



# Posting, commenting, and tagging: Effects of sharing news stories on Facebook



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## ABSTRACT

Social networking sites such as Facebook provide new ways of sharing news stories that allow users to act as opinion leaders in their networks, encourage discussion, and potentially increase their involvement in current events. This study identifies the particular features of Facebook that facilitate the discussion of news and tests their effects on involvement and feelings of influence. Participants ( $N = 265$ ) in a  $3$  (Broadcast level: news feed vs. wall post vs. direct message)  $\times 3$  (Elaboration: opinion vs. question vs. no comment)  $\times 2$  (Involving-friends: tag vs. no tag) between-subjects factorial experiment were randomly assigned to share a story from a news website on Facebook. Results show that **user involvement in the news content depends on the social affordances of the site**, particularly those that allow for audience customization and those that drive network feedback. **Asking the network's opinions and targeting specific friends led to greater involvement in the news content. Discussion through comments led to a greater sense of influence and greater involvement for those sharing the news story.** These findings highlight the importance of encouraging individuals to act as sources of information in their networks to drive engagement in current events in the changing news landscape.

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## 1. Introduction

Social media platforms such as Facebook and Twitter are growing as important pathways for news consumption. Two-thirds of Internet users use social networking sites (SNSs) – Facebook being the most popular (Purcell, Rainie, Mitchell, Rosenstiel, & Olmstead, 2010) – and they are increasingly encountering news stories in their online networks. The majority (75%) of online news consumers have content from news websites shared with them through email or SNSs (Purcell et al., 2010), and nearly half of SNS users now receive content from news websites on a daily basis from people they follow on Facebook (Hermida, Fletcher, Korell, & Logan, 2012). SNS users are more likely to stumble upon current events than to actively seek out this information (Stelter, 2008), indicating a reliance on opinion leaders in their networks for information. Individuals increasingly prefer socially filtered news, thanks to the powerful influence of peer opinion that is accessible in SNSs (Emmett, 2008). The key factor is that news is coming from a trusted personal source: most news links on Facebook (70%) are

from friends and family rather than news organizations that individuals follow on the site (Mitchell & Rosenstiel, 2012). These trends are reminiscent of the two-step flow model of communication (Katz & Lazarsfeld, 1955), with social media providing a new forum for opinion leaders to discuss the news of the day with their broader networks.

Social media sites such as Facebook also enable users to take an active role in sharing news content with their networks, with potentially positive effects on their own involvement with the news topics (Greenhow & Reifman, 2009). About one-third of Internet users have contributed specifically to the creation or dissemination of news via social media by commenting on a story on a news website, posting a link to a news story on an SNS, or even creating their own original news material (Purcell et al., 2010). Thus, while Facebook is not yet the most common venue for news, the ability to use the site as a news discussion forum may well make it a powerful platform for news sharing for several reasons. First, Facebook encourages content sharing by making communication features such as status updates, photo- and video-sharing options, and location check-ins prominent and easy to use. This ability to act as a source of information allows users to experience a sense of agency by feeling that they have some control over information on the site (Sundar, 2008). Second, the site offers a built-in network

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for discussion, which is a key step in learning from and cognitively engaging in news content gathered from mass media (Eveland, 2001). Together, these features make it easy to share news content with one's network, drive discussion, feel like an opinion leader, and potentially lead oneself and one's friends to be more involved in current events.

This study explores the potential benefits of using Facebook for sharing and discussing news content to drive greater involvement in that content. It focuses specifically on the affordances – the possibilities for action (Norman, 1988) – that the site's features offer for sharing and discussing news stories. Of interest are the features of broadcast level, commenting, and tagging; and the outcomes of involvement in the story, interest in the topic, and a sense of influence in one's network. This study focuses specifically on circulating existing media for discussion rather than on the act of breaking original news, which has been explored in other research (e.g., Murthy, 2011).

### 1.1. Social media news sharing

Participation in news events occurs increasingly in the forms of content curation and sharing through existing social networks such as Facebook and Twitter. These sites make content sharing as simple as posting a status update, and the structures of the networks within these platforms allow for seamless dissemination and discussion of that content. This allows for people to become what Bruns and Highfield (2012) call “producers:” neither simply users nor producers of news content, but a hybrid role in which they can share what is created by another source as their own. Twitter, for instance, has since its early days been primed for news content sharing, owing initially to its open network structure, and more recently to features such as hashtags that allow for easy following of a given topic. An early survey of Twitter users found the most popular use of the site to be sharing links to content of interest to one's network, ahead of using the site to build and strengthen networks (Odden, 2008). In a large-scale analysis of tweets, two of the four main categories of tweet types were shared information and reporting of news (Java, Song, Finin, & Tseng, 2007). Over the years, Twitter has become an “awareness system” (Hermida, 2010) for discovering and even breaking news, but the site's most important asset is the ability to further distribute and discuss the news. The commentary that builds about a current event provides a richer context around that story than reading a news story after the fact, engaging the participants in the event as it happens (Bruns & Highfield, 2012).

While Facebook was originally a personal space to share information about oneself, it has also become a common venue for sharing external content with one's network. Over one billion active users (“Company Info,” 2014) now share more than 70 billion pieces of content, such as links to news stories and blog posts, each month (“Social Networking Statistics,” 2014). Facebook has become one of the leading referrers to news sites through links shared by friends in the network (Hopkins, 2010; as cited in Baresch, Knight, Harp, & Yaschur, 2011; Olmstead, Mitchell, & Rosenstiel, 2011), highlighting the importance of personal context in engaging with the news. The first study to look at news link-sharing on Facebook reveals that about 49% of Facebook users share information through links. News is the most popular type of external content shared by users, making up 21% of all shared links (Baresch et al., 2011).

Those who share news content via their status updates act as opinion leaders by passing along information that is already available elsewhere and making it personally relevant to their social network. Although they are not the original sources of information, by breaking a news story to their contacts, these individuals may be viewed as sources by their networks and could receive

important psychological benefits. Such effects have been observed through the use of Hot Dish, a news-sharing application (app) on Facebook. Use of the app to read, share, and comment on news led to increased interest in the news topic. Users also felt more motivated to express their opinions and persuade others regarding the news topics than those who only turned to online news sites (Greenhow & Reifman, 2009). Facebook users are increasingly sharing news with their friends through the site's standard interface, so these effects may translate to broader Facebook use for sharing news content. The current study focuses specifically on how using the features that already exist on Facebook to share content from news websites can produce a similar increase in involvement and interest in the news topic.

### 1.2. Facebook sharing affordances

Affordances refer to an object's “action possibilities” or the opportunities that an interface has provided for interaction (Norman, 1999). Facebook offers a variety of features that allow users to share and discuss news stories. For those posting the news story, the three primary affordances pertain to (1) the level of broadcasting used for disseminating content to one's network, (2) comments added to the content shared in the post, and (3) tagging friends in the post. The site offers three levels of broadcasting: one's own profile, where it will appear in their news feed to their network; directly on a friend's wall, where it becomes visible to mutual friends and other friends who can access that wall; or by direct message, which is sent privately only to select users. Second, users can choose to add their own text to a post containing a link, such as their opinion or a question, or to leave that section blank. Finally, users can tag their friends in the post, meaning that their names are linked to their profiles and that they are notified about the post.

## 2. Psychological effects of sharing news

Using the content sharing features offered by Facebook as a starting point, we draw from various theories to predict how use of these features to share news content may lead to two primary outcomes of interest: greater involvement in the content and feelings of influence in one's network. We rely primarily on the agency model of customization (Sundar, 2008) to understand the influential effects of acting as a source, and the cognitive mediation model (Eveland, 2001) to assess how elaboration on the posted content can lead to greater involvement in that content.

### 2.1. Self as source

When individuals select news content to share with others they become secondary sources of that information and experience the benefits of acting as gatekeepers for others (Sundar & Nass, 2001). According to the agency model of customization (Sundar, 2008), it is the affordances of interactivity, modality, and navigability provided by a medium that enable the user to serve as a source of information to oneself as well as to others. On Facebook, these affordances are offered through the site's features such as the status update box for sharing various modes of content (modality), the newsfeed for navigating shared content (navigability), and the commenting feature for discussing that content (interactivity). Acting as a source of information is psychologically important because it allows the individual to assert his/her identity and play the role of an editor or gatekeeper for a presumed audience (Sundar, 2008). This role leads to a sense of agency, defined as “the degree to which the self feels that he/she is a relevant actor in the CMC situation” (Sundar, 2008, p. 61).

This sense of agency, derived from the user acting as source, is theorized to increase users' involvement in the content, their sense of identity in the media site, and their perceived control over their information universe (Sundar, 2008). Of particular interest in this study is the potential increase in involvement in a news topic derived from sharing it with others, which can have persuasive effects on the individual (Perse, 1990). Involvement is a cognitive and emotional response to media, where cognitive involvement is defined as "the mental processes of attention, recognition, and elaboration" (Perse, 1990, p. 559). By acting as a source of information in one's network, an individual gains a sense of responsibility over this content and is likely to become more involved in that information. Therefore, in accordance with the agency model, individuals sharing news stories through their status updates should experience enhanced involvement in the news story, leading to our first hypothesis:

**H1.** Sharing a news story on Facebook through status updates will lead to greater involvement in the news story content compared to only reading the news story.

Prior research shows that such information-sharing activity has an empowering effect (Stavrositu & Sundar, 2012). Bloggers who publish personal journals about their daily lives and those who maintain filter blogs, in which they evaluate relevant information on the web and pass it on to their readers, feel empowerment, or a sense of influence. As with sharing content through blogging, using Facebook to share news content should lead to a similar sense of influence. Interaction with network friends around shared news content may lead to further enhancements of these effects. Stavrositu and Sundar (2012) found that having a larger number of visitors to one's blog increased their sense of influence through a sense of agency, while receiving more comments increased their sense of influence by increasing their sense of community.

On Facebook, there are two analogous ways in which a user's network audience can provide feedback on the news story. First, just like with blogs, Facebook friends can make visible comments in response to the post. Second, while Facebook has no mechanism for showing users how many others saw their posts, users can make a recommendation by clicking that they "like" the post, which is publicly displayed. These visible responses function similarly to the comments and site visits that bloggers received in Stavrositu and Sundar's (2012) study, so may have similar effects. Receiving likes on a post is evidence that people saw the post and are indicating approval of it, or even recommending it. Thus, the individual could feel a sense of agency similar to a blogger when they feel they have reached a greater number of people with their information. Likes, like site visits, are simply tallied and provide no content for discussion. Receiving comments, on the other hand, can evoke responses from the original poster and from the following posters, sparking a discussion that causes users to feel that they are part of a community of involved friends and readers. Therefore, we hypothesize:

**H2a.** Receiving comments on shared content will lead to a greater sense of influence than not receiving comments on shared content, by way of feeling a greater sense of community.

**H2b.** Receiving likes on shared content will lead to a greater sense of influence than not receiving likes on shared content, by way of feeling a greater sense of agency.

## 2.2. Elaboration on news content

Sharing news content in an online network such as Facebook comes with the assumption that others will see it and comment

on it or share it further, sparking discussion. Such interpersonal discussion of current events has long been considered an important factor of civic engagement. The two-step flow model of communication (Katz & Lazarsfeld, 1955; Lazarsfeld, Berelson, & Gaudet, 1948) posits that news does not reach the majority of individuals directly from the mass media, but that the news first flows to opinion leaders and then from those opinion leaders to their networks. These opinion leaders are part of primary groups (Katz & Lazarsfeld, 1955), or close personal groups, such as friends and family, which play an important role in guiding others' understanding of current events. Opinion leaders exist on Facebook as well, and their status makes them more inclined to share news with their networks (Ma, Lee, & Goh, 2012), offering meaningful guidance to interpreting current events.

Like exposure to news content within one's network, comprehension of that information is a multi-stage process. The cognitive mediation model (Eveland, 2001; Eveland, Shah, & Kwak, 2003) states that learning from news content happens through cognitive processing strategies known as elaboration. Elaboration strategies, such as thinking about the news and recalling stories one has seen before, mediate the relationship between attention to news and knowledge of current events, en route to greater civic participation (Eveland, 2001; McLeod, Scheufele, & Moy, 1999). Specifically, elaborative processing actions, such as talking with friends about stories, are more effective than internal reflection on the content (Fleming & Thorson, 2008). As news media move online, increasingly social strategies for elaboration, such as "interactive civic messaging," and forwarding a story or issue to friends, have also emerged (Shah, Cho, Eveland, & Kwak, 2005).

Facebook offers users the chance to more actively elaborate on the content they are sharing by asking them to "say something about this link" once they have posted it. Sharing an opinion about the story requires more active thought than just posting the story link, which may lead to greater involvement in its content. Because the story is being shared in an interactive network in which others could respond to the post, the person sharing could ask the opinions of his or her friends regarding the story rather than simply offering his or her own. This elaboration strategy is likely to lead to even greater involvement in the content because of the greater potential for discussion. By introducing a point of discussion in addition to the news content, the person sharing is likely to feel more like a source of information, and gain a sense of agency over this information and a resulting sense of influence over his or her network. These predictions generate the following hypotheses:

**H3a.** Sharing a news story on Facebook with a comment will lead to greater involvement in the content of the news story compared to posting the news story without any comment.

**H3b.** Specifically, sharing a news story on Facebook with a question will lead to greater involvement in the content of the story compared to posting the news story with an opinion.

**H3c.** Sharing a news story on Facebook with a comment or question will lead to a greater sense of influence than sharing the news story without a comment or question, and this will be mediated by sense of agency.

## 2.3. Involving the network

Facebook also offers a tagging feature, in which a user can list friends in a post in such a way that their names are linked to the post and they are notified that they have been included in that post. Such conversational tagging has been noted as a tool for

prompting individuals to join in a conversation and build a community around a given topic (Bruns & Burgess, 2011; Huang, Thornton, & Efthimiadis, 2010). Tagging friends pushes the information specifically to them and thereby draws their attention to the story and increases the likelihood that they will read the post to see why they have been tagged. On Twitter, which allowed conversational tagging prior to Facebook, the use of the @ symbol to direct people to conversations has been found to serve a unique social function, separate from the use of hashtags (#) for simply categorizing topics (Moulaison & Burns, 2012). Tweets with @ mentions of specific users are more interactive and draw in more conversation (Honeycutt & Herring, 2009). For the user sharing the story, this feature affords the opportunity to determine the audience of the post and encourage them to participate, potentially increasing their sense of influence in their network. Specifically, by crafting an audience within their full network, they may build a sense of community with those few selected friends around the story's content. Therefore, we predict:

**H4.** Tagging friends in the post when sharing a news story on Facebook will lead to a greater sense of influence, by way of feeling a greater sense of community.

#### 2.4. Broadcast level

A key feature of disclosing one's thoughts on SNSs is that they can be broadcast at various levels. As Sundar (2008, p. 58) notes, newer interactive technologies such as blogs "challenge the once-sacred distinctions between interpersonal, group, and mass communication," and SNSs challenge this even further. Broadcasting on Facebook falls into three basic levels: public news feed visible to the whole network, semi-public post on a friend's profile visible to that friend and all mutual friends, and private direct message visible only to the receiver(s). Broadcast level may well have an impact on the outcomes of sharing news stories because of the varying size and diversity of the audience who can see and access the post. However, this aspect of SNSs has not yet received much attention in research on online information sharing. Given prior evidence that sharing information and receiving feedback has empowering effects on the individual acting as the source (Stavrositu & Sundar, 2012), it follows that acting as a source for a larger audience would have a stronger effect on an individual's sense of influence in that network. Facebook users are aware that status updates will reach more of their network and garner more responses than less public forms of communication such as wall posts and direct messages (Vitak & Ellison, 2012; Wohn, Lampe, Vitak, & Ellison, 2011), and their posts generally reach even more individuals than anticipated (Bernstein, Bakshy, Burke, & Karrer, 2013). This awareness may lead to a greater sense of influence because the news content is shared more broadly and seen by more people. Therefore, we predict the following:

**H5.** Sharing news stories more broadly will lead to a greater sense of influence than sharing them more privately.

### 3. Method

To test these hypotheses, an experiment was conducted in which participants shared a story from a news website with their Facebook friends in a 3 (Broadcast level: news feed vs. wall post vs. direct message)  $\times$  3 (Elaboration: opinion vs. question vs. no comment)  $\times$  2 (Involving-friends: tag vs. no tag) between-subjects factorial design. Because tagging is not an option in the direct message conditions, and friends were not tagged in the posts where no

opinion or question about the story was added, this resulted in 13 experimental conditions, as illustrated in Table 1. The remaining participants were in a control condition in which they read a story on a news website without sharing it, for a total of 14 study conditions.

#### 3.1. Participants

In total, 265 participants completed the study. These participants ranged in age from 18 to 63 years ( $M = 27.73$ ,  $SD = 9.95$ ), with 67% being female. Eighty percent of the sample was White, 11% was Asian, 5% Black, 2% Hispanic, 1% Native American, and 1% identified as "other," mainly South Asian. Approximately two-thirds of the participants were students, and the non-students were employed mostly in a university setting. Overall, participants used Facebook very often ( $M = 6.40$  on a 1–7 scale,  $SD = 1.13$ ) and had a median of 400 friends. The Internet was the most popular source for news (On a 1–7 scale,  $M = 5.98$ ,  $SD = 1.34$ ), followed by personal communication ( $M = 5.31$ ,  $SD = 1.31$ ), and social media ( $M = 5.06$ ,  $SD = 1.80$ ). Participants posted news stories on Facebook fairly regularly ( $M = 3.55$  on a 1–7 scale,  $SD = 1.70$ ).

#### 3.2. Procedures

Participants were recruited through campus-wide student and faculty/staff newswires at a large U.S. university. Upon clicking on the link to the study and giving consent, a website script randomly assigned participants to one of the 14 conditions, sending them to the appropriate instructions and questionnaire items hosted on SurveyMonkey. Participants in experimental conditions were first instructed to add the researcher as a friend on Facebook so that participants' posts and subsequent comments and likes could be observed. The account was set up specifically for this research study with no content and with maximum privacy settings so that participants could not see other participants through the account.

Next, participants selected a story from CNN's "Latest News" section and were given detailed instructions on how to share the link to the story based on the conditions to which they were assigned. The conditions were based on the three independent variables: broadcast level, elaboration, and involving-friends. Depending on their broadcast level condition, participants were instructed to share the story on their own Facebook page (news feed), on the page of a friend to whom they thought the story would be relevant (wall post), or through a direct message to six friends to whom they thought the story would be relevant (direct message). Depending on their elaboration condition, they were asked to add text to the link either sharing their opinion about the news story (opinion) or asking their friends what they think of the story without sharing their own opinion (question), while those in the no comment condition did not add any text to the link. Finally, for the involving-friends variable, those in the tag

**Table 1**  
Experimental conditions.

	News feed	Wall post	Direct message
<i>No comment</i>			
Without Tag	1	2	3
With Tag	N/A	N/A	N/A
<i>Opinion</i>			
Without Tag	4	5	6
With Tag	7	8	N/A
<i>Question</i>			
Without Tag	9	10	11
With Tag	12	13	N/A



condition were told to think of six friends who would find the news story relevant and were instructed on how to tag these friends in the post. At the time of the study, six was the limit on the number of friends that could be tagged; thus, in the direct message condition, the story was also sent to only six friends in order to maintain equivalence across conditions. Those in the no tag conditions did not tag any friends in their post. Those in the control condition were also instructed to select a story of interest from CNN's "Latest News" section and read it, but they did not interact with Facebook. Fig. 1 presents a visual summary of the procedures followed by all participants.

### 3.3. Measures

All participants completed a questionnaire immediately following their completion of the study task (Time 1). Participants completed a second questionnaire one week later (Time 2) to rate the responses they received. This second questionnaire also repeated all dependent measures from the first questionnaire to assess changes over the course of the week. Participants completed manipulation-check items at each stage of their participation to ensure that they behaved as their assigned conditions instructed.

#### 3.3.1. Dependent variables

*Involvement* was measured with Perse's (1990) scale of cognitive involvement using the original five items on a 7-point scale ranging from *Not at all* to *Very much*. Items include: "I thought about what should be done," and "I thought about how the story related to other things I know." This scale was reliable,  $\alpha = .89$ .

*Interest* in the news story's content was measured by creating two 7-point Likert-type scale items (*Strongly disagree–Strongly agree*): "I am interested in the topic" and "I would like to know more about the topic." A third item on the same scale measured how informed they felt about the topic: "I feel informed about the topic presented in the story."

*Sense of influence* (influence) was measured using 11 items from Stavrositu and Sundar's (2012) psychological empowerment scale, modified to capture empowerment broadly rather than as specific to the post. Items include "I feel that I can influence the way other people think" and "I can motivate others to take action," on 9-point scales ranging from *Not at all* to *A lot*. The reliability for this scale was high:  $\alpha = .90$ .

*Comment value* was measured at Time 2 by having participants rate the comments they received on a 7-point Likert-type scale (*Strongly disagree–Strongly agree*) on how *Relevant*, *Thoughtful*, and *Engaging* they were. These measures were combined to assess how valuable participants found the comments, and reliability was high ( $\alpha = .88$ ).

#### 3.3.2. Mediating variables

*Sense of Agency* (agency) was measured using modified scales from Stavrositu and Sundar (2012). Three new items were added to the original three-item scale for a total of six items: "I have a distinct voice," "I can exercise my free will," "I have control over my own voice," "I have the ability to assert myself," "I have control over my actions," and "I have control over the information I find." These items were measured on 9-point scales ranging from *Not at all* to *A lot*. This scale had high reliability ( $\alpha = .88$ ).

*Sense of Community* (community) was measured using modified scales from Stavrositu and Sundar (2012). Nine items from the 22-item scale were used, including "I feel like I have a support network in case I need help" and "I feel part of a larger community." These items were measured on the same 9-point scale as the agency items. The reliability for this scale was acceptable ( $\alpha = .73$ ).

#### 3.3.3. Control variables

*News use* measured how often (*Never–Frequently*) participants get news through various media such as the Internet, television, and newspapers, and how often they share news via social media (*Never–Several times per day*).

*Topic familiarity* was measured with one item which asked "How familiar were you with this topic before reading about it today?" (*Not at all familiar–Very familiar*).

*Facebook use* measured how often they log in (*Never–Several times per day*), and their use of the site for various activities such as posting status updates and commenting on posts to the site (*Never–Several times per day*).

*Demographic variables* included age and gender.

### 3.4. Data analysis

The experimental design did not allow for a full factorial ANOVA due to the tagging variable which is not available at all broadcast levels, and the lack of tagging in the "no comment" elaboration condition. Therefore, hypotheses were tested using separate ANOVA models. Each model tested the effects of the given independent variable on the dependent variables of involvement, interest, and sense of influence at Time 1 (unless otherwise noted), controlling for news use, topic familiarity, Facebook use, and demographics. To test H1, experimental (sharing) conditions were compared to the control condition. For H2a and H2b, a repeated-measures MANOVA was run using number of comments received and number of likes received as the independent variables and change from Time 1 to Time 2 in influence, agency, and community as dependent variables. To test for both main effects and interactions, H3 and H5 were first tested using a 3 (Broadcast level: direct message, wall post, or news feed)  $\times$  3 (Elaboration: opinion,

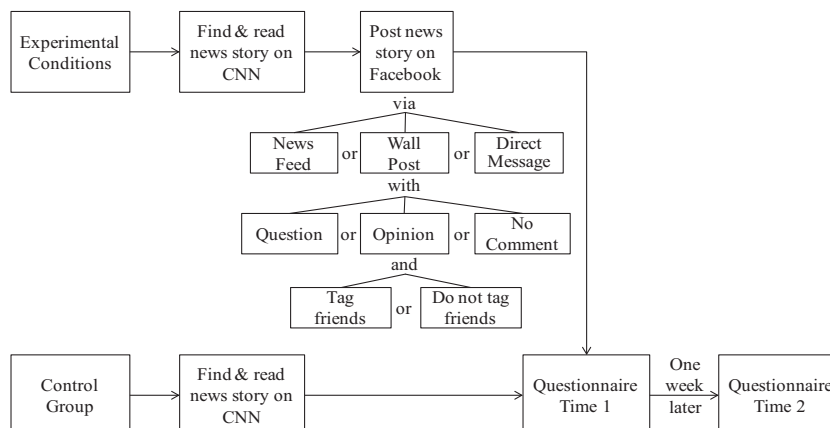


Fig. 1. Procedures followed by participants.

question, or no comment) factorial ANOVA. The model was significant for the outcome of involvement,  $F(31,136) = 3.32, p < .001$ , although the independent variables produced no significant effects. The model was not significant for sense of influence,  $F(31,136) = 1.51, p = .06$ . In order to test the involving-friends variable for H4 with the other independent variables, those in the direct message and no comment conditions were excluded to yield a 2 (Broadcast level: wall post or news feed)  $\times$  2 (Elaboration: question or comment)  $\times$  2 (Involving-friends: tag or no tag) factorial ANOVA. The model was significant for the outcome of involvement,  $F(30,69) = 1.93, p < .05$ . The model was also significant for sense of influence,  $F(30,69) = 1.73, p < .05$ , although no independent variables produced significant effects on this outcome. The model was also significant for sense of community,  $F(30,69) = 2.57, p < .001$ . Results for H3–H5 are reported from this model.

## 4. Results

### 4.1. Descriptive results

News stories were shared from what was available in the “Current News” section of CNN during the study period of April 4–22, 2011. World and U.S. stories were the most popular topics shared, followed by Technology and Entertainment stories (see Table 2). Twenty-seven percent of participants received likes on their posts, ranging from one to six likes for those participants ( $M = .45, SD = 1.01$ ). Forty-nine percent of participants received comments (or replies in direct message conditions), ranging from one comment to up to 18 ( $M = 1.45, SD = 2.71$ ). These comments were rated as generally relevant ( $M = 5.34, SD = 1.74$ ), thoughtful ( $M = 4.59, SD = 1.69$ ), and engaging ( $M = 4.54, SD = 1.71$ ).

### 4.2. Hypothesized effects

Sharing a news story on Facebook did not have a significant effect on involvement at Time 1:  $F(1,171) = 1.08, p = .30$ . However, testing the effect on involvement at Time 2 produced a significant result,  $F(1,130) = 3.96, p < .05, \eta_p^2 = .03$ , with those who shared the story feeling significantly more involved in the story one week later ( $M = 3.46$ ) than those who only read the story online ( $M = 2.92$ ). A repeated-measures analysis indicated that while involvement naturally decreased from Time 1 to Time 2 for all participants ( $F(1,73) = 4.32, p < .05, \eta_p^2 = .06$ ), the decrease was less for the experimental group ( $M$  difference =  $-.56$ ) than for the control group ( $M$  difference =  $-1.38$ ). Thus, H1 is partially supported.

There was no significant effect of number of comments on the change in sense of influence from Time 1 to Time 2:

**Table 2**  
Percentage of news stories read and shared in each category.

Category	Shared on Facebook (%)	Read on CNN's website (control group) (%)
Business	.5	–
Entertainment	10.3	2.9
Health	7.5	2.9
Justice	8.9	17.7
Living	.9	–
Money	4.7	2.9
Opinion	.5	–
Politics	6.5	11.8
Sports	1.4	2.9
Technology	11.2	–
Travel	5.6	5.9
U.S.	15.9	17.7
World	17.3	35.3
(Other news)	7.5	–

$F(1,73) = .57, p = .45$ . Likewise, number of comments did not have a significant effect on the change in sense of agency from Time 1 and at Time 2,  $F(1,73) = 1.00, p = .32$ . These results do not show support for H2a. Number of likes received did not have a significant effect on the change from Time 1 to Time 2 in sense of influence,  $F(1,41) = .62, p = .44$ , or sense of agency,  $F(1,41) = .61, p = .44$ . Therefore, H2b is not supported.

To further test for the effects of the types of comments received on participants' involvement and influence over the week, comment value was tested as the mediator between the predictors and outcome variables, using the bootstrapping method for testing indirect effects developed by Preacher and Hayes (2008). First, where the story was posted (coded as 0 = news feed/wall, 1 = direct message) was entered as the predictor (with number of comments as a covariate) and comment value was entered as the mediator with 5000 resamples. The analysis was run for each of the outcomes. As shown in Fig. 3, the results indicate that posting location on Facebook (news feed/wall vs. direct message) had a significant indirect effect on involvement with a point estimate of  $-.4353$ , and 95% BCa (bias-corrected and accelerated) bootstrap confidence interval (CI) of  $-1.0008, -.0071$ ; and sense of influence (point estimate of  $-.2007$ , and 95% BCa CI of  $-.4604, -.0167$ ) due to perceived value of received comments. Posting on a Facebook wall also led indirectly, through valuable comments, to greater interest in the topic (point estimate of  $-.4959$ , and 95% BCa CI of  $-1.0845, -.1260$ ), feeling more informed (point estimate of  $-.5505$ , and 95% BCa CI of  $-1.1025, -.2112$ ), and wanting to know more (point estimate of  $-.4640$ , and 95% BCa CI of  $-1.0237, -.0300$ ).

Elaboration had a significant effect on involvement,  $F(1,69) = 6.61, p < .05, \eta^2 = .05$ , such that those who asked a question about the news story in their post felt significantly greater involvement ( $M = 4.36$ ) than those who posted their opinion about the story in their post ( $M = 3.38$ ). Neither condition differed significantly from not posting any comment when all three conditions were compared. This provides support for H3b, but not H3a. Elaboration did not have a significant effect on sense of influence,  $F(1,69) = 2.20, p = .14$ , providing no support for H3c.

Involving-friends (tagging) had no significant effect on sense of influence:  $F(1,69) = .24, p = .63$ . However, tagging had a significant effect on sense of community,  $F(1,69) = 4.33, p < .05, \eta^2 = .03$ , with those who tagged their friends feeling a higher sense of community ( $M = 7.00$ ) than those who did not tag their friends ( $M = 6.85$ ). Analysis of the mediation proposed in H4 was conducted using Preacher and Hayes (2008) bootstrapping method of testing indirect effects with 5000 resamples. Sense of community was not a significant mediator between involving-friends and influence, with a point estimate of  $.1547$ , and 95% BCa CI of  $-.0473, .3584$ , which contains zero.

There were no significant main effects of broadcast level on sense of influence,  $F(1,69) = .31, p = .58$ , or other outcomes. Therefore, H5 is not supported. However, the analysis revealed a significant two-way interaction between broadcast level and involving-friends on sense of community:  $F(1,69) = 5.96, p < .05, \eta^2 = .04$ . As shown in Fig. 2, tagging friends did not have an effect on sense of community for those who posted the news story on a friend's wall, but among the ones who posted it on their own news feeds, those who tagged friends felt a significantly higher sense of community than those who did not tag friends.

## 5. Discussion

### 5.1. Interpretation of results

Overall, the results show promise for the psychological benefits of discussing news content on Facebook, but also uncover the

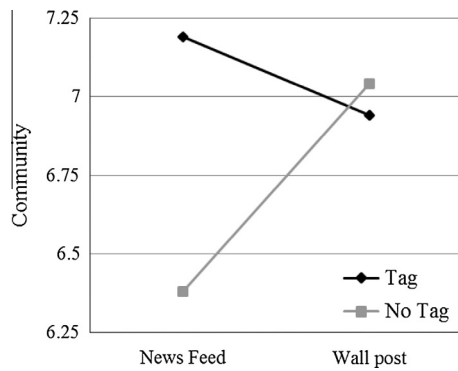


Fig. 2. Broadcast level × involving friends interaction on sense of community.

unique influence of the SNS context, particularly in terms of audience effects. First, those who shared the news story remained more involved in the news story one week after posting the story than those who only read the story on the original news site. Participants did not feel greater involvement in the news story initially, and even receiving comments and likes in response to that content did not lead to a greater sense of influence. Rather, it appears that the perceived value of those comments is the key factor in boosting both the participants' involvement and sense of influence. This indicates that while acting as a source has been found to be empowering in the dissemination of information through other media such as blogs (Stavrositu & Sundar, 2012), simply acting as a source does not appear to be sufficient in a more nuanced environment such as Facebook. In Facebook's networked environment, feelings of involvement and influence may hinge on a sense of validation, which has been found to be true for other types of disclosures on SNSs (Forest & Wood, 2012). Immediately after sharing content, individuals do not yet have a sense of how that content will be perceived, and receiving likes or comments that do not add value does not provide the validation desired. Only feedback that is perceived as relevant, thoughtful, and engaging can drive continued involvement in the content and a sense that one has influenced one's network.

In the same vein, asking a question about the story when posting it was significantly more involving than offering one's opinion. It may again be that asking online friends to share their opinions invites involvement from their network, and thus also leads to stronger feelings of involvement for those sharing the content. In this case, feedback from the audience influences processes of cognitive elaboration (Eveland, 2001). Whereas both offering an opinion and asking a question are forms of elaborative processing, only asking a question explicitly invites feedback. This is corroborated by the fact that those who asked a question received more valuable comments ( $M = 5.11$ ) than those who stated their opinion ( $M = 4.86$ ).

Yet, while elaboration on shared content led to greater involvement, it did not have the predicted effect on the participants' sense of influence. Tagging friends also did not have a significant effect on sense of influence. Combined, these results show that Facebook's features alone do not exert influence, but that it is their potential to draw in one's network and encourage valuable feedback that makes them powerful. However, those who tagged their friends in the post felt a greater sense of community than those who did not. Furthermore, a two-way broadcast level by involving-friends interaction on sense of community shows the importance of tagging friends when the post is made on one's own wall to match the level of community felt when posting on a friend's wall. Together these results highlight the importance of inviting a salient part of one's network to the discussion about a topic. While the potential effects on influence are not felt until feedback is received, one can immediately see the community they have selected by attaching friends' names to shared content.

Broadcast level had no main effects on influence, further illustrating that simply defining an audience does not make one feel more influential; rather this is again driven by the resulting discussion. A more public broadcast level, i.e., posting the news story where it could be seen by others, led indirectly to greater interest and involvement in the story, feeling more informed about the topic, wanting to know more about the topic, and to a greater sense of influence, mediated by perceived value of comments received. This finding underscores the importance of feedback from the network, again driven by the community that can form as a result of the discussion about the news story in one's online network.

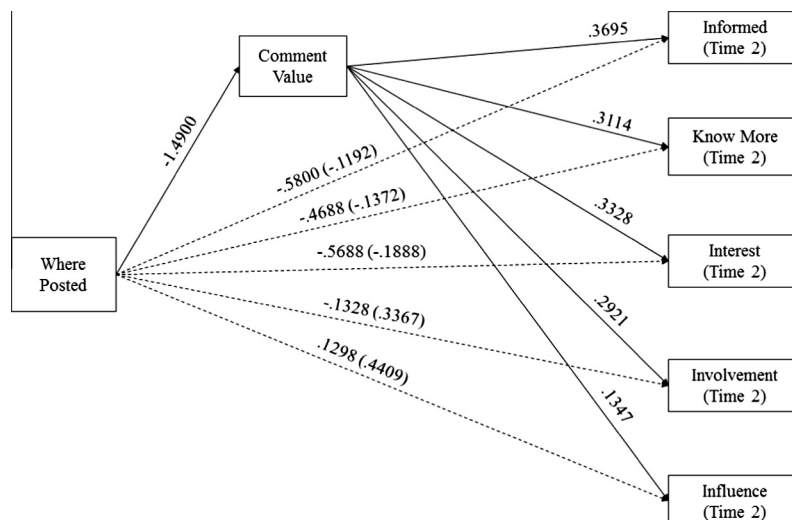


Fig. 3. Indirect effects of posting location of news story on outcomes, through comment value as a mediator. Notes. Where Posted coding: 0 = Wall, 1 = Direct Message. Number of Comments was entered as a covariate. Numbers on paths are unstandardized coefficients for each regression. Coefficients in parentheses reflect the direct paths after the mediating variables were included.

## 5.2. Theoretical implications

The effects on interpersonal discussion of news on Facebook are complex, relying more heavily on the communication received in response to posting the news content and lending new meaning to the concept of elaborative processing proposed by the cognitive mediation model (Eveland, 2001). Utilizing Facebook's feature to "say something about this link" serves as a form of elaborative processing by encouraging individuals to think more about the story as they are sharing it. Yet, this led to significantly higher involvement for those sharing the story only if they used this feature to ask their network a question about the story. Although this form of elaboration had no effect on how informed they felt about the topic, participants did feel more informed when they posted the story more publicly (on their wall or a friend's wall) instead of sending it through a private message, and then received valuable comments. Additionally, they were more involved in the topic because of these highly-rated comments when they were posted publicly. These findings persuade us to think about elaboration in social terms, rather than purely cognitive terms, if we are to understand the dynamics of civic engagement in a social media context.

It is clear from the results that receiving valuable comments to one's posting of a news story is psychologically powerful. Unlike the blogging context, where respondents are said to feel a higher sense of agency and empowerment by the mere act of serving as a source in a social media platform (Stavrositu & Sundar, 2012), SNSs may not engender a strong agentic feeling through posting alone, but through interactions with others in the network. Our participants did not feel a greater sense of agency as a result of sharing the story; however, receiving valuable comments led to a greater sense of influence, thus highlighting the importance of the social network in building the participant's feelings of influence.

This study extends Stavrositu and Sundar's (2012) work by showing that in SNSs, the concept of "self as source" goes beyond simply posting content to include even the role of a moderator, i.e., the ability to actively involve their network through asking questions and tagging friends. Most importantly, it was the interface affordance of making these comments and likes visible to the participant that led to a greater sense of influence, verifying Stavrositu and Sundar's (2012) findings with respect to the importance of interface cues signaling positive feedback from readers in shaping users' psychological empowerment. Theoretically, social media have served to emphasize the importance of the external validation of self in predicting the empowerment effects attributed to user generation of content. They suggest a model of self-agency that goes beyond traditional notions of volitional control (Bandura, 2001) and self as source (Sundar, 2008) to highlight the social aspect of one's agency. Given the networked nature of our modern lives, thanks in large part to the ever-increasing number of social media affordances, this is likely to be an increasingly important aspect of human agency.

## 5.3. Practical implications

Newspapers have already turned to social media, relying on the powerful effects of individuals passing on news content to their personal networks (Greer & Yan, 2010). Rather than read newspapers or watch television news, people connect to the news instantly, upon demand, and through a variety of technologies throughout the day (Marchi, 2012; Pew Research Center for the People & the Press, 2008). Increasingly, this means stumbling upon news that friends and family have shared in spaces such as Facebook and Twitter, where individuals already spend their time. For this reason, it is imperative to understand how best to use the tools individuals have already adopted, such as Facebook, for

engaging them in current events. The present research offers evidence that encouraging users of these networks to take an active role in providing this news to their networks can increase their involvement and interest in news topics. Specifically, results presented here indicate which Facebook affordances are most conducive to these outcomes, such as sharing with a specific friend, and asking the network's opinion. News organizations looking to increase engagement in their content within these networks would do well to encourage readers to share their news in these ways or even to incorporate features in their own apps (e.g., Greenhow & Reifman, 2009) that drive these particular sharing behaviors.

Ideally, engagement in current events via social media would ultimately lead to civic participation, both online and offline. Previous research has linked broad SNS use to civic engagement (Pasek, More, & Romer, 2009; Zhang, Johnson, Seltzer, & Richard, 2009) and specifically to political participation (Conroy, Feezell, & Guerrero, 2012; Gil de Zúñiga, Jung, & Valenzuela, 2012), although the direction of the relationship is still unclear. A better understanding of the specific SNS behaviors that drive these activities could strengthen civic participation tied to SNS use. Specific news sharing behaviors (e.g., posting more publicly) have a significant effect on one's sense of influence in one's network, which may be vital to encouraging civic participation in that network. These same behaviors could further translate to offline forms of civic engagement, and could be encouraged by organizations seeking support for campaigns or community events.

## 5.4. Limitations and future research

As an experimental study, the current research has some limitations. Participants were asked to share content on Facebook in very specific ways, but this may not reflect how users realistically employ the site. It is worth expanding the current understanding (e.g., Baresch et al., 2011; Ma et al., 2012) of what type of content Facebook users share, why, and how it spreads. Additionally, this study focused solely on the effects of sharing news content, but more people are content receivers than distributors (van Dijck, 2009), so it is imperative to assess how interacting with this content as a receiver impacts involvement in news topics. Having participants select their own news topics limited the ability to assess learning as a result of sharing and discussing the story. While this design encouraged realistic sharing behavior – participants in initial study designs resisted sharing a story selected by the researcher – factual content questions could not be created to test participants' knowledge about various topics. Participants likely selected stories about topics in which they were already moderately involved, perhaps attenuating effects on involvement due to sharing and discussing the story. Future work should further evaluate learning effects of sharing and discussing news content on social media. Also, this study did not take into account existing network effects such as the participant's role within their network and how influential they are among their Facebook friends, which are key elements to assess in the diffusion of information throughout one's social network. Finally, this design required that participants become friends with an account created by the researcher on Facebook for the purposes of tracking the post and its responses, which may have had undue effects on their posting and commenting behaviors. Future research would benefit from using Facebook's API (Application Programming Interface) now available to access post and profile data without requiring this step.

## 5.5. Conclusion

It is clear from our findings that the psychological appeal of Facebook is in the social features that it offers rather than in its personal affordances. Four key elements of Facebook seem crucial



for breeding user involvement with news content: (1) wall; (2) likes; (3) tags; and (4) comments. The public nature of the wall is critical; users do not feel the same sense of influence when they simply post or message others via private means. In addition to the wall, the interface features that enable others to respond to one's posts are particularly important. This is clearly illustrated by our mediation findings showing that others' comments on one's post, especially their perceived value, have a significant impact on one's interest and involvement in the news topic, how informed one feels, and the desire to find out more information on the news topic. Tagging friends seems to stimulate their endorsement of one's posts, thereby creating a heightened sense of community.

The mechanism by which SNSs can engage individuals in a particular content domain is by designing features that highlight aspects of the self that are positively viewed by others in their networks. Given the success of Facebook in recent years, expectations are quite high for leveraging its personal network potential to serve social and psychological goals that go beyond self-presentation. Communication researchers can play a valuable role at this juncture by investigating the best ways to utilize this relatively new medium for civic engagement, just as marketers attempt to use it for commercial purposes. Together, these efforts will not only advance knowledge about theoretical mechanisms by which social media foster greater engagement in public affairs but also serve to inform the design and deployment of new features and corresponding affordances to better serve this end.

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