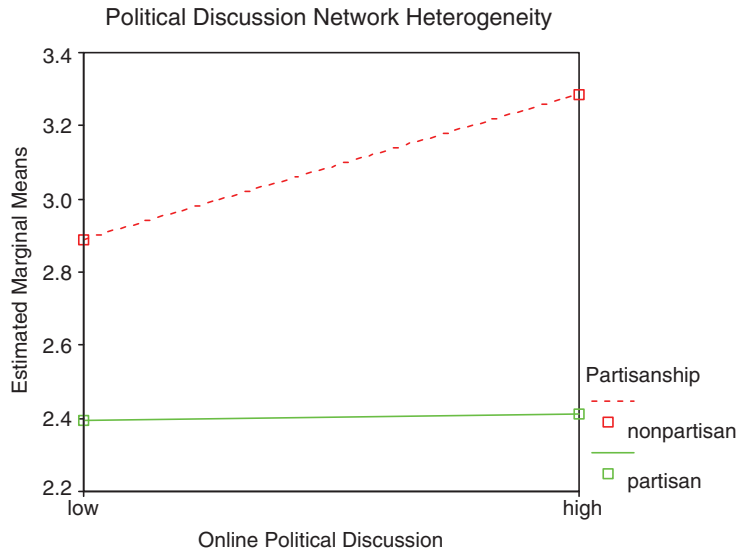

Figure 1 Partisanship, online political discussion, and network heterogeneity.

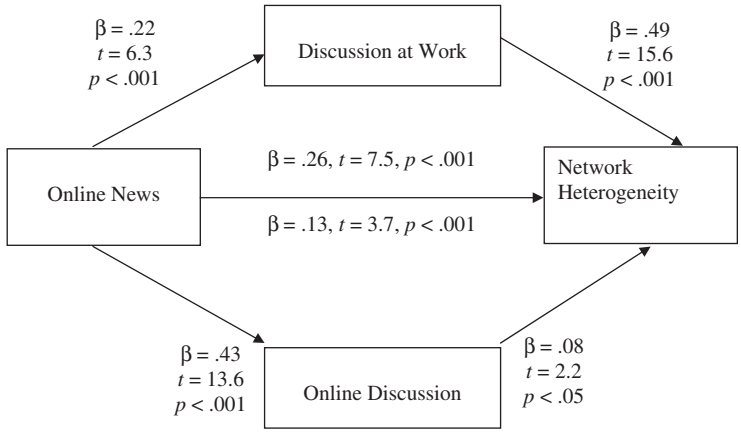

Figure 2 Online news and network heterogeneity partially mediated by political discussion and work and online political discussion.

Discussion

In sum, online political discussion (directly) and online news use (directly and indirectly by contributing to online political discussion and at the workplace) contribute to the heterogeneity of political discussion networks beyond the influence of "face-to-face" discussion and traditional news media use, and most standard predictors of political behavior and exposure to difference (at both the individual and macrostructural level).

The positive relationships between online news use and political discussion and network heterogeneity stand in conflict with Sunstein (2001) and others, who contend that the Internet leads people to sort themselves into politically homogeneous enclaves tucked far away from potential exposure to political difference. If this were the case, there should be an inverse relationship between these sets of variables, rather than the positive relationship that was found. The relationships between online discussion and news use and network heterogeneity were, however, quite small. This suggests that people are not exactly lining up to expose themselves to political difference online, as the weakened social boundaries thesis might suggest. Instead, online political discussants and news users experience only a small increase in the heterogeneity of their political discussion networks through the phenomenon of inadvertency.

There is some support in this study, however, for the concerns expressed by Sunstein (2001). The findings suggest a complex contemporary media environment, where different kinds of people engaging in different kinds of activities may have varying experiences with exposure to political difference. First, the moderating effect of partisanship on online political discussion suggests that partisans may construct communication environments with more rigid social boundaries, making inadvertent exposure to political difference less likely. Partisans may indeed be sorting themselves into "ideological enclaves." Second, it appears that "Internet use" most generally is

actually inversely related to political discussion network heterogeneity. Although it is difficult to explain this finding given that the item used to measure to Internet use was dichotomous (Internet users vs. nonusers), one possible interpretation is that general Internet use is somewhat akin to television use—if used mainly for entertainment purposes, it can be detrimental to most forms of civic engagement, including heterogeneous political discussion (e.g., Putnam, 2000).

The author cautions against overly zealous interpretations of the findings from this study; it is not without limitations. In particular, it is unclear as to whether or not the discussion of politics online and online news use actually make their contributions "online." The question was not asked if respondents formed their politically heterogeneous political discussion networks while online or as a consequence of their Internet use. Rather, it was simply asked how often respondents discussed politics online and how often they searched for international and national news online. Although multiple controls were used, it is possible that there is some outside force at work, that there is something about online political discussants and news users rather than online discussion and news use in and of itself, that contributes to the formation of politically heterogeneous discussion networks. Another limitation is that the relationship of online discussion and news use with network heterogeneity was quite small, especially indicating a substantially less than profound contribution, at least at the time the survey was administered (in 2003). The size of the relationship is likely partially explained by the very small number of people who report engaging in online political discussion at all and would likely grow in size, rather than diminish, as Internet technology continues to diffuse into mainstream use. This finding is also generally consistent with the findings of a great deal of Internet related research (e.g., Bimber & Davis, 2003; Jennings & Zeitner, 2003; Katz & Rice, 2002), which shows very modest effects of the Internet at best on political participation.

Nevertheless, this is the first analysis to find a relationship (positive or negative) to people's overall experience of political difference, a question that has been debated theoretically for years in the absence of direct measures. Although a great deal remains to be learned about how people engage with one another politically in an increasingly complex media environment, the results support the inadvertency thesis—online political discussion and news use are expanding the heterogeneity of political discussion networks rather than undermining them by providing a context in which exposure to political difference is likely to occur, at least on occasion, whether or not it is explicitly selected.

References

Agresti, A., & Agresti, B. (1977). Statistical analysis of qualitative variation. *Sociological Methodology*, **9**, 204–237.

Alesina, A., Develeeschauwer, A., Easterly, W., Kurlat, S., & Wacziag, R. (2003). Fractionalization. *Journal of Economic Growth*, **8**(2), 155–194.

Arendt, H. (1968). *Between past and future: Eight exercises in political thought.* New York: Viking.

Barber, B. R., Mattson, K., & Peterson, J. (1997). *The state of 'electronically enhanced democracy': A survey of the Internet.* New Brunswick, NJ: Walt Whitman Center.

Bimber, B., & Davis, R. (2003). *Campaigning online: The Internet in U.S. elections.* New York: Oxford University.

Blau, P. M. (1977). *Inequality and heterogeneity: A primitive theory of social structure.* New York: Free Press.

Blum, T. C. (1984). Racial inequality and salience: An examination of Blau's theory of social structure. *Social Forces*, **62**, 607–617.

Boase, J., Horrigan, J. B., Wellman, B., & Rainie, L. (2006). *The strength of ties.* Pew Internet and American Life Project. Retrieved from http://www.pewinternet.org/pdfs/PIP_internet_ties.pdf

Brundidge, J. (2010). Political discussion and news use in the contemporary public sphere: The "accessibility" and "traversability" of the Internet. *Javnost–The Public*, **17**, 63–82.

Brundidge, J. (in press). Toward a theory of citizen interface with political discussion and news in the contemporary public sphere. International Journal of Communication.

Cappella, J. N., Price, V., & Nir, L. (2002). Argument repertoire as a reliable and valid measure of opinion quality: Electronic dialogue during campaign 2000. *Political Communication*, **19**, 73–93.

Cornfield, M. (2005). The Internet and campaign 2004. Washington, DC. Pew Internet and American Life Project. Retrieved from http://www.pewinternet.org/pdfs/PIP_2004_Campaign.pdf

Dahlberg, L. (2001). Computer-mediated communication and the public sphere: A critical analysis. *Journal of Computer-Mediated Communication*, **7**(1).

Dahlgren, P. (2001). The public sphere and the net: structure, space, and communication. In W. L. Bennett & R. M. Entman (Eds.), *Mediated politics: Communication in the future of democracy* (pp. 33–55). Cambridge, MA: Cambridge University.

Dahlgren, P. (2005). The Internet, public spheres, and political communication: Dispersion and deliberation. *Political Communication*, **22**, 147–162.

Durkheim, E. (1974). On anomie. In W. E. Connolly & G. Gordon (Eds.), *Social structure and political theory* (pp. 75–96). Lexington, MA: D.C. Heath.

Easterly, W., & Levine, R. (1997). Africa's growth tragedy: Policies and ethnic divisions. *Quarterly Journal of Economics*, **111**, 1203–1250.

Fallows, D. (2002). Email at work. Washington, DC: Pew internet and American Life Project. Retrieved from http://www.pewinternet.org/pdfs/PIP_Work_Email_Report.pdf

Feld, S. (1984). The structured use of personal associates. *Social Forces*, **62**, 640–652.

Festinger, L. (1957). *A theory of cognitive dissonance.* Evanston, IL: Row, Peterson.

Frey, D. (1986). Recent research on selective exposure to information. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 19, pp. 41–80). San Diego, CA: Academic.

Galston, W. A. (2002). If political fragmentation is the problem, is the Internet the solution? In D. M. Anderson, M. Cornfield & F. C. Arterton (Eds.), *The civic web: Online politics and democratic values* (pp. 35–44). Lanham, MD: Rowman & Littlefield.

Garrett, K. R. (2005). *Exposure to controversy in an information society.* Unpublished doctoral dissertation, University of Michigan.

Garrett, R. K. (2009). Echo chambers online?: Politically motivated selective exposure among Internet news users. *Journal of Computer Mediated Communication*, **14**, 26–285.

Gastil, J., Black, L., & Moscovitz, K. (2008). Ideology, attitude change, and deliberation in small face to face groups. *Political Communication*, **25**, 23–46.

Graber, D. A. (1984). *Processing the news: How people tame the information tide.* New York: Longman.

Granovetter, M. S. (1973). The strength of weak ties. *American Journal of Sociology*, **6**, 1360–1380.

Habermas, J. (1989). *The structural transformation of the public sphere.* Cambridge, MA: MIT.

Habermas, J. (2006). Political communication in media society: Does democracy still enjoy an epistemic dimension? The impact of normative theory on empirical research. *Communication Theory*, **16**, 411–426.

Horrigan, J., Garrett, K., & Resnick, P. (2004). *The Internet and democratic debate.* Retrieved from http://www.pewinternet.org/pdfs/PIP_Political_Info_Report.pdf

Howard, P. N. (2005). Deep democracy, thin citizenship: The impact of digital media in political campaign strategy. *ANNALS, AAPSS*, 597 (January), 153–170.

Huckfeldt, R. (2007). Unanimity, discord, and the communication of public opinion. *American Journal of Political Science*, **51**, 978–995.

Huckfeldt, R., Beck, P., Dalton, R., & Levine, J. (1995). Political environments cohesive social groups, and the communication of public opinion. *American Journal of Political Science*, **39**, 1025–1054.

Huckfeldt, R., Johnson, P. E., & Sprague, J. (2004). *Political disagreement: The survival of diverse opinions within communication networks.*New York: Cambridge University.

Iyengar, S., & Hahn, K. S. (2009). Red media, blue media: Evidence of ideological selectivity in media use. *Journal of Communication*, **59**, 19–39.

Jennings, M. K., & Zeitner, V. (2003). Internet use and civic engagement: A longitudinal analysis. *Public Opinion Quarterly*, **67**, 311–334.

Katz, J. E., & Rice, R. E. (2002). *Social consequences of Internet use: Access, involvement and interaction.* Cambridge, MA: MIT Press.

Kinder, D. R. (2003). Communication and politics in the age of information. In D. O. Sears, L. Huddy & R. Jervis (Eds.), *Oxford handbook of political psychology* (pp. 357–393). Oxford: Oxford University Press.

Knobloch-Westerwick, S., & Meng, J. (2009). Looking the other way: selective exposure to attitude-consistent and counter-attitudinal political information. *Communication Research*, **36**, 426–448.

London, S. (1993). *Electronic democracy.* Dayton, OH: Kettering Foundation.

MacKuen, M. (1990). Speaking of politics: Individual conversational choice, public opinion, and the prospects for deliberative democracy. In J. Ferejhon & J. Kuklinski (Eds.), *Information and democratic process* (pp. 59–99). Urbana, IL: University of Illinois.

Mauro, P. (1995). Corruption and growth. *Quarterly Journal of Economics*, **110**, 681–712.

McLeod, J. M., & Becker, L. B. (1974). Testing the validity of gratification measures through political effects analysis. In J. G. Blumler & E. Katz (Eds.), *The uses of mass communication: Current perspectives on gratifications research* (pp. 137–164). Beverly Hills, CA: Sage.

McLeod, J. M., Scheufele, D. A., & Moy, P. (1999). Community, communication, and participation: The role of mass media and interpersonal discussion in local political participation. *Political Communication*, **16**, 315–336.

McLeod, J. M., Scheufele, D. A., Moy, P., Horowitz, E. M., Holbert, R. L., Zhang, W., et al. (1999). Understanding deliberation: The effects of discussion networks on participation in a public forum. *Communication Research*, **26**, 623–654.

McLeod, J., Sotirovic, M., & Holbert, R. L. (1998). Values as sociotropic judgments influencing communications patterns. *Communication Research*, **25**(3), 453–485.

Mill, J. S. (1859/1998). *On liberty and other essays*. New York: Oxford University Press.

Mueller, J. H., Schuessler, K. F., & Costner, H. L. (1977). *Statistical reasoning in sociology* (3rd ed.). Boston: Houghton Mifflin.

Mutz, D. C. (2002). Cross-cutting social networks: Testing democratic theory in practice. *American Political Science Review*, **96**, 111–126.

Mutz, D. C. (2006). *Hearing the other side: Deliberative versus participatory democracy.* New York: Cambridge University.

Mutz, D. C., & Martin, P. S. (2001). Facilitating communication across lines of political difference. *The American Political Science Review*, **95**, 97–114.

Neuman, R. W. (1991). *The future of the mass audience.* Cambridge, U.K.: Cambridge University.

Noelle-Neumann, E. (1986). *The spiral of silence: Public opinion—our social skin.* Chicago: University of Chicago.

Page, B. L. (1996). *Who deliberates? Mass media in modern democracy.* Chicago: University of Chicago.

Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, **40**, 879–891.

Price, V., & Cappella, J. N. (2002). Online deliberation and its influence: The electronic dialogue project in campaign 2000. *IT & Society*, **1**(1), 303–329.

Price, V., Cappella, J. N., & Nir, L. (2002). Does more disagreement contribute to more deliberative opinion? *Political Communication*, **19**, 95–112.

Price, V., & Tewksbury, D. (1997). News values and public opinion: A theoretical account of media priming. In G. Barnett & F. J. Boster (Eds.), *Progress in the communication sciences* (Vol. 13, pp. 173–212). Greenwich, U.K.: Ablex.

Putnam, R. D. (2000). *Bowling alone: The collapse and revival of American community.* New York: Simon and Schuster.

Rhine, R. J. (1967). The 1964 presidential election and curves of information seeking and avoiding. *Journal of Personality and Social Psychology*, **5**, 416–423.

Scheufele, D. A., Hardy, B. W., Brossard, D., Waismel-Manor, I. S., & Nisbet, E. C. (2006). Democracy based on difference: Examining the links between structural heterogeneity, heterogeneity of discussion networks, and democratic citizenship. *Journal of Communication*, **56**, 728–753.

Scheufele, D. A., Nisbit, M. C., Brossard, D., & Nisbit, E. C. (2004). Social structure and citizenship: Examining the impact of social setting, network heterogeneity, and informational variables on political participation. *Political Communication*, **21**, 315–338.

Sears, D. O., & Freedman, J. L. (1967). Selective exposure to information: A critical review. *Public Opinion Quarterly*, **31**, 194–213.

Shah, D., Cho, J., Eveland, W. P., & Kwak, N. (2005). Information and expression in a digital age. *Communication Research*, **32**, 531–565.

Stromer-Galley, J. (2002). New voices in the public sphere: A comparative analysis of interpersonal and online political talk. *Javnost: The Public*, **9**(2), 23–42.

Stroud, N. J. (2008). Media use and political predispositions: Revisiting the concept of selective exposure. *Political Behavior*, **30**, 341–366.
Sunstein, C. (2001) *Republic.com.* Princeton, NJ: Princeton University.
Valentino, N. A., Hutchings, V. L., Banks, A. J., & Davis, A. K. (2008). Is a worried citizen a good citizen? Emotions, political information seeking, and learning via the Internet. *Political Psychology*, **29**, 247–273.
Verbrugge, L. M. (1977). The structure of adult friendship choices. *Social Forces*, **56**, 576–597.
Wojcieszak, M., & Mutz, D. (2009). Online groups and political deliberation: Does the Internet facilitate exposure to disagreement? *Journal of Communication*, **59**, 40–56.
Zaller, J. R. (1992). *The nature and origins of mass opinion*. New York: Cambridge University.