# Extending the Spiral of Silence: Partisan Media, Perceived Support, and Sharing Opinions Online

Meredith Y. Wang, Jay D. Hmielowski, Myiah J. Hutchens & Michael A. Beam

Routledge
Taylor & Francis Group

Check for updates

# Extending the Spiral of Silence: Partisan Media, Perceived Support, and Sharing Opinions Online

Meredith Y. Wang, Jay D. Hmielowski, Myiah J. Hutchens, and Michael A. Beam

**ABSTRACT**

In this paper, we apply the spiral of silence theory to the study of partisan media and political participation. Our results show consuming supportive partisan news outlets is associated with perceiving that other people share one's opinions. In addition, levels of perceived support are associated with the likelihood of sharing opinions in online contexts. Moreover, our result shows that the relationship between perceived support and sharing opinions varies by the individual difference variable of conflict avoidance. To test our model, we use data collected right before the 2014 midterm election in the United States.

Today's fragmented media system has created opportunities for scholars to reexamine old mass communication theories and ideas. For example, the fragmented media system of today has provided scholars with the opportunity to reexamine ideas such as selective exposure, leading to a more comprehensive understanding of why people seek out supportive or opposing information (Holbert, Hmielowski, & Weeks, 2012; Hollander, 2008) and the effects of this information on the public (DellaVigna & Kaplan, 2007; Dilliplane, 2014; Feldman, Maibach, Roser-Renouf, & Leiserowitz, 2011; Garrett, 2009; Jones, Ferraiolo, & Byrne, 2011). Another mass communication theory that scholars have started to reexamine is the spiral of silence. These reexaminations have aimed to understand whether use of partisan media outlets is associated with people's perceptions of the opinion climate (Dvir-Gvirsman, 2015; Dvir-Gvirsman, Garrett, & Tsfati, 2015).

The changes in our current media system do not end with the expansive choices available. Today's media system also provides the public with greater opportunities to voice their opinions via social media pages (Bennett, 2012; Gil de Zúñiga, Jung, & Valenzuela, 2012), discussion boards (Wojcieszak & Mutz, 2009), and comment sections on news Web sites (Ruiz et al., 2011). The opportunity to engage in these conversations has led scholars to expand on the notion of political participation to include both *dutiful* and *actualizing* styles of participation (Bennett, Wells, & Freelon, 2011). From this perspective, *dutiful* includes traditional types of participation such as donating to a campaign, while *actualizing* behaviors include sharing views and opinions with others about politics on social media sites (e.g., Facebook) or commenting (or responding to comments) on online news stories. Indeed, survey research has shown high levels of actualizing behaviors among people living in the United States (Olmstead, Mitchell, & Rosenstiel, 2011; Pew Research Center, 2013). Despite the prominence of people engaging in these actualizing behaviors, more research is needed to understand why people take these types of actions.

In this paper, we attempt to expand on these lines of research by combining studies on partisan media, the spiral of silence, and actualizing behaviors. Specifically, we examine the relationship between the use of liberal and conservative news outlets and perceived support for one's opinions within one's social network. We assess these relationships by testing an interaction to determine whether supportive (e.g., use of conservative outlets for conservatives) or opposing information (e.g., use of conservative outlets for liberals) is related to higher or lower levels of perceived

**CONTACT** Meredith Y. Wang ✉ yiran.wang@wsu.edu ▣ Edward R. Murrow College of Communication, Washington State University, PO Box 642530, Pullman, WA 99164.

support for one's opinions. We also examine the relationship between perceived support for one's opinions and willingness to share information with others in online settings. In addition, we test whether differences among individuals regarding the variable of conflict avoidance moderates the relationship between perceived support and sharing information. To test this model, we use data from an online quota sample of respondents collected via a Qualtrics panel right before the 2014 midterm elections.

## The spiral of silence in the modern media landscape

The spiral of silence theory focuses on understanding people's perceptions of public opinion, and their effects on people's willingness to share their views. The theory proposes that when people fear social isolation, they adjust their willingness to voice their opinions to others, basing what and how much they disclose on the perceived opinion climate on a topic. To be specific, when people sense that the public holds a different opinion than their own, they will be less likely to express their own viewpoint in public settings. By contrast, people will be more likely to express opinions when they feel the majority of the public shares their views (Noelle-Neumann, 1974, 1993). The theory cautions that because democracy by definition promotes the sharing of ideas and information, a lack of diverse views could result in negative consequences for democratic countries (Neuwirth, Frederick, & Mayo, 2007). In fact, minority opinions can be silenced over time, as public opinion gets transformed into dogma (Scheufle & Moy, 2000).

In her proposed theory, Noelle-Neumann (1974, 1993) outlined that the media play an important role in informing the public about whether their views are in the majority or the minority. The spiral of silence theory notes that the media can tell us what others think about issues (Mutz, 1998). The concern is that when media reports make it seem like the public supports an issue, those who oppose the issue may feel a sense of isolation that decreases their willingness to voice their opinions to others. This is particularly concerning because media coverage may not always reflect public sentiment on an issue (Noelle-Neumann, 1974, 1977, 1985, 1991; Noelle-Neumann & Petersen, 2004). Gonzenbach and Stevenson's (1994) research partly confirms this concern. Combining a content analysis of mass media and a survey of audiences, their study indicates that protests against children with AIDS being allowed to attend school garnered a significant amount of media coverage. The result of this coverage was that the people who thought these kids with AIDS *should* be able to attend school felt like they held the minority opinion, even though they constituted the majority. Likewise, those who were opposed to children with AIDS attending school felt like they held the dominant opinion, even though they were in the minority—all as a result of media coverage.

The importance placed on the media has led scholars to examine the relationship between media use and willingness to voice opinions or fear of isolation that lead to the spiral of silence. For instance, studies have found that the use of mass media correlates with a greater willingness to voice opinions (Moy, Domke, & Stamm, 2001), a decrease in fear of negative evaluation (Shoemaker, Breen, & Stamper, 2000), and greater perceived support for their views (Shanahan, Scheufele, Yang, & Hizi, 2004). Overall, these studies have shown that media use plays an important role relative to understanding why people do or do not share their views on controversial political issues.

Although a number of studies have shown support for the spiral of silence theory, changes to the media environment and a greater emphasis on testing for conditional and indirect effects have opened the door for scholars to reassess this theory. We believe two important gaps remain. First, a great deal of the research on the spiral of silence was conducted in an age where broadcast news dominated the media landscape. For example, during the 1970s the average U.S. household had access to six stations. Of these six, the three broadcast networks (ABC, CBS, and NBC) attracted around 80% of all viewers (Prior, 2007). Today's media environment provides people a greater choice in content (Hmielowski, Beam, & Hutchens, 2016; Mutz, 2006; Mutz & Martin, 2001; Prior, 2007, 2013; Sunstein, 2001). Indeed, Moy and Hussain (2014) argue that "It is a truism to note that the relatively centralized media map of the 1970s (when spiral of silence was developed)

bears little resemblance to what exists today" (p. 92). Instead of large networks dominating the airwaves, today people can freely choose among social media outlets, online news outlets (that are almost infinite), and the large number of channels now available through cable or satellite providers. This new media landscape has led to calls from scholars to reassess previous work on media effects. For instance, Bennett and Iyengar (2008) have suggested that scholars should reexamine media effects in the face the fragmentation of the national audiences. Therefore, it is important to revisit the spiral of silence theory in today's fragmented media environment.

Second, a great deal of spiral of silence research has focused on the direct relationship between media use, perceived opinions, and willingness to share opinions (Glynn & McLeod, 1984; Ho & McLeod, 2008; Kim, Wyatt, & Katz, 1999; Matthes, Rios Morrison, & Schemer, 2010; Scheufele & Eveland, 2001). However, it is important to expand on these ideas by looking at indirect and conditional relationships between media use and important outcome variables tied to the spiral of silence. Indeed, Mutz and Silver (2014) argue that "[t]he Spiral of Silence indirectly acknowledges, yet also largely ignores, the facilitative role that perceptions of the opinion climate can play in encouraging mass political participation" (p. 76). Recent studies have examined the indirect effects of partisan media consumption on polarization through the perceived opinion climate (Tsfati & Chotiner, 2015; Tsfati, Stroud, & Chotiner, 2013). In addition to these indirect effects, scholars have started to explore whether variables such as news attention (Ho, Chen, & Sim, 2013) and attitude certainty (Matthes et al., 2010) moderate the relationship between opinion climate and willingness to speak out. These studies highlight the ways that scholars can expand on the work that has been conducted on the spiral of silence.

### Partisan media exposure and perceived support

We begin by examining whether use of partisan media is associated with people's perceived support for their opinions. Unlike the mainstream media, "which prize balance, fairness and objectivity," partisan media usually report news and opinions biased in favor of one political party (Levendusky, 2013, p. 2).

Hence, partisan media provide their audience with a consistently liberal or conservative version of the news that is largely consumed by a receptive audience (Levendusky, 2013). For instance, recent data show nearly half of consistent conservatives reported that Fox News is their main source for political information while MSNBC is also one of the top sources for liberals (Pew Research Center, 2014a). The concern is that consumption of supportive news has been shown to affect people's attitudes and beliefs about the world (Coe et al., 2008; Feldman et al., 2011; Garrett, 2009; Hmielowski et al., 2016; Holbert et al., 2012; Hollander, 2008, Jamieson & Cappella, 2008; Pew Research Center, 2014b; Stroud, 2011; Tsfati et al., 2013). One set of studies has shown that use of supportive information is associated with a variety of important outcome variables such as increasing levels of attitudinal and affective polarization (Jones, 2002, Stroud, 2010; Sunstein, 2001; Tsfati et al., 2013). For instance, research has shown that consistent media messages push audiences in a congenial direction (Dilliplane, 2011; Stroud, 2010; Sunstein, 2001, 2009) and long-term use of supportive partisan media may lead people to hold more extreme, rigid political views (e.g., ideology and political attitudes) (DellaVigna & Kaplan, 2007; Jones, 2002). By contrast, research has shown that consuming sources that challenge existing beliefs leads people to become more hostile toward their out-party (Levendusky, 2013; Mutz, 1998).

Recently, scholars have started to assess whether these outlets affect people's perceptions of public opinion. For instance, Tsfati and his colleagues (2013) found that use of supportive information was associated with a biased perception of the opinion climate. That is, people who watch conservative outlets believed that the public held conservative views on political issues in both Israel and the United States. Similarly, Dvir-Gvirsman (2015) found that the more people use media content that supports their opinions, the more likely they are to overestimate support for their views. Based on the research presented here, we propose the following hypothesis:

H1: There will be a divergent interaction in which supportive news (e.g., conservatives using Fox News) will increase perceived support for one's opinions within one's social network, while

*use of opposing news will decrease perceived support for one's opinion within one's social network.*

## Sharing news and perceived support

In addition to giving people more choice over the content they consume, today's communication technologies provide people with opportunities to share their opinions with others much more easily than ever before. Indeed, Web sites have developed technologies that make sharing news an easy process. Users can endorse news content, journalists, and news brands through commenting spaces on Web sites or by sharing news via e-mail or social networking Web sites (Beam, Hutchens, & Hmielowski, 2016; Hermida, Fletcher, Korell, & Logan, 2012; Lee & Ma, 2012; Messing & Westwood, 2012; Olmstead et al., 2011). The ease of communicating with others is clear when looking at how much news people share via communication tools such as Facebook. Recent surveys have shown that 37% of Internet users are commenting or disseminating information via their social media Web sites (e.g., Facebook or Twitter). In all, more than half of online news consumers share news (Olmstead et al., 2011). Research also shows that during election season those most likely to be primary voters are more likely to share election-related information on social media (Pew Research Center, 2016). To a certain extent, people's level of engagement relative to sharing news has led scholars to reassess the notion of political participation. Bennett and his colleagues (2011) developed a framework that treats sharing opinions as a specific type of participation. Their work created two categories of participation: dutiful and actualizing. Dutiful participation includes traditional participation such as mobilizing or organizing political groups or reading the news, while the actualizing style of participation focuses on online self-expression such as posting and sharing political opinions and news articles. Bennett and his colleagues argue that two kinds of participation describe "different parts of a changing citizenship picture: The former accounting for the fragmentation of an old civic order, and the latter bringing emerging civic styles into focus" (Bennett et al., 2011, p. 836). With data showing that people are increasingly sharing news online, scholars have spent more time examining why people engage in these actualizing styles of participation.

One area of research that has extended the work on actualizing participation has focused on whether perceived support for one's opinions increases or decreases people's willingness to share their views online. More important, scholars have argued for the importance of examining the spiral of silence process in online settings (Rössler & Schulz, 2014). Rössler and Schulz (2014) note that online news sharing patterns can in turn shape how other online users perceive the climate of opinion, which means that spiral of silence mechanisms may work differently in online settings compared to the face-to-face settings proposed in the early worked looking at this process. For instance, Pew Research Center's Social Media and the Spiral of Silence project (2014b) showed that Facebook users were more likely to share their opinions if they thought their followers held similar views. Studies using more rigorous statistical analyses have shown similar results. Other studies have shown that people do indeed assess whether the majority share their views when deciding whether to voice their opinions in online contexts (Gearhart & Zhang, 2014; Ho & McLeod, 2008; McDevitt, Kiousis, & Wahl-Jorgensen, 2003; Woong Yun & Park, 2011). Overall, these findings show that people's perceptions play an important role in understanding whether they share information with others over the Internet.

We believe perceived support for one's opinions will play an important role in understanding whether people decide to share their views online when users are posting under their true identities (Rössler & Schulz, 2014). Our study focuses on Facebook and Twitter, two of the largest social network sites used for news in the United States (Pew Research Center, 2014a). Past research has found that users of Facebook and Twitter are generally personally identified rather than anonymous (Rössler & Schulz, 2014). Although many spiral of silence studies focus on public opinion as a way to assess perceived opinion climate, we focus our study on the perceived opinion climate in individuals' reference group. Early criticisms of spiral of silence theory pointed out that the theory failed to include reference groups and social networks (Glynn & Park, 1997; Krassa, 1988; Oshagan, 1996). Many scholars argued that a person's reference group could play an important role in terms of attitude formation and whether people would share their views with others (Moy et al., 2001; Moy & Hussain, 2014; Newcomb,

1948). For instance, Moy et al. (2001) found when people perceive less support from family and friends, they will be less likely to voice their opinions on controversial ballot initiative. Based on the research presented here, we propose the following hypothesis:

*H2: Higher perceived support for one's views within one's social network will be associated with sharing news/opinions online.*

Overall, our literature review suggests that use of partisan media outlets should be related to perceived support for one's opinions (Tsfati et al., 2013). The literature also suggests that perceived support for one's opinions should be related to people's willingness to share their opinions with others (Tsfati & Chotiner, 2015). In essence, use of supportive and opposing media may have an indirect effect on people's willingness to share their opinions through the perceived support of their own opinions. Research has shown evidence that perceived support for one's opinions can serve as a mediating variable. For instance, Tsfati et al. (2013) found that the public opinion climate mediates the relationship between partisan media consumption and polarization. Specifically, they found that Republicans' use of conservative media was associated with greater certainty that Bush would win the 2004 election. Moreover, this belief served as a mediating variable between news use and polarization (Tsfati et al., 2013). Dvir-Gvirsman et al. (2015) also found an indirect effect of partisan media use on dutiful participation through people's perceptions of public opinion.

Therefore, we expect to see a similar indirect effect for actualizing styles of participation (i.e., sharing views online). Specifically, we examine the indirect relationship between partisan media use and willingness to share views online through perceived support for views in one's social network. Moreover, we examine whether the indirect relationship varies by political ideology. Therefore, we propose the following hypothesis:

*H3: There will be a positive indirect relationship between partisan media use and sharing views online through perceived support for one's opinion, and a negative indirect relationship for opposing information.*

## Conflict avoidance and news sharing

We also extend the literature by looking at whether the perceived support for one's opinions and sharing views online vary by conflict avoidance. Previous research has shown the importance of these individual difference variables relative to predicting political behaviors. For instance, Hayes, Scheufele, and Huge (2006) showed that willingness to self-censor is negatively associated with engagement in public political activities. Similarly, Ho et al. (2013) found that individuals' tendency of wanting to save face is negatively related with their willingness to express opinions.

The importance of looking at interactions has not been lost on spiral of silence scholars. As mentioned before, communication scholars have explored whether the relationship between the perceived opinion climate and one's willingness to speak out varies by "attitude certainty" variables (Matthes et al., 2010). The spiral of silence theory also emphasizes that the relationship between the perceived opinion climate and one's willingness to share opinions varies by "individual difference" variables (Noelle-Neumann, 1993). Indeed, because sharing views online is a public behavior, people who prefer to avoid conflict may be reluctant to share their views online if they feel that their audience does not agree with their views. For instance, Ho et al. (2013) found individuals' tendency of wanting to save face moderates the relationship between news attention and willingness to express opinions. Vraga, Thorson, Kligler-Vilenchik, and Gee (2015), via in-depth interviews and an online survey with young Facebook users, found that conflict avoidance moderates individuals' perception of Facebook's political climate and their willingness to post news about politics on their pages. In particular, they found that people with a low level of conflict avoidance would still post about politics when they sensed disagreement in their Facebook's political climate, while people with a higher level of conflict avoidance would be less likely to post when they perceived disagreement. Based on the research outlined in this paragraph, we believe that people with higher levels of conflict avoidance will be willing to share their views only if they perceive that friends and family share their views. Therefore, we propose the following hypothesis:

*H4a: Conflict avoidance will moderate the relationship between perceived support and sharing opinions, with those with higher levels of conflict avoidance showing a greater intention to share news when perceived support is high.*

In addition to proposing this interaction, we believe the conditional indirect relationship we outlined in H3 will vary by a person's level of conflict avoidance. In essence, the increase in believing friends and family share their opinions from hearing supportive information in the media should matter more to individuals with a high level of conflict avoidance. As a result, we propose our final hypothesis:

*H4b: Conflict avoidance will moderate the indirect relationship for supportive media consumption on news sharing. In other words, hearing supportive information will increase perceived support for one's opinions, which will lead individuals with high conflict avoidance to be more willing to share their views online.*

## Method

Data presented in this study were obtained from a national online panel of participants recruited by Qualtrics, an online survey software and sample provider. Data were collected between October 28, 2014 and October 30, 2014, prior to the 2014 U.S. midterm elections ($N = 984$). Panel members were sampled from quota groups that matched national census characteristics. The original sample included 1,002 participants. However, due to missing data, we have eliminated some of the sample and are thus analyzing the responses of 984 individuals. These types of samples have become more popular in recent years as the public continues to move away from landlines to cell phones, which has reduced researchers' ability to collect data using random digit dialing to reach a probability sample (Ansolabehere & Schaffner, 2011). As a result, scholars have examined the quality of quota samples. Studies have shown that opt-in Internet panels using quota groups provide higher levels of error, compared with traditional probability methods (Yeager et al., 2011), while others have found that using those samples makes little difference in terms of response quality (Ansolabehere & Schaffner, 2014).

Moreover, this paper is testing a theoretical process, which means it is more interested in making process inferences rather than population inferences. In other words, we are trying to build theory, which means we are more interested in replicating the results of the process proposed in the study (Hayes, 2005).

### Endogenous measures

#### Media use
Our measure of *conservative media use* included four items. Using a six-point scale ranging from *Never* (0) to *Several times a day* (5), we asked respondents how often they watched Fox News, Fox News via the Internet, or other conservative news Web sites and conservative talk radio. We ran an exploratory factor analysis[1] that confirmed the acceptability of the measure given that all items loaded onto one factor and all loadings are significant ($\lambda \geq 0.69$). The mean of these four items was calculated to create our measure of conservative news use ($M = 1.24$, $SD = 1.34$, $\alpha = 0.84$). Using the same six-point scale, we measured *liberal news use* with three items that asked respondents how often they used MSNBC via TV, MSNBC via the Internet, and liberal news Web sites. The exploratory factor analysis also provided acceptable results for the liberal media use scale given that all items loaded onto one factor and all loadings are significant ($\lambda \geq 0.59$). The mean of these three items was calculated to create our measure of liberal news use ($M = 1.22$, $SD = 1.33$, $\alpha = 0.80$).

#### Political ideology
*Political ideology* was measured by asking participants to place themselves on a seven-point scale from *Strongly conservative* (0) to *Strongly liberal* (6) ($M = 2.98$, $SD = 1.68$).

#### Perceived support
Six items asked respondents their perceived support for their political views of people within their social network. Using a seven-point scale that ranged from *Strongly disagree* (0) to *Strongly agree* (6), we asked respondents the degree to which they agree with the following six statements: "I feel friends I interact with offline share my political views"; "My online friends hold similar political

views as I do"; "I feel that the majority of my friends on social networking sites (e.g., Facebook) share my political views"; "I feel my family shares my political views"; "I feel friends I interact with face-to-face share my political views"; "My friends hold similar political views as I do." The exploratory factor analysis indicated that this variable was also acceptable with all items loaded onto one factor and all loadings are significant ($\lambda \geq 0.56$). The scores of these six items were averaged together to create our measure of perceived support for views in one's social network ($M = 3.40$, $SD = 1.12$, $\alpha = 0.80$).

### Conflict avoidance

Five items asked respondents about their propensity to avoid conflict. Using a seven-point scale ranging from "Strongly disagree" (0) to "Strongly agree" (6), we asked respondents whether they avoid arguments, wait to see if a dispute will resolve itself before taking action, hate arguments, rarely have arguments with their friends, or feel upset after an argument. The exploratory factor analysis indicated all items loaded onto a single factor and had acceptable factor loadings ($\lambda \geq 0.45$). The scores of these five items were averaged together to create our measurement of conflict avoidance ($M = 3.85$, $SD = 1.15$, $\alpha = 0.81$).

### Online opinion expression

Ten items were adapted from prior measures assessing frequency of online opinion expression (e.g., Gil de Zúñiga et al., 2014; Jung et al., 2011; Kushin & Yamamoto, 2010). Respondents were asked how often they engaged in a variety of expressive acts online, including e-mailing news stories, liking news stories someone else posted on Facebook and Twitter, contributing to a discussion about a news story, and posting news links or information on Facebook and Twitter. All of these items used the same six-point scale of "Never" (0) to "Multiple times a day" (5). The exploratory factor analysis for this scale indicated a single factor with significant loadings ($\lambda \geq 0.76$). We averaged the scores of these ten items together into one index for our measure of sharing news ($M = 1.23$, $SD = 1.25$, $\alpha = 0.95$).

### Exogenous (Control) variables

Additional variables included in our statistical models as controls were *age, education, income, gender, ethnicity, political interest, political ideology, general political discussion, safe discussion, dangerous discussion. Age* was measured with a single item asking participants their age as of their last birthday ($M = 40.28$, $SD = 12.90$). *Education* was measured with a single item asking, "What is the last grade or class you completed in school?" Ordinal response options were coded from 0 to 8 in ascending order from *None* to *Post-Graduate Training or School* ($M = 4.10$, $SD = 1.56$). *Income* was measured with one item using a nine-point scale that ranged from less than 10,000 dollars a year to more than 150,000 dollars a year ($M = 6.26$, $SD = 4.27$). *Gender* was measured with one item asking respondents their biological sex (50% Female). *Ethnicity* was measured by asking participants their race. They were instructed to select all that apply. We coded participants who selected any race other than "White" as a minority (19% non-White).[2]

Beyond basic demographic variables, our model also included additional variables that could play an important role in the process model we outline in our paper. *Political interest* was assessed by asking participants to respond to the statement, "In general, I am very interested in politics." Response options ranged from *Strongly disagree* (0) to *Strongly agree* (6) ($M = 3.89$, $SD = 1.62$). *Traditional news consumption* was assessed by asking participants how frequently they read print national newspapers, the Web site or app version of a national newspaper, network television news broadcast, and the Web site or app version of a network television news organization. Response options ranged from *Never* (0) to *Several times a day* (5) ($M = 2.03$, $SD = 1.21$, $\alpha = 0.73$). The exploratory factor analysis indicated that it is appropriate to scale these items as all items loaded onto one factor and all loadings are significant ($\lambda \geq 0.4$). The scores of these four items were averaged together to create our measurement of traditional news consumption. *News attention* was measured by asking participants to respond to the statement, "I pay attention to the news." Response options ranged from *Strongly disagree* (0) to *Strongly agree* (6) ($M = 5.52$, $SD = 1.44$).

*General political discussion* was measured by asking participants how often they discuss politics face-to-face. Response options ranged from *Never* (0) to *All the time* (4) ($M = 1.93$, $SD = 1.03$). *Safe discussion* was measured by asking participants how often they discuss politics face-to-face with individuals they agree with. Response options ranged from *Never* (0) to *All the time* (4) ($M = 2.09$, $SD = 1.03$). *Dangerous discussion* was measured by asking participants how often they discuss politics face-to-face with individuals they disagree with. Response options ranged from *Never* (0) to *All the time* (4) ($M = 1.62$, $SD = 1.00$).

### Analysis strategy

We use OLS regression and Hayes's (2013) PROCESS macro to analyze our data using models 1, 7, and 21 using bootstrapped confidence intervals and the Johnson-Neyman technique to probe the interactions. The PROCESS macro allows scholars to simultaneously model complex patterns of relationships that account for all shared variance between the covariates, independent variables, moderating variables, and mediating variables. The Johnson-Neyman technique (Hayes & Matthes, 2009) is a sub-command within the PROCESS macro that indicates the range of significance for an interaction. That is, it tests whether or not the conditional effect of a moderator variable is significant at all ranges of the independent variable or only for a portion of the values of the independent variable. We report unstandardized regression weights with standard errors throughout our paper.

### Results

We tested our first hypothesis that looked at the relationship between supportive/opposing media use and perceived support for one's opinions. In general, we found support for H1. Our test of whether the relationship between conservative use and perceived support varied by political ideology found a statistically significant interaction ($B = -0.036$, $SE = 0.017$, $p < 0.05$). Probing the interaction using the Johnson-Neyman technique showed that use of conservative media increases support for one's opinions among conservatives. By contrast, use of conservative media was not

associated with perceived support for opinions among liberals (see Figure 1a). We found a similar pattern of results for liberal media use. Our test of whether the relationship between liberal media use and perceived support varied by political ideology showed a statistically significant interaction ($B = 0.033$, $SE = 0.016$, $p < 0.05$). Probing the interaction yielded an opposite pattern of results as conservative media use. Indeed, liberal media use increased perceived support for one's opinions among liberals. We did not find a statistically significant relationship among conservatives (see Figure 1b)

Next, we examined the relationship between perceived support for one's opinions and being willing to share one's views in online contexts, and whether or not the relationship between sharing opinion and perceived support varied by conflict avoidance. We found that higher levels of perceived support were associated with greater willingness to share opinions in online contexts (see Figure 2). We also found that the relationship between perceived support and sharing news varies by conflict avoidance ($B = 0.046$, $SE = 0.018$, $p < 0.05$). Combined, these findings show support for H2 and H4a, respectively. Probing the interaction using the Johnson-Neyman technique revealed that the interaction is only significant for individuals at the mean and those scoring high on our measure of conflict avoidance. In other words, the relationship between perceived support and sharing opinions is stronger as people report a greater tendency to avoid conflict.
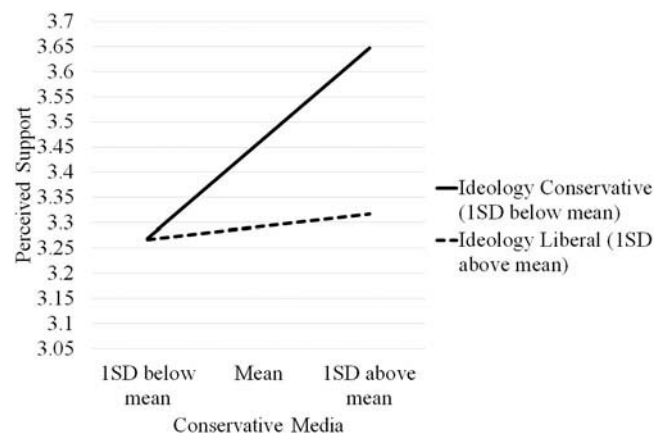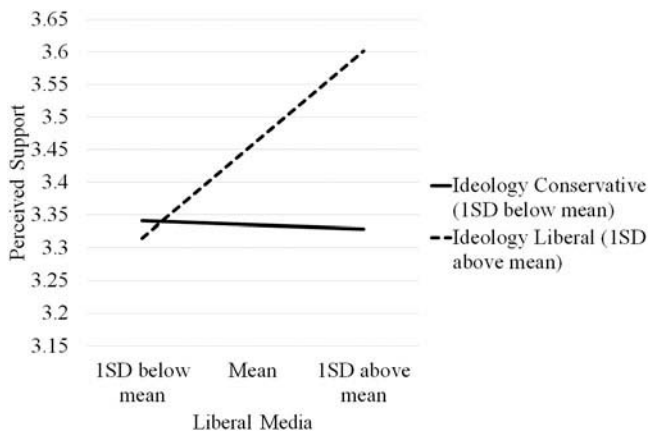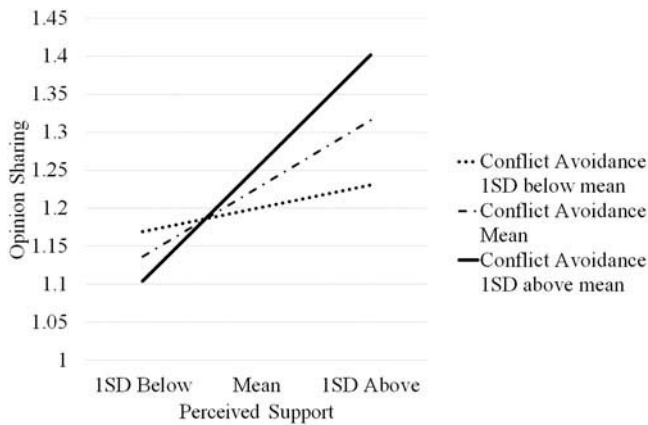


**Figure 1a.** Interaction of conservative media use and ideology on perceived support.

**Figure 1b.** Interaction of liberal media use and ideology on perceived support.



**Figure 2.** Interaction of perceived support and conflict avoidance on sharing opinions.

Next, we assessed the conditional indirect relationship of our two media use variables on sharing news through perceived support. In general, we found that the indirect relationship does indeed vary by political ideology, supporting H3. Our first analysis looking at conservative news use found a positive indirect effect among conservatives (point estimate = 0.013, $SE$ = 0.006, 95% CI 0.003–0.029). In essence, the more conservatives used conservative news, the more they perceived support for their opinions, which resulted in greater willingness to share their views online. The relationship among liberals was in the opposite direction, but was not statistically significant. We found a similar pattern of results for liberal media use. Result suggest that greater use of liberal media was associated with greater perceived support among liberals, which likely resulted in a higher level of

willingness to share their views online (point estimate = 0.010, $SE$ = 0.006, 95% CI 0.001–0.025). We once again found the opposite pattern of results among conservatives. However, the results were also not statistically significant.

Finally, we tested the full model that examines whether the indirect relationship between partisan media and sharing news through perceived support varies by both political ideology and conflict avoidance (see Table 1). To be specific, ideology moderated the relationship between partisan media consumption and perceived support (liberal media consumption: $B$ = 0.033, $SE$ = 0.016, $p$ < 0.05, see Figure 3b; conservative media consumption: $B$ = −0.036, $SE$ = 0.017, $p$ < 0.05, see Figure 3a). In addition, conflict avoidance moderated the relationship between perceived support and sharing opinion ($B$ = 0.045, $SE$ = 0.018, $p$ < 0.05), supporting H4b. In essence, consistent with previous research, we found use of supportive media (e.g., conservatives consuming conservative news) was associated with perceived support. Moreover, as this perceived support increased, individuals who tend to avoid conflict were more willing to report that they share their opinions online. Probing

**Table 1.** Full Model.

| | Perceived support | | Share news | |
|---|---|---|---|---|
| | B | (SE) | B | (SE) |
| Constant | 2.37 | (0.20)*** | 1.03 | (0.29)*** |
| Gender (female higher) | 0.12 | (0.07) | 0.19 | (0.06)** |
| Age | −0.00 | (0.00) | −0.02 | (0.00)*** |
| Race (White higher) | −0.09 | (0.08) | −0.03 | (0.07) |
| Education | 0.02 | (0.02) | 0.00 | (0.02) |
| Income | 0.00 | (0.01) | −0.02 | (0.01)** |
| Political interest | 0.05 | (0.03) | −0.01 | (0.02) |
| Traditional news | −0.01 | (0.04) | 0.11 | (0.04)** |
| News attention | 0.00 | (0.03) | 0.03 | (0.03) |
| Conservative media | 0.19 | (0.06)*** | 0.23 | (0.03)*** |
| Liberal media | −0.05 | (0.06) | 0.30 | (0.03)*** |
| General discussion | 0.11 | (0.06)* | −0.05 | (0.05) |
| Safe discussion | 0.32 | (0.05)*** | 0.03 | (0.05) |
| Dangerous discussion | −0.09 | (0.04)* | 0.10 | (0.04)** |
| Ideology (liberal higher) | 0.00 | (0.03) | — | |
| Conflict avoidance | — | | −0.13 | (0.06)* |
| Perceived support | — | | −0.09 | (0.08) |
| *Interaction term* | | | | |
| Liberal media × ideology | 0.03 | (0.02)* | — | |
| Conservative media × ideology | −0.36 | (0.02)* | — | |
| Perceived support*conflict avoidance | — | | 0.04 | (0.02)* |
| Model $R^2$ | 0.24*** | | 0.54*** | |

*Note.* Cell entries are unstandardized coefficients with standard errors in parentheses.
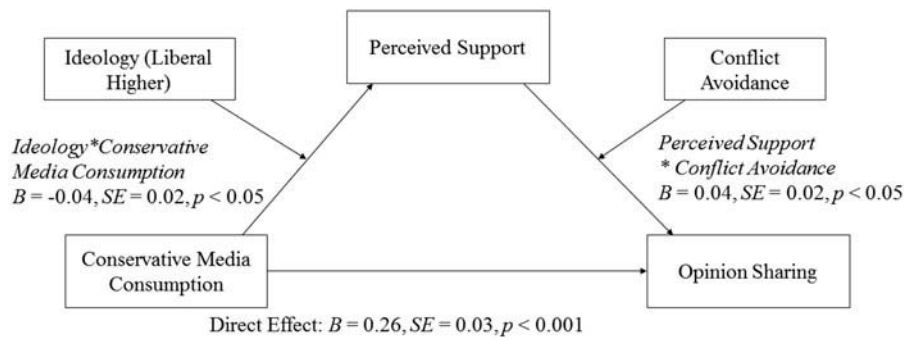*$p$ < 0.05. **$p$ < 0.01. ***$p$ < 0.001.

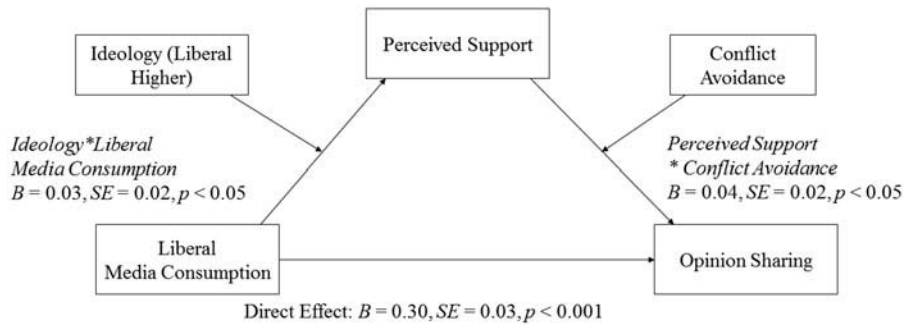**Figure 3a.** Moderated-mediation model part 1.



**Figure 3b.** Moderated-mediation model part 2.

these results revealed that the indirect relationship is only significant for conservatives and liberals who consume supportive media (i.e., a conservative using Fox News or a liberal using MSNBC) who have a greater tendency to avoid conflict. In addition, the indirect relationship of using conservative news on

sharing news through perceived support for their opinions was significant for moderates who tend to avoid conflict. Specifically, moderates who consume more conservative media such as Fox News and also tend to avoid conflict are more willing to report that they share their opinions online (see Table 2).

## Discussion

In this study, we used spiral of silence theory to examine the relationship between partisan media use and people's willingness to share their views online. Our study shows that supportive partisan media use was related to greater perceived support for one's opinions among friends and family. We also found that individuals were more likely to share opinions online when they perceived greater support for their opinions in their social networks. In addition, we found an indirect relationship between supportive media use and sharing views online through perceived support. Last, we found that the individual difference variable of conflict avoidance moderated the relationship between perceived support and willingness to share news.

**Table 2.** Conditional Indirect Effects.

| Partisan media | Political ideology | Conflict avoidance | To share news |
|---|---|---|---|
| Liberal media | Conservative | Low | −0.0001 |
| | | Mean | −0.0004 |
| | | High | −0.0006 |
| | Moderate | Low | 0.0015 |
| | | Mean | 0.0042 |
| | | High | 0.0069 |
| | Liberal | Low | 0.0032 |
| | | Mean | 0.0088* |
| | | High | 0.0144* |
| Conservative media | Conservative | Low | 0.0039 |
| | | Mean | 0.0113* |
| | | High | 0.0186* |
| | Moderate | Low | 0.0022 |
| | | Mean | 0.0064* |
| | | High | 0.0105* |
| | Liberal | Low | 0.0005 |
| | | Mean | 0.0015 |
| | | High | 0.0025 |

*Note.* *p < 0.05.

To be specific, we found that an indirect relationship between supportive media use and sharing views online through perceived support only occurs for individuals high in conflict avoidance. Overall, our full model showed that the relationship between supportive news use and sharing one's opinions can be partially explained by perceived support. Moreover, the indirect relationships of supportive news use varied by conflict avoidance.

Our research makes three contributions to the spiral of silence literature. First, we replicate findings from previous studies that have reexamined the spiral of silence theory in a fragmented media environment. Our findings, along with other recent studies (Dvir-Gvirsman et al., 2015), suggest that the spiral of silence theory can be relevant in today's fragmented media environment in which people are likely walking around with different ideas about the world based on the news content they consume and wondering whether others support their views. This was not the case when there were only three major networks. During that time, people who paid attention to the news were all exposed to similar messages. In that environment, the concern was that people in the minority might feel like they could not report their opinions. Today, it would seem that people could be holding the minority opinion and still be willing to voice their opinions if they consume easily accessible supportive media content (Mutz & Silver, 2014). Indeed, there is considerable concern that people are increasingly trapped in partisan echo chambers or filter bubbles where they are exposed to more pro-attitudinal views and fewer counter-attitudinal views. Our results indicate that the spiral of silence theory functions in a similar way in that media contribute to people's perceptions of public opinion. However, in today's media environment people may believe that more people hold similar views as themselves based on the use of partisan media content.

Second, our study examines two variables that have received less attention in the spiral of silence literature. First, we extend this line of inquiry by looking at actualizing participation (Bennett et al., 2011). Up to this point, studies using the spiral of silence have examined outcomes such as polarization (Tsfati et al., 2013), perceived public opinion (Dvir-Gvirsman, 2014), and political deliberation (Matthes et al., 2010). Moreover, the studies that have looked at participation have examined dutiful outcomes such as volunteering for a political campaign, signing a political petition, etc. (Dvir-Gvirsman et al., 2015). In general, our study adds to the existing literature by showing how this process functions for a similar, yet different outcome of voicing opinions in an online context.

The importance of understanding this form of participation is twofold. First, online news-sharing behavior can potentially shape how other online news users perceive the climate of opinion (Rössler & Schulz, 2014). By sharing news online, social media users redistribute certain information to their own online social network. It is very likely that some people in this social network may not see this information otherwise. At the same time, such sharing or even liking behaviors contribute to the number of "likes" and "shares" that will be attached to that news story, which will serve as heuristic cues of popularity for other readers online. Second, recent data show that motivated voters who have more influence on election outcomes are the ones engaging in actualizing participation (Pew Research Center, 2016). Many large-scale and rapidly developed political movements also show that pervasive use of the Internet, especially social media, is the key reason why masses of young people can be mobilized and organized (Bennett, 2012). Therefore, understanding the predictors and mechanisms of such behaviors is certainly important.

Next, we extend the work looking at spiral of silence in online contexts by looking at perceived opinion climate in ones' social network instead of perceived opinion climate at large. Previous work has focused on the more general assessment of public opinion relative to important outcomes (Ho & McLeod, 2008; Matthes et al., 2010; Scheufele & Eveland, 2001). However, scholars have emphasized the importance of people's social networks relative to the process associated with spiral of silence (Moy et al., 2001; Moy & Hussain, 2014; Newcomb, 1948). Indeed, our paper shows that the perceived support of opinions within one's social network could play an important role relative to understanding the process of sharing views in online settings.

Last, we extend the literature by adding the individual difference variable of conflict avoidance to our model. Previous studies have examined whether individual difference variables moderate the relationship between perceived support and outcome variables such as political participation (Mutz, 2002). In our study, we extend the literature by showing that the relationship between perceived support and sharing views online varies by conflict avoidance. In essence, those who tend to avoid conflict are more sensitive to the perceived opinion climate. This finding adds an additional boundary condition to the spiral of silence theory. Indeed, people who tend to avoid conflict will be the ones less willing to share their views if they perceive the opinion climate to be hostile to their views. The entirety of our model suggests that if a person is consuming supportive information, they will be more willing to share their views, which is particularly important for those high in conflict avoidance.

Our study is limited in the following ways. First, cross-sectional survey data cannot establish causality, so we cannot know for sure whether partisan consumption causes people to see higher or lower levels of support for their opinions. Future studies should investigate whether increased use of partisan media across time, especially ideological congruent partisan media, leads to greater perceived support for ones' own opinions. Second, this study focuses on social media platforms that tend to be high in identifiability and low in anonymity (Rössler & Schulz, 2014). Therefore, these results cannot be generalized to other online platforms that are higher in anonymity (e.g., discussion boards or comment pages). Future research should extend this inquiry by looking into whether perceived support still affect individuals' willingness to speak out on a platform that can guarantee higher anonymity. Third, our results regarding congenial partisan media use may only apply to a country such as the United States that has such a polarized media system. Future research should investigate countries with different political and media systems to better define the boundaries of our model.

Overall, our results suggest that hearing supportive and opposing news could contribute to higher levels of polarization through the sharing of news in an online context. Not only does partisan news seem to contribute to polarization (Tsfati et al., 2013), but it could indirectly contribute to polarization through the sharing of partisan news in online settings. In essence, people watch partisan news, feel like others support their views, and therefore disclose those views online. As research has shown, hearing supportive information via interpersonal networks could contribute to increasing levels of polarization (Neo, 2015). Thus, when people share their opinions or news in an online context, they could be serving a similar role to the media themselves, as they send out pieces of information that further solidify their and their friends' opinions, thereby increasing polarization. Indeed, the sharing of news in social networks could be another factor that contributes to increased levels of polarization.

## Notes

1. We ran all the exploratory factor analyses in Mplus (Muthén & Muthén, 2005) using maximum likelihood estimator and oblique rotation (i.e., Geomin rotation).
2. A total of 96.4% of our participants were between 18 to 64; comparing to census data that 80.7% adults were between ages 18 and 64 in 2015, we underrepresented elderly people who are older than 64 years old. Fifty percent of our participants were female, which is similar to census data that 50.7% of the population were female in 2015. Nineteen percent of our participants were non-White, which is similar to census data that 22.72% of the population was non-White in 2015.

## Notes on contributors

Meredith Y. Wang is a PhD candidate in the Edward R. Murrow College of Communication at Washington State University. Her research interests include political communication and communication technology.

Jay D. Hmielowski is an assistant professor in the Edward R. Murrow College of Communication at Washington State University. His research interests include political and environmental communication.

Myiah J. Hutchens is an assistant professor in the Edward R. Murrow College of Communication at Washington State University. Her research interests include political communication and political discussion.

Michael A. Beam is an assistant professor in the School of Communication Studies at Kent State University. His research interests include political communication and new communication technologies.

## References

Ansolabehere, S., & Schaffner, B. F. (2011, May). *Re-examining the validity of different survey modes for measuring public opinion in the US: Findings from a 2010 multi-mode comparison.* Paper Presented at AAPOR Annual Conference, Phoenix, AZ.

Ansolabehere, S., & Schaffner, B. F. (2014). Does survey mode still matter? Findings from a 2010 multi-mode comparison. *Political Analysis*, 22(3), 285–303. doi:10.1093/pan/mpt025

Beam, M. A., Hutchens, M. J., & Hmielowski, J. D. (2016). Clicking vs. sharing: The relationship between online news behaviors and political knowledge. *Computers in Human Behavior*, 59, 215–220. doi:10.1016/j.chb.2016.02.013

Bennett, W. L. (2012). The personalization of politics: Political identity, social media, and changing patterns of participation. *The ANNALS of the American Academy of Political and Social Science*, 644(1), 20–39. doi:10.1177/0002716212451428

Bennett, W. L., & Iyengar, S. (2008). A new era of minimal effects? The changing foundations of political communication. *Journal of Communication*, 58(4), 707–731. doi:10.1111/j.1460-2466.2008.00410.x

Bennett, W. L., Wells, C., & Freelon, D. (2011). Communicating civic engagement: Contrasting models of citizenship in the youth web sphere. *Journal of Communication*, 61(5), 835–856. doi:10.1111/j.1460-2466.2011.01588.x

Coe, K., Tewksbury, D., Bond, B. J., Drogos, K. L., Porter, R. W., Yahn, A., & Zhang, Y., (2008). Hostile News: Partisan Use and Perceptions of Cable News Programming. Journal of Communication. 58(2), 201–219. doi:10.1111/j.1460-2466.2008.00381.

DellaVigna, S., & Kaplan, E. (2007). The Fox News effect: Media bias and voting. *The Quarterly Journal of Economics*, 122(3), 1187–1234. doi:10.1162/qjec.122.3.1187

Dilliplane, S. (2011). All the news you want to hear: The impact of partisan news exposure on political participation. *Public Opinion Quarterly*, 75(2), 287–316. doi:10.1093/poq/nfr006

Dilliplane, S. (2014). Activation, conversion, or reinforcement? The impact of partisan news exposure on vote choice. *American Journal of Political Science*, 58(1), 79–94. doi:10.1111/ajps.12046

Dvir-Gvirsman, S. (2015). One-track minds? Cognitive needs, media diet, and overestimation of public support for one's views. *Media Psychology*, 18(4), 475–498. doi:10.1080/15213269.2014.929526

Dvir-Gvirsman, S., Garrett, R. K., & Tsfati, Y. (2015). Why do partisan audience participate? Perceived public opinion as

the mediating mechanism. *Communication Research*. doi:10.1177/0093650215593145

Feldman, L., Maibach, E. W., Roser-Renouf, C., & Leiserowitz, A. (2011). Climate on cable: The nature and impact of global warming coverage on Fox News, CNN, and MSNBC. *The International Journal of Press/Politics*, 17 (1), 3–31. doi:10.1177/1940161211425410

Garrett, R. K. (2009). Politically motivated reinforcement seeking: Reframing the selective exposure debate. *Journal of Communication*, 59(4), 676–699. doi:10.1111/j.1460-2466.2009.01452.x

Gearhart, S., & Zhang, W. (2014). Gay bullying and online opinion expression: Testing spiral of silence in the social media environment. *Social Science Computer Review*, 32 (1), 18–36. doi:10.1177/0894439313504261

Gil de Zúñiga, H., Jung, N., & Valenzuela, S. (2012). Social media use for news and individuals' social capital, civic engagement and political participation. *Journal of Computer-Mediated Communication*, 17(3), 319–336. doi:10.1111/j.1083-6101.2012.01574.x

Gil de Zúñiga, H., Molyneux, L., & Zheng, P. (2014). Social Media, Political Expression, and Political Participation: Panel Analysis of Lagged and Concurrent Relationships. Journal of Communication,64(4), 612–634. doi:10.1111/jcom.12103. 64(4), 612–634. doi:10.1111/jcom.12103

Glynn, C. J., & Park, E. (1997). Reference groups, opinion intensity, and public opinion expression. International Journal of Public Opinion Research, 9(3), 213–232. doi:10.1093/ijpor/9.3.213

Glynn, C. J., & McLeod, J. M. (1984). Public opinion du jour: An examination of the spiral of silence. *Public Opinion Quarterly*, 48(4), 731–740. doi:10.1086/268879

Gonzenbach, W. J., & Stevenson, R. L. (1994). Children with AIDS attending public school: An analysis of the spiral of silence. *Political Communication*, 11(1), 3–18. doi:10.1080/10584609.1994.9963007

Gvirsman, S. D. (2014). It's not that we don't know, it's that we don't care: Explaining why selective exposure polarizes attitudes. Mass Communication and Society. 17(1), 74–97. https://doi.org/10.1080/15205436.2013.816738

Hayes, A. F. (2005). *Statistical methods for communication science*. New York, NY: Routledge.

Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York, NY: Guilford Press.

Hayes, A. F., & Matthes, J. (2009). Computational procedures for probing interactions in OLS and logistic regression: SPSS and SAS implementations. *Behavior Research Methods*, 41, 924–936. doi:10.3758/brm.41.3.924

Hayes, A. F., Scheufele, D. A., & Huge, M. E. (2006). Nonparticipation as self-censorship: Publicly observable political activity in a polarized opinion climate. *Political Behavior*, 28(3), 259–283. doi:10.1007/s11109-006-9008-3

Hermida, A., Fletcher, F., Korell, D., & Logan, D. (2012). Share, like, recommend: Decoding the social media news

consumer. *Journalism Studies*, *13*(5–6), 815–824. doi:10.1080/1461670X.2012.664430

Hmielowski, J. D., Beam, M. A., & Hutchens, M. J. (2016). Structural changes in media and increases in attitude polarization: Examining the contributions of TV news on polarization before and after the telecommunication act of 1996. *International Journal of Public Opinion Research*, *28* (2), 153–172. doi:10.1093/ijpor/edv012

Ho, S. S., Chen, V.-H.-H., & Sim, C. C. (2013). The spiral of silence: Examining how cultural predispositions, news attention, and opinion congruency relate to opinion expression. *Asian Journal of Communication*, *23*(2), 113–134. doi:10.1080/01292986.2012.725178

Ho, S. S., & McLeod, D. M. (2008). Social-psychological influences on opinion expression in face-to-face and computer-mediated communication. *Communication Research*, *35*(2), 190–207. doi:10.1177/0093650207313159

Holbert, R. L., Hmielowski, J. D., & Weeks, B. E. (2012). Clarifying relationships between ideology and ideologically oriented cable TV news use: A case of suppression. *Communication Research*, *39*(2), 194–216. doi:10.1177/0093650211405650

Hollander, B. A., (2008). Tuning Out or Tuning Elsewhere? Partisanship, Polarization, and Media Migration from 1998 to 2006. Journalism & Mass Communication Quarterly. *85* (1), 23–40. doi:10.1177/107769900808500103

Jamieson, K. H., & Cappella, J. N. (2008). *Echo chamber: Rush Limbaugh and the conservative media establishment*. New York, NY: Oxford University Press.

Jones, D. A. (2002). The polarizing effect of new media messages. *International Journal of Public Opinion Research*, *14*(2), 158–174. doi:10.1093/ijpor/14.2.158

Jones, D. A., Ferraiolo, K., & Byrne, J. (2011). Selective media exposure and partisan differences about Sarah Palin's candidacy. *Politics & Policy*, *39*(2), 195–221. doi:10.1111/j.1747-1346.2011.00288.x

Jung, N., Kim, Y., & de Zúñiga, H. G. (2011). The Mediating Role of Knowledge and Efficacy in the Effects of Communication on Political Participation. Mass Communication and Society. *14*(4), 407–430. doi:10.1080/15205436.2010.496135

Kim, J., Wyatt, R. O., & Katz, E. (1999). News, talk, opinion, participation: The part played by conversation in deliberative democracy. *Political Communication*, *16*(4), 361–385. doi:10.1080/105846099198541

Kushin, M. J., & Yamamoto, M. (2010). Did social media really matter? College students' use of online media and political decision making in the 2008 election. Mass Communication and Society, *13*(5), 608–630. https://doi.org/10.1080/15205436.2010.516863

Krassa, M. A., (1988). Social groups, selective perception, and behavioral contagion in public opinion. Social Networks, *10*(2), 109–136. doi:10.1016/0378-8733(88)90018-4

Lee, C. S., &Ma, L. (2012). News sharing in social media: The effect of gratifications and prior experience. *Computers in Human Behavior*, *28*(2), 331 – 339. doi:10.1016/j.chb.2011.10.002

Levendusky, M. S. (2013). Why do partisan media polarize viewers? *American Journal of Political Science*, *57*(3), 611–623. doi:10.1111/ajps.12008

Matthes, J., Rios Morrison, K., & Schemer, C. (2010). A spiral of silence for some: Attitude certainty and the expression of political minority opinions. *Communication Research*, *37*(6), 774–800. doi:10.1177/0093650210362685

McDevitt, M., Kiousis, S., & Wahl-Jorgensen, K. (2003). Spiral of moderation: Opinion expression in computer-mediated discussion. *International Journal of Public Opinion Research*, *15*(4), 454–470. doi:10.1093/ijpor/15.4.454

Messing, S., & Westwood, S. J. (2012). Selective Exposure in the Age of Social Media. Communication Research. *41*(8), 1042–1063. doi:10.1177/0093650212466406

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. doi:10.1177/107769900107800102

Moy, P., & Hussain, M. M. (2014). Media and public opinion in a fragmented society. In W. Donsbach, C. T. Salmon, & Y. Tsfati (Eds.), *The spiral of silence: New perspectives on communication and public opinion* (pp. 75–91). New York, NY: Routledge

Muthén, L. K., & Muthén, B. O. (2005). *Mplus: Statistical analysis with latent variables: User's guide* (pp. 1998–2012). Los Angeles, CA: Muthén & Muthén.

Mutz, D. C. (1998). *Impersonal influence: How perceptions of mass collectives affect political attitudes*. New York, NY: Cambridge University Press.

Mutz, D. C. (2002). The consequences of cross-cutting networks for political participation. *American Journal of Political Science*, *46*(4), 838. doi:10.2307/3088437

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

Mutz, D. C., & Martin, P. S. (2001). Facilitating communication across lines of political difference: The role of mass media. *American Political Science Review*, *95*(1), 97–114. Retrieved from http://journals.cambridge.org/article_S0003055401000223

Mutz, D. C., & Silver, L., (2014). Normative implications ofthe spiral of silence: Hearing the other side in the 21st century. In W. Donsbach, C. T. Salmon, & Y. Tsfati (Eds.), *The spiral of silence: New perspectives on communication 1175 and public opinion (pp. 75–91)*. New York, NY: Routledge

Neuwirth, K., Frederick, E., & Mayo, C. (2007). The spiral of silence and fear of isolation. *Journal of Communication*, *57* (3), 450–468. doi:10.1111/j.1460-2466.2007.00352.x

Newcomb, T. M., (1948). Public Opinion and Public Opinion Polling: Discussion. American Sociological Review. *13*(5), 549. doi:10.2307/2087147

Noelle-Neumann, E. (1974). The spiral of silence a theory of public opinion. *Journal of Communication*, *24*(2), 43–51. doi:10.1111/j.1460-2466.1974.tb00367.x

Noelle-Neumann, E. (1977). Turbulences in the climate of opinion: Methodological applications of the spiral of

silence theory. *Public Opinion Quarterly*, 41(2), 143–158. doi:10.1086/268371

Noelle-Neumann, E. (1985). The spiral of silence: A response. In K. Sanders, L. L. Kaid, & D. Nimmo (Eds.), *Political communication yearbook, 1984* (pp. 66–94). Carbondale, IL: Sounthern Illinois University Press.

Noelle-Neumann, E. (1991). The theory of public opinion: The concept of the spiral of silence. In J. A. Anderson (Ed.), *Communication yearbook* (Vol. 14, pp. 256–287). Newbury Park, CA: Sage.

Noelle-Neumann, E., (1993). *The spiral of silence: Public opinion, our social skin* (2nd ed.). Chicago, IL: University of Chicago Press.

Noelle-Neumann, E., & Petersen, T. (2004). The spiral of silence and the social nature of man. In L. L. Kaid (Ed.), *Handbook of political communication research* (pp. 339–356). Mahweh, NJ: Lawrence Erlbaum Associates.

Olmstead, K., Mitchell, A., & Rosenstiel, T. (2011). Navigating news online. *Project for Excellence in Journalism*. Retrieved from http://www.journalism.org/2011/05/09/navigating-news-online/

Oshagan, H., (1996). Reference group influence on opinion expression. International Journal of Public Opinion Research, 8(4), 335–354. doi:10.1093/ijpor/8.4.335

Pew Research Center. (2013). The role of news on Facebook: Common yet incidental. *Project for Excellence in Journalism*. Retrieved from http://www.journalism.org/files/2013/10/facebook_news_10-24-2013.pdf

Pew Research Center. (2014a). Political polarization & media habits. *Internet Project*. Retrieved from http://www.journalism.org/files/2014/10/Political-Polarization-and-Media-Habits-FINAL-REPORT-7-27-15.pdf

Pew Research Center. (2014b). Social media and the "spiral of silence." *Internet Project*. Retrieved from http://www.pewinternet.org/files/2014/08/PI_Social-networks-and-debate_082614.pdfxx

Pew Research Center. (2016). *The 2016 presidential campaign—A news event that's hard to miss*. Retrieved from http://www.journalism.org/2016/02/04/the-2016-presidential-campaign-a-news-event-thats-hard-to-miss/

Prior, M. (2007). *Post-broadcast democracy: How media choice increases inequality in political involvement and polarizes elections*. New York, NY: Cambridge University Press.

Prior, M. (2013). Media and political polarization. *Annual Review of Political Science*, 16(1), 101–127. doi:10.1146/annurev-polisci-100711-135242

Rössler, P., & Schulz, A. (2014). Public opinion expression in online environments. In W. Donsbach, C. T. Salmon, & Y. Tsfati (Eds.), *The spiral of silence: New perspectives on communication and public opinion* (pp. 101–118). New York, NY: Routledge.

Ruiz, C., Domingo, D., Micó, J. L., Díaz-Noci, J., Masip, P., & Meso, K. (2011). Public sphere 2.0? The democratic qualities of citizen debates in online newspapers. *The International Journal of Press/Politics*, 16, 463–487. doi:10.1177/1940161211415849

Scheufele, D. A., & Eveland, W. P. (2001). Perceptions of "public opinion" and "public" opinion expression. *International Journal of Public Opinion Research*, 13(1), 25–44. doi:10.1093/ijpor/13.1.25

Scheufle, D. A., & Moy, P. (2000). Twenty-five years of the spiral of silence: A conceptual review and empirical outlook. *International Journal of Public Opinion Research*, 12(1), 3–28. doi:10.1093/ijpor/12.1.3

Shanahan, J., Scheufele, D., Yang, F., & Hizi, S. (2004). Cultivation and spiral of silence effects: The case of smoking. *Mass Communication and Society*, 7(4), 413–428. doi:10.1207/s15327825mcs0704_3

Shoemaker, P. J., Breen, M., & Stamper, M. (2000). Fear of social isolation: Testing an assumption from the spiral of silence. *IRISH Communication Review*, 8, 65–78.

Stroud, N. J. (2010). Polarization and partisan selective exposure. *Journal of Communication*, 60(3), 556–576. doi:10.1111/j.1460-2466.2010.01497.x

Stroud, N. J. (2011). *Niche news: The politics of news choice*. New York, NY: Oxford University Press.

Sunstein, C. (2001, June 1). The daily we: Is the Internet really a blessing for democracy? *Boston Review*, 26(3). Retrieved from http://bostonreview.net/cass-sunstein-internet-democracy-daily-we

Sunstein, C. R. (2009). *Republic.com 2.0*. Princeton, NJ: Princeton University Press.

Tsfati, Y., & Chotiner, A. (2015). Testing the selective exposure–polarization hypothesis in Israel using three indicators of ideological news exposure and testing for mediating mechanisms. *International Journal of Public Opinion Research*, 28(1), 1–24. doi:10.1093/ijpor/edv001

Tsfati, Y., Stroud, N. J., & Chotiner, A. (2013). Exposure to ideological news and perceived opinion climate: Testing the media effects component of spiral-of-silence in a fragmented media landscape. *The International Journal of Press/Politics*, 19(1), 3–23. doi:10.1177/1940161213508206

Vraga, E. K., Thorson, K., Kligler-Vilenchik, N., & Gee, E. (2015). How individual sensitivities to disagreement shape youth political expression on Facebook. *Computers in Human Behavior*, 45, 281–289. doi:10.1016/j.chb.2014.12.025

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. doi:10.1111/j.1460-2466.2008.01403.x

Woong Yun, G., & Park, S.-Y. (2011). Selective posting: Willingness to post a message online. *Journal of Computer-Mediated Communication*, 16(2), 201–227. doi:10.1111/j.1083-6101.2010.01533.x

Yeager, D. S., Krosnick, J. A., Chang, L., Javitz, H. S., Levendusky, M. S., Simpser, A., & Wang, R. (2011). Comparing the accuracy of RDD telephone surveys and Internet surveys conducted with probability and non-probability samples. *Public Opinion Quarterly*, 75(4), 709–747. doi:10.1093/poq/nfr020