Citation: Hampton, Keith, Inyoung Shin, and Weixu Lu. (in press). Social Media and Political Discussion: When Online Presence Silences Offline Conversation. *Information, Communication & Society*

Social Media and Political Discussion:

When Online Presence Silences Offline Conversation

Keith N. Hampton*

Department of Media and Information

Michigan State University

Inyoung Shin and Weixu Lu

Department of Communication

Rutgers University

Corresponding author: Keith N. Hampton, Department of Media and Information, Michigan State University, 404 Wilson Road, Room 435, East Lansing, MI 48824 http://www.mysocialnetwork.net, Email: keith.hampton@mysocialnetwork.net.

Social Media and Political Discussion

When Online Presence Silences Offline Conversation

Abstract

This paper explores the relationship between the use of social media, attitudinal strength, perceived opinion agreement with social ties, and willingness to discuss a political issue in different online and offline contexts. Unlike the anonymous environment of some internet forums, social media are closely tied to the relationships and activities of everyday life. Social media increasingly make ties from offline contexts persistent online, and, because of the ambient nature of these technologies, awareness of the opinions, interests, and activities of social ties has become pervasive. As such, use of social media is likely to affect everyday conversation about political issues in on- and offline contexts, including the home, workplace, social gatherings with friends, community meetings, and on social network sites. Based on a national probability survey, we find that the use of social network sites (i.e., Facebook and Twitter) has a direct, negative relationship to deliberation in many offline settings. Some uses of these platforms are associated with having a lower, perceived opinion agreement with social ties. As part of a spiral of silence, this further reduces the willingness of social media users to join political conversations in some offline settings. Only those with the strongest attitudes on an issue are immune.

Keywords: discursive deliberation, social networks, spiral of silence, opinion climate, reference group

Social Media and Political Discussion

When Online Presence Silences Offline Conversation

One of the most prevalent views of the Internet is that it has the potential to support democracy by providing new forums for political deliberation (Papacharissi, 2002). This view assumes that access to new information and communication technologies will provide opportunities for discussion among those who were previously silent and increase the overall volume of discourse around political issues. This view has become even more pronounced as a result of the increase in the use of social media. However, with the exception of studies in which people are purposefully brought together to discuss an issue online (Price & Cappella, 2002) and studies of platforms that have been used for deliberation around a specific issue (Halpern & Gibbs, 2013), there are few, if any, studies of how social media fit into the landscape of opportunities for everyday conversation about political issues (Kim, Wyatt, & Katz, 1999).

Conceptualizing computer-mediated communication as something that starts online and stays online, with no extension into interactions in other settings, has long been outdated (Wellman & Hampton, 1999). Most online interactions, especially those on social media, originate with relationships organized around other social settings, such as the home, workplace, and neighborhood (Hampton, Goulet, Rainie, & Purcell, 2011a). We should expect interactions that take place online to have implications for conversations that take place in-person (Hampton & Wellman, 2003). Social media may provide a new forum for deliberation but negatively affect willingness to engage in political conversations offline. There may also be different paths to deliberation. When used as a source of news or information, social media may directly impact people's willingness to join a conversation on an issue. In contrast, other uses, such as viewing content posted by friends and family, may increase awareness of the opinions of others. If those

opinions are not in agreement with one's own, they may lead to a spiral of silence that impedes open deliberation (Noelle-Neumann, 1974).

Based on a national, probability sample, this study explores the role that social media play in people's willingness to participate in conversations on political issues. We focus on one recent issue – revelations by Edward Snowden about the United States (US) government's surveillance program to collect information on citizen's telephone calls, emails, and other online communications. We argue that the unique characteristics of social media – relational persistence, pervasive awareness of the opinions of social ties, and the collapsing of multiple reference groups into a single context – explain our finding that, with the exception of those with very strong attitudes, social media generally have a negative impact on the willingness of people to join a political conversation in face-to-face contexts. And, in some situations, there is a spiral of silence, willingness to discuss a political issues is indirectly hindered as a result of higher levels of perceived disagreement with social ties.

Literature Review

Deliberative Democracy

There is a tradition within democratic theory that regards public deliberation as the foundation of the democratic process (Dewey, 1927; Habermas, 1989). Deliberative democracy recognizes that opinions are not fixed preferences but are fluid and part of a communicative process that provides accountability and justification for the political order (Chambers, 2003). There is a great deal of variation in the definition of deliberation that ranges from formal public gatherings where individuals assemble for debate mediated by referees (Schudson, 1997) to those that are informal, conversational, and may even take place in settings such as the home (Kim, et al., 1999). There is evidence for a range of individual outcomes as a result of deliberation, including

attitudinal change, tolerance of opposing views, higher levels of generalized trust, increased political knowledge, civic engagement, and other forms of political participation (Delli Carpini, Cook, & Jacobs, 2004).

In this paper we adopt a definition of "discursive deliberation" (Delli Carpini, et al., 2004) and accept that deliberation can be somewhat "incomplete" (Fishkin, 1995) relative to the most formal views of public debate. This conceptualization accepts that deliberation includes talk, discussion, and informal conversation between citizens that might take place outside of formal structures. Whereas some definitions of deliberation privilege face-to-face contact, discursive deliberation accepts the possibility that exchange through communication technologies, including the internet, can also be deliberative. People may choose to discuss political issues in an open public meeting, in the workplace, or in the home, but they may also choose to deliberate online.

Opinion Climate

A range of individual factors contribute to the likelihood of a person participating in political conversation. Largely mirroring socioeconomic patterns that predict a broad range of political behaviors, those with lower educational attainment, lower incomes, and African Americans are overrepresented among those who do not engage in political conversation (Jacobs, Cook, & Delli Carpini, 2009). Those who have more interest, more knowledge (Hayes, Shanahan, & Glynn, 2001), higher opinion strength (Matthes, Rios Morrison, & Schemer, 2010), and those who use more news media (Kim, et al., 1999) are also more likely to discuss a specific issue.

The climate for discussion can influence the willingness of people to deliberate. Noelle-Neumann's (1974) theory of the *spiral of silence* argues that people assess opinion climate, and, if their opinion is in the minority, they are less likely to speak out on an issue for fear of social

isolation. However, critics have argued that research on the spiral of silence has focused too heavily on individual factors, ignored interpersonal influence, and overestimated the effects of the mass media on the willingness to discuss political issues (Katz, 1981). Oshagan (1996) argues that reference groups or situational contexts that consist of "family members, close friends, co-workers, or neighbors" (p. 336), are likely to be more consequential than a generalized sense of society's opinion. Indeed, Moy, Domke and Stamm (2001), and others have found that reference groups take primacy over broad public opinion in predicting the willingness of people to share their opinion.

The potential for deliberation free from the social pressures of existing reference groups is one reason the internet may be a promising forum for political discussion. The internet offers anonymity (Qian & Scott, 2007) and reduced social cues, which may facilitate the exchange of opinions. There are examples of online forums that have grown organically to foster political debate (Papacharissi, 2004), and scholars have purposefully brought previously unconnected citizens together for online political discussion (Price, 2009). However, in practice, most internet users are not active in online forums dedicated to political discussion. Three percent of American internet users participate in formal, real-time, online deliberation, and only 11% participate in other political forums (Smith, 2010). Findings also show that online forums dedicated to political conversation contain fewer diverse points of view than forums in which politics arise only incidentally (Wojcieszak & Mutz, 2009). This is why a branch of internet technologies known as "social media" may provide new opportunities for political discussion. These technologies are promising, because the majority of internet users make use of them, and they provide forums for conversations that are not specifically dedicated to political deliberation.

Social Media and Deliberation

S*ocial media* is a broad, amorphous term that has been used to refer to those internet technologies built on a platform that allows for the creation and exchange of user-generated content (Kaplan & Haenlein, 2010). *Social network sites* (SNS) are a subset of social media that are more clearly defined. SNS refer to those services that allow individuals to create a profile, articulate a shared connection to other users, view connections between users, and share content (boyd & Ellison, 2007). In contrast to more traditional internet technologies, SNS are generally not anonymous, and social cues are more visible, because they allow for the exchange of text as well as photographs and other media. Two of the most popular SNS platforms are Facebook, on which more than 70% of adult, American, internet users participate, and Twitter, used by more than 23% of the adult, internet population (Duggan, Ellison, Lampe, Lenhart, & Madden, 2015).

Facebook users generally choose to interact with existing social ties that consist of family, coworkers, and friends from other social settings (Hampton, et al., 2011a). In this way, SNS may more closely resemble opportunities for everyday conversation about political issues than a formal, planned forum for deliberation with strangers. Once a relationship has been articulated through social media, social ties become enduring channels of communication. In this way, SNS offer a unique form of relational *persistence* (Hampton, 2016). Social ties that previously might have been abandoned or replaced as people moved through the life course (Coleman, 1988) are more likely to endure both as an audience and as a source of information. Although this persistent contact has advantages in terms of access to social capital, it may also bind people to communities from which they otherwise would have been liberated (Wellman, 1979).

The ambient nature of social media, as provided through mobile devices and personal computing, allows the typical user of SNS to access content contributed by their connections on

multiple occasions per day (Hampton, et al., 2011a). This contact provides ongoing exposure to the interests and opinions of social ties in the form of status updates, comments, and "likes." This contact is both *pervasive* and flattened into a single channel of communication (Hampton, 2016). Previously, routine contact with audiences that spanned contexts was limited to ties that bridged social circles (Granovetter, 1973). Unlike conversational settings, such as the workplace, where one speaks primarily to coworkers, or the home, where one discusses issues primarily with family, SNS create *context collapse* where social ties from diverse settings coexist in a single forum (Marwick & boyd, 2010; Wesch, 2009).

How Social Media Use Might Silences Conversation

SNS use is associated with persistent contact and pervasive awareness of social ties comprised of identifiable reference groups of friends, family, neighbors, coworkers, etc. While it is generally believed that friends, family and other acquaintances have more similar attitudes and beliefs than do strangers, much of the homophily reported between ties is inferred based on stereotypes and attitudinal projection (Goel, Mason, & Watts, 2010). The use of SNS has been associated with higher awareness of political and socioeconomic diversity within people's social networks (Hampton, Lee, & Her, 2011b; Hampton, Sessions, & Ja Her, 2011c). This may not represent diversity from new ties, but newfound diversity as a result of relational persistence, context collapse, and new opportunities for discussion with existing ties. While network diversity has many benefits, including for political participation (Hampton, 2011), in terms of opinion diversity, awareness of dissonant information on one topic may increase entropy about attitudes on other topics. Awareness of diverse opinions, interests and backgrounds may lower perceived homophile, and increase complexity, cognitive dissonance, and ambivalence toward discussion of political issues in general. While this uncertainty is likely to vary by issue, those issues that

are new, where opportunities for social comparison have been limited, and where opinion across the population are divided, would seem most susceptible to lower levels of engagement (Rogers, 1983). Thus, for such an issue, we hypothesize that:

> H1a. Frequent use of SNS has a direct, negative relationship to willingness to join face-to-face political conversations in contexts in which reference groups (e.g., family, neighbors, coworkers, and close friends) are found (e.g., the home, community meetings, workplace, and other social gatherings).

SNS can be used in many different ways and for many purposes. For example, they can be used as a source of news, as a way to share content with friends and family, and as a channel for one-to-one communication. Since use of SNS is not specifically directed at political communication, we do not expect that frequency of use has a direct relationship to willingness to discuss political issues on SNS. We also do not anticipate that the aggregate frequency of social sharing, through status updates, commenting on others' content, and personal messaging, on topics that might range from favorite foods to elections is a likely predictor of the willingness of a person to participate in a discussion of a political issue. This seems especially unlikely when we control for characteristics that have been found to be predictive of speaking out: interest in and knowledge of the topic. However, some uses of SNS are likely to be associated with willingness to contribute to a discussion. For example, SNS users may encounter information on a political issue in the form of a link shared from an online version of traditional mass media (e.g., an article published on the online version of a newspaper). News media use is closely associated with willingness to engage in political conversations (Kim, et al., 1999). Therefore:

> H1b. Exposure to information on a political issue through SNS will be positively related to willingness to discuss that issue on SNS.

Unlike mass media, when information is shared through social media, it is shared indirectly, as a result of social sharing. This process closely resembles a traditional, two-step flow of communication (Katz & Lazarsfeld, 1955) and may enhance awareness of opinion diversity within specific reference groups. Thus:

> H1c. Exposure to information on a political issue through SNS has a direct, negative relationship to willingness to join a face-to-face conversation on this issue in contexts in which reference groups are found.

This is consistent with our expectation that use of SNS is related to awareness of others' opinions:

> H2a. Frequent use of SNS is associated with lower, perceived agreement on political issues with reference groups.

And, for a specific political issue:

> H2b. Exposure to information on a political issue through SNS is associated with lower, perceived agreement on that issue with reference groups.

One activity on SNS is likely to be associated with higher levels of perceived agreement, frequency of "liking" behavior. This activity involves a simple binary indication that a person "likes" the content of another user; it is pure affirmation.

> H2c. Frequency of "liking" activity on SNS is positively associated with perceived opinion agreement with reference groups.

SNS use algorithms to show users a small, prioritized subset of all shared content (Hamilton, Karahalios, Sandvig, & Eslami, 2014). It is in the interest of SNS to favor exposure to congruent information. Facebook's algorithm favors displaying political information from contacts with similar opinions (Bakshy, Messing, & Adamic, 2015). Awareness of disagreement has the

potential to induce a spiral of silence, which can reduce deliberation (and presumably reduce interaction on SNS, which hurts advertisement revenue). Therefore, we do not believe that use of SNS translates into perceived disagreement with connections on SNS.

H2d. Frequent use of SNS is positively associated with higher perceived agreement with connections on SNS.

H2e. Exposure to political information through SNS is positively associated with higher perceived agreement with connections on SNS.

There is a paradox in that use of SNS is associated with lower agreement with specific reference groups, while associated with higher agreement with connections on SNS who are generally comprised of members of those groups. However, not all SNS users are likely to be open to awareness of disagreement. Those who have a strong opinion about an issue tend to misrepresent opinion climates (Boninger, Krosnick, Berent, & Fabrigar, 1995); they tend to exaggerate agreement with in-group members (Holtz & Miller, 1985). Thus:

H3a. Those who have stronger opinions about an issue will tend to perceive higher levels of agreement on SNS and with reference groups.

In addition, prior research has consistently found that those with strong opinions are often immune to the spiral of silence (Noelle-Neumann, 1993). Opinion strength is a strong motivator for people to express their opinion.

H3b. Those with stronger opinions on a political issue are more willing to join a conversation about that issue on SNS and in face-to-face settings.

Some have suggested an intermingling of constructs related to opinion strength, personality strength, and sociometric qualities of opinion leadership (Scheufele & Shah, 2000), such that those who identify as opinion leaders are also likely to have stronger opinions on a variety of

topics. Popularity is an indicator of opinion leadership (Katz & Lazarsfeld, 1955), and the number of connections (or "friends") on SNS is a direct measure of popularity.

H3c: Those who amass a larger number of connections on a SNS are likely to have stronger opinions.

Consistent with the theory of the spiral of silence (Noelle-Neumann, 1974), when individuals do not perceive agreement, they are less likely to speak out. However, we believe that some settings are more likely to be immune to the spiral of silence. Different types of social ties are likely to be found in different settings (Lofland, 1998). Contexts in which strong ties dominate, such as the home, may be less likely to host the spiral of silence. Even when there is awareness of opinion disagreement, the strength and density of bonds and the high level of trust among ties in such intimate contexts reduces the risk of social isolation (Coleman, 1988). This is not true of settings such as the workplace, which tend to host ties other than close friends and family and thus contain more diverse ties and opinions.

H4a. For settings that are not dominated by strong ties, lower perceived agreement with reference groups is associated with less willingness to join a conversation in settings where those reference groups are predominate.

H4b. Lower perceived agreement with connections on SNS is associated with lower willingness to join a conversation on SNS.

It has been argued that internet users in general (Sunstein, 2001), and users of some SNS in particular (Himelboim, McCreery, & Smith, 2013), form opinion "silos," they seek out politically similar connections. Such a pattern of adoption would likely reduce the generalizability of our hypotheses to those SNS that are immune to this self-selection. Interactive media that have near universal adoption also have interdependences and network externalities

that make it difficult for people to limit connections to those who are most similar (Markus, 1987). Therefore, our generic reference to SNS assumes a platform with widespread, and near universal adoption, similar to the current adoption of Facebook. Our expectations for how the use of SNS, under these conditions, are related to people's willingness to discuss political issues are formalized in Figure 1. While the generalizability of our hypotheses should be explored across SNS, those that are smaller in scale – such as Twitter – are more likely to exhibit silos, to be specialized in their use, and to span fewer reference groups. As such, the negative relationship to discussion in face-to-face settings will be more limited in scope (i.e. fewer settings), there will be less opinion diversity, and less of an opportunity for a spiral of silence.

[Figure 1]

Method

In collaboration with the Pew Research Center, a random-digit dial survey of 1,801 adults living in households in the US was conducted from August to September 2013. Telephone interviews were conducted in English and Spanish over landline (901) and mobile phone (900, including 482 without a landline). A two-stage, weighting procedure was used to weight this dual-frame sample. The first-stage weight was used to account for different probabilities of selection associated with the number of adults in each household and overlapping landline and mobile phone sample frames. The second stage of weighting balanced sample demographics to population parameters. The sample was balanced to match national population parameters for sex, age, education, race, Hispanic origin, region, population density, and telephone usage. The response rate, as a product of contact rate (64.2%), cooperation rate (14.7%), and completion rate (95.9%), was 9.0%. Our analysis is based on 1,060 participants who identified themselves as users of either Facebook (89.4%) and/or Twitter (20.8%).

Our study focuses on the willingness of people to discuss one, specific, current political issue that was widely reported in the media in the summer of 2013 and was of interest to a majority of Americans (Hampton et al., 2014). By focusing on one, current issue we reduce error associated with self-reported recall of past events. We focused on revelations by defense contractor, Edward Snowden, from leaked, classified documents about efforts by the US National Security Agency (NSA) to record data from phone and email records. At the time of our study, the material leaked by Snowden related to NSA surveillance dealt specifically with "meta-data," described as including when phone calls happened, the duration of calls, the phone numbers of the callers, and the email addresses of senders and recipients, but not the contents of calls or emails (Greenwald & Ackerman, 2013).

Participants were asked first about their *interest* in reports of a "government program with the aim of collecting information about people's telephone calls, emails and other online communication," to which they could respond on a four-point scale (3-0) ranging from "very interested" to "not interested at all" (M=1.77, SD=1.03). Next, on a scale ranging from "very knowledgeable" to "not knowledgeable at all" (3-0), they were asked how they would rate their *knowledge* "about the debate surrounding these government programs" (M=1.51, SD=.89). This was followed by a four-point scale, "a lot" to "none at all" (3-0), that measured "how much *information*, if any," they had obtained about the debate from each of "local print newspapers" (M=.57, SD=.88), "TV and radio" (M=1.66,SD=1.12), "friends and family" (M=1.03, SD=1.02), "Facebook" (M=.75, SD=1.02), "Twitter" (M=.15, SD=.55), and "online news sources other than Facebook or Twitter" (M=1.27, SD=1.23).

To measure *attitudinal strength*, participants were asked, "Do you favor or oppose a government program to collect nearly all communications in the United States as part of anti-

terrorism efforts?" With this wording, we expected to find a distribution that would be somewhat equally divided in support. Findings showed that 13% "strongly favor," 24% "somewhat favor," 22% "somewhat oppose," and 30% "strongly oppose" the program (M=1.34, SD=.63).

The dependent variable, *willingness to deliberate*, was collected for different settings. Participants were asked, "If the topic of the government's surveillance program came up, would you be very willing, somewhat willing, somewhat unwilling, or very unwilling to join the conversation" at a community meeting (M=1.80, SD=1.03), at work (M=1.61, SD=1.10), at a restaurant with friends (M= 1.97, SD=.99), at a family dinner (M=2.10, SD=.97), and on Facebook? (M=1.10, SD= 1.09). Finally, *perceived agreement* with different reference groups was measured on a four-point scale (3-0). Participants were asked the extent to which they think neighbors (M=1.27, SD=1.17), coworkers (M=1.44, SD=1.18), close friends (M=2.02, SD=1.03), family members (other than spouse) (M=1.94, SD=1.06), the people in their network on Facebook (M=1.40, SD=1.17), and their Twitter followers (M=.29, SD=.77), agreed with their view. [1]

Social media use was measured based on participant's self-reported use of Facebook and Twitter. Participants were asked how frequently they did various activities on social media, and was recoded as times per month (0-90). The survey measured frequency of Twitter use (M=7.61, SD=22.63), Facebook use (M=41.18, SD=39.03), Facebook status updates (M=7.24, SD=17.88), Facebook likes (M=30.62, SD=37.04), Facebook commenting (M=19.68, SD=30.28), and private Facebook messaging (M=13.36, SD=26.11). Participants also reported the number of Facebook friends (M=229.21, SD=573.97). The reliability of self-reported, social media use

[1] Participants were asked about their willingness to join in a conversation on Twitter, but the small number of Twitter users in the sample did not provide adequate variation for analysis.

based on this approach has been validated in prior studies (Goulet, 2012; Hampton, Goulet, Marlow, & Rainie, 2012), in which researchers compared self-reported data with transactional log data provided by Facebook.

In addition to the control variables for interest, knowledge, and exposure to information from sources outside of SNS, additional controls were included for age (M=40.30, SD=15.19), sex (53.8% females), race (12.5% Black or African American), years of education (M=13.90, SD=2.28), and marital status (59.0% married or living with a partner). M-plus 7.0 was used to model a series of regression analyses specified as a path model, employing maximum likelihood estimation with robust standard errors (MLR).

Results

As presented in Table 1 and Figure 2, we find clear support for the hypotheses that SNS use has a direct, negative relationship to willingness to discuss a political issue in offline, face-to-face contexts (H1a). The evidence is strongest for Facebook, and less generalized for the smaller, more narrowly adopted Twitter platform. There is a negative relationship between frequency of Facebook use and willingness to discuss a political issues at a community meeting ($b=-.005$, $p<.001$), in the workplace ($b=-.002$, $p<.05$), and at a social event with friends ($b=-.004$, $p<.01$). Twitter use has a similar direct, negative relationship to willingness to discuss a political issue, but only at work ($b=-.004$, $p<.05$). Consistent with H1b, there is a direct, positive relationship between use of Facebook as a source of information on a political issue and willingness to discuss that issue on Facebook ($b=.168$, $p<.001$). As suggested by H1c, those who use Facebook for information were even less willing to discuss that issue in the workplace ($b=-.097$, $p<.05$) and at home with family ($b=-.079$, $p<.05$). We did not find a relationship between use of Twitter for information and willingness to converse about politics in face-to-face settings. As expected, we

found no relationship between general social sharing practices on Facebook; overall frequency of status updates, private messaging, and commenting; and any of our outcome variables.

[Figure 2]

[Table 1]

Evidence of lower agreement with specific reference groups is inconsistent and more muted than anticipated. As anticipated in H2a, frequency of Facebook use is associated with lower perceived agreement with coworkers ($b=-.003$, $p<.05$). However, the finding is not generalizable to other reference groups; there is no relationship to perceived agreement with family members, close friends or neighbors. Possibly as a result of its more limited adoption, counter to H2a, frequency of Twitter use is associated with higher levels of perceived agreement with friends ($b=.004$, $p<.05$). Use of Twitter as a source of information on a political issue has the expected negative relationship to agreement (H2b), but, the finding is limited to agreement with family members ($b=-.190$, $p<.05$). As anticipated in H2c, those who more frequently "like" other users' content on Facebook have a stronger feeling that family members share their views on a political issue ($b=.003$, $p<.05$). This does not apply to other reference groups.

There is consistent evidence that frequent use of SNS, and exposure to political information through SNS is related to perceived opinion agreement with followers (H2d and H2e). Frequency of Facebook use ($b=.004$, $p<.01$) and use as a source of political information ($b=.283$, $p<.001$) are positively associated with perceived agreement with followers. Similarly, frequency of Twitter use ($b=.014$, $p<.001$) and use as a source of news ($b=.267$, $p<.05$) has a positive relationships to perceived agreement with followers.

There is strong evidence to support of our hypotheses that attitudinal strength on a political issue is associated with higher levels of perceived agreement with reference groups on

that issue (H3a). Those with stronger opinions perceived higher levels of attitude congruence with family (b=.296, p<.001), friends (b=.269, p<.001), coworkers (b=.333, p<.01), neighbors (b=.189, p<.01), and their audience on Facebook (b=.204, p<.01). Those with a strong opinion on a political issue were also more willing to join a conversation on that issue across on- and offline settings (H3b): community meetings (b=.276, p<.001), a social gathering with friends (b=.183, p<.001), at home with family (b=.168, p<001), in the workplace (b=.181, p<.001), and on Facebook (b=.257, p<. 001). Although marginally substantive, consistent with H3c, those with more contacts on Facebook reported slight stronger opinions (b=.0001, p<001). There was also an unexpected, positive relationship between number of Facebook followers and willingness to join a political conversation in the workplace (b=.0001, p<05). This suggests that opinion leaders, or those who seek more contacts on Facebook are more willing to speak out on a political issue. A larger network may insolate against a fear of social isolation or a loss of social support (Lu & Hampton, in press).

There is evidence of a spiral of silence in our data. As hypothesized in H4a, this evidence is limited to contexts that are not dominated by strong ties, the workplace and Facebook. Facebook users who felt that their audience was more in agreement with their opinion, were more willing to express their views on Facebook (b=.201, p<. 001). As has already been explored, agreement with followers is highest among frequent Facebook users, those who use Facebook as a source of political information, and those with strong opinions. Based on the delta method of assessing significance of indirect effects (Muthén & Muthén, 2012), and consistent with our hypothesis (H4b), we verified that the use of Facebook as a source of political information (but not frequency of Facebook use) is indirectly, through agreement with followers, associated with more willingness to speak out on Facebook (b=.052, p<.001). Attitudinal

strength on a political issue is also indirectly and significantly related to willingness to speak out on Facebook (b=.041, p<.01).

In the workplace, those who felt that their coworkers agreed with their opinion were more willing to join a conversation on that issue (b=.272, p<. 001). Opinion congruence with coworkers was higher for those with strong opinions and lower for those that visited Facebook more often. Based on the delta method, we find that Facebook users are significantly less likely to join a conversation in the workplace as a direct result of frequent Facebook use (b=-.002, p<.05) and as an indirect result of lower levels of perceived agreement with coworkers (b=-.001, p<.05). We also found an unexpected relationship: Twitters users who felt their audience on Twitter agreed with their opinion were more willing to speak out on that issue in the workplace (b=.141, p<. 05). This relationship contrasts with the finding on Facebook use and workplace discussion. Frequent Twitter users are less likely to speak out on political issues in the workplace (b=-.004, p<.05). However, as verified through the delta method, this relationship is moderated by the higher levels of perceived agreement that Twitter users share with their audience on Twitter (b=.002, p<.05). Although this moderation does not eliminate the direct, negative effect of Twitter use on deliberation in the workplace, it is reduced.

Discussion

There has been considerable optimism for how the internet and, recently, social media, may support democratic deliberation. On the whole, our findings do not support the conclusion that SNS are a positive contributor to deliberative democracy. We find clear evidence that the use of a SNS can have a direct, negative impact on deliberation in many offline settings: the home, the workplace, social gatherings with friends, and community meetings. While most pronounced for a SNS with near universal adoption, Facebook, the same relationship was found

for a less ubiquitous SNS, Twitter, although for the limited setting of the workplace. Only those with the strongest opinions about an issue are likely to overcome these negative relationships.

In the absence of information, people tend to assume homophily with close social ties. We anticipated that the use of SNS would reveal opinion diversity around an issue among family, close friends, neighbors, and coworkers. We found mixed support for this conclusion. Frequency of Facebook use was associated with lower levels of perceived agreement with coworkers, and use of Twitter to obtain political information was negatively associated with perceived agreement about that issue with family members. Yet, these relationships did not extend to as many reference groups as we anticipated. And, in the case of Twitter, frequent users perceived higher agreement with close friends; possibly as a result of the small-scale and more limited scope of the Twitter user base. It is possible that we overestimated the opportunity for discussion on Facebook around the issue we explored, thus, opinion diversity remained undiscovered. It is also possible that Facebook users were aware of unexpected disagreement amongst their social ties on the issue we explored, but that our measure of perceived agreement with reference groups did not capture variation that would have been visible if we had focused on disagreement with specific ties. Although, existing methodologies would largely have limited our scope to a study of close ties (Klofstad, McClurg, & Rolfe, 2009), which we found to be less likely to lead to a spiral of silence.

We expected the relationship between use of SNS, and lower levels of agreement with some reference groups to further impede deliberation offline. Where agreement was lower, we expected to find a spiral of silence in settings that are not dominated by close, trusting ties. We found such a relationship, but it was limited to frequent Facebook use, opinions of coworkers and political discussion in the workplace. We might have expected to find a similar relationship

for neighbors and deliberation at public meetings, but we did not. Perhaps, people view public meetings as a setting that is free form the gaze of the groups we studied, and thus not susceptible to a spiral of silence as a result of perceived opinions within these groups. Our findings may also speak to the unique nature of coworkers and the workplace. Like family, they are examples of social ties that are often maintained less out of voluntary association and more out of obligation that results from routine interaction. Unlike family, who are generally part of a dense, trusting network, the strength of workplace ties is more varied. The consequence of offense and disagreement may be more severe. Compared to family, and political conversations in the home, it is the relative lack of information about the political opinions of coworkers, and the perceived higher consequences of disagreement that may intensify the relationship to SNS. The routine, physical presence of coworkers may also increases the social pressure to include them as contacts on some SNS, which leads to awareness of political disagreement, and reduced willingness to have a political conversation in the workplace. SNS may have the strongest indirect impact, inhibiting political conversation in settings where opinion awareness is low, where the perceived cost of disagreement is high, and where there is more obligation to include people as contacts on SNS.

There is room for cautious optimism in our findings. Exposure to information about a specific political issue through SNS is associated with willingness to share opinions through SNS. When Facebook was used to gather information about a specific political issue, users were more willing, directly, and indirectly as a result of higher levels of perceived agreement with contacts, to discuss that issue on Facebook. It is not clear if this is a feature of social media more generally, a consequence of Facebook's size and ubiquity, or a specific outcome of their algorithms. From this evidence, one might be tempted to conclude that social media does offer

new opportunities for discursive deliberation. Although, as we have reported elsewhere (Hampton, et al., 2014), only 0.3% of those who report being unwilling to have a discussion in one or more in-person settings, such as a community meeting or at home with family, were willing to have such a discussion on social media. Social media may primarily be another opportunity for discursive participation amongst those who were already likely to discuss political issues.

We acknowledge that our study has a number of limitations. We do not know if our findings, from our one issue, can be generalized to other political issues. In reaction to revelations by Snowden and the government's surveillance of technology, it is conceivable that participants in our sample had adjusted their use of social media and their willingness to discuss topics pertaining to surveillance. However, given the extent of information leaked by Snowden at the time of our survey, we do not believe that the general public had extensively altered its online discourse as a result of this specific issue, and this would not have affected our key findings of direct, negative relationships between use of SNS and deliberation in-person. Structural equation modeling, including path analysis, supports causal interpretation (Bollen & Pearl, 2013). However, cross-sectional data can rarely establish causation, and while our model lends itself to the interpretation of parameters as causal effects, the certainty of such an explanation is premature.

This study explores the role of emerging technologies in a deliberative democracy. Our findings provide a tempered response to optimistic views about the discursive possibilities of social media. Social media increasingly make ties from offline contexts persistent online and make awareness of the opinions, interests, and activities of these ties pervasive. We find consistent evidence that, with the exception of those with the strongest attitudes, social network

sites are associated with lower willingness to discuss a political issue in-person, across a range of settings, from the private home, to public meetings. In some contexts, particularly the workplace, SNS contributes to a spiral of silence that can further hinder political conversation. We find and expect variation based on how people use social media and the scale of the social media platform. Further research should explore in more detail how variation in the adoption of SNS affects audience composition and opportunities for offline engagement. A natural next step would to examine in more detail the relationship between use of social media and awareness of dissonant information within social networks, as well as those contexts and political issues that are most susceptible to lower levels of discursive deliberation.

References

Bakshy, E., Messing, S., & Adamic, L. A. (2015). Exposure to ideologically diverse news and opinion on Facebook. *Science, 348*(6239), 1130-1132.

Bollen, K., & Pearl, J. (2013). Eight Myths About Causality and Structural Equation Models. In S. Morgan (Ed.), *Handbook of Causal Analysis for Social Research* (pp. 301-328). New York: Springer.

Boninger, D. S., Krosnick, J. A., Berent, M. K., & Fabrigar, L. R. (1995). The causes and consequences of attitude importance. In R. Petty & J. A. Krosnick (Eds.), *Attitude strength* (pp. 159-189). New York: Psychology Press.

boyd, d. m., & Ellison, N. B. (2007). Social Network Sites: Definition, History, and Scholarship. *Journal of Computer-Mediated Communication, 13*(1), 210-230.

Chambers, S. (2003). Deliberative democratic theory. *Annual review of political science, 6*(1), 307-326.

Coleman, J. (1988). Social Capital in the Creation of Human Capital. *American Journal of Sociology, 44*(Supplement), S95-S120.

Delli Carpini, M. X., Cook, F. L., & Jacobs, L. R. (2004). Public Deliberation, Discursive Participation, and Citizen Engagement. *Annual Review of Political Science, 7*(1), 315-344.

Dewey, J. (1927). *The Public and its Problems*. New York: Holt.

Duggan, M., Ellison, N. B., Lampe, C., Lenhart, A., & Madden, M. (2015). *Social media update 2014*. Washington D.C.: Pew Research Center.

Fishkin, J. S. (1995). *The voice of the people*. New Haven: Yale University Press.

Goel, S., Mason, W., & Watts, D. (2010). Real and Perceived Attitude Agreement in Social Networks. *Journal of Personality and Social Psychology, 99*(4), 611-621.

Goulet, L. S. (2012). *Friends in all the Right Places.* University of Pennsylvania, Philadelphia.

Granovetter, M. (1973). The Strength of Weak Ties. *American Journal of Sociology, 78*(6), 1360-1380.

Greenwald, G., & Ackerman, S. (2013, June 27). How the NSA is still harvesting your online data. *The Guardian* Retrieved from http://www.theguardian.com/world/2013/jun/27/nsa-online-metadata-collection

Habermas, J. (1989). *The theory of communicative action* (Vol. 2): Beacon press.

Halpern, D., & Gibbs, J. (2013). Social media as a catalyst for online deliberation? Exploring the affordances of Facebook and YouTube for political expression. *Computers in Human Behavior, 29*(3), 1159-1168.

Hamilton, K., Karahalios, K., Sandvig, C., & Eslami, M. (2014). *A path to understanding the effects of algorithm awareness*. Paper presented at the CHI '14 Extended Abstracts on Human Factors in Computing Systems.

Hampton, K. N. (2011). Comparing Bonding and Bridging Ties for Democratic Engagement. *Information, Communication & Society, 14*(4), 510-528.

Hampton, K. N. (2016). Persistent and Pervasive Community: New Communication Technologies and the Future of Community. *American Behavioral Scientist, 60*(1), 101-124.

Hampton, K. N., Goulet, L. S., Marlow, C., & Rainie, L. (2012). *Why Most Facebook Users Get More Than They Give*. Washington D.C.: Pew Research Center.

Hampton, K. N., Goulet, L. S., Rainie, L., & Purcell, K. (2011a). *Social Networking Sites and Our Lives*. Washington, D.C.: Pew Research.

Hampton, K. N., Lee, C. J., & Her, E. J. (2011b). How New Media Afford Network Diversity. *New Media & Society, 13*(7), 1031-1049.

Hampton, K. N., Rainie, L., Lu, W., Dwyer, M., Shin, I., & Purcell, K. (2014). *Social Media and the "Spiral of Silence"*. Washington, D.C.: Pew Research Center.

Hampton, K. N., Sessions, L., & Ja Her, E. (2011c). Core Networks, Social Isolation, and New Media. *Information, Communication & Society, 14*(1), 130-155.

Hampton, K. N., & Wellman, B. (2003). Neighboring in Netville. *City and Community, 2*(3), 277-311.

Hayes, A. F., Shanahan, J., & Glynn, C. J. (2001). Willingness to express one's opinion in a realistic situation as a function of perceived support for that opinion. *International Journal of Public Opinion Research, 13*(1), 45-58.

Himelboim, I., McCreery, S., & Smith, M. (2013). Birds of a Feather Tweet Together. *Journal of Computer-Mediated Communication, 18*(2), 40-60.

Holtz, R., & Miller, N. (1985). Assumed similarity and opinion certainty. *Journal of Personality and Social Psychology, 48*(4), 890.

Jacobs, L. R., Cook, F. L., & Delli Carpini, M. X. (2009). *Talking Together*. Chicago: University of Chicago Press.

Kaplan, A. M., & Haenlein, M. (2010). Users of the world, unite! The challenges and opportunities of Social Media. *Business Horizons, 53*(1), 59-68.

Katz, E. (1981). Publicity and pluralistic ignorance. In H. Baier, M. Kepplinger & K. Reumann (Eds.), *public opinion and social change* (pp. 28-38). Wiesbaden: Verlag.

Katz, E., & Lazarsfeld, P. (1955). *Personal Influence*. Glencoe, IL: Free Press.

Kim, J., Wyatt, R. O., & Katz, E. (1999). News, talk, opinion, participation. *Political communication, 16*(4), 361-385.

Klofstad, C. A., McClurg, S. D., & Rolfe, M. (2009). Measurement of Political Discussion Networks. *Public Opinion Quarterly, 73*(3), 462-483.

Lofland, L. (1998). *The Public Realm*. New York: Aldine de Gruyter.

Lu, W., & Hampton, K. N. (in press). Beyond the power of networks. *New Media & Society*.

Markus, M. L. (1987). Toward a Critical Mass Theory of Interactive Media. *Communication Research, 14*(5), 491-511.

Marwick, A. E., & boyd, d. (2010). I Tweet Honestly, I Tweet Passionately. *New Media & Society, 13*(1), 114-133.

Matthes, J., Rios Morrison, K., & Schemer, C. (2010). A Spiral of Silence for Some. *Communication Research, 37*(6), 774-800.

Moy, P., Domke, D., & Stamm, K. (2001). The spiral of silence and public opinion on affirmative action. *Journalism & Mass Communication Quarterly, 78*(1), 7-25.

Muthén, L. K., & Muthén, B. O. (2012). Mplus: Statistical Analysis with Latent Variables (Version 7)[Computer software]. Los Angeles Muthén& Muthén.

Noelle-Neumann, E. (1974). The Spiral of Silence A Theory of Public Opinion. *Journal of Communication, 24*(2), 43-51.

Noelle-Neumann, E. (1993). *The spiral of silence : public opinion, our social skin*. Chicago: University of Chicago Press.

Oshagan, H. (1996). Reference Group Influince on Public Expression. *International Journal of Public Opinion Research, 8*(4), 335-354.

Papacharissi, Z. (2002). The virtual sphere. *New Media Society, 4*(1), 9-27.

Papacharissi, Z. (2004). Democracy online: civility, politeness, and the democratic potential of online political discussion groups. *New Media & Society, 6*(2), 259-283.

Price, V. (2009). Citizens deliberating online: Theory and some evidence. In T. Davies & S. P. Gangadharan (Eds.), *Online deliberation: Design, research, and practice* (pp. 37-58). Chicago, IL: CSLI Publications.

Price, V., & Cappella, J. N. (2002). Online Deliberation and its Influence. *IT and Society, 1*, 303-328.

Qian, H., & Scott, C. R. (2007). Anonymity and Self-Disclosure on Weblogs. *Journal of Computer-Mediated Communication, 12*(4), 1428-1451.

Rogers, E. (1983). *Diffusion of Innovations*. New York: Free Press.

Scheufele, D. A., & Shah, D. V. (2000). Personality Strength and Social Capital. *Communication Research, 27*(2), 107-131.

Schudson, M. (1997). Why conversation is not the soul of democracy. *Critical Studies in Mass Communication, 14*(4), 297-309.

Smith, A. (2010). *Government Online*. Washington, DC: Pew Internet & American Life Project.

Sunstein, C. R. (2001). *Republic.com*. Princeton, N.J.: Princeton University Press.

Wellman, B. (1979). The Community Question. *American Journal of Sociology, 84*(5), 1201-1231.

Wellman, B., & Hampton, K. N. (1999). Living Networked On and Offline. *Contemporary Sociology, 28*(6), 648-654.

Wesch, M. (2009). YouTube and you: Experiences of self-awareness in the context collapse of the recording webcam. *Explorations in Media Ecology, 8*(2), 19-34.

Wojcieszak, M. E., & Mutz, D. C. (2009). Online Groups and Political Discourse: Do Online Discussion Spaces Facilitate Exposure to Political Disagreement? *Journal of Communication, 59*(1), 40-56.

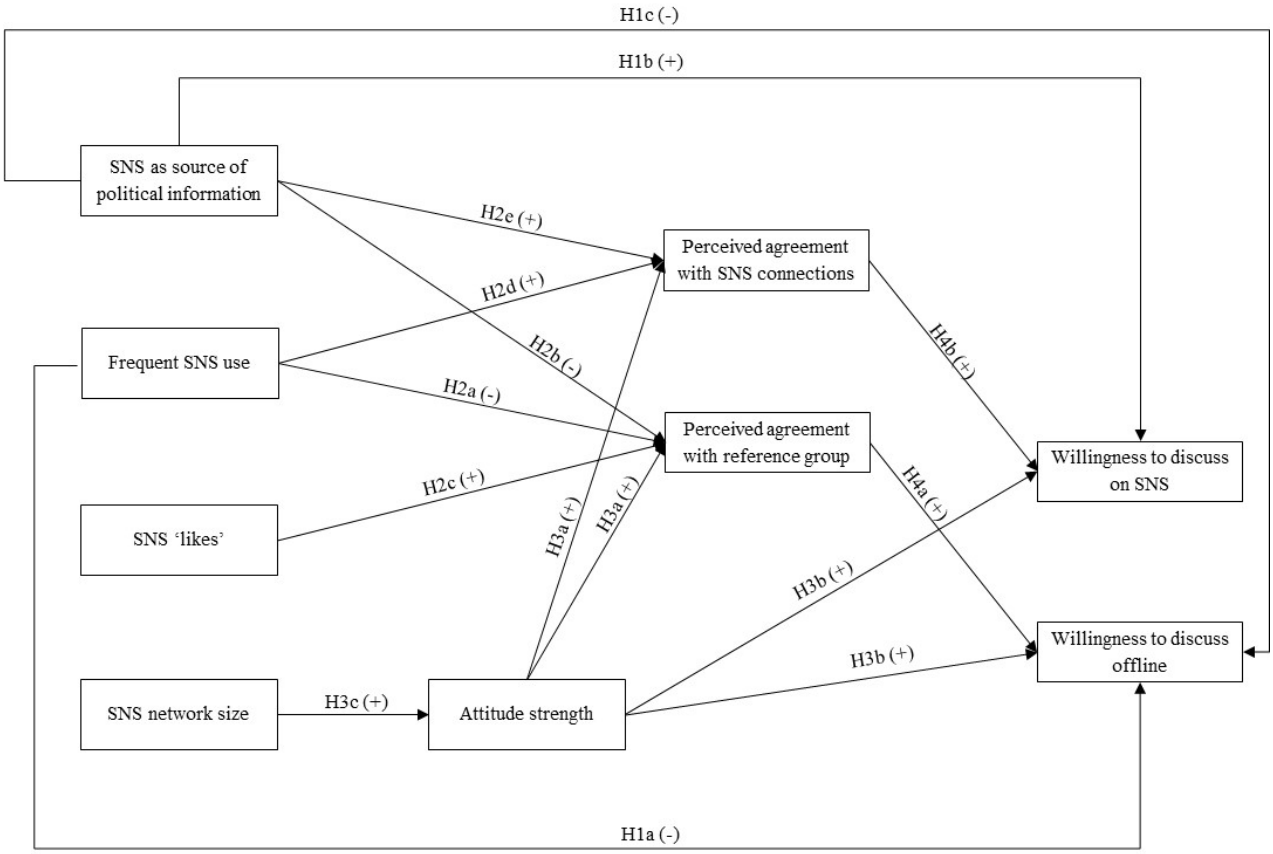

Figure 1: Hypothesized relationship between use of social network sites, opinion strength, opinion awareness, and willingness to discuss a political issue on- and offline.

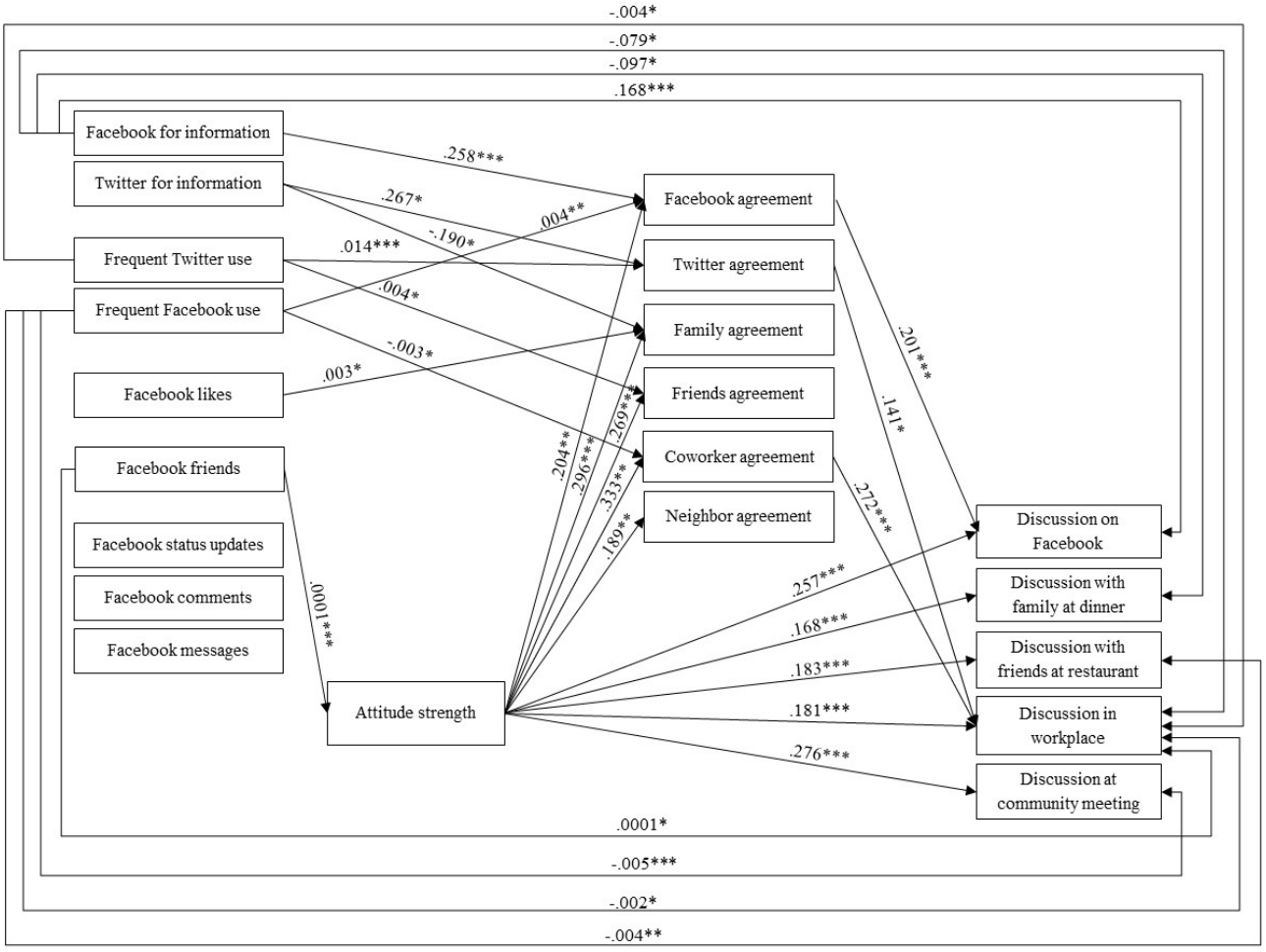

Figure 2: Path model for social media use and willingness to discuss a political issue

Table 1: Path model for social media use and willingness to discuss a political issue (N=1060)

	Strong Attitude	Family Agreement	Friends Agreement	Coworker Agreement	Neighbor Agreement	Facebook Agreement	Twitter Agreement
Constant	1.316***	1.073***	1.142***	1.234***	1.202***	1.189***	.222
Age	.001	-.006	-.005	-.013***	-.012***	-.012***	-.004*
Education	-.007	.034	.030	-.021	.008	-.002	.005
Female	-.175***	.047	-.091	-.330***	.051	-.008	-.076
Black	-.205**	-.200	-.043	.196	.045	.034	.090
Married	-.085	-.104	-.059	-.056	-.003	.028	-.020
Interest	.033	.020	.094*	.114**	.048	.067	.024
Knowledge	.058	.081	.130**	-.001	-.027	-.033	-.039
Attitude strength	-	.296***	.269***	.333***	.189**	.204***	.003
Info from newspapers	-.019	-.018	-.012	.002	.016	.012	-.027
Info from TV/radio	-.014	-.020	-.056	.006	.051	.043	.002
Info from friend/family	.041	.090*	.041	.030	.060	-.060	-.008
Info from other online	.014	.016	-.0004	.003	-.071	-.038	.014
Info from FB	-.005	.076	.050	.073	.044	.258***	.029
Info from Twitter	.008	-.190*	-.104	-.064	-.014	-.069	.267*
Twitter monthly visits	-.002	.003	.004**	.002	.001	-.003	.014***
FB monthly visits	.001	-.002	-.001	-.003*	-.002	.004**	-.001
Number of FB friends	.0001***	-.00005	.0001	.0001	.0001	.0001	.0001
FB status updates	.001	.003	.004	-.003	.001	.001	-.001
FB likes	.0002	.003*	.002	.002	.001	-.001	.001
FB comments	-.001	-.002	-.001	-.001	-.001	-.001	.001
FB messages	-.001	.002	.001	-.001	.001	.003	.001
Family agreement	-	-	-	-	-	-	-
Friend agreement	-	-	-	-	-	-	-
Coworker agreement	-	-	-	-	-	-	-
Neighbor agreement	-	-	-	-	-	-	-
FB Agreement	-	-	-	-	-	-	-
Twitter agreement	-	-	-	-	-	-	-
R^2	.079	.101	.116	.129	.054	.184	.381

(Cont.) Table 1: Path model for social media use and willingness to discuss a political issue (N=1060)

	At community meeting	At work	At restaurants with friends	At family dinner	On Facebook
Constant	.709**	.687**	.407	.682**	.842***
Age	-.001	-.006**	-.005*	-.003	-.004
Education	-.002	.002	.057***	.026	-.039**
Female	-.126	-.092	-.077	.089	-.077
Black	-.123	-.148	-.060	-.109	-.062
Married	.117	.216**	-.024	.060	.035
Interest	.119**	.119**	.137***	.146***	.043
Knowledge	.147**	.201***	.160**	.098*	.127*
Attitude strength	.276***	.181**	.183**	.168**	.257***
Info from newspapers	.054	.061	.005	.004	.062
Info from TV/radio	-.032	-.002	.017	.060	-.053
Info from friend/family	.055	.007	.061	.085*	.007
Info from other online	.067*	.010	-.009	.040	.021
Info from FB	.020	-.097*	-.011	-.079*	.168***
Info from Twitter	-.130	-.083	-.110	-.014	.00003
Twitter monthly visits	-.002	-.004*	.0004	.0004	-.004
FB monthly visits	-.005***	-.002*	-.004**	-.001	.001
Number of FB friends	.0001	.0001*	.00002	.0001	.0001
FB status updates	.004	.0004	.002	-.001	.004
FB likes	.002	.001	.002	.002	-.0001
FB comments	.0004	.002	.001	-.001	.002
FB messages	.001	.002	-.001	-.0001	.003
Family agreement	.029	.024	.068	.071	-.043
Friends agreement	.079	-.031	.064	.065	-.070
Coworkers agreement	.020	.272***	-.005	.034	.037
Neighbors agreement	.008	-.046	-.009	-.046	-.009
FB agreement	.033	.012	.048	.016	.201***
Twitter agreement	.069	.141*	.005	.007	.048
R^2	.211	.233	.185	.173	.248

Note. All coefficients are unstandardized coefficients.
*p<.05, **p<.01, ***<p<.001