

Micro Agenda Setters: The Effect of Social Media on Young Adults' Exposure to and Attitude Toward News

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Abstract

Social media services like Facebook and Twitter are playing an increasingly large role as sources of news. This article investigates the ways the composition of social media networks affects people's exposure to and attitude toward news. Focus groups ($N=31$) and in-depth interviews ($N=15$) with young adults of varying ethnicity and country of origin showed that people's networks on social media function as *micro agenda setters*. The characteristics of people in one's network can facilitate negative effects such as echo chambers and spirals of silence but can also unfold new perspectives and create awareness of topics not covered by legacy media.

Keywords

news, social media, agenda setting, crystallization, media effects, social networks

Although originally conceived as systems to connect individuals with shared affinity, social media services like Facebook and Twitter now serve some of the functions previously fulfilled by mass media outlets. Users are increasingly exposed to news about social and political issues via status updates and links shared by their online connections (Mitchell, 2015; Mitchell, Kiley, Gottfried, & Guskin, 2013). In this way, online social media services have blurred the traditional lines between interpersonal and mass communication into a new activity Castells (2007) called “mass self-communication.” These blurred lines present an opportunity to revisit some of the well-established theoretical assumptions about media effects.

This study examines how social media affect young adults' exposure to—and attitudes toward—news as a way of rethinking the theory of agenda setting. Agenda setting is one of the major theories in mass communication research, offering a way of understanding the influence of news coverage on audience members' attitudes about political and social issues (McCombs & Shaw, 1972). In the traditional model of mass media effects, established news organizations select stories they deem worthy of dissemination to the public based on codified criteria of newsworthiness (Shoemaker & Reese, 1996). Because news media favor some stories over others, agenda setting investigates the consequences of those selections. Scholars have found that not only does media coverage affect which topics people think *about*, it also influences *how* people think about them by influencing their

opinions and attitudes (McCombs, 2005; McCombs & Guo, 2014).

In the past decade, however, the Internet has drastically changed how information is distributed. Traditional mass media outlets such as television or newspapers no longer function as the primary sources of news. In 2014, half of Internet-using adults reported getting news about government or politics from Facebook in the week prior to the survey (Mitchell, 2015). Moreover, social media have assumed a role as a first-line reference for people, who increasingly turn to their online networks as the initial source of information, and then use those same connected media spaces to discuss the news of the day (Matsa & Mitchell, 2014; Purcell, Rainie, Mitchell, Rosenstiel, & Olmstead, 2010).

A consequence of this shifting distribution model for information is that people are unintentionally exposed to news on social media even when they don't seek it out (Mitchell et al., 2013). This trend is even more pronounced among younger adults, who engage with news on legacy platforms less than their older counterparts (Bowe & Wohn,

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2015), but who are more likely to seek out breaking news through social media services (Mitchell, 2014; Mitchell et al., 2013). From a research perspective, it is important to understand how social media affect people's exposure and attitude toward news because news orients people within society, enabling collective action (Park, 1940) and providing the citizenry with information required to be free and self-governing (Kovach & Rosenstiel, 2007).

As a recent Pew report on the state of the news media noted, Facebook is "a platform where influence is driven to a strong degree by friends and algorithms" (Mitchell, 2015, p. 4). Many online social networks use algorithms that determine what kind of information people are exposed to. While some argue that algorithms may create selective exposure (Pariser, 2011), others argue that people are actually exposed to more diversity (Bakshy, Messing, & Adamic, 2015; Bakshy, Rosenn, Marlow, & Adamic, 2012). If younger people are increasingly using social media as a primary news source, this means that researchers need to have a better understanding of how these technologies affect, if at all, people's understanding of what is going on in the world and their attitudes toward social events.

Agenda Setting

Since the dawn of the mass communication era, legacy media organizations like newspapers and television have functioned as centralized networks. In this paradigm, the universe of potential content is winnowed down by institutions using a set of well-established media routines and distributed to audiences, with the most powerful organizations influencing the content of smaller and less powerful outlets (Shoemaker & Reese, 1996). Predictable news values guide the selection of stories based on characteristics like prominence, human interest, conflict, unusualness, timeliness, and proximity (Shoemaker & Reese, 1996). However, this selection process means that some types of information are privileged over others. Traditionally, the selectivity of media organizations was perceived as a gatekeeping force that provides audiences with ways of seeing and interpreting the world—ways that ultimately shape their very existence and participation within a given society (Spitulnik, 1993).

This type of centralized infrastructure allowed for the establishment of the mass media's agenda-setting function (McCombs, 2005). Agenda setting describes how the emphasis of certain issues by news outlets increases the salience of those issues among members of the public. When news media cover an issue, event, or topic, they emphasize some aspects of reality, downplay other aspects, and ignore still others entirely. Agenda setting examines the consequences of those selections on public thought and discussion (McCombs, 2005).

The origins of agenda-setting theory can be found in Cohen's (1963) assertion that the press may not be successful in telling people what to think, but it is "stunningly successful

in telling its readers what to think *about*." (p. 13). In the original (first-level) agenda-setting theory, McCombs and Shaw (1972) demonstrated that mass media shape political reality by setting the agenda for each political campaign and influencing the salience of political issues for the public. They found strong evidence that audiences learn how much importance to attach to an issue from amount and position of news media coverage. This finding launched four decades of agenda-setting research that has explored these effects of media coverage on public perceptions (Weaver, 2007).

While early agenda-setting research seemed to support Cohen's assertion, by 1997, researchers began suggesting that media tell people not only what to think about, but *how* to think about it (McCombs, Shaw, & Weaver, 1997). In proposing this second level of agenda setting, McCombs, Llamas, Lopez-Escobar, & Rey (1997) argued that the cognitive and affective attributes of stories emphasized in news coverage become more salient in the minds of audience members and thus influence opinions and attitudes more directly. By combining traditional agenda setting with insights from framing research, the second level offered a more nuanced understanding of the media's reality-defining role (Takeshita, 1997), akin to looking at an object under a magnifying lens (Ghanem, 1997). For example, media coverage seems to be more influential over factual information and personal characteristics of candidates than it is on positive or negative evaluations (Golan & Wanta, 2001). In fact, negatively valenced information generally tends to have stronger agenda-setting influence than positively valenced information (Wanta, Golan, & Lee, 2004; Wu & Coleman, 2009).

Re-thinking Agenda Setting

As originally proposed, agenda setting is a media-centric theory of media effects that may not adequately describe the realities of the social media era, in which the lines between audience member and content producer are blurred (or disappear entirely). Changes in the media landscape have transformed how people are exposed to news, leading mass media scholars—including agenda-setting founder McCombs himself (McCombs & Guo, 2014)—to call for new theories that can explain the influence of news in this modern age.

While agenda setting was developed in the field of mass communication, it is interesting to note that more recent theories approach this from a technology-centric perspective due to the larger role that technologies play in information transfer. In the non-fiction book "Filter Bubble," Pariser (2011) suggested the power of personalization algorithms in services provided by the likes of Google and Facebook could have an effect on the types of information people have access to. Moreover, nationally representative studies of US adults show that more people are getting their news through social media rather than specialized news sites (Mitchell, 2014, 2015).

While the Filter Bubble posits a growing influence of algorithms, the central argument is not very different from traditional agenda setting. In other words, the Filter Bubble shifts the main agenda setter from legacy media to so-called “new media.” While this represents a difference in how information flows to individual users, it does not provide a nuanced understanding of how individuals perceive this information, nor how social elements such as network structure influence the selection of information. From both agenda setting and the Filter Bubble perspectives, mediated information acts upon people, rather than people engaging with and contributing to it. If we are in the era of mass self-communication, it seems that our theorizing still focuses more on the “mass” than the “self” (or, even more importantly, the combination of the two), which calls for new theoretical perspectives that incorporate both elements.

Crystallization: A Network Perspective to Agenda Setting

Wohn and Bowe (2014) suggested companies like Facebook are taking on agenda-setting roles, not just through algorithms, but through the people who constitute users’ online social networks. They proposed a theoretical framework called Crystallization (Wohn & Bowe, 2014), which posits that the way people develop perceptions of reality is an emergent process rather than the one-directional top-down approach described by agenda setting.

The term “crystallization” differentiates the process of reality formation from the top-down, one-way propositions of how reality is formed through agenda setting, and is analogous to the crystallization processes in chemistry. The physical process of crystallization from a chemical perspective indicates a change of matter from a gas or liquid form to a solid form. Crystallization begins with a nucleus, and particles start to stick to the nucleus to grow into a larger matter.

This process of physical crystallization is a metaphor for the process of reality formation in the Crystallization framework. Let us assume that information is a nucleus, and that similar attitudes are “particles” that cluster to the nucleus to form reality. In agenda setting, information flow can be described as moving through a funnel, forming a steady “stream” of information that leads to fairly homogeneous attitudes. However, now that social media are facilitating multiple points of information sources, information flow will emerge from multiple sources and attitudes cluster around those sources. Because the information comes from diverse sources, the “nucleus” that becomes the seed of Crystallization is not one, but many. Thus, compared to the process of agenda setting, Crystallization is an emergent process, where there is no central, but multiple sources of information.

Ultimately, in Crystallization, the individual’s sense of reality will depend on the information that he or she is exposed to, and his or her attitudes toward that information. For users of social media, that information frequently comes

through one’s online social network, most often accompanied by the attitude of the person relaying the information. Thus, the individuals’ online social networks act as “micro” agenda setters at both the first and second level.

If it is true that subjective reality takes on a crystallized and solid form as it is internalized by individuals (Berger & Luckmann, 1966; Hardin & Higgins, 1996), we may see the development of a society in which attitudes and beliefs are formed and solidified through social influence. However, since each individual’s online network is constituted differently, the attributes of those networks and users’ relationships with people in those networks will affect what they perceive as reality. For example, individuals who are a part of a more homogeneous group will cling to a view of reality that will have fewer degrees of overlap with the society in general, but strongly overlap with the people in their network, a phenomenon known as the echo chamber. Empirical evidence suggests that many online spaces, particularly those associated with political content, are echo chambers (Gilbert, Bergstrom, & Karahalios, 2009; Jamieson & Cappella, 2008).

Individuals who have a more diverse online network may have a very different sense of reality than those people with homogeneous online networks, but still think that their idea of reality is the “true reality.” At the end of the day, users may think they understand mainstream reality, but from a macro societal perspective, there may be an increasing fragmentation of public perceptions, making it difficult to discern an actual “mainstream” social reality.

As users of social media post links to news items and social events and comment about them, it would hold that those users are transforming their subjective realities into symbolic realities. As those posts are shared with trusted contacts in online social networks, they may become crystallized into something perceived as an objective reality. This perception of reality could have positive and negative effects. Depending on the type of information, it could be that the individual is exposed to novel concepts and events and becomes more learned. On the other hand, having a sense of reality that one does not agree with may pressure the individual to suppress his or her views, a phenomenon known as the Spiral of Silence. Thus, Crystallization tries to explain media effects such as spiral of silence or echo chambers by applying a network perspective to understanding reality formation.

Crystallization is guided by a series of assumptions. These include the following: (1) Individuals are exposed to information from many sources, including face-to-face communication, traditional media, and online social networks; (2) an individual’s access to information will be determined by his or her communication patterns with those sources; (3) an individual’s judgment about the salience of the information will be a function of the quantity of sources and the individual’s relationship with the sources; (4) attitudes toward the content of the information will be affected by others’

attitudes and the individual's relationships with those people; (5) over time, individuals will develop a sense of reality based on the information they are exposed to and their attitude toward the information; (6) at a macro level, reality formation will crystallize in groups; and (7) the process of Crystallization will be moderated by attributes of the individual's social network and the attributes of the individual.

The argument that people affect others' beliefs and attitudes is not new. Theories of social influence rooted in social psychology have long suggested that people have an innate desire to create shared meaning with others and are thus influenced by each other (Higgins, 1992). Crystallization describes a process that has always been an inherent part of reality formation, but that is facilitated in new ways through the affordances of social media and mediated by the opaque influence of the algorithms those services use to engage audiences. However, Crystallization is novel and different from both agenda setting and the filter bubble perspective in that the media effect mechanism is an emergent, rather than linear process.

While this network model carries a degree of face validity in the context of social media, Crystallization suffers from a lack of sufficient empirical evidence. Our first study was therefore conducted to test and understand the assumptions of Crystallization to better understand the micro agenda-setting roles of the network. This informed several research questions aimed at understanding the role of the social network in information acquisition and attitude formation, and trying to understand what role social media played in that process:

RQ1: Where do individuals first get information that exposes them to new news topics?

RQ2: What role does the relationship with the information source play in terms of how salient individuals perceive the news?

RQ3: Do people experience a sense of shared reality?

Study I

Our first study used a focus group to examine some of Crystallization's assumptions about the varieties of sources individuals use to learn information about news events, and how particular patterns influence their sense of reality. Recruiting took place on campus in November of 2011 at a large state university in the Midwestern US. Participants were told that the study would be about how they obtain news and what influences their interpretation of news. After the first three focus groups, participants were selectively recruited for certain ethnic groups to get ethnic diversity. Participants received US\$10 for the hour-long focus-group session. A total of 31 individuals participated in five focus groups. There were 21 undergraduate students and 10 graduate students. Age ranged from 18 to 30 years, with the average at 22 years. Table 1 summarizes the demographic makeup of the participants.

Table 1. Demographic information of focus-group participants.

Ethnicity	Region of origin	Male	Female
White	United States	7	7
Black	United States	3	2
Mixed	United States	0	2
Asian	Southeast Asia	1	1
Asian	Northeast Asia	2	4
Asian	Middle East	1	1
Total		14	17

Procedure

At the start of the focus-group session, participants were given a blank sheet of paper and were asked to write down five public events or news topics that they thought were most important in the previous week. Then, participants were asked to share what they had written down and discuss why they thought it was important and where they first learned about the news.

Participants were also asked about their perceptions of major local or global events that happened in the past year. They were given three news events to discuss: the racially motivated assault of a young woman on campus, a tsunami and subsequent nuclear crisis in Japan, and the killing of Osama bin Laden. Participants were asked to describe what this event was about, where they read or heard about it, and their thoughts about what others were talking in relation to the event.

Analysis

All focus-group interviews were audio-recorded with participants' permission. Recordings were transcribed by a professional transcription service and checked by the authors for accuracy. The analysis used a grounded theory approach to the texts. In that approach, the relationships between data and the categories into which they are coded are continuously evolving and emerge as new data alter the analytic framework (Lindlof & Taylor, 2010).

Study I Results

How Young People Get News

Our first research question inquired how people are exposed to news. When we asked participants explicitly about where they received news, they mainly discussed the information that they received from formal news agencies or aggregators. These included legacy media sources like *CNN* and *ESPN*. International students sought news from media in their own country. Of note, no one mentioned major legacy outlets like *The New York Times* or *Washington Post* as their main sources of news. However, some participants were exposed to them via news aggregators like Yahoo News. Participants also went

to specialized websites for information in which they were specifically interested. Several students said they learned about news through commentators who use humor, such as Jon Stewart and YouTube personality Philip DeFranco.

Participants also discussed social media sources such as Facebook, Twitter, YouTube, and in the case of international students, social media that were popular in their countries. These included Weibo (a Chinese microblogging service) and QQ (a Chinese messaging service), Chinese military online forums, and KakaoStory (a Korean blogging service). When discussing the news they received through social media, however, it was clear that participants were thinking more about the accounts that they purposefully subscribed to rather than the incidental news that they were exposed to. The types of news organizations, websites, and people that our participants followed were very different, catering to their specific interests. For example, some participants followed mainstream news accounts on Twitter while others, such as Ashley, used Twitter to get special news about sports figures and celebrities. “Twitter is the best thing to get inside news, like sports teams or gaming companies like Sony because they usually post their news on Twitter before anywhere else,” she explained.

Participants also were exposed to news through other people; whether that was through social media, telephone, or face-to-face interactions. This, however, did not come up when we asked them to name their news sources; rather, it emerged when we asked them to recall how they came to know specific news events. In the following section, we will therefore present three specific news events and discuss the findings to our research questions in relation to these events.

Specific News Events

In this section, we examine three different news events that participants were specifically asked to recall and reflect upon. Participants were asked to discuss three main things to address our research questions:

1. How did they initially hear about the event? (RQ1, RQ2)
2. What were the details of the event (to the best of their knowledge)? (RQ3)
3. What were their perceptions of what the general public thought about the event? (RQ3)

Racial aggression on campus. The first topic that was discussed was a local event. Not long before the focus groups, there was a series of racially aggressive acts on campus. These acts included someone writing a racial epithet on a student’s dorm room and the hanging of a Black doll in a classroom.

The president of the university sent out a campus-wide email to all students, staff, and faculty with details about the events and the inappropriate nature of them. Despite the fact

that this email was sent to everyone, many of the focus-group participants did not remember this incident at all or vaguely recalled receiving the email but were not familiar with the details of the case. All three Black participants, however, remembered the incident clearly and also said that there was much discussion of this event on social media. The Black students said that most of the related posts that they saw on social media were by other Black friends. They were very cognizant that in these discussions, the people who were participating were other Black students.

This did not necessarily mean that all were eager to take part in the discussion. While he was exposed to this discussion through his friends, Jared said that he felt particularly confused because his Black friends wanted him to be more engaged (than he would like) in the online conversations:

People were upset about this. When these racial things happen on campus, I feel like people are biased and that if you are Black you should feel some type of way about it. I’m like yes, I do feel some type of way about it but I don’t want to throw my all into it.

Only one non-Black participant said that she saw this incident discussed on social media. Sarah attributed her familiarity with the event to her affiliation with a multicultural group that lives together. “We talk about these situations,” she explained. However, she said that most of the discussion was about the lack of emotion in the president’s letter and the university’s response to the events. Sarah’s description of what she saw on Facebook was very different from the discussions described by the Black students, which were more about the incident itself. This demonstrates how the composition of a person’s online social network can render starkly different views of the same event—or even obscure it from view entirely.

Nuclear crisis in Japan. The second news event discussed was an international event—the Fukushima Daiichi nuclear disaster—which had happened earlier that year. This event involved the meltdown of three nuclear reactors, which happened when the area was hit by an earthquake and subsequent tsunami.

International students learned about the incident through a variety of means, including the mainstream media of their home country. Social media played a key role in informing these students about the event, with six of the seven East Asian international students hearing about it first through personal contacts or social media popular in their home country, such as Weibo and QQ. They also saw a flood of people posting about this event in social media. US students, on the other hand, said they first learned about the disaster through mainstream media such as CNN and Yahoo News. Aside from one student who had friends living in Japan, the US students said they did not see much discussion of the event on social media and that most of the content about the disaster was links to news articles. Two students said

they did not see any content sharing or discussion related to the event at all. Among the US students, Amanda was the most knowledgeable about the event. She said she first heard about it from her father because he constantly reads news, but after the initial exposure, she saw much discussion on Facebook and DeviantArt, which is a site devoted to, among others, the popular Japanese cartoon art form known as anime:

So, "Pray for Japan" just blew up on DeviantART and then all my friends from Hawaii freaked out on Facebook because all their families are from Japan. A lot of them, they're Asians.

These results illustrated how young people who do not purposefully seek out news through mainstream media were very unlikely to be exposed to events (such as this nuclear disaster) that did not impact anyone in their social network. Furthermore, participants had very different interpretations of the event depending on their connection to it. Students who had family in Asia or were in Asia at the time of the incident were mainly concerned about the pollution aspect of the nuclear disaster. A Chinese woman who was traveling in Thailand at the time said that she got the news from QQ, which she described as the "Chinese Twitter." She said that she was scared because she wasn't sure if she could eat seafood. A woman from Korea also said that the discussion on Korean social media and Facebook among Korean friends included worries about how the nuclear meltdown would affect people's choice of food in Korea, due to the geographic proximity of the two countries.

In another instructive case, social media influenced one participant to develop views he thought were mainstream, but other knowledgeable participants disagreed. This participant, a Chinese man, learned about the tsunami from a Chinese military online forum. He summarized the important parts of the story as including the Japanese government's attempts to hide the effect of the pollution and scale of the crisis and statements, indicating many Chinese people felt that Japan deserved such a natural disaster because of long-standing tensions between the two nations. However, two Chinese women participants disagreed. The following excerpt of a conversation reflects a discussion about the conflicting opinions of participants who had differing ideas of what they thought was the dominant public sentiment related to the event:

Chinese Man: There is hatred between China and Japan due to historical issues relating to WW2. The previous Japanese government did cruel behaviors in China and it's okay because if you admit that and you apologize we should forgive but they didn't and they even established a kind of palace to honor

those criminals. So Chinese people feel Japan deserves this.

Chinese Woman: Not all Chinese people feel that way. That is probably a minority. Besides, the Chinese government deletes that kind of posts that have hatred or emotion so I don't know where you got this idea.

Chinese Man: I see many discussions like this in military forums.

Cambodian Woman: For my country, we feel compassionate and sad for Japanese people. I saw nothing about hatred in my social media.

Thai Man: We don't have issues like China. We also had a tsunami and many people died so most of the things I saw in social media were about how we should help them because they helped us.

Korean Woman: At the time of the disaster, Koreans were mainly concerned about Japan, but then after that, as usual, Dokdo issues¹ came up and some Koreans started saying that is why Japan got the disaster. The focus of the discussion on social media changed.

Death of Osama bin Laden. When asked to recall the death of Osama bin Laden, the participants were for the most part in agreement with the details of the event itself. Their reactions to the news, however, were different. Most of the US students expressed relief, while the international students said that the news increased their fear because they were worried that bin Laden's death would instigate revenge attacks by terrorists.

International students also said that while they heard about this news, they saw a lot of information online, but did not participate in any offline discussions about the killing. "This stuff didn't appear in daily talk, but it appeared on the Web and social media. People talk about this on social media but not in person," one Chinese woman said.

US students, however, recalled that this incident instigated many offline conversations that mingled with online. Three students said that they followed the news through Twitter simultaneously with television. The following statement illustrates the coexistence of social media with face-to-face communication:

I remember me and my friend just sitting in her dorm, and we were on like Facebook and stuff. And someone was like, "Oh, Obama's gonna give a speech, We got him," or whatever. Then we watched that and then everybody started screaming out their windows, "We got him!"

The composition of one's social media network also influenced the types of discussions that participants saw on social media. People who had more diverse networks saw differences among the groups they were connected to. One woman, who was part of a military family, noted that the reactions of her different friend groups were slightly different:

Facebook is crazy online. Most of my friends that are in the military, their parents were in their military, so it was like a celebration for them. Then there were some people that were like, "why did they have to kill him?" but for the majority, it was very much like, "Yay, we got him."

Study 1 Discussion

Study 1 considered a contemporary version of the first level of agenda setting at the micro level by focusing on where people get their information and how other people figured into process. People were exposed to news from a variety of sources, including social media, and the ensuing discussions about the news event differed greatly depending on the social media they were using and the people with whom they were connected. The results of this study demonstrate how the composition of a person's online social network can result in quite different perspectives of the same event, which supports the Crystallization model (Wohn & Bowe, 2014). Furthermore, the composition of one's social media network influenced the types of discussions participants saw on social media. People were unlikely to be exposed to events that did not affect anyone in their social network, which meant that diversity in one's network played a major role in the degree of variety of information one encountered. This finding was consistent with prior quantitative work that found that weak ties are the ones that propagate novel information (Bakshy et al., 2012).

Our first research question inquired into how individuals were exposed to news. In the context of the three events that were discussed, we found that the initial news sources varied based on the nature of the event, but that more participants reported hearing about the event through social media, and witnessed substantial discussion about the event on social media.

Our second research question inquired into how relationships with the information source affected individuals' perceived salience of news. While close relationships increased salience or awareness of certain topics, participants noted that the perceived importance of a news topic was not simply a function of the crowd. Sometimes one voice, if strong enough, could raise awareness about a particular issue. Moreover, even when there was a situation where the news was first delivered via email to all participants from a single source (i.e. the racial aggression case), students who did not see any discussion on social media did not remember the case at all.

These examples illustrate the different influences that individuals and groups have on each other's perceptions.

Some believed the discussions people had via social media had an effect on the information that users would subsequently share. In this view, social media cues worked to suppress alternate views. This comment resembles research on the Spiral of Silence effect (Noelle-Neumann, 1974), in which people sometimes suppress voicing their opinion if it is different from what they believe is the dominant sentiment. The theory explains that this phenomenon takes place because humans have an innate fear of being isolated; the more an opinion becomes that of the majority, the further the minority sinks into silence. This spiral can be especially dangerous because what individuals perceive as being the majority opinion may not be accurate; thus, the media plays a large part in shaping perceptions of public opinion. However, there was also a unique example of an individual feeling pressured to be vocal about the event when he really did not want to be part of the discussion. These contrasting examples provide further support for the Crystallization framework, suggesting that the types of social influence taking place are really dependent on the composition of one's network.

Vestiges of the earlier "gatekeeping" model of traditional media remained, especially in the way some participants worried about learning news via social media because its objectivity is suspect. Because social media are a hybrid of a mass communication and interpersonal communication (Carr & Hayes, 2015), we saw traditional mass media group effects taking place alongside interpersonal effects of social influence. However, these traditional mass media effects were not happening uniformly across participants, and especially for those individuals who did not purposefully seek out information through legacy media, the types of issues they were exposed to, as well as the events they deemed news-worthy, were very much dependent on their social media content.

RQ3 asked whether or not participants perceived a sense of shared reality. Based on the three news events we discussed, we found that participants not only had a varied understanding of what the event was about but also diverse perspectives from which they viewed the event. While there was some shared reality in that participants were all aware of the event, their understanding and interpretation of their event was, to a large extent, informed by their network. We saw examples where involvement with homogeneous groups online led to very biased perspectives of reality, such as the man who generalized the sentiment of Chinese people based on the content he viewed in military forums. We also saw that in the case of racial aggression against a Black student, participants who were not Black did not recall seeing much discussion of the incident in social media except for one woman who was living in a multicultural house. These results indicate that even if people have a common understanding of the facts of a news event, their understanding of what others think, or what society thinks, can be completely different. We also found that diversity in one's network was one of the strongest factors that contributed to this reality

formation, but that the type of diversity depended much on the content. For news that was related with ethnicity, having ethnic diversity opened people to more perspectives, while for news that was about the death of Osama bin Laden, people who had networks in the military experienced a slightly different social media content than those whose networks were only civilian. These results suggest that the network factors discussed in the Crystallization framework may need further explication and more empirical work—preferably longitudinal—is needed to test network effects.

Study 2

Taken together, the results of Study 1 provided tentative support for the Crystallization model but found that the context mattered, and that the factors that influenced the reality formation process depended on their interactions with others, regardless of the computer-mediated technology being used. Study 1 focused on the role of social networks as micro agenda setters at the first level by considering the ways people's broad understandings of world events is influenced by their social media contacts. Study 2 focused on a specific topic to see whether social media influenced people's understanding of the cognitive and affective attributes of a political story, which taps into the concept of second-level agenda setting. Political campaigns are a frequent subject of agenda-setting studies at the second level (Golan & Wanta, 2001; Johnson, Davis, & Cronin, 2009; M. McCombs et al., 1997).

We chose a political campaign as a way of probing Crystallization's assumptions that individual attitudes are related to an empirically observable combination of media and social influences. The study was guided by the following research questions:

RQ1: How do social media influence people's discussions of political topics?

RQ2: How does discussion of political topics with others online influence people's attitudes?

Procedure

Study 2 was conducted in spring of 2013, after Barack Obama was re-elected for his second term as president of the United States the previous November. Participants ($N=15$) were college students recruited from a large Midwestern university. There were 13 White and 2 Black participants. Nine were women. Participants were interviewed for about 30 min. Generally, the questions asked people to describe their own political activity on Facebook, the behavior of others, as well as their attitudes about Facebook as a vehicle for political discourse. We chose to use interviews rather than focus groups so that participants could speak freely about their opinions and minimize influence of other participants. We also learned from Study 1 that

different social media have very different usage patterns, thus we focused only on Facebook in Study 2.

Study 2 Results

Facebook's Influence on Political Discussions

The first research question aimed to understand how Facebook influences people's discussions of political topics. We found two distinct themes. The first was a reason why people refrained from discussing politics on Facebook, and the second was ways in which people took advantage of specific Facebook affordances to promote their political agendas.

An inhospitable environment. First, similar to the findings from our focus groups in Study 1, interview participants noted how they did not think Facebook was the most hospitable environment to have discussions about politics. While a few thought all social media, not just Facebook, were an inappropriate place to have political discussions, most participants' opinions were based on uncomfortable situations that they experienced directly or witnessed on Facebook. Several people mentioned how certain vocal people in their network would discourage them from speaking their mind, especially in situations where they were in disagreement.

"There are people who are afraid of getting attacked for having certain beliefs so they choose to keep them off Facebook all together," Lisa said. "In this case, I find it extremely sad that people are too afraid to post things because of the fact that some people are so closed-minded."

Furthermore, some participants noted that the array of political topics discussed on Facebook were limited, as though some topics were certified as appropriate for discussion and others were not. They were uncertain why some topics are discussed more often than others. As Anthony described,

Facebook political posts tend to be centered around woman's rights and gay marriage this election, which is fine, but there are plenty of other things I'd like to talk about relating to politics with people. I agree those issues are important, but they are not the only issues out there, just the ones that get the most attention. Sometimes I'd rather hear about nuclear weapons in Iran or the complete misuse of religion in government rather than why someone should be allowed to get married.

Gaming the system: Using algorithms to promote agendas. Consistent with previous studies (Eslami et al., 2015; Rader & Gray, 2015), many participants did not understand that Facebook's information display is highly dictated by opaque algorithms that are not well understood. Nonetheless, our participants discussed using specific features of Facebook to promote content that they wanted to support. "I will occasionally 'Like' another status to agree with a statement and enhance the validity of their voice on Facebook," Betty explained.

"Sharing on Facebook allows users' opinions to be tied to their voice and the instantaneous responses in the form of Likes and comments provide proof that people are hearing your opinions," Denise said. Ryan elaborated on that idea:

If I see an article or quote that resonates with me, often I will "Like" it. "Liking" is a helpful system, in that, the more "Likes" a post has, the more popular it is. The more popular it is, the more people will see it, and they then can decide whether or not they too want to "Like" the post. I don't see "Liking" as harmful in the way that political discussions are because there is no argument. Somebody "Likes" the post, possibly helping others to see it, and life goes on.

Participants also said that social media served a purpose beyond generating discussion and actually persuaded them to take action and vote. Blair talked about how many people uploaded pictures of the "I voted" sticker to Twitter. This was interesting because people were not being persuaded by others regarding the nature of their beliefs but they were persuaded to take action on their existing beliefs.

Influence of Social Media Discussion on Attitudes

Our second research question was examining how discussion of political topics with others on social media influences people's attitudes. For the most part, participants seemed to be in agreement that social media were not effective in changing people's existing political beliefs. Some participants expressed that they refrained from discussion on social media because they were skeptical about the possibility of making a difference. In other words, participants did not seem to think that posing a different view to someone would have any effect in actually changing anyone's mind. Anthony complained that Facebook interlocutors have strongly entrenched views and present biased information to support those views. Anthony said,

My feeling is there is not much point having a discussion with them since you are really only going to hear a biased view of the issue and it is already pretty evident what their beliefs are. Why have a discussion with them to try and figure it out? I prefer to have a discussion with someone who is more politically neutral so I can actually discuss the issue, not just listen to the other person tell me what they believe and why they cannot possibly be wrong.

If anything, one participant said that she believed that social media amplified people's animosity toward different viewpoints because of hostile conversations among users. Janine said,

Facebook has the effect of a shield, because you are not face-to-face, people tend to be more inflammatory than they normally would be. Thus, if I am not truly passionate about an issue then I will not put my two cents in because I know that others will

react in an inflammatory manner. Thus, it can have a negative impact on discussion.

Most of the participants mentioned that Facebook political discussions are qualitatively different than face-to-face discourse. Participants discussed disputes that might be avoided in face-to-face interactions. Grant said,

Many of the comment threads from people who posted about political issues turned into small "flame wars" and heated arguments with words that I honestly don't think would be said if talked about in real life. It might be that the original viewpoint of the post was extreme, but not in all cases. The actual topics discussed are the same, but how the conversation is carried out is noticeably different, with the online discourse being much less respectable.

While most participants thought that Facebook has no effect on altering their views, a few did think that it could have an effect on someone who did not have an existing stance. For example, Alice said, "I think that it has more effect with teens that are too young to vote but are still forming their opinions; seeing their entire older social network lean a certain way may have an effect on them." Nick said, "I absolutely do not think that content posted that is biased towards one side can really truly convince anyone to change their preexisting beliefs on the matter. At best, they can educate those who are uninformed about the issue."

Amy discussed about how social media served a better function of strengthening one's political beliefs than changing them: "More than anything else, I believe political postings in my newsfeed serve to solidify the poster's identity." Talking about a presidential debate, she said she could predict who active posters in her network would be and what they would post before she even logged in. "Looking at some friend's pages, they would be almost empty if politics were omitted," Amy said. "By posting their political beliefs online, one felt that he was expressing who he was to the world and doing his part to support his causes."

Study 2 Discussion

Our interview participants were generally skeptical of Facebook's effectiveness in changing the already-solidified attitudes of users, suggesting the kinds of opinion clusters described by Crystallization. Those who had an opinion did not feel their networks via social media changed their mind, but ironically, people still tried to engage in social media behavior to try to influence others. They described "Liking" and sharing items in order to help grant legitimacy to ideas. This study seemed to suggest that Facebook users are aware of some ways in which the limitations of the platform and the makeup of their social network combine to limit some kinds of expression and encourage other kinds and that there could be opportunities for certain new topics that people have yet

to form an opinion on, that Facebook may be a vehicle for discussion.

At the same time, our participants seemed very aware of the social influence characteristics of social media discourse. They complained that some opinions and topics were out of bounds. Of course, this is not a novel concept. Face-to-face political discourse is also governed by social norms that set certain boundaries. However, social media carries with it a certain new set of social norms that are still not well-defined and can be blurry. Is this space best considered a personal conversation among friends, a proclamation intended for public consumption, a performance of your own ideology, or all of the above?

Our conclusion is that “it depends” on the composition of one’s network, which means that there may not be a uniform understanding of Facebook social norms and that even within one individual, these norms are susceptible to change based on shifting networks. The varying opinions of our participants indicate that everyone had different expectations and standards based on their own experience and the behaviors of their online networks. This provided strong support for the Crystallization framework, which posits that there will be multiple “realities” that emerge based on people’s networks.

General Discussion

When people are selectively seeking news—whether that be through traditional sources or the Internet—studies have found that they selectively expose themselves to information that matches their beliefs (Stroud, 2008). This is most likely because news consumption is habitual (Diddi & LaRose, 2006) and people are unlikely to engage in behaviors that they do not usually perform. However, social media provide the opportunity to be exposed to information that one would otherwise not actively seek.

We found that diversity of the network contributed to exposure to new information and diverse opinions. There were many different types of diversity (e.g. age, race, nationality, occupation), but the effect of the diversity depended on the subject matter of the news. For example, in the case of race-related issues, having ethnic diversity in one’s network provided multi-faceted insights into how different groups respond to and engage with the topic. People who did not have ethnic diversity in their network were more likely to “miss” or be unaware of certain global events or ethnic issues unless they diligently kept up with current topics in mainstream media.

Diverse exposure, however, was not directly related with people’s subsequent attitudes. Especially for certain topic areas such as politics, if people already had an existing opinion on a certain topic, they were unlikely to change that opinion. If anything, our participants ignored, or were annoyed with others who had dissenting views. This suggests that social media have very little effect on the attitudes of people

who already have a strong opinion or stance on a given topic but may be influential in bringing obscure events to the attention of a wider audience or fostering worldliness by generating awareness of things going on in other countries or cultures.

Finally, we found that social media add a kind of ritualized public performance of news consumption that was absent in previous eras. While it is true that the act of reading a certain newspaper in public has always transmitted social signals, that pales in comparison to the constellation of participatory behaviors that have emerged around platforms like Facebook and Twitter. Information about users clicking “Like” or “favorite” on certain posts is broadcast to others, and thus becomes a way of expressing solidarity or approval. Some users also have a basic sense that engaging with an article helps increase its visibility to others, thus responding both to the text and the underlying algorithm. These behaviors speak to the social influence component of the Crystallization model. Specifically, our participants described behaviors that suggest their attitudes about information are affected not only by the news source but also by others’ attitudes and the individual’s relationships with those people.

Limitations and Future Studies

While we believe this study is an important first step in offering empirical evidence for the Crystallization effect, it contains some limitations. First, our investigation of social media was constrained to the types of social media that our participants used. While we did see much diversity in different platforms, including some international ones, it is important to understand participants’ comments within the context of the specific social media context they were mentioning. Especially in Study 2, the findings should not be interpreted beyond the context of Facebook. Future studies may want to further investigate platform differences.

Also, this study was based on a small sample of millennials and thus cannot be generalized to the broader public. We believe, however, that understanding young adults is still as important as (if not more) understanding the general population because this generation has been found to have very different media consumption patterns than their older counterparts when it comes to news (Bowe & Wohn, 2015; Mitchell, 2015). The participants were also all students, which means they may have different characteristics than people with less education.

Finally, because we took a qualitative approach, direct measurements of effect strength or size are beyond the scope of this study. Future studies should pair more extensive focus-group data with broader based surveys and an analysis of network data. By applying a wider palette of analytical techniques, researchers would be able to paint a more complete picture of the combination of media organization and individual influences.

Conclusion

Individuals have a fundamental psychological desire to create a shared reality with those they perceive as an in-group (Higgins, 1992) and try to make sense of the world through the news they encounter on social media. Focus groups and interviews with international and domestic students at a US university suggested that students' understanding and opinions related to social events differed a great deal based on the information they were exposed to on social media and the composition of their online social network. While social media algorithms may selectively choose which of the network's posts the individual sees in their stream, the algorithms do not choose who the individual selects to be part of their social network. This implies that algorithms are merely a secondary filter and that the people in the network itself are the primary filter.

In other words, members of the social network are becoming "micro agenda setters" in that people perceive that the information their social network produces reflects reality, but this socially constructed sense of reality may be vastly different depending on the characteristics of their network. Even with major global events, people did not have a uniform understanding of the facts because they were seeing the event from different perspectives. Moreover, based on the discussions they saw on social media, people developed widely divergent views of what they thought was the majority opinion of others, regardless of whether or not they actually subscribed to it themselves.

In this study, the effect of Facebook on students' perception of reality seemed stronger for US students. However, international students were also affected by the social media services that are popular in their home countries. When it came to topics that were guided very much by opinion—such as politics—people were reluctant to change their viewpoint even if they were exposed to other views. Our exploratory research on this topic suggests that the effect of the network may be stronger in affecting people's attitudes regarding topics that they have no a priori attitude toward or get them to engage in actionable measures when they have a pre-existing attitude.

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Note

1. The governments of South Korea and Japan have been in a dispute over ownership over the Liancourt Rocks (called Dokdo in South Korea), a group of small islets in the East Sea, for several centuries.

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