Online Influence? Social Media Use, Opinion Leadership, and Political Persuasion

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Abstract

Opinion leaders can be influential in persuading their peers about news and politics, yet their potential influence has been questioned in the social media era. This study tests a theoretical model of attempts at political persuasion within social media in which highly active users ("prosumers") consider themselves opinion leaders, which subsequently increases efforts to try and change others' political attitudes and behaviors. Using two-wave U.S. panel survey data ($W^1 = 1,816$; $W^2 = 1,024$), we find prosumers believe they are highly influential in their social networks and are both directly and indirectly more likely to try to persuade others. Our results highlight one theoretical mechanism through which engaged social media users attempt to persuade others and suggest personal influence remains viable within social media.

The growing prominence of the Internet and social media in contemporary society has coincided with gradually smaller segments of the population who actively engage with news and political information, while more individuals opt instead for nonpolitical or entertainment-oriented content (Prior, 2007). At the same time, there is evidence that individuals are becoming increasingly reliant on others in their online social networks for news recommendations and political information, and that their knowledge, opinions, and behaviors are

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affected by the information stream and social dynamics within these sites (Bode, 2015; Bond et al., 2012; Messing & Westwood, 2014; Turcotte, York, Irving, Scholl, & Pingree, 2015). Taken together, these two phenomena suggest that individuals who are highly active with news and political information in social media have the potential to be influential in shaping the political attitudes and behaviors of their online peers.

Despite the possible sway these engaged individuals may hold with their less-active peers, some have questioned whether these users who are actively involved with the news and act as opinion leaders remain influential in today's media environment. Given the media's ability to microtarget messages to specific individuals, coupled with the society's trend toward becoming more socially isolated on a face-to-face level, the degree of influence these engaged individuals have over others may be waning (Bennett & Manheim, 2006). However, this critique of contemporary personal influence does not fully consider the extent to which certain individuals may be influential within online social media. Traditional opinion leaders in offline contexts were often defined by their consumption of news, whereas social media allow individuals myriad ways to engage news beyond consumption, including the production and sharing of content. It may be that opinion leaders' influence in traditional and interpersonal settings has diminished, but they may still be impactful in the context of social media. There is evidence that a small percentage of people continue to carry influence over others in their online networks (Graham & Wright, 2014; Himelboim, Gleave, & Smith, 2009; Huffaker, 2010), which indicates persuasion online is still possible at times. Yet, online persuasion processes require more exploration, including whether certain uses of social media increase the likelihood that engaged individuals try to change other people's minds politically and, if so, how this process unfolds theoretically.

However, for persuasion to occur and influence to be wielded, one must first typically *attempt* to change others' minds. The dynamics regarding opinion leaders and the effects of political persuasion attempts have been studied in offline contexts (e.g., Thorson, 2014), but social media have changed the way citizens engage in politics, providing them low-cost routes into the broader political discussion (Gil de Zúñiga, Puig-i-Abril, & Rojas, 2009). In addition, social media have lowered barriers to political participation and may help reduce inequality in engagement (Xenos, Vromen, & Loader, 2014). Furthermore, social media allow citizens to consume, produce, distribute, and comment on news and political information (Gil de Zúñiga, Molyneux, & Zheng, 2014; Pew, 2014a; Weeks & Holbert, 2013), thereby creating new opportunities to attempt to persuade politically. These unique tools associated with social media may therefore change the nature and impact of political and news opinion leaders today.

The purpose of this study is to better understand how social media facilitate certain individuals' efforts to persuade others about politics. It addresses these important, lingering theoretical questions by examining the relationships between social media behaviors, self-perceptions of opinion leadership, political participation, and political persuasion efforts. Taking advantage of two-wave, demographically diverse panel survey data collected in the United States, we first identify whether certain clusters of individuals are more likely to use the multiple tools available in social media to interact with others, as well as to consume, produce, and share political content. We find that approximately 12% of our sample—a cluster of individuals we have labeled "prosumers"—are highly engaged in these social media behaviors. We next examine the consequences of prosumers' social media behaviors on political participation, self-perceptions of opinion leadership, and political persuasion. We find that prosumers are more likely to participate in politics and see themselves as opinion leaders. Based on their self-perceptions of opinion leadership, social media prosumers subsequently tend to be more likely to attempt to persuade others about politics. Our results demonstrate the influence of social media use on the political persuasion process and provide a unique theoretical model of how citizens attempt to persuade others in the digital media environment.

Opinion Leaders in a New Context: Prosumers and Social Media

Although much research has investigated the impact of political opinion leaders in the pre-Internet era, there remain several important questions about whether and how citizens politically impact others within social media. During the past decade, the number of users of social networking sites (SNSs) has grown quickly, such that 74% of online adults in the United States now use a SNS (Pew, 2014b). This raises the possibility that the nature of political influence and opinion leadership has also changed. Some have challenged the notion of opinion leaders in a media environment in which fewer messages are intended for mass audiences but are instead directed at individuals based on demographics or lifestyles (Bennett & Manheim, 2006). This raises the question of how influential opinion leaders can be if they are no longer the mediators between media content and their less-engaged peers? Furthermore, Bennett and Manheim (2006) argue that people are increasingly fragmented and less social, and thus less reliant on interpersonal influence in the areas of politics and public affairs (p. 218).

Though provocative, this perspective has received criticism, and empirical evidence challenges it. These technological changes in the media environment also create new and, perhaps, easier opportunities for people to attempt to persuade or influence others in their social networks. As Turcotte et al. (2015)

argue, social media are inherently social and bring people together digitally, which provides new opportunities for opinion leaders to influence others in their networks. As they note, in an increasingly fragmented media environment, socially shared information by opinion leaders may be more influential, as people are increasingly dependent on the suggestions and information provided by others in their social network (Mutz & Young, 2011) and tend to trust that information more than when received directly from media outlets (Turcotte et al., 2015). Further, whereas the influence of opinion leaders in the traditional media environment was constrained to those in their immediate discussion networks, online leaders are able to reach a much larger audience using a variety of platforms and behaviors. As Fogg (2008) notes, SNSs combine the power of interpersonal persuasion and the reach of mass media to allow for "mass interpersonal persuasion." This suggests that the reach of opinion leaders online may be broad and that their behaviors can drive communication and social interaction with others, as well as set agendas for a much larger network (Graham & Wright, 2014; Himelboim et al., 2009; Huffaker, 2010). In fact, prior research suggests that online social influence is powerful and can impact a range of political behaviors, such as the media outlets people select (Messing & Westwood, 2014), what they learn on social media (Bode, 2015), and even whether they vote (Bond et al., 2012). Thus, it appears online influence remains strong, and justifies the investigation of how social media use, opinion leaders, and political persuasive attempts are related.

If we are to examine the potential influence of opinion leaders in social media, we must next evaluate who is considered influential or an online opinion leader. Within social media, opinion leaders may be identified by their volume of communication activity, as they are more likely to trigger message replies, initiate conversations, and diffuse information (Huffaker, 2010). These online opinion leaders are more likely to consume, distribute, and produce content within social media, such that they have been labeled "prosumers," a term derived of the combination of "producers" and "consumers" (Ritzer, Dean, & Jurgenson, 2012; Toffler, 1980). "Prosumption" is becoming increasingly central to many people's media behaviors, as more individuals are not only consuming information but also contributing user-generated content online (Ritzer & Jurgenson, 2010).

Of course, not every social media user writes a post on Facebook, retweets a news story, takes part in a discussion on Reddit, or generates and shares news videos. Or, at least, not every user engages in these behaviors to the same degree. A long-held notion of Internet behavior suggests most users do not actively participate much online, while a small minority of users account for most contributions. It is often assumed that an overwhelming majority of online communities users are "lurkers" (those who read and observe but do not contribute), while significantly fewer users are "contributors" (those who

contribute content from time to time), and only a small fraction are "creators" (those who create most user-generated content) (Nielsen, 2006). Thus, much behavior online and in social media follows a power law distribution in which most content or posts online are created by few people (e.g., Java, Song, Finin, & Tseng, 2007; Leskovec, McGlohon, Faloutsos, Glance, & Hurst, 2007). Indeed, recent work examining how people participate in social media indicates that a small percentage of users are highly involved in creating and distributing content (e.g., Graham & Wright, 2014; Himelboim et al., 2009; van Mierlo, 2014). Although the total volume of content online may be contributed by relatively few individuals, a majority of Internet users create content and share information, such as news, from time to time (Pew, 2014a). Today, posting a comment on Facebook or tweeting a message is much easier, for example, than writing or editing an entry on Wikipedia or maintaining a blog (e.g., Hargittai & Walejko, 2008). It is therefore necessary to further explore a variety of behaviors within social media to identify prosumers, as the degree and flow of influence could be more variable than what other studies showed (Cha, Haddadi, Benevenuto, & Gummadi, 2010; Dang-Xuan, Stieglitz, Wladarsch, & Neuberger, 2013). Further, it is theoretically important to distinguish prosumers from nonprosumers, given the highly active users' potential to influence others in their social networks (e.g., Huffaker, 2010). Thus, we pose the following research question:

> *RQ: What percentage of social media users are news prosumers?*

Social Media News Prosumers and Political Participation

In many respects, modern prosumers closely resemble the individuals that Lazarsfeld and colleagues originally identified as opinion leaders—the influential citizens who consume news and information and share that information with others in their lives (Katz & Lazarsfeld, 1955; Lazarsfeld, Berelson, & Gaudet, 1948). According to this two-step flow of information, a minority of knowledgeable and informed citizens—opinion leaders or "influentials"—hold unique power to disseminate information and influence and persuade others (Rogers, 1962). Prosumers resemble opinion leaders in that they more frequently interact with others, are highly engaged with news and information, and are more likely to share and distribute content with others in their social networks (Ritzer et al., 2012).

The connection between prosumers and opinion leadership is important because research has consistently found that traditional opinion leaders are more social, consume more news, and are more likely to participate in politics. For example, opinion leaders have more friends (Weimann, 1994), are more involved in social activities (Weimann, Tustin, van Vuuren, & Joubert, 2007), and demonstrate higher levels of civic and political engagement (Shah &

Scheufele, 2006). Prosumers' behavior online should therefore result in many of the same political outcomes displayed by offline opinion leaders. Much research has shown that the more engaged individuals are with news and political information online, the more likely they are to get involved politically. For instance, individuals who consume online news and information are more likely to discuss politics and participate politically (e.g., Shah, Cho, Eveland, & Kwak, 2005). In addition, social media use for both interaction and informational purposes indirectly increases political participation (Gil de Zúñiga et al., 2014). When focusing on user-generated content, research indicates that reading and contributing to blogs, as well as producing or sharing content, are positively related to both online and offline political participation (Gil de Zúñiga et al., 2009; Oüstman, 2012). If social media prosumers parallel traditional opinion leaders, we would expect that their behaviors related to news and political information should increase the likelihood that they participate in politics both online and offline. Thus, we offer the following hypotheses:

> H1a: Social media prosumers (W¹) are more likely to participate in politics offline (W²) than nonprosumers.
> H1b: Social media prosumers (W¹) are more likely to participate in politics online (W²) than nonprosumers.

Social Media Prosumers, Opinion Leadership, and Political Persuasion

We also expect social media prosumers to consider themselves to be opinion leaders as a result of their activities online. Research on opinion leadership has linked higher levels of mass media exposure to opinion leadership (Katz, 1957; Weimann, 1994), and these individuals are more engaged in communicative activity and hold a more central position in their social networks than nonleaders (Weimann, 1991). In online contexts, research has found that influential posters to online political discussion boards receive a highly disproportionate number of replies to their messages and can set the topic agenda for these discussions (Himelboim et al., 2009). The two-step flow in which mass media messages consumed by opinion leaders are subsequently transmitted to less-attentive peers (Katz & Lazarsfeld, 1955) has found support in social networks. For instance, tweets from media organizations are often filtered and reach nonattentive audiences indirectly through opinion leaders (Wu, Hofman, Mason, & Watts, 2011). Further, messages from opinion leaders on Twitter were significantly more likely to be retweeted, suggesting these individuals were influential in distributing content (Choi, 2015). Actively engaging in multiple behaviors within social media gives people a quantifiable assessment of their influence, which should affect their self-perceptions of opinion leadership. For instance, social media tell people how

often their message is liked or retweeted, and they can follow the extent to which a Facebook post or Tweet starts a discussion. Prosumers are more engaged and are able to see that their online behaviors trigger reactions and responses from others. As a result, they should come to see themselves as opinion leaders. Prior research has shown that the volume of communication activity online is also positively related to perceptions of opinion leadership, and we expect a similar pattern here with political content (Huffaker, 2010; Park, 2013).

Further, research on brand engagement suggests that prosumers' behaviors may be driven by their motivation to be seen as influential by their peers and their need to persuade others. Motivations for different levels of engagement in social media appear to vary, as consumption is often driven by information and entertainment motivations, whereas contributing and creating content are facilitated by self-presentation and social interaction motivations. Content creation is further motivated by a sense of empowerment, perceived influence, and a need to persuade others (Muntinga, Moorman, & Smit, 2011). Given that prosumers are thought to fully engage in all of these activities, they should be more likely to hold perceptions that they are influential. Based on these findings, we expect that the more people interact with others and share, consume, and create news and political content in social media, the more they come to see themselves as opinion leaders within their social networks. In a sense, engaging in a larger variety of behaviors on social media leads people to believe that they are influential. We therefore pose the following hypothesis:

H2: Social media prosumers (W^1) are more likely to perceive themselves as opinion leaders (W^1) than nonprosumers.

Not only should social media prosumers perceive themselves to be opinion leaders, their subsequent behaviors should also reflect those perceptions. As more citizens engage in social media, the opportunities to attempt to persuade others have grown. Individuals who were formerly passive consumers of news and political information can now create and distribute content in attempts to persuade others (Macafee, 2013; Moore, 2007). This technological change is important, given some of the key characteristics of political opinion leaders. Opinion leaders are more likely to discuss politics and are more politically active (Shah & Scheufele, 2006; Weimann, 1994), which should increase the possibility that they try to change others' minds about politics. Importantly, opinion leaders often attempt to persuade other people to adopt their attitudes, behaviors, and opinions (Flynn, Goldsmith, & Eastman, 1996; Katz, 1957; Rogers, 1962) and try to set others' political agendas (Weimann & Brosius, 1994). Opinion leaders also seek to persuade others by creating and distributing content online and setting the frame of discussion about particular topics (Himelboim et al., 2009; Huffaker, 2010). Those who see themselves as

opinion leaders likely believe that their position on political issues is both influential and correct. This should result in self-perceived opinion leaders being more likely to attempt to persuade others about politics. In the case of prosumers, we therefore expect them to be more likely to try to change others' minds about political issues and candidates, both directly and indirectly. Because they produce, consume, and share news, prosumers should be more likely to see themselves as opinion leaders, which should encourage attempts to influence others' political opinions. Thus, we pose the following hypotheses.

H3: Self-perception of opinion leadership (W^1) is positively related to attempts to persuade others politically (W^2).

H4a: Social media prosumers (W^1) are more likely to attempt to persuade others politically (W^2) than nonprosumers.

H4b: Social media prosumers' (W^1) attempts to persuade others politically (W^2) are indirect through self-perception of opinion leadership (W^1).

Methods

Sample

This study uses data from a national, online, two-wave panel survey conducted in the United States. The media polling group AC Nielsen was contracted to recruit respondents using a stratified quota-sampling method. Survey respondents were selected from a pool of over 200,000 people who registered to participate in an online panel. To ensure a sample that closely resembles the demographic distribution reported by the U.S. Census, Nielsen uses a quota based on gender, age, education, and income. Both waves of the survey were administered using the online survey software, Qualtrics. Wave 1 of the survey was collected in December 2013 from an initial sample of 5,000 participants. Two thousand sixty participants responded to the first wave, and 247 respondents' data were deleted because they were incomplete or invalid. Based on calculations from the American Association of Public Opinion Research (Response Rate 3), the response rate was 34.6% (AAPOR, 2011), which mitigates several potential problems of online panel-based surveys (see Bosnjak, Das, & Lynn, 2015). One thousand twenty-four participants provided data in Wave 2 (57% retention rate), which was gathered in March 2014. The retention rate is also within an acceptable range to maintain valid data and representation, a key goal when using panel data (see Watson & Wooden, 2006).

The sample is diverse and comparable with the U.S. national population and surveys that use random sampling strategies (see Pew, 2013) in terms of age ($M = 52.7$, $SD = 14.7$), education (range of scale 1–8, $M = 3.61$, $SD = 1.44$, Mdn = some college), income (range of scale 1–8, $M = 4.46$,

$SD = 1.44$, Mdn = \$50,000–\$59,000), gender (49.9% female), and race (78% white). However, there were a few differences of note. The sample is slightly younger, more educated, and included fewer Hispanics compared with the U.S. Census (see Table A1 for comparisons).

Measures

Social media use for news. The measure of this variable was adapted from prior research on uses and gratifications of news media (e.g., Gil de Zúñiga, Jung, & Valenzuela, 2012; Lee, Goh, Chua, & Ang, 2010; Lee & Ma, 2012; Park, Kee, & Valenzuela, 2009). We used six items to assess the extent to which respondents are exposed to news within social media ($1 = never$ to $10 = all\ the\ time$). Respondents reported how often they "use Facebook for getting news," "use Twitter for getting news," "encounter or come across news when using social networking sites," "encounter or come across news when using Microblogging sites (e.g., Twitter)," "use social media to stay informed about current events and public affairs," "use social media to stay informed about local community," and "use social media to get news about current events from mainstream media (e.g., CNN or ABC)" (six-item averaged scale, W^1 Cronbach's $\alpha = .89$; $M = 2.71$, $SD = 1.96$).

Social media use for social interaction. Building on previous work (e.g., Cho, Gil de Zúñiga, Rojas, & Shah, 2003; Lee & Ma, 2012; Lee et al., 2010; Park et al., 2009), a three-item index was used to assess the degree to which respondents used social media for social interaction. Using the same 10-point scale as before, we asked how often respondents use social media to "stay in touch with friends and family," "meet new people who share interests," and "contact people you would not otherwise meet" (W^1 Cronbach's $\alpha = .78$; $M = 3.56$, $SD = 2.33$).

Political expression in social media. Using the 10-point scale, five items derived from past research (Gil de Zúñiga, et al., 2014; Kushin & Yamamoto, 2010) tapped how often respondents used social media to express their political views. Participants were asked how often they take part in "posting personal experiences related to politics," "friending, liking, or following a politician or political advocate," "posting or sharing thoughts about current events or politics," "posting or sharing photos, videos, memes, or gifs created by others that relate to current events or politics," and "forwarding someone else's political commentary to other people" (five-item averaged scale, W^1 Cronbach's $\alpha = .94$; $M = 2.27$, $SD = 2.01$).

Political content creation in social media. Participants' creation of political content in social media was assessed using a scale consisting of four items adapted from previous studies (Blank, 2013; Pew 2008). Respondents were asked how often they "take part in posting or sharing photos, videos, memes, or gifs created by [them] that relate to current events or politics,"

"take part in creating a group dedicated to a political cause or issue," "created posts for [thei]r own blog about current events or public affairs," and "started a political or cause-related group on a social media site." The four items were averaged to create the scale (W[1] Cronbach's $\alpha = .88$; $M = 1.59$, $SD = 1.36$).

App use for news. Influential individuals and opinion leaders are more likely to engage new technologies and features (see Nisbet & Kotcher, 2009). Building on previous measures of the use of different platforms to consume news (e.g., Bachmann & Gil de Zúñiga, 2013), the survey included two items that asked respondents how often they use a "tablet app or browser (iPad, 7 inches or larger) for news," and "smartphone app or browser (handheld mobile device smaller than 7 inches) for news" (two-item averaged scale, W[1] Spearman–Brown coefficient = 0.53; $M = 2.56$, $SD = 2.29$).

Political participation offline. Political participation offline in the second wave was measured using six items inspired by the questionnaire of Gibson, Lusoli, and Ward (2005) and by a number of related studies on political communication and participation (e.g., Eveland, & Hively, 2009; Rojas & Puig-i-Abril, 2009; Shah et al., 2007). The resulting index tapped how often respondents engaged in a series of political activities (10-point scale, $1 = never$ to $10 = all\ the\ time$), including "contacted an elected public official," "attended a political rally," "participated in any demonstrations, protests, or marches," "donated money to a campaign or political cause," "participated in groups that took any local action for social or political reform," and "been involved in public interest groups, political action groups, political clubs, political campaigns, or political party committees" (six-item averaged scale, W[2] Cronbach's $\alpha = .90$; $M = 2.12$, $SD = 1.83$).

Political participation online. Political participation online in W[2] was measured using seven items adapted from prior related research investigating online political engagement (e.g., Gibson et al., 2005; Gil de Zúñiga, Bachmann, Hsu, & Brundidge, 2013; Gil de Zúñiga et al., 2012; Willnat, Wong, Tamam, & Aw, 2013). This measure tapped how often respondents engaged in a series of political activities on the Internet (10-point scale, $1 = never$ to $10 = all\ the\ time$), including "signed or shared an online petition," "participated in online political polls," "participated in an online question and answer session with a politician or public official," "created an online petition," "signed up online to volunteer to help with a political cause," "wrote a letter to the editor of a newspaper," and "used a mobile phone to donate money to a campaign or political cause via text message or app" (seven-item averaged scale, W[2] Cronbach's $\alpha = .85$; $M = 2.05$, $SD = 1.52$).

Self-perceptions of opinion leadership. The primary mediating variable was the extent to which respondents perceived themselves to be opinion leaders. Self-perceived opinion leadership was measured using four items that have been validated in prior research (Shah & Scheufele, 2006) and measure

two dimensions of opinion leadership, including self-confidence and social influence. Respondents were asked on a 10-point scale ($1 = $ *strongly disagree* to $10 = $ *strongly agree*) how much they agreed with four statements, including "I have more self-confidence than most of my friends," "I'm the kind of person who knows what I want to accomplish in my life and how to achieve it," "I like to be considered a leader," and "I'm influential in my social network online and offline" (four-item averaged scale, W^1 Cronbach's $\alpha = .84$; $M = 5.05$, $SD = 2.05$; W^2 Cronbach's $\alpha = .84$; $M = 5.13$, $SD = 2.08$).

Attempts to persuade others politically. Frequency of attempting to persuade others politically was measured with an index containing items adapted from National Election Studies, General Social Survey, and prior research on political participation (e.g., Jacobs, Cook, & Delli Carpini, 2009; Rojas, 2010). Respondents were asked how often in the past 12 months ($1 = $ *never* to $10 = $ *all the time*) they tried to persuade their friends and acquaintances "about social causes," "about political causes," "to vote," and "about a political candidate" (four-item averaged scale, W^1 Cronbach's $\alpha = .93$; $M = 2.53$, $SD = 2.27$; W^2 Cronbach's $\alpha = .93$; $M = 2.50$, $SD = 2.27$).

Control variables. A series of control variables that prior research has revealed to hold a relationship with opinion leadership (Shah & Scheufele, 2006) or political persuasion (Thorson, 2014) were used in the analyses. These included Wave 1 responses regarding respondents' age, education, income, gender, and race. Politically relevant variables including political knowledge (range 0–8, W^1 Cronbach's $\alpha = .75$; $M = 4.6$, $SD = 2.2$), strength of partisanship ($0 = $ *independent*, $5 = $ *strong partisan*; $M = 2.10$, $SD = 1.98$), general news use (10-item averaged scale, W^1 Cronbach's $\alpha = .72$; $M = 3.9$, $SD = 1.5$), political interest (2-item averaged scale, W^1 Spearman-Brown coefficient $= 0.97$; $M = 6.67$, $SD = 2.70$), and political efficacy (3-item averaged scale, W^1 Cronbach's $\alpha = .78$; $M = 5.12$, $SD = 2.24$) were also controlled for in all the hypotheses tests.

Results

Identifying Prosumers: Cluster Analysis

Before testing this study's hypotheses, the first step in the analyses was to assess whether distinct subgroups of respondents emerged based on the extent to which they engaged in the five social media and online behaviors noted above (social media use for news, social media use for social interaction, political expression in social media, political content creation in social media, and app use for news). Our research question sought to determine the percentage of social media users who were prosumers—those who consume, interact, create, and share information in social media. The data were subjected to a two-step cluster analysis using SPSS 22.0, which groups

individuals based on similarities across variables of interest (in this case, social media behavior). Individuals who have similar patterns of responses to these items will be clustered together into various subgroups. Cluster analyses have commonly been used by communication scholars to identify and classify groups of individuals who adopt different patterns of online media and technology use (e.g., Brandtzaeg, 2012; Flanagin & Metzger, 2001).

In the first step of the cluster analysis, each case in the data is scanned, and an algorithm forms preclusters based on similarities of responses. As it passes through each case, the algorithm determines whether that case should be clustered with an existing cluster or form a new cluster (Norusis, 2011). In the second step, the preclusters are put to a hierarchical clustering method, which scans the preclusters using a Euclidean distance measure of similarity to find the optimal number of clusters based on the Schwarz Bayesian Information Criterion (BIC). The ideal number of clusters is found when both the BIC and the *change* in the BIC between the number of clusters and the *total* number of clusters are small (Norusis, 2011).

As seen in Table 1, the cluster analysis clearly identifies a two–cluster solution as the best fit. The BIC is at its lowest level (2,423.737) as is the change in BIC (−864.249) when the data are separated into two clusters. This suggests that the five social media behaviors used in the analysis fall into two clusters: those who are highly engaged with the tools of social media (labeled "prosumers") and those who are less engaged (labeled "nonprosumers"). The clusters differ in size, with the large cluster representing the nonprosumers and consisting of 87.5% of the respondents ($N = 814$), while the group of prosumers is smaller (12.5%, $N = 116$). Results from a multivariate analysis of covariance (MANCOVA) that controls for possible confounding variables noted above confirms that the two groups differ in their use of each of these social media tools. As seen in Table 2, the cluster of prosumers is significantly more likely than nonprosumers to use social media for news and interaction, is more likely to express itself politically in social media, is more likely to create political content, and is more likely to use apps for news to a greater extent (all Fs > 47). Based on the results of this cluster analysis and mean comparisons, a dichotomous variable was created that represented these two groups with the prosumers coded high. This dichotomous group variable is used as the primary independent variable in subsequent analyses.

Political Participation

Hypotheses 1a and 1b sought to confirm an established finding in the literature and predicted that prosumers (i.e., high social media users) are more likely to participate in politics than nonprosumers. Both of these hypotheses are strongly supported. After controlling for demographics, general news use, and political antecedent variables (all control variables noted above and in

Table 1
Cluster Analysis Model (Schwarz's BIC)

Number of clusters	Schwarz's BIC	BIC change from previous number of clusters in table	Ratio of BIC changes	Ratio of distance measure
1	3,288.986	–	–	–
2	2,424.737	−864.249	1.000	1.142
3	2,476.214	51.477	−0.06	1.379
4	2,488.956	12.743	−0.015	1.526
5	2,550.160	61.204	−0.071	1.098
6	2,481.832	−68.328	−0.079	1.046
7	2,524.815	42.983	−0.05	0.997
8	2,559.768	34.952	−0.04	1.049
9	2,617.997	58.229	−0.067	1.001

Note. The Schwarz's BIC and the BIC change are at their lowest levels in a two-cluster solution, which indicates the best fit of the data.

Table 2), the results of two F-tests from a MANCOVA indicate prosumers identified in Wave 1 participate in politics in Wave 2 more frequently than the nonprosumers, both offline, $F(1, 858) = 153.76$, $p < .001$, and online, $F(1, 858) = 189.17$, $p < .001$ (Table 2).

Opinion Leadership and Persuading Others

The second set of hypotheses addressed the relationships between prosumers, opinion leadership, and persuading others politically. In particular, it was expected that prosumers would be more likely to perceive themselves as opinion leaders than nonprosumers (H2), and those self-perceptions of opinion leadership at W^1 would be positively associated with attempts to persuade others politically at W^2 (H3). Further, prosumers were expected to be more likely to try to persuade others at W^2 both directly (H4a) and indirectly through their self-perception of opinion leadership (H4b), even after accounting for prior attempts to persuade others. Thus, we test these hypotheses using a strict model that controls for the lagged dependent variable.

Because we are interested in a theoretical mechanism through which prosumers attempt to persuade others (and not simply group differences on a single dependent variable), we tested the remaining hypotheses using PROCESS (Hayes, 2013). PROCESS uses ordinary least squares regression to test for indirect effects through mediating variables, while simultaneously controlling for other potentially influential variables in the model (see above and Table 3 for the list of control variables).

Turning to the results of our hypotheses tests, we find that the unstandardized coefficient for the relationship between the dichotomous prosumer

Table 2

Comparison of Means for Prosumers and Nonprosumers on Social Media Use and Political Participation

Dependent Variable	Prosumers (W^1) ($N = 112$)	Nonprosumers (W^1) ($N = 758$)	F (1, 858)
Social media for news (W^1)	5.44 (.15)	2.34 (.05)	367.52*
Social media for interaction (W^1)	6.36 (.20)	3.23 (.07)	207.34*
Political expression in social media (W^1)	6.00 (.13)	1.75 (.05)	882.80*
Political content creation on social media (W^1)	4.19 (.08)	1.21 (0.3)	1,083.71*
Use of social media news apps (W^1)	3.88 (.20)	2.38 (.07)	47.80*
Self as opinion leader (W^1)	5.81 (.17)	4.89 (.06)	24.66*
Frequency of persuading others politically (W^1)	4.58 (.20)	2.28 (.07)	116.96*
Offline political participation (W^2)	3.95 (.16)	1.82 (.06)	153.76*
Online political participation (W^2)	3.67 (.13)	1.77 (.05)	189.17*

Note. Mean differences calculated using MANCOVA. Standard errors listed in parentheses. Model controls for age, race, gender, education, income, political knowledge, political interest, political efficacy, strength of partisanship, and general news use. Estimated marginal means reported.
*$p < .001$.

variable and self-perception of opinion leadership is positive and significant, $b = .66$ (.19), $t = 3.40$, $p < .001$, which indicates that the cluster of individuals who are highly engaged in social media are significantly more likely to perceive themselves as opinion leaders (Table 3 and Figure 1). As a result, H2 is

[1] Our theorized model includes W^1 self-perceptions of opinion leadership as the key mediating variable. We also tested the alternative possibility that these perceptions at W^2 mediate the prosumers' persuasion attempts link. The results are nearly identical to those reported for our theoretical model, if not more robust. As seen in Table 3, the coefficient for the relationship between W^1 prosumers and W^2 self-perceptions of opinion leadership remains positive and significant, $b = .56$ (.21), $t = 2.73$, $p < .001$. Further, both W^1 prosumers ($b = .75$ [.18], $t = 4.07$, $p < .001$) and W^2 perceptions of opinion leadership ($b = .14$ [.03], $t = 4.89$, $p < .001$) are directly associated with attempts to persuade others in W^2. Finally, results of the test of mediation reveal that W^1 prosumers' effect on W^2 attempts to persuade others is indirect, through W^2 perceptions of opinion leadership: point estimate $= 0.08$ (0.04), 95% CI $= 0.02–0.17$.

[2] Although the goal of the article was to clearly identify and compare individuals who are actively engaged with the news in social media versus those who are not (i.e. prosumers vs. general social media users), we also tested Hypotheses 2–4b, with a five-item composite social media behavior variable measuring "social media activity." All other variables in the model were the same as those reported in Table 3. When predicting opinion leadership, the pattern of results is similar, as social media activity predicts opinion leadership, $b = .22$ (.04), $p < .001$. So, H2 continues to be supported. We also find that social media activity has a direct effect on persuasion attempts in Wave 2, even after controlling for such attempts in the first wave, $b = .23$, (.04), $p < .001$. Again, this is consistent with our original findings and supports H4a. As in our original analyses, we fail to find the link between Wave 1 opinion leadership and persuading others in Wave 2 (H3), $b = .05$, (.03), $p = .13$ (two-tailed). This link in our original analyses was close to the traditional cut-off for significance, whereas here it is not. Finally, with these new analyses, we fail to find strong support for H4b, which was the indirect link between social media activity and attempts to persuade through opinion leadership, point estimate $= 0.01$ (0.01), 95% CI $= -0.00–0.03$. The lack of a strong indirect effect is most likely because of the much weaker relationship between opinion leadership and persuading others in this supplemental analysis.

Table 3

Predicting Self-Perceptions of Opinion Leadership (W^1 and W^2) and Frequency of Attempts to Persuade Others Politically (W^2) Using Ordinary Least Squares Regression

Variable	Self as opinion leader (W^1)	Self as opinion leader (W^2)	Persuading others (W^2)
Prosumers	0.66 (.19)***	0.56 (.21)**	0.79 (.19)***
Self as opinion leader	–	–	0.06 (.03)[†]
Persuading others (W^1)	0.10 (.03)**	0.08 (.03)**	0.58 (.03)***
General news use	0.10 (.05)*	0.08 (.05)	0.04 (.04)
Age	−0.01 (.00)[†]	−0.01 (.00)	0.00 (.00)
Gender (Male = 1)	−0.07 (.12)	−0.18 (.13)	−0.02 (.11)
Education	0.11 (.04)**	0.11 (.04)**	−0.04 (.04)
Income	0.19 (.04)***	0.18 (.04)***	−0.08 (.04)*
Political knowledge	−0.15 (.03) ***	−0.13 (.04)***	0.09 (.03)**
Race (White = 1)	−0.17 (.14)	−0.38 (.14)**	0.00 (.13)
Strength of partisanship	0.00 (.03)	0.03 (.03)	0.05 (.03)[†]
Political efficacy	0.40 (.03)***	0.38 (.03)***	0.00 (.03)
Political interest	0.06 (.03)*	0.03 (.03)	0.01 (.03)
Constant	1.84 (.38)***	2.62 (.40)***	0.18 (.37)
Observations	927	927	927
R^2	0.37	0.30	0.51

Note. Unstandardized coefficients reported. Standard errors in parentheses. Models control for persuading others in W^1, age, race, gender, education, income, political knowledge, political interest, political efficacy, strength of partisanship, and general news use (all measured in the first wave). Missing values for the control and dependent variables were replaced with the sample mean. *p*-values are two-tailed.
[†]*p* < .10, *p* < .05, **p* < .01, ***p* < .001.

Figure 1

Indirect effect of prosumers on frequency of persuading others (W^2).

b = .79 (.19), *t* = 4.24, *p* < .001
(Direct effect)
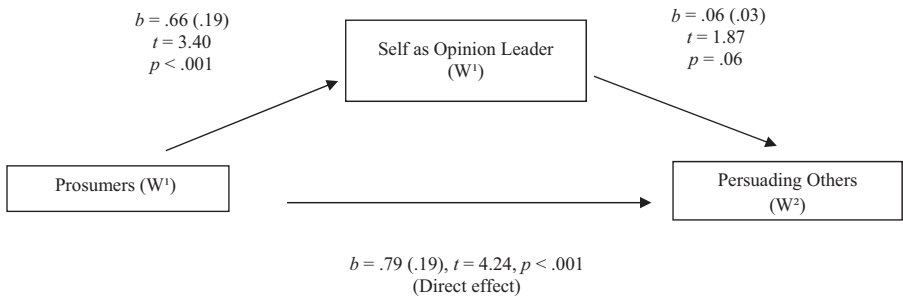
Note. $N = 927$. Indirect effect based on 5,000 bootstrap samples with biased-corrected confidence intervals = 0.04 (0.02) (95% confidence interval: 0.002–0.105). The control variables include persuading others in W^1, age, race, gender, education, income, political knowledge, political efficacy, political interest, strength of partisanship, and general news use (all measured in first wave). Missing values for the control and dependent variables were replaced with the sample mean. All coefficients are unstandardized and *p*-values are two-tailed. Standard errors in parentheses

supported. In addition, attempts to persuade others at W^1 ($b = .10$ [.03], $p < .01$), education ($b = .11$ [.04], $p < .01$), income ($b = .19$ [.04], $p < .001$), general news use ($b = .10$ [.05], $p = .03$), political interest ($b = .06$ [.03], $p = .04$), and political efficacy ($b = .40$ [.03], $p < .001$) were all positively associated with perceptions of opinion leadership, while political knowledge was a negative predictor ($b = -.15$ [.03], $p < .001$) (all p-values are two-tailed). Overall, these variables explained 36.9% of the variance in perceptions of opinion leadership at W^1.

Persuading others in Wave 2 was the dependent variable for the final set of hypotheses. In this model, 50.9% of the variance was accounted for. Unsurprisingly, the lagged dependent variable, attempts to persuade others at W^1, was the strongest predictor of attempting to persuade others in the second wave, $b = .58$ (.03), $t = 20.52$, $p < .001$. Of the control variables, political knowledge was the only positive and significant predictor of attempts to persuade others ($b = .09$ [.03], $p = .01$), whereas income was the only control variable to be negatively and significantly associated with the outcome variable ($b = -.08$ [.04], $p = .04$).

Turning to the test of the final hypotheses, we find only marginal support for H3. Individuals who considered themselves opinion leaders at W^1 did make more frequent attempts to persuade others politically at W^2, but the coefficient falls just short of the $p = .05$ (two-tailed) standard for statistical significance, ($b = .06$ [.03], $p = .06$) (Table 3 and Figure 1). We do, however, find a strong direct effect of prosumers on political persuasion attempts, as prosumers were more likely than nonprosumers to attempt to persuade others politically at W^2 ($b = .79$ [.19], $t = 4.24$, $p < .001$) (Table 3 and Figure 1). H4a is therefore supported. It is important to note that this relationship remains robust even after controlling for individuals' prior attempts to persuade others in the first wave.

Finally, mediation analysis using the PROCESS macro (Hayes, 2013) with 5,000 bootstrap samples lends support to H4b by revealing a significant and positive indirect effect of prosumers on persuading others politically at W^2, through self-perceptions of opinion leadership at W^1 (point estimate = .04 [.02], 95% bias-corrected confidence interval = 0.002 to 0.105) (Figure 1).[1] Our results therefore support the prediction that prosumers are more likely than nonprosumers to attempt to persuade others, both directly and indirectly through their self-perceptions of opinion leadership.[2]

Discussion

Citizens are increasingly turning to social media to not only interact with one another but also consume, produce, and distribute news and political information. The results of this study provide evidence that these behaviors within

social media have a number of important political consequences. Most importantly, we find that social media "prosumers"—individuals who are interacting with others, reading news in social media and in apps, as well as creating and sharing political content—potentially carry considerable political influence within these platforms. These individuals who are highly engaged in social media and use the multiple tools available on these sites are significantly more likely to attempt to persuade other people to vote a certain way or try to change others' minds about political causes or political candidates. Consistent with our theoretical expectations, our analysis of panel data also identified a mechanism through which these persuasion attempts occur. After controlling for key antecedents that would predict the process of political persuasion (Thorson, 2014), such as prior knowledge, political efficacy, political interest, news use, and demographics, social media prosumers consider themselves to be opinion leaders in their social networks, and their behaviors reflect this perception in the form of attempting to persuade others about politics.

Although questions of opinion leadership and personal influence are certainly not new, social media force us to reconsider whether some of the fundamental theories and process related to traditional news and political information hold true within these online platforms. As some have suggested, changes in how people receive news and information, along with a less-social society, may render opinion leaders and active news users less meaningful today (Bennett & Manheim, 2006). Scholars have recently begun to address questions of political influence in social media, but many of these studies look at the power of larger social influence rather than how individual social media users come to persuade others (e.g., Bond et al., 2012; Messing & Westwood, 2014; Wu et al., 2011). Furthermore, how this individual-level persuasive process occurs remains unexamined. We concur with others (Turcotte et al., 2015) that engaged news users in social media have significant potential to be highly influential, given that the size of traditional news audiences are down (Prior, 2007), and the news and information people are exposed to today increasingly comes from their peers on social media (Pew, 2015). Given that socially shared news is deemed more trustworthy than news directly received from media outlets (Turcotte et al., 2015), the prosumers who consume, produce, share, and comment on this information have the potential to shape the views of others in their network. Our work suggests these prosumers see themselves as the arbiters of political opinion in their networks and strive to change others' minds. If prosumers are in fact able to persuade their peers, this would suggest that a small percentage of the public may hold particular sway over their social networks, a possibility that social movements or political campaigns might wish to take advantage of. Whether this social media setting makes prosumers and self-perceived opinion leaders more successful in persuading their peers than in offline settings cannot be determined with the

current data but begs more research in this area. It will be important for this work to shed further light on the degree to which attempts at political persuasion in social media result in actual persuasion.

The initial part of the persuasive process identified here contributes to the literature on social media use, opinion leadership, and political behavior in several ways. Importantly, we show that both social media use and perceptions of opinion leadership are associated with political outcomes beyond simply participation. The link between social media use and participation is well-established (Gil de Zúñiga et al., 2014), as is the association between self-perception of opinion leadership and political engagement (Shah & Sheufele, 2006). Although our results confirm that prosumers are in fact more likely to participate politically online and offline than nonprosumers, we were more interested in whether social media use and opinion leadership extend to persuasive behaviors. We find that they do. Compared with the nonprosumers, prosumers more frequently attempt to persuade others in their network, and to some extent, this effect is a result of prosumers' perception that they are also opinion leaders. This finding indicates that the more people engage the various tools of social media in specific ways (i.e., news consumption and dissemination, political expression, etc.), the more they come to see themselves as influential, which subsequently results in their attempts to be influential and politically persuasive. We suggest that by using the range of affordances within social media, prosumers feel they hold actual influence over their social network. In a sense, prosumers' environment and behavior has helped them become what they think they are. Their social media behavior shapes an identity, which in turn increases persuasive behavior. This result also suggests that the benefits of opinion leadership extend beyond political participation. Self-perceived opinion leaders are not only engaged in politics, they are actively trying to change others' minds.

Overall, our results provide novel insights into the nature of online opinion leadership and how social media behaviors influence attempts at persuasion. Nonetheless, the data should be considered with a few caveats. Although demographically diverse, our sample is ultimately a nonprobability convenience sample drawn from an opt-in Internet panel that may not be fully representative of the U.S. population. Despite this limitation, our quota-based sampling method resulted in a sample that is similar in many ways to the demographic distribution reported by the U.S. Census and surveys using random sampling strategies (e.g., Pew, 2013). The report of a recent American Association of Public Opinion Research task force notes that as long as researchers take care to control the quality of the sample at selection, nonprobability samples such as ours can be appropriate when the purpose of the study is to explain theoretical relationships between variables rather than assessing exact population characteristics (Baker et al., 2013). So,

although the sample is not representative, our use of Nielsen's stratified quota-sampling panel and numerous control variables in our analyses allows us to make reasonable inferences about how citizens use social media.

We also relied on self-reports of social media use, opinion leadership, and attempts at persuasion, all of which can be prone to over or underreporting (see e.g., Prior, 2009). However, bias in self-reports is only problematic if certain individuals are more likely to misestimate, which we do not believe is the case here. That is, the measurement error should be evenly distributed among survey takers (Biemer, Groves, Lyberg, Mathiowetz, & Sudman, 2004). Another limitation involves our measurement of overall frequency of attempts at persuading others. Here, we measured political persuasion generally, rather than specifically within social media. Although a stronger measure would have assessed persuasive attempts directly within social media, we believe this measure is valid, as general attempts to persuade others politically should carry over into the social media realm. That is, most individuals who are attempting to change other people's minds are, to some extent, likely doing so within social media as well, especially given that they are highly active in social media. In any case, future research should further isolate the persuasion mechanisms taking place in this digital media realm. Finally, as our analysis only examined one mediator between prosumers and attempts at persuading others, self-evaluations of opinion leadership, there may be other variables that also mediate this relationship. Future research should similarly explore some of these possibilities (e.g., individuals' motivations to inform and influence others).

Despite these limitations, we find strong evidence that social media prosumers behave differently politically than nonprosumers. As social media continue to become enmeshed in citizens' lives, it is important to better understand how people use these platforms to engage in politics and to understand how theories of personal political influence hold up in online contexts. This study highlights how a growing subset of the population is turning to social media not only for interaction but also to discuss, share, consume, and produce political information. These behaviors, in turn, have important implications on political participation, perceptions of opinion leadership, attempts at political persuasion, and, ultimately, the democratic process at large.

Appendix

Table A1
Demographic Profile of Study Survey and Other Comparable Surveys

Demographic	Study survey Wave 1 December 2013–January 2014 (%)	Study survey Wave 2 March 2014 (%)	Pew Research Center for the People and the Press Political Survey July 2013 (%)	U.S. Census American community survey 2012 (1-year estimates) (%)
Age				
18–24	5.0	2.7	10.1	10.0
25–34	13.5	11.1	11.3	13.4
35–44	15.7	14.7	11.9	13.0
45–64	43.0	47.5	38.8	26.4
≥65	22.8	24.1	28.6	13.7
Gender				
Male	50.0	51.0	49.9	49.2
Female	50.0	49.0	50.1	50.8
Race/ethnicity				
White	76.2	79.1	72.2	73.9
Hispanic	7.5	5.2	11.2	16.9
African American	10.5	9.6	10.3	12.6
Asian	2.9	2.9	2.5	5.0
Education				
High school or less	19.3	18.4	32.5	41.6
Some college	34.5	33.9	27.6	29.2
Bachelor's degree	30.5	31.9	22.6	18.2
Graduate degree	8.8	11.4	14.9	10.9
Household income				
<$49,999	46.0	44.3	45.9	51.9
$50,000–$99,999	36.5	37.8	26.1	32.7
≥$100,000	17.4	17.9	17.2	15.4

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