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Tweets and posts: Social networking sites and political knowledge in the 2016 U.S. presidential election

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ABSTRACT

To what extent does a political candidate's social media presence influence people's views and their real-world political activities? We conducted a survey using Mechanical Turk asking questions about social networking use and political involvement with regard to the 2016 presidential election. We asked factual questions about politics to gauge political knowledge. We find low-information voters are more easily influenced by friends' posts and are more likely to be influenced by candidates' social media to change real-world political activities; in contrast, high-information voters are less easily influenced by friends' posts and less likely to be influenced by what candidates post.

KEYWORDS: Social media, political knowledge, participation

INTRODUCTION

Tens of millions of people are using social networking sites (SNS), and social media use has exploded in recent years. Businesses, celebrities, and politicians are trying to use this to their advantage. In particular, politicians now have a new method through which they can reach out to large numbers of people in a relatively inexpensive way (Gueorguieva 2008), with presidential candidates relying on Facebook and Twitter to communicate directly with voters (Kreiss 2016). However, the effectiveness of using social media in this way for political gain is still a matter of debate.

A growing literature discusses the connections between SNS and political participation. Studies have examined how candidates for office use their public pages (Robertson, Vatrappu, and Medina 2010; Haynes and Pitts 2009; Williams and Gulati 2013); how those pages create space for political discourse (Robertson, Vatrappu, and Medina 2009); if SNS are altering basic democratic values (Swigger 2013); and whether SNS encourage people to become politically active (Conroy, Feezell, and Guerrero 2012; Baumgartner and Morris 2010; Bode 2012; Vitak et al. 2011; Vesnic-Alujevic 2012; Towner 2013; Zhang, Seltzer, and Bichard 2013; Dimitrova and Bystrom 2013; Bode et al. 2014). In one notable recent study, a 61 million person experiment of Facebook users was conducted to see if political messages would

mobilize people to be politically engaged. They concluded that the messages affected political behavior both online and offline (Bond et al. 2012).

Others, however, have argued that the high hopes surrounding the possibilities of online political discussions have not yet been fulfilled (Larsson 2013). There is, so far, no consensus in the existing literature on whether or how offline and online political activities influence each other, with some studies seeing a direct connection and others separating the two. Clearly much work on understanding the impact of the Internet on politics remains to be done (Farrell 2012).

We propose here to expand on this literature by examining the extent to which a political candidate's social media presence influences citizens' views on candidates for high public office and their real-world political activities. In particular, we are interested in understanding how political knowledge (or lack thereof) mediates the relationship between politicians' social media use and the ways average citizens behave as a result. We recruited 717 subjects for a survey via Amazon.com's Mechanical Turk platform. The survey asked questions about their demographic and political characteristics, social media use, the extent to which they are influenced by politicians' presence on social media, as well as questions about their level of political knowledge. The results suggest an important role for political knowledge in mediating the relationship between politicians and citizens on social media platforms. This has important implications for our democracy: to the extent that people's lack of knowledge informs their political actions online, the discourse on social networking sites may be significantly poorer as a result.

LITERATURE REVIEW

The literature on social media use by citizens is divided on the question of whether users of social networking sites are more or less likely to be politically engaged as a result of their social media use. Baumgartner and Morris (2010), Kushin and Yamamoto (2010), and Larsson (2013), for instance, found that users of SNS were no more likely to engage in offline political participation than those without social networking accounts. Harlow and Guo (2014) also suggest that digital communication tools may lead users to engage in "clicktivism" rather than real-world activism, while Theocharis and Lowe (2016) find that Facebook use actually negatively correlates with political and civic participation. A study by Richey and Zhu (2015) also found that Internet usage does not improve political efficacy, political interest, or political knowledge for late adopters of this technology. Qiu et al (2015) find that network effects help content to go viral.

On the other hand, studies by Bode (2012), Towner (2013), Towner (2017), Rice et al. (2013), and Zhang et al. (2013) did find a positive relationship between online social media political involvement and real-world political participation. Pasek et al. (2009) argue that different types of social networking sites will affect offline participation in different ways, and Chan (2016) similarly notes that the size of a person's Facebook network affects their political participation on that site. The massive experiment conducted by Bond et al. (2012) also found that political messages posted on people's Facebook news feeds did cause those targeted to become more active in politics, to be more likely to vote, and more likely to influence their friends to participate in politics as well. Similarly, a meta-analysis by Boulianne (2015) found that there is generally a positive relationship between social media use and real-world participation, both in the U.S. and across the world. Bimber and Copeland (2013) qualify some of this by suggesting that the relationship between digital media use and political participation may vary over time.

A subset of this literature on the relationship between social media and political participation examines the question of how political knowledge affects the relationship between social media usage by political actors and citizens' involvement in political activities. Although knowledge of political affairs is a key component of civic understanding and political participation (Galston 2001) most Americans seem to have a somewhat limited understanding of the details of politics and policy (Delli Carpini and Keeter 1996). Scholars have long understood that political information is not evenly distributed among the public, with important implications for understanding vote choice (Converse 1962, 2000). Some studies demonstrate a link between gaining knowledge about the issues and the public's judgment of those issues (Gilens 2001), with misleading information having a detrimental effect on that judgment (Jerit and Barabas 2006). Many studies have shown that partisanship acts as an important informational cue, especially for low-information voters (Bartels 2002; Bolsen, Druckman, and Cook 2014; Jerit and Barabas 2012; Schaffner and Streb 2002). Increased levels of partisan polarization in recent decades have also significantly affected the information environment by making party endorsements more important and decreasing the relevance of substantive information (Druckman, Peterson, and Slothuus 2013). Bullock (2011), however, argues that the impact of partisan cues has been overstated, at least for citizens who already possess good information about policy.

Kenski and Stroud (2006) suggest that the Internet does contribute positively to political knowledge, though the overall effect in their findings is small. Similarly, a study by Cacciatore et al. (2014) argues that Internet use can narrow knowledge gaps in the public. Dimitrova et al. (2014), however, suggest that the effects of online media consumption may assist only weakly in political learning with some possible effects on greater political participation. In a similar vein, Baumgartner and Morris (2010) show that, while social networking may be a potential tool for people to increase their political knowledge, the news gathered this way does not tend to enhance democratic discourse. As they note, "there is little evidence to suggest individuals who get their news about politics on SN Web sites are well informed" (Baumgartner and Morris 2010, 34).

On the other hand, Groshek and Dimitrova (2011, 368) argue that "more frequent exposure to Internet news and more attention to campaign information online was a significant predictor of political knowledge." Tran (2013) also suggests that online news use does lead to gains in political knowledge. Kaufhold et al. (2010) compared the effects of professional and citizen journalism, finding that consumers of professional journalism were slightly better informed, but that consumption of any form of news tended to produce more political involvement. Bode (2016) presents a more nuanced view that citizens may be *able* to learn more from social media, but do not always do so in practice. Similarly, Towner (2017) found that, while offline sources do not affect young adults' levels of political knowledge, some types of online information (specifically those from online newspapers and television campaign websites) are linked to improved political knowledge levels. This literature does not, however, fully examine whether political knowledge may act as a mediating influence between what political actors post on social media and how citizens' involvement in political activities is affected as a result.

HYPOTHESES

Researchers have found a positive relationship between political involvement on social media and real world participation (Bode 2012; Towner 2013; Towner 2017; Rice, Moffett, and Madupalli 2013; Zhang, Seltzer, and Bichard 2013). News gathered through SNS does not necessarily keep people well informed (Baumgartner and Morris 2010), and yet those who

consume any form of news tend to have more political involvement (Kaufhold, Valenzuela, and Zúñiga 2010). However, those with lower levels of political knowledge may be more easily influenced by their exposure to the media environment (Galston 2001; Lupia 2016).

Therefore, we hypothesize:

H1. Low-information voters will be more easily influenced by friends' posts and more likely to be influenced by candidates' social media presence to change their real-world political activities (such as voting or donating to the campaign).

In the current era of growing partisan polarization, party endorsements have become ever more important and the relevance of unbiased information has decreased (Druckman, Peterson, and Slothuus 2013). Bullock (2011), however, argues that the impact of partisan cues has been overstated for citizens who already possess good information about policy. In contrast, those with less information in any political party will be at a disadvantage.

Therefore, we hypothesize:

H2. Low-information voters will be more easily influenced by friends' posts and candidates' social media presence regardless of their political party.

MECHANICAL TURK AS A RECRUITMENT TOOL

Mechanical Turk is a relatively new platform that acts as an online labor market. Participants who wish to serve as subjects or are willing to carry out various tasks are paid relatively small sums of money (often as little as 10 cents) for their time. Requesters, often conducting various types of research, are thereby able to recruit large numbers of subjects at minimal cost. The total number of participants on Mechanical Turk is estimated at over 500,000. The effectiveness of this method of subject recruitment has been demonstrated in recent studies that find MTurk samples to be generally reliable and comparable to more expensive methods (Berinsky, Huber, and Lenz 2012; Buhrmester, Kwang, and Gosling 2011; Chandler, Mueller, and Paolacci 2014; Horton, Rand, and Zeckhauser 2011; Mason and Suri 2012; Shapiro, Chandler, and Mueller 2013; Berinsky, Margolis, and Sances 2014; Clifford, Jewell, and Waggoner 2015; Huff and Tingley 2015; Ipeirotis 2010; Levay, Freese, and Druckman 2016). Studies using MTurk have been published in fields as diverse as political science, psychology, computer science, and economics (Berinsky, Huber, and Lenz 2012; Horton, Rand, and Zeckhauser 2011; Amir, Rand, and Gal 2012; Grose, Malhotra, and Parks Van Houweling 2015). This new platform opens up the possibility of recruiting a larger number of subjects with relative ease and at low cost.

METHODOLOGY

We recruited 717 participants via Mechanical Turk (332 female, 383 male, and 2 who identified as other). We limited the survey only to those in the United States, and it was open from November 5, 2016 – November 7, 2016 and therefore closed before Election Day. All participants received 40 cents to answer our survey. Before beginning, participants had to affirm that they had either a Facebook account or Twitter account and were eligible to vote in the U.S. election. They were then asked to select whether they had a Facebook account,

Twitter account, or both. 232 respondents (32.36%) had only a Facebook account, 25 (3.49%) had only a Twitter account, and 460 (64.16%) had both a Facebook and Twitter account.

Using a Likert-scale from 1-5 where 1 is *Strongly Disagree* and 5 is *Strongly Agree*, we asked participants a series of questions pertaining to their social networking and political activity, broken down into four different categories: their social networking usage (Facebook or Twitter), political activity, their political activity on social networking sites, and the influence candidates and their friends on SNS had on modifying their political beliefs.

Statements on SNS Activity (*SNS_Active*):

- I check my social networking site often
- I post on my social networking site
- I read people's posts often
- I reply to people's posts often

Statements on Political Activity (*POL_ACTIVE*):

- I volunteer in support of political causes
- I attend political events
- I have worked for candidates for office
- I have donated to candidates for office

Statements on Political Activity on SNS (*POL_ACTIVE_SNS*):

- I have joined political discussions through a social networking site
- My status updates are often about political events
- My status updates are often about political candidates

Statements on Politically Influenced on SNS (*POL_INFLUENCED_SNS*):

- A political candidate's active presence on a social networking site affects my decision on how to vote
- A political candidate's active presence on a social networking site affects my willingness to donate to his/her campaign
- I often change my mind based on my friends' political opinions via social networking sites
- I often change my mind based on my friends' opinions on political candidates via social networking sites

These items loaded into their respective factors, and Cronbach's Alpha is .85 for *SNS_ACTIVE*, .88 for *POL_ACTIVE*, .86 for *POL_ACTIVE_SNS*, and .83 for *POL_INFLUENCED_SNS*. Four statements that did not load into these factors were removed.

Furthermore, we asked participants five factual questions about political issues to gauge their level of political knowledge. These questions are, word for word, the same ones used as part of the pre-election survey conducted by the American National Election Study (http://www.electionstudies.org/studypages/anes_timeseries_2012/anes_timeseries_2012_qnaire_pre.pdf) as part of its massive panel study during every presidential election year. These questions are therefore a reliable and proven method for measuring political knowledge. See questions below:

Do you happen to know how many times an individual can be elected President of the United States under current laws?

1. Once
2. Twice
3. Three Times
4. Four Times

Is the U.S. federal budget deficit – the amount by which the government’s spending exceeds the amount of money it collects – now bigger, about the same, or smaller than it was during most of the 1990s?

1. Bigger
2. About the Same
3. Smaller

For how many years is a United States Senator elected – that is, how many years are there in one full term of office for a U.S. Senator?

1. 2 years
2. 4 years
3. 6 years
4. 8 years

What is Medicare?

1. A program run by the U.S. federal government to pay for old people’s health care
2. A program run by state governments to provide health care to poor people
3. A private health insurance plan sold to individuals in all 50 states
4. A private, non-profit organization that runs free health clinics

On which of the following does the U.S. federal government currently spend the least?

1. Foreign aid
2. Medicare
3. National defense
4. Social Security

We added the results of the five political knowledge questions together for each participant to get their *political knowledge score* in order to determine the relationship between political knowledge score and participants’ likelihood to be influenced by SNS.

RESULTS

The mean, maximum, minimum, and standard deviation of the respondents’ political knowledge scores as well as their SNS activity, Political Activity, Political Activity on SNS, and their level of Influence through SNS can be seen in Table 1.

Table 1. Participants' Average Political Knowledge Score and Political and SNS Activity (N=717)

Variables	Mean	Std Dev	Minimum	Maximum
Political Knowledge Score	3.62	1.05	0	5
SNS_ACTIVE	3.54	0.90	1	5
POL_ACTIVE	2.00	1.02	1	5
POL_ACTIVE_SNS	2.33	1.09	1	5
POL_INFLUENCED_SNS	2.03	0.86	1	5

Table 2 shows the breakdown of participants' demographics and political knowledge scores. Spearman's rank correlations were computed and there were significant and positive relationships between education and score ($\rho=0.20187$, $p<.0001$) and age and score ($\rho=0.21256$, $p<.0001$). The more educated and older participants were, the better their political knowledge scores. The results of t-tests show that there were no differences between males and females with regard to their political knowledge score, $t(713)=-.89$, $p=0.37$, or whites and non-whites, $t(715)=0.07$, $p=0.95$. In addition, using an ANOVA we found no differences in political knowledge score between Republicans, Democrats, and Independents, $F(2, 693)=0.48$, $p=0.62$.

Table 2. Participants' Demographic Information and Political Knowledge Scores (N=717)

Demographics	N	Score	Std Dev
Ethnicity			
White	555	3.62	1.04
African American	49	3.27	1.04
Asian American	55	3.91	1.02
Hispanic	38	3.47	1.25
Native American	4	3.75	0.5
Other	13	4.08	0.64
Prefer not to answer	3	4.33	1.15
Education			
Did not complete high school	1	5	.
High school Graduate / GED	71	3.32	1.09
Some college / Associate degree	247	3.44	1.08
College graduate	303	3.70	1.00
Postgraduate degree	95	4.05	0.93
Gender			

Female	332	3.59	0.94
Male	383	3.66	1.14
Other	2	2.5	0.71
Age			
18-25	106	3.24	1.12
26-30	157	3.46	1.13
31-40	214	3.63	1.01
41-50	107	3.84	0.97
51-60	89	3.87	0.92
61-70	38	4.11	0.83
70+	6	4.17	0.75
Political Orientation			
Democrat	336	3.61	1.04
Independent	217	3.67	1.05
Republican	143	3.57	1.09
Other	21	3.81	0.93

Participants generally checked their social networking sites (Facebook and/or Twitter) often. See Table 3 for a breakdown of how often participants checked their social networking sites. Over 80% checked their SNS at least once a day (column 2). While Table 1 shows that participants were not very politically active, Table 3 reveals that over 70% of the participants discussed political events (column 3) and the presidential election (column 4) at least a few times a week. Spearman's rank correlations show a negative relationship between the frequency of checking SNS with their political knowledge score ($\rho=-0.09$, $p=0.01$). The lower the score, the more they checked SNS. However, there were no significant correlations between the number of times they discussed political events ($\rho=0.03$, $p=0.42$) or the 2016 election ($\rho=0.06$, $p=0.09$) with their political knowledge score.

Table 3. Frequency of SNS Usage and Political Discourse

	Check SNS	Discuss Political Events	Discuss 2016 Election
<i>At least a few times a day</i>	410 (57.18%)	114 (15.90%)	138 (19.25%)
<i>About once a day</i>	182 (25.38%)	192 (26.78%)	190 (26.5%)
<i>At least a few times a week</i>	80 (11.16%)	220 (30.68%)	206 (28.73%)
<i>Once a week</i>	25 (3.49%)	98 (13.67%)	113 (15.76%)
<i>Less than once a week</i>	20 (2.79%)	93 (12.97%)	70 (9.76%)

On a 5-point scale ranging from not at all likely to very likely, 542 (76%) of the respondents stated that they were very likely to vote, and another 78 (11%) said they were likely to vote. The mean for likelihood to vote was 4.5.

Table 4 shows a correlation matrix depicting significant and negative relationships between political knowledge score and SNS_ACTIVE, POL_ACTIVE, POL_ACTIVE_SNS, and POL_INFLUENCED_SNS. The lower the score, the more likely participants were to be active on SNS, politically active, politically active on SNS, and influenced by a candidates' presence on SNS as well as by their friends' political opinions on SNS. While it is statistically significant, the correlation coefficients are relatively low in terms of practical significance. The largest coefficient is with the negative relationship between participants' political knowledge score and level of political influence on SNS. There is a negative relationship showing the more they were influenced on SNS the lower their political knowledge score, which supports H1. While the direction as we hypothesized was negative and significant, it was not too strong ($\rho = -.26$). However, even small impacts can have the potential to help determine an election.

Table 4. Pearson Correlation Matrix (N=717)

	Political Knowledge Score	SNS ACTIVE	POL ACTIVE	POL ACTIVE SNS	POL INFLUENCED SNS
Political Knowledge Score	1	-0.13**	-0.12**	-0.15**	-0.26***
SNS ACTIVE		1	0.18**	0.45***	0.24***
POL ACTIVE			1	0.54***	0.43***
POL ACTIVE SNS				1	0.46***
POL INFLUENCED SNS					1

* $p < .05$; ** $p < .01$; *** $p < .001$

Tables 5-7 show correlation matrices broken down by political party. For all party affiliations (Democrat, Republican, and Independent) there was a significant and negative relationship between political knowledge score and politically influenced on SNS. Therefore, H2 was supported. The lower the political knowledge score, the more likely participants were to be influenced by their friends' statuses as well as by candidates' presence on SNS, regardless of whether they were Republicans, Democrats, or independents. Using Fisher's r to z transformation, we were able to calculate the z values in order to assess whether there were any significant differences between political parties and their level of influence on SNS (POL_INFLUENCED_SNS). The differences between the correlations were not significant (Influence between Democrats and Republicans: $Z = 0.87$, $p = 0.38$; Independents and Republicans: $Z = 1.1$, $p = 0.27$; Democrats and Independents: $Z = -0.36$, $p = 0.72$).

Table 5. Pearson Correlation Matrix For Democrats (N=336)

	Political Knowledge Score	SNS Active	POL ACTIVE	POL ACTIVE SNS	POL INFLUENCED SNS
Political Knowledge Score	1				
SNS Active		1			
POL ACTIVE			1		
POL ACTIVE SNS				1	
POL INFLUENCED SNS					1

Political Knowledge Score	1	-0.12*	-0.07	-0.14*	-0.25***
SNS ACTIVE		1	0.21***	0.47***	0.22***
POL ACTIVE			1	0.54***	0.39***
POL ACTIVE SNS				1	0.46***
POL INFLUENCED SNS					1

*p<.05; **p<.01; ***p<.001

Table 6. Pearson Correlation Matrix For Replications (N=143)

	Political Knowledge Score	SNS ACTIVE	POL ACTIVE	POL ACTIVE SNS	POL INFLUENCED SNS
Political Knowledge Score	1	-0.01	-0.25**	-0.19*	-0.33***
SNS_Active		1	0.17*	0.43***	0.24**
POL_ACTIVE			1	0.55***	0.48***
PSNS_ACTIVE				1	0.52***
POL_INFLUENCED_SNS					1

*p<.05; ** p<.01; *** p<.001

Table 7. Pearson Correlation Table for Independents (N=217)

	Political Knowledge Score	SNS Active	POL ACTIVE	POL ACTIVE SNS	POL INFLUENCED SNS
Political Knowledge Score	1	-0.22**	-0.10	-0.13*	-0.22**
SNS_Active		1	0.15*	0.44***	0.26***
POL_ACTIVE			1	0.51***	0.45***
PSNS_ACTIVE				1	0.41***
POL_INFLUENCED_SNS					1

*p<.05; ** p<.01; *** p<.001

DISCUSSION

The results we have reported above suggest several tentative conclusions about the mediating role of political knowledge on the relationship between political candidates' use of social media and citizen involvement in political affairs. The hypotheses we laid out at the beginning seem to be borne out: citizens with low levels of political knowledge are more likely to be influenced by the posts of their friends as well as a candidates' presence on social networking sites to change their real-world political behaviors, in particular to vote for them or donate to them. Those with greater levels of political knowledge, on the other hand, are less likely to be influenced by candidates' SN presence to carry out those activities. These findings seem to hold true across lines of political party affiliation. All parties showed a significant and negative relationship between their political knowledge score and level of influence via SNS. Similar to the findings in studies by Baumgartner and Morris (2010), Bode (2016), Dimitrova et al. (2014), and Richey and Zhu (2015), who have examined the relationship between Internet usage and political knowledge, this suggests reasons for skepticism about the possibility of social networking usage being a tool for enhancing political knowledge.

Interestingly, though the coefficients were not too strong, we did see patterns emerging that those with higher levels of political knowledge reported being less active on SNS, politically active, and politically active on SNS than those with low levels of political knowledge. In contrast, those with low political knowledge scores were more likely to be active. To the extent that social media is flooded with posts by people with low levels of information about politics and policy (Delli Carpini and Keeter 1996), we should be concerned that democratic citizenship may be damaged through the sharing of incorrect information, or at least information not subject to critical scrutiny (Farrell 2012). Online deliberation has been shown to over-represent certain demographic groups (Baek, Wojcieszak, and Carpini 2012), but it may also be the case that political conversations via social media are also more likely to be sidetracked through disinformation and lack of policy understanding. Partisanship did not seem to be particularly relevant, with most of the results (people's political activities on SNS, and being politically influenced by SNS) suggesting that Democrats, Republicans, and Independents all behave in similar ways.

The comments left by some survey respondents indicated that their misunderstandings of certain policy issues run quite deep. One of the political knowledge questions was about federal government spending:

On which of the following does the U.S. federal government currently spend the least?

1. Foreign aid
2. Medicare
3. National defense
4. Social Security

The correct answer is foreign aid. At least two survey responders commented with specific reference to the fourth choice, Social Security. One remarked, "Social Security is NOT funded by the government." Another said, "I may be mistaken, but I think that Social Security is funded by those who have paid into it in the past. I keep hearing that it will run out of money in the near future." Both of these are misunderstandings of how the program operates; the first is a clear factual error, but even the second confuses the status of the Social Security trust fund with current Social Security payments in the overall federal budget (see <https://www.ssa.gov/pubs/EN-05-10024.pdf>). Contrary to many onlookers' hopes (Bimber 2003), people with incorrect information may be driving online debates about politics, to our detriment as a democratic polity.

One potential limitation of this study is that we have only examined results from one election cycle. As Bimber and Copeland (2013) suggest, the relationship between Internet usage and political activity may vary as patterns of Internet usage change. Future research in this vein should continue to examine these questions in other elections, especially to see if these results hold true in midterm elections as well as in presidential election years. Additionally, future research should expand the range of social networking platforms examined, including others such as Snapchat or Instagram.

CONCLUSION

This study has examined the question of how political knowledge mediates the relationship between political candidates' use of social media and how citizens respond to them. We find that there is a significant and negative relationship between political knowledge and SNS activity, political activity, political activity on social networking sites, as well as being politically influenced via those sites. Those with less political knowledge are more likely to be

influenced by their friends' statuses as well as by candidates' presence on SNS. Our findings should be seen as a step toward deeper examinations of this topic. Future research should examine the extent to which this relationship persists across different election cycles, especially to compare midterm and presidential-election years, as well as examining the strength of this relationship across time. We also suggest that scholars should continue to explore whether lack of political knowledge is an insuperable obstacle to democratic citizenship online, or if learning can occur to improve deliberation.

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