Investigating the effects of news sharing and political interest on social media network heterogeneity

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ABSTRACT

This research investigated whether the use of social networking services (SNSs) promotes or restricts the likelihood of citizens' exposure to political disagreement by focusing on two different types of news sharing activities on SNSs – news externalizing and internalizing – and on individuals' level of political interest. The results show that frequent SNS use may entail higher chances of interacting with heterogeneous others, but the influence is only indirectly exerted through its effects on two news sharing activities. Findings also indicate that political interest and news sharing activities interact with each other in predicting the degree of network heterogeneity. The study is conducted with a nationally representative survey.

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1. Introduction

Communications with those who hold politically dissimilar views from one's own are valuable experiences. Theorists of democracy have stressed the importance of such opportunities in facilitating the formation of more informed and thoughtful opinions. Citizens are better able to inform themselves about an issue when they can correct their own errors through contrasting their ideas with those of others (Mill, 1956[1859]), and they are also able to reach more valid conclusions when they consider different perspectives (Arendt, 1968). These potential benefits that result from a diversity of communication within a society may fulfill the ideals of a public sphere (Habermas, 1989[1962]) and deliberative democracy (Fishkin, 1997). Furthermore, encounters with people of diverse views build "shared experiences" among citizens, which in turn contributes to social cohesion (Sunstein, 2007, 2012).

Mass media have traditionally undertaken the role of exposing audiences to varied points of view which differ from their own (Sunstein, 2007, 2012). However, the changing media environment, in which media outlets and information-filtering tools are abundant, has been considered to facilitate selective exposure to only like-minded people and information (Iyengar & Hahn, 2009; Knobloch-Westerwick & Meng, 2009, 2011; Stroud, 2007, 2010). When individuals are deprived of opportunities to interact with divergent people, the society will become more fragmented and polarized, thus constituting a serious threat to democracy (Sunstein, 2007; Tewksbury & Rittenberg, 2012).

Social media (or social networking services, SNSs), one of the newest media, have yet again complicated the discussion about exposure to diverse points of view in the new media environment. One particularly interesting observation along this line of research is that people are indeed able to expand the diversity of their interpersonal connections via SNSs, but only when they frequently consume news on these services (e.g., Lee, Choi, Kim, & Kim, 2014). However, previous studies have paid little attention to the fact that news consumption on SNSs is a totally different experience. Users not only *receive* news via SNSs, but are also able to *disseminate* news by sharing links to stories with one another. In other words, these sharing types of news use on SNSs encompass more unconventional, more diverse, and more participatory ways of news consumption. Thus, it is necessary to investigate the ways in which these new patterns of news consumption made possible through SNSs serve as a link between SNS use and exposure to diverse points of view within communication networks. In this sense, this study aims to explore the mechanism of how social media use relates to network heterogeneity by focusing on the peculiar characteristics of news use on SNSs.

Furthermore, it is unlikely that news-related use of social media has the same consequences for all users. In the digital media setting, where a wider range of choices is given to audiences, political interest is likely to intervene in the relationship between SNS news use and the extent of exposure to diverse opinions. This is because news consumers' tendency to select information which

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is congenial to themselves is known to become more pronounced when increased media choice is coupled with a high level of political interest (Farrell, 2012; Iyengar & Hahn, 2009; Prior, 2007). However, it is questionable whether this pattern will be observed in the context of the newer types of news consumption available through SNSs. Hence, the second goal of this study is to test the influence of interest and thus reveal a more detailed mapping of the relationship between social media use and network heterogeneity.

It is hoped that this study will contribute to the better understanding of the political implications of social media use by exploring the unique ways of news use within online social networks. In particular, we propose a model which posits that SNS use indirectly affects SNS network heterogeneity through news sharing that is also moderated by political interest. This model is tested with a data set from a national probability survey which was conducted in 2012.

2. Background and literature review

2.1. Exposure to different views on social media

The relationship between social media use and network heterogeneity is unclear, due to inconsistent research findings. Some research has found that social media is likely to promote interactions with like-minded others (e.g., Aiello et al., 2012; Conover et al., 2011). SNSs may enhance the human tendency toward dissonance minimization (Festinger, 1957; Klapper, 1960) by allowing people to weed out non-likeminded people from their online networks. This is feasible due to the presence of sorting algorithms on SNSs, such features used to "unfriend," "hide," or "block" someone (Rainie & Smith, 2012).

However, SNSs also provide much more diverse mechanisms that could facilitate networking with diverse others (e.g., Bisgin, Agarwal, & Xu, 2010; Kim, 2011; Semaan, Robertson, Douglas, & Maruyama, 2014; Yardi & Boyd, 2010). First, SNSs significantly reduce the costs of maintaining a larger communicative environment (Ellison, Steinfield, & Lampe, 2007). Given that an increase in network size leads to an increase in the heterogeneity of networks (Huckfeldt, Mendez, & Osborn, 2004), it is likely that the frequent use of SNSs and the consequent increase in the number of friends therein can expand the heterogeneity of networks. Second, an increase in the network size may also be linked to more "weak ties" (Granovetter, 1973), which is known to result in exposure to novel and heterogeneous views. Online social networks tend to contain a small group of densely connected core networks and a larger loosely connected periphery (Mislove, Marcon, Gummadi, Druschel, & Bhattacharjee, 2007). Thus, the networks may become more heterogeneous as this loose periphery, where weak ties are present, becomes larger.

Third, people can be exposed to opposing views in a serendipitous way when they use SNSs. For example, based on intensive interviews of SNS users, one study (Semaan et al., 2014) revealed that people tend to encounter diverse information and to participate in meaningful political discussion with diverse fellow citizens, even when they did not intend to do so. At the same time, the availability of information-filtering tools does not necessarily lead to the prevalent use of them. In fact, a relatively small portion of users (18%) have used SNS algorithms to exclude politically different others (Rainie & Smith, 2012), which indicates that the selective use of information is not very pervasive on the space. Taking into account these findings – that a variety of mechanisms of exposure to heterogeneous others are present on SNSs and that people do not actively dump politically dissimilar others on SNSs – we pose the following hypothesis:

H1. The use of SNSs will be positively associated with network heterogeneity.

2.2. News sharing and network heterogeneity

SNSs have recently become an important source for news (Rainie & Smith, 2012). However, it should be noted that news consumption on SNSs is very different from that of traditional media. SNSs merely provide modes of news distribution and do not produce their own content; users get news through their relationships with others on social media, such as more informed friends and news organizations. In other words, news obtained on SNSs is made up of what is *shared* by the other members of the networks. At the same time, users are also news providers, who themselves *share* news with other members on SNSs by posting links to news stories. Thus, these news consumption patterns on SNSs, taken together, constitute a construct, labeled as *news sharing* (Choi, Lee, & Metzgar, 2013).

News sharing is likely to mediate the association between the social media use and network heterogeneity, because SNS use is clearly linked to news sharing on social media. News is so pervasive on SNSs via sharing, making the use of it a routine, everyday activity (Boulianne, 2011). For example, more than 80% of the most frequently mentioned topics on Twitter were found to be headline or persistent news (Kwak, Lee, Park, & Moon, 2010). Moreover, people are able to share news stories with other SNS users easily, thanks to the convenient information diffusion tools available on SNSs, such as the link posting and reposting functions (Lee & Ma, 2012; Raban & Rafaeli, 2007). Given that the presence of easy and low-cost technical means tends to cause such behavior to occur more frequently (Herring, 2007), such effective and user-friendly information diffusion tools may facilitate the amount of news disseminated by users. Thus, as people use the media more frequently, the opportunities to receive and disseminate news on SNSs may increase accordingly.

The frequency of news sharing will directly affect the level of network heterogeneity, for several reasons. The first is the relatively low information cost of news gained by sharing. Individuals tend to pick and consume only certain types of information (while neglecting others) because the information gathering and analyzing processes are costly. Based on cost-benefit evaluations (Downs, 1957; Verba, Schlozman, & Brady, 1995), people tend to invest their limited time and energy in selectively collecting agreeable information, because the psychological rewards (e.g., positive feelings) obtained from finding congenial information tend to be greater (Festinger, 1957). However, on SNSs, news acquisition is less expensive, because the cost of gathering, selecting, disseminating, and analyzing news may be transferable to other members of the SNS. The users can receive news without paying the full cost of gathering it, in such a way that each user pays the cost of "collecting only a fraction of" the information (Rosenstone & Hansen, 1993, p. 24). It has been noted that people are willing to read diverse kinds of news (including those which are contrary to their own interests or concerns), when the information can be obtained with minimal effort (Tewksbury & Rittenberg, 2012). It is, therefore, likely that they are also willing to communicate with heterogeneous others and to be open to other perspectives when they use news by sharing it on social media.

The connection between news sharing and heterogeneity is also explained by the enhanced "traversability" among diverse discourse groups on online social networks. This is because news sharing easily blurs the distinction between news use and discussion. Thanks to the various talk-back features on SNSs, such as comment threads, users can simultaneously participate in news-related discussions as they read news on SNSs. At the same time,