

# Political Disagreement and Uncertainty: Examining the Interplay of Political Talk and News Use in Online and Offline Environments

Bumsoo Kim<sup>1\*</sup> and Matthew Barnidge<sup>2</sup>

<sup>1</sup>Department of Communication and Journalism, The Hebrew University of Jerusalem, Israel

<sup>2</sup>Department of Journalism and Creative Media, The University of Alabama, USA

\*Corresponding Author: [bumsoo.kim@mail.huji.ac.il](mailto:bumsoo.kim@mail.huji.ac.il)

Contrary to popular arguments about “echo chambers” and “filter bubbles,” evidence shows that social media tend to promote exposure to political disagreement. But if this disagreement has little to no effect on individuals’ attitudes and opinions, the democratic benefits of this increased exposure could be limited. This study empirically investigates whether exposure to political disagreement in social media versus face-to-face settings has differential effects on individuals’ uncertainty about their political opinions and beliefs. In doing so, the paper accounts for the interplay between these two settings in terms of news use and political

discussion. The results show (a) differences in the relationship between political disagreement and uncertainty in social media versus face-to-face settings and (b) considerable overlap in discussion and reflection processes between these two settings. Results are discussed in light of ongoing conversations about the democratic benefits of political disagreement.

*Keywords: political disagreement, uncertainty, social media, news use, political talk, political discussion, communication mediation model*

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**T**he 2019 Brexit deal has generated uncertainty among citizens of the U.K. and among people around the world, and discussion about Brexit seems to create more uncertainty about the future, not less (Silva, 2019). Dynamic political discussion about this and other contentious issues, including but certainly not limited to nuclear disarmament in North Korea, populist movements in the United States and several European countries, and the diplomatic status of Jerusalem, may motivate individuals to seek more accurate political information and to learn about diverse political views in both online and in-person settings (Brundidge, 2010; Eveland & Hively, 2009). However, doing so could also generate uncertainty about prior political views, especially

when people habitually encounter disagreement about the subject (Huckfeldt, Johnson, & Sprague, 2004). Based on this logic, it is important to examine whether and how opinion uncertainty is related to political disagreement and political discussion, and, given the proliferation of online communication platforms such as Facebook and Twitter, how this relationship may differ across communication settings.

Attitude uncertainty and ambivalence have been linked to a variety of outcomes that are widely considered to be positive from the standpoint of deliberative democracy, including systematic message processing (Petty & Wegener, 1998), cognitive elaboration (Cooper & Fazio, 1984), engagement with “cross-cutting” views (Festinger, 1957; Huckfeldt et al., 2004), and tolerance of others’ political views (Mutz, 2002; 2006; Price, Cappella, & Nir, 2002). Political disagreement, in particular, has the potential to make people more uncertain or ambivalent about their own political opinions and beliefs (Knobloch, Satterlee, & DiDomenico, 2010; Kuang & Wilson, 2017), which is one of the primary reasons that exposure to disagreement is widely celebrated as the lynchpin for any truly deliberative sphere (e.g., Mansbridge, 1999).

Prior research has established that both social media and face-to-face settings are important venues for political discussion and interaction—and, more specifically, political disagreement—in the emerging media environment (Barnidge, 2017; Brundidge, 2010; Gil de Zúñiga, Bachmann, Hsu, & Brundidge, 2013; Valenzuela, 2009; Valenzuela, Arriagada, & Scherman, 2012). However, research has not addressed whether disagreement in these venues has equivalent effects on individual’s uncertainty about their political opinions and beliefs, nor has it considered the overlapping layers of influence that communication in these various settings may exert.

The purpose of this study is to explore how individuals’ uncertainty about their own political views increases in relation to various communication practices in both social media and face-to-face settings. In doing so, the study compares communicative processes in social media and face-to-face settings, but it also considers them to be interwoven and overlapping. Prior research shows that there is a substantial degree of overlap between communication practices in these environments, such that communication in one arena can lead to subsequent communication or action in the other (Shah, Cho, Eveland, & Kwak, 2005). Therefore, we also expand the scope of the literature on disagreement and

uncertainty by examining this interplay between news use, political talk, and political disagreement in social media and face-to-face settings. Relying on a national survey of adult internet users in the United States, we employ structural equation modeling (Schumacker & Lomax, 2004) to investigate the effects of political disagreement in social media and in face-to-face settings on uncertainty and to develop a model of the interplay between online and offline settings.

## LITERATURE REVIEW

### Uncertainty

Uncertainty is an acute psychological state (Festinger, 1950; Hogg, 2000) characterized by doubtfulness or a lack of strong belief (McGarty, Turner, Oakes, & Haslam, 1993). Uncertainty is relatively common where information is inconsistent or conflicting (Babrow, Kasch, & Ford, 1998; Brashers, 2001). Two theories offer explanations for the relationship between inconsistent information and uncertainty: cognitive dissonance theory and social identity theory. According to cognitive dissonance theory, individuals prefer harmony in inner attitudes or beliefs. Incongruence in interpersonal communication produces psychological discomfort, which can lead to uncertainty about attitudes or beliefs (Festinger, 1957, 1962). For example, when individuals encounter dissonant perspectives, they try to resolve their uncertainty by seeking more information that confirms their previously held beliefs (Kuang & Wilson, 2017; Maurer & Holbach, 2016).

According to social identity theory, group membership is related to a number of personal characteristics, such as personal competence, talent, and social ability (Tajfel, 1982). In addition, individuals are more likely to accommodate in-group norms and values (Luhtanen & Crocker, 1992; Tajfel, 1982). Accordingly, those who become used to in-group information tend to not believe information forwarded by out-group members (Turner, Hogg, Oakes, Reicher, & Wetherell, 1987). In other words, individuals categorize themselves according to an increasingly isomorphic prototype derived from sharing group beliefs, values, and norms with intragroup members. For example, research has found that exposure to perspectives of out-group members is related to information seeking in an effort to reduce uncertainty (Kuang & Wilson, 2017; Maurer & Holbach, 2016). However,

those who adhere to shared group norms with in-group members feel cognitive dissonance when encountering dissonant perspectives from others (Hogg & Reid, 2006), which increases uncertainty toward different political views.

### **Political Disagreement and Uncertainty**

Political disagreement is an interaction or communication with those who disagree or who hold incongruent political perspectives (Barnidge, 2017; Huckfeldt, Johnson, & Sprague, 2004), and, because uncertainty is largely created by inconsistent or incongruent information, the incongruity resulting from exposure to political disagreement could lead to uncertainty (or ambivalence) about one's political opinions or beliefs (Huckfeldt, Johnson, et al., 2004; Lee, Choi, Kim, & Kim, 2014; Stroud, 2010).

Face-to-face political talk networks are typically characterized by perceived closeness, liking, and a tendency toward political similarity (Barnidge, 2018; Kandel, 1978). In these conditions, the strength of prototypical in-group image is enhanced through the adoption of shared group norms (see Hogg & Reid, 2006). Social norms typically discourage political disagreement in face-to-face settings, as most people prefer agreeable conversations and expressing disagreement in the wrong contexts could be considered inappropriate (Conover, Searing, & Crewe, 2002; MacKuen, 1990). And while some social settings such as school, church, and volunteer groups encourage interactions that expose individuals to a greater diversity of perspectives than they would otherwise find at home among family members, friends/acquaintances, and neighbors (Huckfeldt & Sprague, 1995), disagreement in face-to-face settings is relatively uncommon (Conover et al., 2002; Mutz, 2006; Walsh, 2004).

Research shows that social media and other online media technologies largely increase the amount of disagreement to which individuals are exposed in comparison to face-to-face settings, because they provide a venue for flexible and horizontal communication, they transcend geographical boundaries, and they increase inadvertent exposure to heterogeneous information (Barnidge, 2017; Bimber, 2008; Brundidge, 2010; Kim, Hsu, & Gil de Zúñiga, 2013; Valenzuela et al., 2012). Despite the fact that social media probably facilitate exposure to political disagreement, there is good reason to believe that disagreement in face-to-face settings has a bigger effect on people's political opinions and beliefs via uncertainty. Individuals largely avoid disagreement in these

settings because it makes them uncomfortable (Conover et al., 2002; Eliasoph, 1998; Walsh, 2004) and they are reminded of various social cross-pressures (Mutz, 2006; Rojas, 2015). But when disagreement does occur, these cross-pressures can result in ambivalence or political disengagement (Mutz, 2006) as people decrease the importance of politics in an effort to maintain their social relationships. Because political conversations typically occur among people closer in terms of social distance (Conover et al., 2002; Kandel, 1978), people tend to value these relationship over “winning” arguments, and therefore disagreement in face-to-face settings may create a good deal of uncertainty as people question their opinions or beliefs in an effort to maintain consistency with their social contacts.

By contrast, political discussion on social media typically occurs among individuals who are more socially distant (Ellison, Vitak, Steinfield, Gray, & Lampe, 2011). Social media promotes the expansion of social networks (Ellison, Steinfield, & Lampe, 2007; Valenzuela, Park, & Kee, 2009), and therefore social media networks are characterized by more weak ties than face-to-face networks (Barnidge, 2015, 2017; Ellison et al., 2011). Because people are more socially distant to these ties, the effects of disagreement with them may be diminished when compared to disagreement in face-to-face settings, particularly if disagreement is uncivil (Gil de Zúñiga, Barnidge, & Diehl, 2018).

### **Political Disagreement, Political Talk, and News Use**

Political disagreement depends on to which degree individuals engage in political talk and seek political news (Kwak, Williams, Wang, & Lee, 2005; Markus & Zajonc, 1985; McLeod, Kosicki, & McLeod, 2002). Research shows political discussion mediates the relationship between news use and political disagreement (Cho et al., 2009; Lee et al., 2014; Shah et al., 2005; Shah et al., 2007). The communication mediation model emphasizes the positive connection between informational uses of news media to participatory behaviors via talk/discussion (McLeod et al., 2001; Shah et al., 2005; Shah et al., 2007; Shah et al., 2017). According to the logic of the model, political talk positively mediates the relationship between news use and political disagreement (Jung, Kim, & Gil de Zúñiga, 2011; Kenski & Stroud, 2006; McLeod, Scheufele, & Moy, 1999; Shah et al., 2007). Interpersonal communication in online communication environments facilitates these mediated processes as much as face-to-face interactions (Barnidge, 2017). Thus, political discussion in both the online and offline worlds mediates the relationship between

political talk and “downstream” outcomes such as exposure to political disagreement (Barnidge, 2015; Hong & Rojas, 2016).

The communication mediation model also suggests that there is considerable overlap between the online and offline worlds, such that interpersonal communication in one setting tends to influence interpersonal communication in the other (Shah et al., 2007). The ubiquitous and interactive technology features of digital media allow individuals to engage in both online and offline communication environments (Barnidge, 2015, 2017; Brundidge, 2010; Park, 2015). Research shows that interpersonal communication in online environments is related to offline action (Jung et al., 2011; Kim et al., 2013) and also that communication in offline environments is related to online action (Valenzuela, Kim, & Gil de Zúñiga, 2011). Therefore, the processes of interpersonal communication and reflection described in the communication mediation model permeates across communicative settings.

### **Theoretical Model**

Figure 1 presents the theoretical model of the current study. Based on the logic of cognitive dissonance and social identity theory, the proposed theoretical model predicts that political disagreement in social media and face-to-face settings will be positively associated with uncertainty ( $\beta_7 - \beta_8$ ). In addition, the theoretical foundations of the communication mediation model lead us to expect that there will be substantial overlaps between political disagreement and political talk in social media and face-to-face settings ( $\beta_1$  through  $\beta_4$ ). Lastly, and in accordance with prior research (e.g., Barnidge, 2015; McLeod et al., 2001; Shah et al., 2005), the model predicts that news use will be positively associated with engaging in political talk in both social media and face-to-face settings ( $\gamma_1$  through  $\gamma_4$ ). Based upon existing communication theoretical frameworks, therefore, we attempt to identify substantial paths mechanisms between news use and uncertainty.

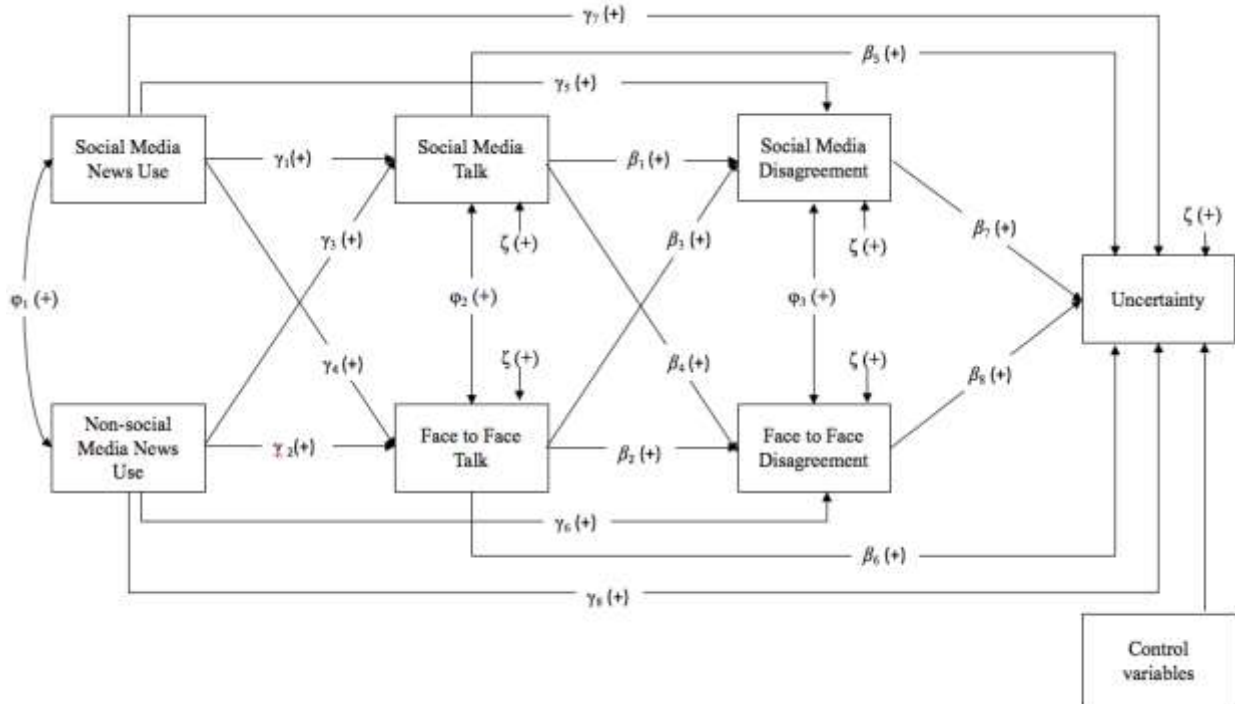


Figure 1. Expected relationships between exogenous and endogenous variables.

## METHODS

### Data

Data were collected between March 26 and March 29, 2015 using an online survey panel administered by a private company, Survey Sampling International (SSI). The sample was designed to reflect the population of adult (age 18+) Internet users in the United States. SSI used a three-stage sampling process. First, subjects were randomly selected from an online panel constructed by SSI using geographic and demographic quotas based on age, gender, education, income, and place of residence, in such a way that they are comparable to the U.S. Census statistics for the population of interest. Next, subjects were randomly presented with screening questions asking whether respondents are over the age of 18, whether they are U.S. residents, and whether they had Internet access, in order to determine their eligibility for the study. Finally, subjects were randomly invited to take the study based on their likelihood to complete it based on their past completion of surveys. This final step is taken to maximize the likelihood of obtaining complete responses. The cleaned data set contained 649 complete responses (American Association of Public Opinion Research (AAPOR) RR3 = 32.7%), and missing cases were

deleted listwise for a final  $N$  of 496. The sample reflects the U.S. adult population in terms of social media use (76% in the current sample versus 74% in a recent Pew sample; see Duggan, Ellison, Lampe, Lenhart, & Madden, 2015). About two-thirds of the sample is female (67%), reflecting recent reports that more females use social media than males (see Greenwood, Perrin, & Duggan, 2016). The sample tracks closely with U.S. Census population demographics for age ( $M = 47.52$ ,  $SD = 16.59$ ), education (35% bachelor's degree; average respondent [ $M = 3.94$ ,  $SD = 1.60$ ] has completed some college or associate's degree work), and income (average [ $M = 2.67$ ,  $SD = 1.53$ ] between \$35,000 and \$75,000 per year).

### Endogenous Variables

**Uncertainty.** Drawing from prior research on uncertainty (e.g., Knobloch et al., 2010; Knobloch & Solomon, 1999), our uncertainty measures rely on four survey items asking respondents about their (a) certainty and (b) confidence they have in their political opinions when (1) an expert or (2) a close friend disagrees with them (0 = “*Strongly Disagree*,” 4 = “*Strongly Agree*”). To construct the final variable, these four items were averaged and the scores were reversed (Cronbach's  $\alpha = .68$ ,  $M = 2.32$ ,  $SD = .73$ ).

**Social media political disagreement.** Respondents completed three questionnaire items asking about the frequency with which they encounter disagreement in social media settings about (a) politics or elections, (b) news or current events, and (c) public or community issues (0 = “Never” and 5 = “Frequently”) (see Barnidge, 2017; Kim et al., 2013; Lu, Heatherly, & Lee, 2016). The final variable took the pairwise mean (Cronbach's  $\alpha = .93$ ,  $M = 2.00$ ,  $SD = 1.60$ ).

**Face-to-face political disagreement.** Drawing from prior measures of political disagreement (e.g., Barnidge, 2017), respondents were asked three questionnaire items asking about the frequency with which they encounter political disagreement in face-to-face settings, and the items were averaged pairwise to create the final variable (Cronbach's  $\alpha = .91$ ,  $M = 2.09$ ,  $SD = 1.33$ ).

**Social media political talk.** Social media political talk was measured using 16 questionnaire items about the (a) number of people (max = 200) and (b) frequency (0 = “Never” and 4 = “Very often”) with which they discuss politics on social media with four categories of people: (a) family members, (b) friends, (c) coworkers or classmates, and (d)



other acquaintances on (a) Facebook and (b) Twitter (e.g., Brundidge, 2010; Kim et al., 2013). The number of people was multiplied by the frequency of talk within each category (for Facebook,  $.17 < r < .26$  and for Twitter,  $.24 < r < .44$ ), then averaged pairwise across media so that like categories were combined ( $.34 < r < .88$ ), and then finally averaged pairwise across categories ( $.38 < r < .76$ ;  $M = 14.58$ ,  $SD = 45.43$ ).

***Face-to-face political talk.*** Drawing from prior measures for political discussion (Barnidge, 2017; Eveland & Hively, 2009), face-to-face political talk variable mimicked the method used for social media political talk, with the exception that it only includes one medium (whereas the social media variable measured messaging on both Facebook and Twitter) and therefore uses eight items instead of 16. Once again, network size and frequency were multiplied within social tie categories ( $.16 < r < .35$ ). These scores were then averaged pairwise ( $.21 < r < .51$ ;  $M = 16.68$ ,  $SD = 32.23$ ).

### **Exogenous Variables**

***Social media news use.*** Based on previous research (see also, Barnidge, 2015; Kim et al., 2013; Lee et al., 2014), social media news use was measured with four items—two apiece for Facebook and Twitter, respectively—asking (a) how many days in the past week respondents read news or political commentary and (b) how much attention they paid when they did (0 = “*Not at all*” and 5 = “*A great deal*”; see Eveland, Hutchens, & Shen, 2009) to combine dimensions of news use (i.e., exposure and attention) within specific media. Reception of these items was filtered based on social media use. For example, respondents who indicated they do not use Twitter did not receive any subsequent items asking about Twitter. Respondents who do not use social media (about 24%) skipped these items entirely. The items exhibited moderately strong inter-medium correlations (for Facebook,  $r = .50$  and for Twitter,  $r = .73$ ). The items were multiplied within media and then averaged across media ( $M = 7.62$ ,  $SD = 9.92$ ).

***Non-social media news use.*** Also based on the recommendations of Eveland and colleagues (2009), the survey asked respondents how many days in the past week they watched, read, or listened to news (a) online (excluding social media), (b) on television, and (c) in newspapers. Respondents who answered more than zero were asked how much attention they paid to that news (0 = “*Not at all*” and 5 = “*A great deal*”). Items were

multiplied within media (for online,  $r = .55$ , for television,  $r = .60$ , and for newspapers,  $r = .53$ ) and then averaged to obtain the final measure ( $M = 11.13$ ,  $SD = 8.33$ ).

### Control Variables

***Social media use.*** Social media use was measured with four items per medium that asked respondents to first indicate how many days per week they used (a) Facebook and (b) Twitter, and to then indicate how many times per day (0 = “*Never*” and 6 = “*More than several times a day*”) they check (a) Facebook and (b) Twitter. Within-medium correlations for these items were strong ( $r = .91$  for both Facebook and Twitter). Therefore, the items were multiplied within media before the products were averaged across media ( $M = 15.80$ ,  $SD = 10.40$ ).

***Political knowledge.*** Political knowledge was measured with four items. Scores were coded as either right (1) or wrong (0; category includes “*Don’t know*” answers) and added together ( $M = 2.23$ ,  $SD = 1.15$ ).

***Political interest.*** Political interest was measured with two questionnaire items asking respondents how interested they are in local or regional politics and national politics (0 = “*Not at all*” and 5 = “*Very*”). These items were averaged ( $r = .78$ ,  $M = 2.96$ ,  $SD = 1.45$ ).

***Political efficacy.*** Political efficacy was measured with two items taken from the classic political science scale. These two items were highly correlated ( $r = .78$ ) and therefore averaged ( $M = 2.06$ ,  $SD = 1.11$ ).

***Strength of partisanship.*** Strength of partisanship was constructed using two survey items. The first asked which party respondents identified with (Green, Democratic, Republican, Libertarian), and the second asked how strong that identification is (1 = “*Not that strong*” and 2 = “*Strong*”). Respondents who did not identify with a party received a score of 0 on the final variable, while the strength of partisanship score was taken for those who did identify with a party ( $M = 1.30$ ,  $SD = 0.73$ ), resulting in a 3-point scale where 0 = non-identifier, 1 = weak identifier, and 2 = strong identifier.

***Ideological extremity.*** Strength of political ideology used standard measures, which asked respondents to place themselves on an 11-point scale where 0 = *Liberal* and 10 = *Conservative*. This item was recoded with 0 at the midpoint. The absolute value was then taken as the final measure ( $M = 0.08$ ,  $SD = 2.67$ ).

**Demographics.** Analyses also controlled for gender (1 = *Female*), age, education (0 = “None” and 7 = “Postgraduate degree”), and annual household income (0 = *Less than \$15,000* and 6 = *\$150,000 or more*). See earlier discussion for descriptive statistics.

### Analysis

A path analysis was used to test the theorized relationships depicted in Figure 1 with the correlation matrix in Table 1. Before performing the path analysis, the endogenous variables were residualized on the control variables, including demographics (age, gender, income, education), political orientation (political internal efficacy, interest, strength of political ideology, political knowledge), and general social media use.

**Table 1**

*Correlations of antecedent and consequence endogenous variables*

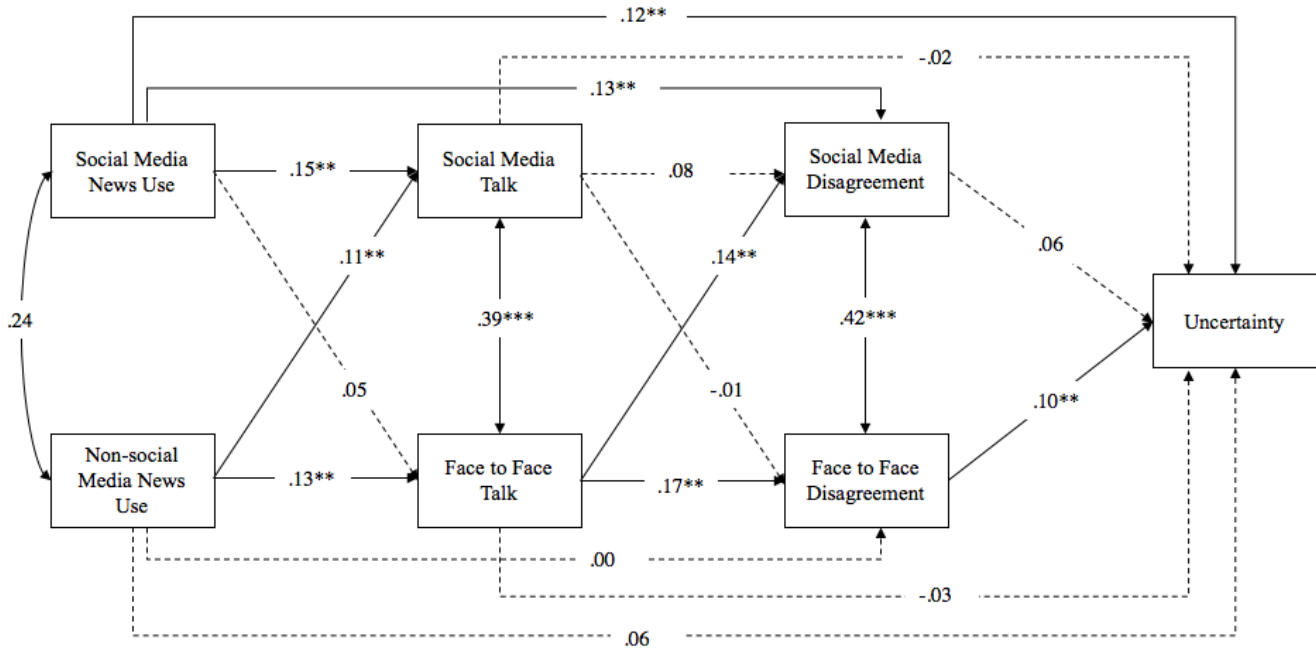
	1	2	3	4	5	6	7
1 Social media news use	1	-	-	-	-	-	-
2 Non-social media news use	.24**	1	-	-	-	-	-
3 Social media talk	.18**	.14**	1	-	-	-	-
4 Face-to-face talk	.09	.14**	.40**	1	-	-	-
5 Social media disagreement	.17**	.08	.15**	.18**	1	-	-
6 Face-to-face disagreement	.05	.03	.06	.16**	.43**	1	-
7 Uncertainty	.07	.09*	.01	.01	.12**	.13**	1

*Note.* \*\*  $p < 0.01$  \*  $p < 0.05$

## RESULTS

Overall, the model was a good fit to the data. The chi-square value was non-significant ( $\chi^2(2) = .007$ ,  $p = .593$ ), and both chi-square-based indices (GFI = .999, CFI = 1.00, TLI = 1.00) and error-based indices (RMSEA = .00,  $p = .843$ ; SRMR = .005) also indicated a good model fit according to standard criteria (Schumacker & Lomax, 2004). In terms of explanatory value, the model produced  $R^2$  values of .043 for social media political talk, .023 for face-to-face political talk, .056 for social media disagreement, .027 for face-to-face disagreement, and .039 for uncertainty. Because the data analysis of this study is based on cross-sectional data, we compared the model with alternative path models<sup>1</sup>. The proposed model outperformed all alternatives.

<sup>1</sup> Three alternative models were tested to assess the validity of the proposed research model of the present research. The first alternative model (social media news use, social media talk, non-social media talk, and face-to-face talk → social media and face-to face disagreement → uncertainty) indicates  $\chi^2(4) = .0214$ , CFI



*Figure 2.* Path model of social media news/non-social media news use on uncertainty  
*Note:* Standardized path coefficients are displayed; Number of observations = 496; age, gender, house hold income, education, political interest, internal political efficacy, strength of ideology, political partisanship, political knowledge, and general social media use were controlled in the path model; \*\*  $p < .05$ ; \*\*\*  $p < .001$ .

Figure 2 presents standardized coefficients and error terms for the path analysis. The key finding is that face-to-face disagreement was significantly and positively related to uncertainty ( $\beta = .10, p < .05$ ), while social media disagreement, on the other hand, was not significantly related ( $\beta = .06, n.s.$ ). Thus, the results indicate that disagreeing with someone in face-to-face settings is more strongly related to uncertainty than disagreeing with someone in social media settings.

However, the model also shows an indirect path between social media disagreement and uncertainty via face-to-face disagreement. The two disagreement variables are, in fact, positively and strongly related ( $\beta = .42, p < .05$ ), which means that the indirect path from social media disagreement to uncertainty via face-to-face disagreement is approximately as strong as the direct path from face-to-face disagreement to uncertainty

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=0.987, GFI = .0992, RMSEA = .030, SRMR = .021, and TLI = .952. The second alternative model (face-to-face talk [influenced by other exogenous variables] → face-to-face disagreement [by other exogenous variables] → uncertainty) shows  $\chi^2(1) = .027$ , CFI = 0.985, GFI = .0994, RMSEA = .088, SRMR = .017, and TLI = .781. Lastly, the third alternative model (social media talk [by other exogenous variables] → social media disagreement [by other exogenous variables] → uncertainty) indicates  $\chi^2(1) = .611$ , CFI = 1.00, GFI = 1.00, RMSEA = .00, SRMR = .004, and TLI = 1.038.

( $\beta = .10, p < .05$ ). Thus, social media disagreement is related to uncertainty, but not directly. Other relationships estimated by the model also reveal similar online-to-offline pathways. For example, social media political talk is positively related to disagreement in both settings via its direct relationship with face-to-face talk ( $\beta = .39, p < .05$ ). Calculations reveal the indirect effect of social media talk on face-to-face disagreement at approximately  $\beta = .11 (p < .05)$ .

The political talk variables themselves are positively predicted by the news use variables. Social media political talk is predicted by news use both on social media ( $\gamma = .15, p < .05$ ) and elsewhere ( $\gamma = .11, p < .05$ ). Face-to-face political talk, on the other hand, is only predicted by non-social media news use ( $\gamma = .13, p < .05$ ). However, political talk on social media and face-to-face are positively related to one another ( $\beta = .39, p < .05$ ), indicating substantial communicative linkage between news use and political talk in social media and face-to-face settings.

## DISCUSSION

To briefly summarize the results, political disagreement in face-to-face settings is significantly and positively related to uncertainty, but political disagreement in social media settings is not significantly related to uncertainty. Second, face-to-face talk has a positive influence on political disagreement in both social media and face-to-face settings. Third, social media news use is positively related to political talk in social media settings. Finally, non-social media news use is positively related to political talk in both social media and face-to-face settings.

The findings point toward two specific conclusions. First, political disagreement in different settings may not have the same impact on uncertainty. Specifically, face-to-face disagreement has a stronger relationship with uncertainty than social media disagreement. Second, and consistent with previous research on the communication mediation model (McLeod et al., 2001; Shah et al., 2005; Shah et al., 2007; Shah et al., 2017), processes related to news use and discussion in online and offline settings display a substantial degree of overlap.

By extension, these conclusions imply that although political disagreement is more common in social media settings than in face-to-face settings (Barnidge, 2017),

disagreement in the latter setting may lead to more pro-democratic outcomes than disagreement in the latter. For example, political disagreement is positively related to political tolerance of the other side (Mutz, 2006), largely because it promotes ambivalence (which is closely related to uncertainty) about individuals' attitudes and beliefs. And while exposure to political disagreement in face-to-face settings may be less common than in social media settings (Barnidge, 2017), it may also be more likely to increase tolerance because it has a stronger relationship with uncertainty. More specifically, stronger relationship shown in face-to-face communication settings than social media settings could reduce psychological distance among discussants with increasing levels of interpersonal intimacy and social tie (Lieberman & Trope, 1998). Though political discussions in face-to-face require high level of political tolerance among discussants, individuals' perception of disagreement for the sake of consistency could generate conjectural distances to become suspicious of a political information on whether it is likely or unlikely. On the other hand, perception of political disagreement in social media settings constructed with relatively weak-tie relationships might have lesser impacts on uncertainty about existing political information and rationales of the discussants because they might not easily trust the other side of disagreeing view or avoid dissimilar points of views instantly. Future research could extend these findings to examine the links between disagreement, uncertainty, and tolerance in face-to-face versus social media settings.

In a related vein, interpersonal communication in face-to-face settings may be more likely to reduce intergroup prejudice than communication in social media settings. The uncertainty created by political disagreement in these settings may reduce the tendency to self-categorize oneself into an in-group and the discussant into an outgroup (Tajfel, 1982). By contrast, because social media disagreement takes place with more socially distant ties from the comfort of a computer screen, this very normal tendency to categorize individuals into opposing social groups may not be reduced. In as much as social identification and self-categorization leads to intergroup discrimination (Tajfel, 1982), this implies that face-to-face communication could be more influential in terms of reducing discrimination in a democratically beneficial way.

That said, these findings also show substantial overlap between interpersonal communication processes in face-to-face and social media settings, implying that

communication in one setting can influence communication in another (see also, Shah et al., 2005; Shah et al, 2007). Therefore, even while political disagreement in social media settings may have less of an influence on uncertainty than disagreement in face-to-face settings, individuals may carry that disagreement forward into face-to-face conversation, which could lead to disagreement and, subsequently, to uncertainty of one's own beliefs and tolerance of the other side. More research is needed to elaborate on the overlap in these processes, and future research should focus on examining whether political disagreement in social media settings has an influence on political conversation in other settings.

The conclusions of this study are limited in several important ways. First, the study relies on self-reported measures of the endogenous variables rather than actual observation. While this problem is typical of survey research, self-reported measures are prone to measurement error, and future research could collect and analyze observational data to complement these findings. In a related vein, the disagreement measure relies on the perception of the respondent, and future research could assess discrepancies between those perceptions and reality, as judged by an external observer. Third, the study does not measure political disagreement separately on Facebook and Twitter. Future research could investigate the differences between these prominent social media platforms. Finally, this study is cross-sectional, presenting a set of relationships that are ordered by theory. However, causal inferences cannot be made from these data, and future research should assess causality using an over-time experimental or survey design.

Despite the above limitations, the present study delineates the core logics of the communication mediation model, highlighting the overlapping process of interpersonal communication across communicative settings. Furthermore, the study shows different patterns of relationships between disagreement and uncertainty in social media versus face-to-face settings. With the development of new media technologies, the findings of the current study contribute to the ongoing conversations about the benefits of political disagreement for democratic societies.

## References

- Babrow, A. S., Kasch, C. R., & Ford, L. A. (1998). The many meanings of uncertainty in illness: Toward a systematic accounting. *Health Communication, 10*(1), 1-23. doi:10.1207/s15327027hc1001\_1
- Barnidge, M. (2015). The role of news in promoting political disagreement on social media. *Computers in Human Behavior, 52*, 211-218. doi:10.1016/j.chb.2015.06.011
- Barnidge, M. (2017). Exposure to political disagreement in social media versus face-to-face and anonymous online settings. *Political Communication, 34*(2), 302-321. doi:10.1080/10584609.2016.1235639
- Barnidge, M. (2018). Social affect and political disagreement on social media. *Social Media + Society, 4*(3), 1-12. doi: 10.1177/2056305118797721
- Bimber, B. (2008). The internet and political fragmentation. In P. F. Nardulli (Ed.), *Domestic perspectives on contemporary democracy* (pp. 155-170). Chicago, IL: University of Illinois Press.
- Brashers, D. E. (2001). Communication and uncertainty management. *Journal of Communication, 51*(3), 477-497. doi:10.1111/j.1460-2466.2001.tb02892.x
- Brundidge, J. (2010). Encountering “difference” in the contemporary public sphere: The contribution of the Internet to the heterogeneity of political discussion networks. *Journal of Communication, 60*(4), 680-700. doi:10.1111/j.1460-2466.2010.01509.x
- Cappella, J. N. (2002). Cynicism and social trust in the new media environment. *Journal of Communication, 52*(1), 229-241. doi:10.1111/j.1460-2466.2002.tb02541.x
- Cho, J., Shah, D. V., McLeod, J. M., McLeod, D. M., Scholl, R. M., & Gotlieb, M. R. (2009). Campaigns, reflection, and deliberation: Advancing an O-S-R-O-R model of communication effects. *Communication Theory, 19*(1), 66-88. doi:10.1111/j.1468-2885.2008.01333.x
- Conover, P. J., Searing, D. D., & Crewe, I. M. (2002). The deliberative potential of political discussion. *British Journal of Political Science, 32*(1), 21-62. doi:10.1017/S0007123402000029
- Cooper, J., & Fazio, R. H. (1984). A new look at dissonance theory *Advances in Experimental Social Psychology, 17*, 229-266. doi.org/10.1016/S0065-2601(08)60121-5
- Eliasoph, N. (1998). *Avoiding politics: How Americans produce apathy in everyday life*. Cambridge, UK: Cambridge University Press.
- Ellison, N. B., Steinfield, C., & Lampe, C. (2007). The benefits of Facebook “friends:” Social capital and college students’ use of online social network sites. *Journal of Computer-Mediated Communication, 12*(4), 1143-1168. doi.org/10.1111/j.1083-6101.2007.00367.x
- Ellison, N. B., Vitak, J., Steinfield, C., Gray, R., & Lampe, C. (2011). Negotiating privacy concerns and social capital needs in a social media environment. In S. Trepte & L. Reinecke (Eds.), *Privacy online: Perspectives on privacy and self-disclosure in the social web* (pp. 19-32). Berlin, Heidelberg: Springer Berlin Heidelberg.
- Eveland, W. P., & Hively, M. H. (2009). Political discussion frequency, network size, and “heterogeneity” of discussion as predictors of political knowledge and participation. *Journal of Communication, 59*(2), 205-224. doi:10.1111/j.1460-2466.2009.01412.x



- Eveland, W. P., Hutchens, M. J., & Shen, F. (2009). Exposure, attention, or “use” of news? Assessing aspects of the reliability and validity of a central concept in political communication research. *Communication Methods and Measures*, 3(4), 223-244. doi:10.1080/19312450903378925
- Festinger, L. (1950). Informal social communication. *Psychological Review*, 57(5), 271. doi:10.1037/h0056932
- Festinger, L. (1957). *A theory of cognitive dissonance* (Vol. 2). Stanford, CA: Stanford University Press.
- Festinger, L. (1962). Cognitive dissonance. *Scientific American*, 207(4), 93-106.
- Gil de Zúñiga, H., Bachmann, I., Hsu, S.-H., & Brundidge, J. (2013). Expressive versus consumptive blog use: Implications for interpersonal discussion and political participation. *International Journal of Communication*, 7, 22.
- Gil de Zúñiga, H., Barnidge, M., & Diehl, T. (2018). Political persuasion on social media: A moderated moderation model of political disagreement and civil reasoning. *The Information Society*, 34(5), 302-315. doi: 10.1080/01972243.2018.1497743
- Greenwood, S., Perrin, A., & Duggan, M. (2016). Social media update 2016. Retrieved from <http://www.pewinternet.org/2016/11/11/social-media-update-2016/>
- Hogg, M. A. (2000). Subjective uncertainty reduction through self-categorization: A motivational theory of social identity processes. *European Review of Social Psychology*, 11(1), 223-255. doi:10.1080/14792772043000040
- Hogg, M. A., & Reid, S. A. (2006). Social identity, self-categorization, and the communication of group norms. *Communication Theory*, 16(1), 7-30. doi:10.1111/j.1468-2885.2006.00003.x
- Hong, Y., & Rojas, H. (2016). Agreeing not to disagree: Iterative versus episodic forms of political participatory behaviors. *International Journal of Communication*, 10, ISSN: 1932-8036
- Huckfeldt, R., Johnson, P. E., & Sprague, J. (2004). *Political disagreement: The survival of diverse opinions within communication networks*. New York: Cambridge University Press.
- Huckfeldt, R., Mendez, M., & Osborn, T. (2004). Disagreement, ambivalence, and engagement: The political consequences of heterogeneous networks. *Political Psychology*, 25(1), 65-95. doi:10.1111/j.1467-9221.2004.00357.x
- Huckfeldt, R. R., & Sprague, J. (1995). *Citizens, politics and social communication: Information and influence in an election campaign*. New York: Cambridge University Press.
- Jung, N., Kim, Y., & Gil de Zúñiga, H. (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
- Kandel, D. B. (1978). Homophily, selection, and socialization in adolescent friendships. *American Journal of Sociology*, 84(2), 427-436. doi:10.1086/226792
- Kenski, K., & Stroud, N. J. (2006). Connections between Internet use and political efficacy, knowledge, and participation. *Journal of Broadcasting & Electronic Media*, 50(2), 173-192. doi:10.1207/s15506878jobem5002\_1
- Kim, Y., Hsu, S. H., & Gil de Zúñiga, H. (2013). Influence of social media use on discussion network heterogeneity and civic engagement: The moderating role of personality traits. *Journal of Communication*, 63(3), 498-516. doi:10.1111/jcom.12034

- Knobloch, L. K., Satterlee, K. L., & DiDomenico, S. M. (2010). Relational uncertainty predicting appraisals of face threat in courtship: Integrating uncertainty reduction theory and politeness theory. *Communication Research, 37*(3), 303-334. doi:10.1177/0093650210362527
- Knobloch, L. K., & Solomon, D. H. (1999). Measuring the sources and content of relational uncertainty. *Communication Studies, 50*(4), 261-278. doi:10.1080/10510979909388499
- Kuang, K., & Wilson, S. R. (2017). A meta-analysis of uncertainty and information management in illness contexts. *Journal of Communication, 67*(3), 378-401. doi:10.1111/jcom.12299
- Kwak, N., Williams, A. E., Wang, X., & Lee, H. (2005). Talking politics and engaging politics: An examination of the interactive relationships between structural features of political talk and discussion engagement. *Communication Research, 32*(1), 87-111. doi:10.1177/0093650204271400
- Lee, J. K., Choi, J., Kim, C., & Kim, Y. (2014). Social media, network heterogeneity, and opinion polarization. *Journal of Communication, 64*(4), 702-722. doi:10.1111/jcom.12077
- Liberman, N., & Trope, Y. (1998). The role of feasibility and desirability considerations in near and distant future decisions: A test of temporal construal theory. *Journal of Personality and Social Psychology, 75*(1), 5. doi.org/10.1037/0022-3514.75.1.5
- Lu, Y., Heatherly, K. A., & Lee, J. K. (2016). Cross-cutting exposure on social networking sites: The effects of SNS discussion disagreement on political participation. *Computers in Human Behavior, 59*, 74-81. doi:10.1016/j.chb.2016.01.030
- Luhtanen, R., & Crocker, J. (1992). A collective self-esteem scale: Self-evaluation of one's social identity. *Personality and Social Psychology Bulletin, 18*(3), 302-318. doi:10.1177/0146167292183006
- MacKuen, M. (1990). Speaking of politics: Individual conversational choice, public opinion, and the prospects for deliberative democracy. In J. Ferejohn & J. Kuklinski (Eds.), *Information and democratic processes* (pp. 59-99). Urbana, IL: University of Illinois Press.
- Mansbridge, J. (1999). Everyday talk in the deliberative system. In S. Macedo (ed.), *Deliberative politics: Essays on democracy and disagreement* (pp. 1-211). New York: Oxford University Press.
- Markus, H., & Zajonc, R. B. (1985). The cognitive perspective in social psychology. In G. Lindzey & E. Aronson (Eds.), *Handbook of social psychology* (Vol. 1, pp. 137-230). New York: Random House.
- Maurer, M., & Holbach, T. (2016). Taking online search queries as an indicator of the public agenda: The role of public uncertainty. *Journalism & Mass Communication Quarterly, 93*(3), 572-586. doi:10.1177/1077699015610072
- McGarty, C., Turner, J. C., Oakes, P. J., & Haslam, S. A. (1993). The creation of uncertainty in the influence process: The roles of stimulus information and disagreement with similar others. *European Journal of Social Psychology, 23*(1), 17-38. doi:10.1002/ejsp.2420230103
- McLeod, D. M., Kosicki, G. M., & McLeod, J. M. (2002). Resurveying the boundaries of political communications effects. In J. Bryant & D. Zillmann (Eds.), *Media Effects:*

- Advances in Theory and Research* (pp. 215-267). Mahwah, NJ: Lawrence Erlbaum Associates.
- McLeod, J. M., Scheufele, D. A., & Moy, P. (1999). Community, communication, and participation: The role of mass media and interpersonal discussion in local political participation. *Political Communication, 16*(3), 315-336.  
doi:10.1080/105846099198659
- McLeod, J. M., Zubric, J., Keum, H., Deshpande, S., Cho, J., Stein, S., & Heather, M. (2001). Reflecting and connecting: Testing a communication mediation model of civic participation. Paper presented at the annual convention of the Association for Education in Journalism and Mass Communication, Washington, DC.
- Mutz, D. C. (2002). The consequences of cross-cutting networks for political participation. *American Journal of Political Science, 838-855*. doi:10.2307/3088437
- Mutz, D. C. (2006). *Hearing the other side: Deliberative versus participatory democracy*. New York: Cambridge University Press.
- Park, C. S. (2015). Pathways to expressive and collective participation: Usage patterns, political efficacy, and political participation in social networking sites. *Journal of Broadcasting & Electronic Media, 59*(4), 698-716.  
doi:10.1080/08838151.2015.1093480
- Petty, R. E., & Wegener, D. T. (1998). Attitude change: Multiple roles for persuasion variables. In D. Gilbert, S. Fiske, & G. Lindzey (Eds.). *The handbook of social psychology* (Vol. 1, pp. 323–390). New York: McGraw Hill.
- Price, V., Cappella, J. N., & Nir, L. (2002). Does disagreement contribute to more deliberative opinion? *Political Communication, 19*(1), 95-112.  
doi:10.1080/105846002317246506
- Rojas, H. (2015). Egocentric publics and perceptions of the worlds around us. In H. Gil de Zúñiga (Ed.), *New technologies and civic engagement: New agendas in communication* (pp. 93-102). New York: Routledge.
- Schumacker, R. E., & Lomax, R. G. (2004). *A beginner's guide to structural equation modeling*. New York: Routledge.
- Shah, D. V., Cho, J., Eveland, W. P., & Kwak, N. (2005). Information and expression in a digital age: Modeling Internet effects on civic participation. *Communication Research, 32*(5), 531-565. doi:10.1177/0093650205279209
- Shah, D. V., Cho, J., Nah, S., Gotlieb, M. R., Hwang, H., Lee, N. J., . . . McLeod, D. M. (2007). Campaign ads, online messaging, and participation: Extending the communication mediation model. *Journal of Communication, 57*(4), 676-703.  
doi:10.1111/j.1460-2466.2007.00363.x
- Shah, D. V., McLeod, D. M., Rojas, H., Cho, J., Wagner, M. W., & Friedland, L. A. (2017). Revising the communication mediation model for a new political communication ecology. *Human Communication Research, 43*(4), 491-504. doi:10.1111/hcre.12115
- Silva, K. C. d. (2019). Brexit uncertainty Is changing our communication behaviour. Retrieved from <https://www.forbes.com/sites/karencorreiasilva/2019/01/22/brexit-uncertainty-is-changing-our-communication-behaviour/#38219ec65ef3>
- 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
- Tajfel, H. (1982). Social psychology of intergroup relations. *Annual Review of Psychology, 33*, 1-39.

- Turner, J. C., Hogg, M. A., Oakes, P. J., Reicher, S. D., & Wetherell, M. S. (1987). *Rediscovering the social group: A self-categorization theory*. Oxford, UK: Basil Blackwell.
- Valenzuela, S. (2009). Variations in media priming: The moderating role of knowledge, interest, news attention, and discussion. *Journalism & Mass Communication Quarterly*, *86*(4), 756-774. doi:10.1177/107769900908600403
- Valenzuela, S., Arriagada, A., & Scherman, A. (2012). The social media basis of youth protest behavior: The case of Chile. *Journal of Communication*, *62*(2), 299-314. doi:10.1111/j.1460-2466.2012.01635.x
- Valenzuela, S., Kim, Y., & Gil de Zúñiga, H. (2011). Social networks that matter: Exploring the role of political discussion for online political participation. *International Journal of Public Opinion Research*, *24*(2), 163-184. doi:10.1093/ijpor/edr037
- Valenzuela, S., Park, N., & Kee, K. F. (2009). Is there social capital in a social network site?: Facebook use and college students' life satisfaction, trust, and participation. *Journal of Computer-Mediated Communication*, *14*(4), 875-901. doi:10.1111/j.1083-6101.2009.01474.x
- Walsh, K. C. (2004). *Talking about politics: Informal groups and social identity in American life*. Chicago, IL: University of Chicago Press.

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### Online Connections

To follow these authors in social media:

Bumsoo Kim: @bkim29

Matthew Barnidge: <https://matthewbarnidge.com/>, @mbarni109