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The growing reliance on social media as news platforms may lead to more passive news consumption but also offers greater potential for engaging in news. This study investigates the role of engagement with news content on Facebook and Twitter between news exposure and current events knowledge. An online survey ($N = 400$) tests the relationships between social media news seeking, incidental exposure to news on social media, engagement in shared news content, cognitive elaboration, and current events knowledge. The results show that both active seeking of and incidental exposure to news on both sites are linked to engagement, which is linked to greater cognitive elaboration about the content. Furthermore, engagement mediates the relationship between both types of news exposure and cognitive elaboration. However, engagement and elaboration are not related to knowledge. These results indicate that the key role of social media in news content is not knowledge gain but the ability to engage users who may be passively receiving news on these sites. This study extends the cognitive mediation model of learning from the news in the context of current social media, with updated news consumption norms such as engagement with news on these sites, and incidental news exposure.

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Social media, including social networking sites such as Facebook and Twitter, have become key sources for news content, even though most sites were not initially designed for this purpose. More than 60% of Facebook and Twitter users now state that the sites serve as news sources (Barthel & Shearer, 2015), and more than half of online news consumers share or receive shared news content through e-mail or social media (Purcell, Rainie, Mitchell, Rosenstiel, & Omstead, 2010). Facebook, for instance, is now the leading referrer to news sites through links that are shared through the site (Ingram, 2015). Similarly, Twitter has grown from a personal microblogging site to an "awareness system" for breaking, discovering, and disseminating news (Hermida, 2010). News consumption through social media differs from earlier news media in two key, contradictory ways: passive reliance on news exposure, but greater potential to interact with news content.

Social media users are increasingly less likely to seek out news, favoring instead to stumble upon current events while using this technology for other reasons. Most individuals (78%) encounter news content on Facebook when on the site for other purposes, and only a minority (22%) actually think of the site as a useful way to get news (Matsa & Mitchell, 2014). This growing reliance on social media for incidental exposure to the news suggests that individuals may be moving to an increasingly passive exposure to information. One resulting concern is that individuals who no longer seek out the news could be limited in their understanding of current events.

Conversely, there is also evidence that actively engaging in news content via social media can get people more involved in current news topics (Greenhow & Reifman, 2009; Oeldorf-Hirsch & Sundar, 2015). About one third of Internet users have contributed to news discussion by commenting on, sharing, or even creating their own news material (Purcell et al., 2010). This creates a rich environment for fostering engagement and learning, even in the face of unintended news exposure. Overall then, although news consumption on social media is more incidental than through traditional media, it offers more opportunities to engage with news content. Building upon the cognitive mediation model of learning from the news (Eveland, 2001), this study investigates whether engagement with news content on social media leads to knowledge through cognitive elaboration, when the sites are used for news consumption, both actively and incidentally.

SEEKING AND LEARNING FROM ONLINE NEWS CONTENT

Eveland's (2001) cognitive mediation model proposes that the relationship between news use motivations and resulting political knowledge is mediated by the cognitive processes of attention and elaboration. In response to previous findings that individuals learn relatively little directly from exposure to news content (see Eveland, 2001, for review), the causal model indicates that (a) surveillance gratifications drive

attention to news media, (b) attention to news media leads to elaborative processing, and (c) together these cognitive processes lead to greater political knowledge.

The cognitive mediation model has received substantial support across various media types (Eveland, 2002; Eveland & Dunwoody, 2002; King, Jensen, Carcioppolo, Krakow, & Sun, 2015; H. Lee, 2012); for other forms of elaboration, such as news discussion (Eveland, Hayes, Shah, & Kwak, 2005); on other outcomes, such as social capital (Fleming & Thorson, 2008); and in other information contexts, such as science (Zhao, Leiserowitz, Maibach, & Roser-Renouf, 2011). As social media become more prevalent for news use, research indicates that the various steps of the cognitive mediation model may hold true for processing news content on these platforms as well.

News seeking, the first step in learning from the news, is primarily driven by surveillance gratifications, or the need to gain information about one's environment (Eveland, 2001). According to the cognitive mediation model, these gratifications should also drive those who expose themselves to the news to engage in the cognitive-processing strategies that lead to knowledge. An established relationship exists between use of mass media sources for news and political and current events knowledge (Atkin, Galloway, & Nayman, 1974; Chaffee & Schleuder, 1986; Eveland & Scheufele, 2000; Martin, 2013). Updates to the model find that the particular motivations may not be as important as media use itself, such as the amount of news that individuals get about a topic through newspapers and television (Lo & Chang, 2006).

News exposure on social media is increasingly passive (Barthel & Shearer, 2015), rather than an active process driven by surveillance gratifications as proposed in the cognitive mediation model. However, there may be knowledge benefits to actively seeking news from social media over passive exposure to this content. Thus, this study differentiates between active news seeking and incidental news exposure. Active news seeking on social media is defined here as navigating to social networking sites for the purpose of finding news content. This active news seeking may serve as the first step of the process of learning from the news, as suggested by newer research on the model (Lo & Chang, 2006; Wei & Lo, 2008). For instance, positive effects of news seeking through digital media on political knowledge and participation are emerging (Dimitrova, Shehata, Stromback, & Nord, 2011). Use of Twitter, for instance, shows positive effects on learning about current events (Bode, 2016) and is related to more online political behavior (Saldaña, McGregor, & Zúñiga, 2015).

News content on social media varies greatly in topic and is not limited only to political news, the original focus of the cognitive mediation model. In this case, knowledge can be more broadly understood as current events knowledge, or "the sort of knowledge that may be important for everyday tasks such as deciding how to vote in an election or how to invest money in the stock market" (Hambrick, Pink, Meinz, Pettibone, & Oswald, 2008). Therefore, the following is predicted:

H1: Actively seeking news content on social media will be positively related to
current events knowledge.

ENGAGEMENT AND ELABORATION

Eveland (2001) proposed attention as one of the two cognitive process that mediates
the relationship between news use and knowledge, as a prior step to elaboration.
Attention can be difficult to distinguish from elaboration as a cognitive process but is
understood as the focus of mental effort on information (Eveland 2001). As news
moves to newer media, more interactive paths to elaboration emerge, such as "inter-
active civic messaging," which includes e-mailing a politician in response to a news
story or forwarding a news story to a friend (Shah, Cho, Eveland, & Kwak, 2005).
Interactivity is a key element of online news, with features such as clicking, comment-
ing on, and e-mailing showing important relationships with news readership
(Boczkowski & Mitchelstein, 2012). Social media sites provide new opportunities
for users to indicate that they have paid such attention to news content: engagement.

Social media engagement is defined here as the act of using the interactive features
of social media to respond to shared news content and is used as a behavioral proxy for
attention. Although attention is understood as a cognitive process, it cannot easily be
measured without a physiological or behavioral measure such as electroencephalogra-
phy (e.g., Chen, Wang, & Yu, 2017) or eye tracking (e.g., Ettenhofer, Hershaw, &
Barry, 2016). Social media allow for such a measure of attention that is more
behavioral. On Facebook, a user who comes across a shared news story can click
that they "like," comment on, or reshare the news story. Twitter offers similar inter-
active features for engaging with news, such as replying to, liking, or "retweeting"
another user's tweet about a news story. Paralinguistic cues such as "likes" are
commonly used as signals of having paid attention to content that is found on social
media sites (Hayes, Carr, & Wohn, 2016). For instance, retweeting a tweet on Twitter is
also used as a signal that the information warrants attention (Choi, 2014). Because
cognitive attention to news on social media is difficult to measure, this type of
engagement can act as a proxy for attention through these visible indicators that one
has seen the news content.

Individuals seeking news on social media sites actively engage with the content
they see. C. S. Lee and Ma (2012) found that information-seeking motivations are
positively related to engaging in news content on social media, such as through
sharing news stories. Using an experimental news sharing Facebook app called
HotDish, Greenhow and Reifman (2009) found that Facebook users who were
active in writing news stories also contributed comments to others' stories. Use of
this app for finding news led to increased interest in the news topic, and greater

motivation to express opinions about those news topics. Using engagement as an active measure of attention, the following is predicted:

> H2: Actively seeking news content on social media will be positively related to engagement with that news content on social media.

Elaboration is the second cognitive-processing step in the relationship between news seeking and knowledge, defined as "connecting new information to other information stored in the memory, including prior knowledge, personal experiences, or the connection of two new bits of information together in new ways" (Eveland, 2001, p. 573). Theoretically, those who are motivated to expose themselves to news content should also engage in information-processing strategies about that content. Research consistently supports this link between motivations for news seeking and elaborative processing of the news (Beaudoin & Thorson, 2004; Eveland, 2001, 2002; Eveland et al., 2003)

Perse (1990) identified several facets of cognitive involvement in news stories and found that news viewing motivations positively influenced elaboration about the news. Similarly, news surveillance motivations for health articles is linked to elaboration about the information (Jensen, 2011). Even television and newspaper use is positively linked to elaboration about information on current events such as the Gulf Wars (Lo & Chang, 2006), and the 2006 U.S. midterm elections (Wei & Lo, 2008). Therefore, the following is predicted:

> H3: Actively seeking news content on social media will be positively related to elaboration about the news.

Finally, the cognitive mediation model proposes that attention will lead to elaboration. In the case of engagement as an active measure of attention, engagement with social media content may theoretically also lead to greater elaboration. Research on engaging with political content on social media also supports this theoretical link. In an experiment of social media news sources, Nekmat, Gower, Zhou, and Metzger (2015) found a positive link between cognitive elaboration of the message and connective-collective actions on social media, such as liking and commenting on the post. Other research finds that Facebook users feel more cognitively involved with a news topic after posting about it on the site, as a function of discussing that content with their network (Oeldorf-Hirsch & Sundar, 2015). On Twitter, engagement in political discussions is linked to cognitive processes (Choi, 2014). Thus, the following is predicted:

> H4: Engagement in news content will be positively related to elaboration about the news.

Finally, based on the cognitive mediation model, both attention and elaboration should mediate the relationship between news seeking and knowledge. Thus, with the use of engagement as a behavioral measure for attention in this study, the following is predicted:

H5: The relationship between actively seeking news content and current events knowledge will be mediated by engagement and elaboration.

INCIDENTAL ONLINE NEWS EXPOSURE

Reading news online increasingly means encountering it while on a website for other reasons. This is particularly true of social media sites, which have extensive news content, obviating the need to actively seek news elsewhere (Yadamsuren & Erdelez, 2011). At least one fifth of all links shared on Facebook are news (Baresch, Knight, Harp, & Yaschur, 2011), making it easy to stumble upon news on the site. Therefore, these users are more prone to incidental news exposure, or "encounter[ing] current affairs information when they had not been actively seeking it" (Tewksbury, Weaver, & Maddex, 2001, p. 534). In the context of social media, incidental news exposure is defined here as exposure to news content on social media sites while using these sites for other purposes.

Tewskbury et al. (2001) recognized the importance of "accidental" exposure to news in the era of the Internet, as not all learning from news media could be accounted for by active and specific media consumption such as newspapers. In some cases, mere exposure to news content can drive attention to the news (Wei & Lo, 2008). Frequency of web use is positively associated with incidental exposure to news on the Web, and in turn, incidental news exposure is positively associated with current affairs knowledge (Tewksbury et al., 2001). This relationship extends beyond local affairs, with Internet news exposure positively predicting international knowledge as well (Beaudoin, 2008). Ultimately, incidental online news exposure predicts online political participation and even offline political participation (Kim, Chen, & Gil De Zúñiga, 2013). The Internet has also become a source of incidental learning beyond news, such as for health information (Tian & Robinson, 2009).

In social media environments, those who are less motivated to seek news rely more heavily on the socially curated news presented by their networks (Yadamsuren & Erdelez, 2010). Online news users have generally favorable attitudes toward such incidental discovery of news while using the Internet for other tasks, stating that they like discovering news things, learning about new topics, and acquiring knowledge (Yadamsuren & Erdelez, 2010). This research indicates that incidental exposure to news content on social media should also lead to engagement with that content, and that individuals may learn from it. Therefore, the following predictions are made:

H6: Incidental exposure to news content on social media will be positively related to current events knowledge.

H7: Incidental exposure to news content on social media will be positively related to engagement.

A key question is whether such incidental exposure to news content could predict elaboration as active news seeking should. The cognitive mediation model focuses on a top-down process in which news-seeking motivations drive attention to and elaboration about the content that an individual has sought and found. In the case of incidental exposure, the news audience would not have prior motivation to seek the news and thus is theoretically not likely to engage in cognitive processing about the news they encounter. Yet, in the current media landscape, individuals are increasingly passive about their news seeking due simply to the amount of news content available online (Barthel & Shearer, 2015). Even when individuals are not motivated to seek news, if they use social media, they are exposed to this content while using these sites for other activities (Matsa & Mitchell, 2014). Given this reality of the modern news landscape, it is important to understand whether these same cognitive processes can be triggered and lead to greater knowledge even when the user is not motivated to seek news content.

Such a link between incidental exposure to the news and elaboration about the content is in direct contradiction to the cognitive mediation model, which hinges on motivated news use. Yet there is some evidence that mere exposure to media, not only active news seeking, positively predicts elaboration about that information (Wei & Lo, 2008). Thus, the following research questions are posed:

RQ1: What is the relationship between incidental exposure to news content on social media and elaboration?

RQ2: Will the relationship between incidental news exposure and knowledge be mediated by engagement and elaboration?

METHODS

Respondents

Respondents ($N = 400$) were recruited from U.S. users of Amazon's Mechanical Turk program. This platform provides reasonably diverse samples (Buhrmester, Kwang, & Gosling, 2011; Sprouse, 2011), which are more representative than typical convenience samples, such as student samples (Berinsky, Huber, & Lenz, 2012). Mechanical Turk samples are almost indistinguishable from laboratory samples (Sprouse, 2011), with replications of experimental research finding no significant differences in experimental outcomes between this sample and more representative samples selected for previously published psychological research

(Berinsky et al., 2012). This study was approved by the Institutional Review Board at University of Connecticut on February 18, 2015.

The sample is 49% female, with an age range of 18–75 years old ($M = 36.51$, $SD = 12.34$). Most respondents (77%) identified as White/Caucasian, 8% Asian, 5% Hispanic, 5% Black/African American, and 5% other ethnicities. The majority of the sample had at least some college education (87%) and was currently employed (84%). This sample matches U.S. demographics in terms of sex (51% female) and is similar in terms of ethnic background (U.S. Census Bureau, 2016). However, this sample is considerably more educated (50% holding a bachelor's degree compared to 30% of the population) and underrepresents adults ages 65 and older (1.5% of this sample compared to 15% of the population; U.S. Census Bureau, 2016). The employment rate of the sample is also lower than the current U.S. employment rate (95%; U.S. Bureau of Labor Statistics, 2017). This is consistent with prior research, which indicates that Mechanical Turk samples tend to be younger, be more educated, and have a higher rate of unemployment than other survey samples (Levay, Freese, & Druckman, 2016).

Measures

Active News Seeking.   Respondents were asked how often they actively seek news from the following sources, from 1 (*never*) to 7 (*several times per day*): television, newspapers, radio, news websites, search engines, e-mail, text/instant message, mobile apps, face-to-face communication, Facebook, Twitter, and other social media. The primary measures of interest were Facebook, Twitter, and other social media. When combined as one social media measure, these three items did not show high internal consistency ($\alpha = .63$), indicating diverse news seeking patterns across the sites. Therefore, Facebook news seeking ($M = 3.77$, $SD = 2.21$) and Twitter news seeking ($M = 2.79$, $SD = 2.02$) were used as separate variables.

Incidental News Exposure.   Incidental news exposure was measured using items adapted from Kim et al. (2013), and Tewksbury et al. (2001). Respondents were asked how often they *encounter* news through the same 12 sources measured for active news seeking when using them for purposes other than to get news, from 1 (*never*) to 7 (*several times per day*). Like the news-seeking items, the three combined social media sources did not show high internal consistency ($\alpha = .66$), indicating the same variability in news exposure across social media sites. Again, Facebook news exposure ($M = 4.45$, $SD = 2.08$) and Twitter news exposure ($M = 3.16$, $SD = 2.23$) were used separately. Incidental exposure to news was significantly greater than active news seeking for both Facebook, $t(399) = -8.36$, $p < .001$, and Twitter, $t(399) = -6.16$, $p < .001$, indicating that respondents differentiate between the news they seek and the news they encounter on these sites. See Table 1 for all news-seeking and incidental news exposure measures and statistics.

TABLE 1
Repeated Measures Test of Active News Seeking and
Incidental Exposure to News Across Media

	Active News Seeking M (SD)	Incidental Exposure M (SD)	M Difference
Newspapers	3.24 (1.62)$_a$	2.98 (1.72)$_a$	.26***
Radio	3.62 (1.91)$_b$	3.98 (1.84)	−.36***
Television	4.50 (1.74)$_c$	4.58 (1.78)$_b$	−.08
News websites	5.54 (1.33)	4.41 (2.02)$_b$	1.13***
Search engines	4.95 (1.53)	4.64 (1.73)$_b$	.31***
Email	2.72 (1.97)$_{d,e,f}$	3.13 (1.92)$_a$	−.42***
Text/instant message	2.33 (1.84)$_g$	2.69 (1.92)$_a$	.36***
Mobile phone apps	3.09 (2.20)$_{a,d,h}$	2.88 (2.09)$_a$	−.21**
In person	4.38 (1.74)$_c$	4.34 (1.80)$_b$	.04
Facebook	3.77 (2.21)$_b$	4.45 (2.08)$_b$	−.69***
Twitter	2.79 (2.02)$_{e,h,i}$	3.16 (2.23)$_a$	−.38***
Other social media	2.57 (1.89)$_{f,g,i}$	2.77 (2.00)$_a$	−.20**
Overall	3.62 (1.03)	3.67 (1.13)	$t = -1.18$

Note. All items measured on 7-point scales. Means that share subscript letters do not differ significantly within each column.

For differences within each row: **$p < .01$. ***$p < .001$.

Social Media News Engagement.   Respondents were asked how often they post, read, like, comment on, and reshare news stories on Facebook. Similarly, they were asked how often they post, read, like, reply to, or retweet news stories on Twitter. All items were on a 7-point scale from 1 (*never*) to 7 (*several times per day*). Engagement with news content was operationalized as liking, commenting on/replying to, and resharing/retweeting the news stories, as these are the three interactive features offered for content found on Facebook and Twitter. For consistency with separate Facebook and Twitter measures of news seeking and exposure, separate scales were created using these three items for news engagement on Facebook ($\alpha = .93$, $M = 3.21$, $SD = 1.77$) and on Twitter ($\alpha = .95$, $M = 2.15$, $SD = 1.63$). See Table 2 for all social media news engagement measures and statistics.

Cognitive Elaboration.   Cognitive elaboration about news was measured using Perse's (1990) five items of cognitive involvement. This scale has been used as an elaboration measure (e.g., Eveland & Dunwoody, 2002; Westerman, Spence, & Van Der Heide, 2014), as it is a comprehensive measure the types of activities proposed by Eveland (2001) as cognitive elaboration. Respondents were asked to indicate what they do after reading a news story, including, "I think about what should be done," "I think about what this mean to other people," and "I think about how the story relates to

TABLE 2
Repeated Measures Test of News Engagement Activities on Facebook and Twitter

	Facebook M (SD)	Twitter M (SD)	M Difference
Read shared news stories	4.08 (1.94)	2.85 (2.03)	1.23***
Post news stories	2.94 (1.88)$_a$	2.04 (1.61)$_{a,b}$	.90***
Like news story posts	3.53 (1.97)	2.22 (1.75)$_{c,d}$	1.31***
Comment on/reply to new story posts	3.16 (1.86)	2.10 (1.68)$_{a,c,e}$	1.06***
Reshare/Retweet news story posts	2.94 (1.86)$_a$	2.13 (1.68)$_{b,d,e}$	.81***
Engagement measure	3.21 (1.77)	2.15 (1.63)	$t = 11.67$***

Note. All items measured on 7-point scales. Means that share subscript letters do not differ significantly within each column.
For differences within each row: ***$p < .001$.

other things I know." These items were measured on a seven-point Likert scale from 1 (*strongly disagree*) to 7 (*strongly agree*) and had high reliability ($\alpha = .87$, $M = 5.08$, $SD = .96$).

Current Events Knowledge.   Knowledge about current news was assessed using Pew Research Center's 2014 News IQ Quiz (Doherty, Tyson, & Weisel, 2014). The news quiz, used in Pew national surveys of news knowledge, asks respondents 12 multiple-choice questions about national and international events that are being discussed in the U.S. news media at the time. The 2014 quiz included questions such as "What does the term 'Common Core' refer to?" "On which of these activities does the U.S. government currently spend the most money?" and "Who is the current Prime Minister of Israel?" Respondents were asked to answer the questions to the best of their ability, without looking up the correct information, and quiz responses were timed. Time spent on the knowledge test ranged widely from 20 seconds to 802 seconds (13.37 minutes; $M = 127.74$, $SD = 87.54$). However, time taken on the quiz was not significantly related to quiz score, $R^2 = 0.00$, $F(1, 398) = .04$, $p = .85$, showing that those respondents who took longer on the test were not systematically performing better. Thus, longer time spent on the test does not indicate looking up answers. Correct answers were summed for a news knowledge score of 0 to 12 ($M = 8.1$, $SD = 2.39$).

Demographics.   Finally, respondents were asked to provide their age, sex, and ethnicity. They were also asked to provide their level of education, from 1 (*grade school*) to 7 (*doctorate degree*), and their occupation.

A correlation matrix of all measures used in analysis is presented in Table 3.

Procedure.   An online survey was conducted in spring 2015. A short description of the survey was posted as a Human Intelligence Task on Mechanical Turk, which was available to all U.S. workers who were at least 18 years old and had a 95% approval rating in the system. Eligible respondents who accepted the Human Intelligence Task were directed to an implied consent form followed by the survey, which was completed on Qualtrics. Survey completion took slightly less than 10 minutes, on average. At the end of the survey, respondents received a code to verify their completion of the study, for which they were paid $1.50.

RESULTS

Repeated measures analysis was conducted to test differences between media sources for active news seeking and incidental exposure. Respondents were significantly more likely to seek news on Facebook than on Twitter (M difference $= .98$, $SE = .13$, $p < .001$). Respondents were also significantly more likely to be incidentally exposed to news on Facebook than on Twitter (M difference $= 1.29$, $SE = .13$, $p < 001$). See Table 1 for other media. A repeated measures analysis of variance also tested differences in the various news engagement activities on Facebook and Twitter. Engagement in news stories was significantly higher overall on Facebook than on Twitter, $t(399) = -11.67$, $p < .001$. Specific types of engagement on each site varied, as shown in Table 2.

Hypothesis Tests

Hypotheses were tested using structural equation modeling. Active news seeking, incidental news exposure, engagement, and elaboration were entered as endogenous observed variables. Knowledge was entered as a latent variable, with the 12 knowledge items as observed predictors. Age, sex, and education were entered as exogenous variables with paths to all endogenous variables. Because of the need to separate news seeking and exposure for Facebook and Twitter, separate models were run for each site. Predicted mediators were tested using bootstrapping analysis with 1,000 iterations and 95% bias-corrected confidence intervals (CI).

Facebook News Model.   The proposed model for Facebook news use shows acceptable fit: $\chi^2(131, N = 400) = 171.32$, $p < .05$; comparative fit index (CFI) $= .967$, root mean square error of approximation

TABLE 3
Correlation Matrix of Study Variables

	Age	Sex	Education	1	2	3	4	5	6	7
1. Seek Facebook	-.07	.19**	-.09							
2. Seek Twitter	-.14**	-.09	.14	.28**						
3. Encounter Facebook	-.06	.17**	-.05	.71**	.21**					
4. Encounter Twitter	-.16**	-.13**	.10*	.20**	.84**	.28**				
5. Engage Facebook	.01	.20**	-.09	.73**	.30**	.71**	.28**			
6. Engage Twitter	-.11*	-.03	.00	.31**	.70**	.24**	.68**	.44**		
7. Elaboration	.17*	.13**	.01	.11*	.08	.07	.15**	.23**	.22**	
8. Knowledge	.25*	-.22**	.24**	-.16**	.12*	-.06	.11*	-.11*	-.01	.07

$*p < .05. **p < .01.$

(RMSEA) = .028. See Figure 1. Actively seeking news content does not have a significant relationship with current events knowledge (H1; $\beta = -.15$, $p = .09$) or with elaboration (H3; $\beta = -.05$, $p = .53$).

However, actively seeking news content on Facebook has a significant positive relationship with engagement ($\beta = .45$, $p < .001$), supporting H2. In support of H4, engagement has a significant positive relationship with elaboration ($\beta = .36$, $p < .001$). Engagement also mediates the relationship between active news seeking and elaboration ($\beta = .16$, $p < .01$), 95% CI [.10, .24]. However, the overall indirect effect of active news seeking on knowledge through engagement and elaboration is not significant ($\beta = -.02$, $p = .58$), 95% CI [−.09, .07], indicating that engagement and elaboration together do not mediate the relationship between news seeking and knowledge (H5).

Incidental exposure to news content on Facebook also does not have a significant positive relationship with current events knowledge (H6; $\beta = .12$, $p = .14$). However, incidental exposure to news content on Facebook has a significant positive relationship with engagement in that content ($\beta = .39$, $p < .001$), supporting H7. Incidental exposure to news on Facebook has a negative direct relationship with elaboration (RQ1; $\beta = -.15$, $p < .05$), yet this relationship is also partially mediated by engagement ($\beta = .14$, $p < .01$), 95% CI [.08, .22]. In answer to RQ2, the relationship between incidental exposure and knowledge is not mediated by engagement and elaboration ($\beta = -.02$, $p = .46$), 95% CI [−.09, .05].

Because of the cross-sectional nature of the data, it is possible that rather than engagement leading to elaboration as predicted here, the relationship between the two variables is stronger in reverse. To test this, the model was run again with the link between engagement and elaboration in the opposite direction. Although the overall fit for this model is the same, $\chi^2(131, N = 400) = 171.32$, $p < .05$; CFI = .967, RMSEA = .028, the effect size for elaboration leading to engagement was smaller ($\beta = .15$, $p < .001$) than the reverse. Whereas engagement mediated the relationship between both types of news exposure and elaboration, elaboration does not have a mediating effect between active ($\beta = .02$, $p = .09$), 95% CI [−.00, .04], or incidental ($\beta = -.00$, $p = .85$), 95% CI [−.02, .02], news exposure and engagement. Furthermore, there is no direct link between active news seeking and elaboration ($\beta = .11$, $p = .11$), or between incidental news exposure and elaboration ($\beta = -.01$, $p = .85$), whereas engagement was significantly related to both types of news exposure. Together these results indicate that the hypothesized model, which states that engagement leads to elaboration, is the better explanatory model for Facebook.

Twitter News Model.   The Twitter news model shows acceptable fit: χ^2 (131, $N = 400$) = 183.27, $p < .01$; CFI = .961, RMSEA = .032. See
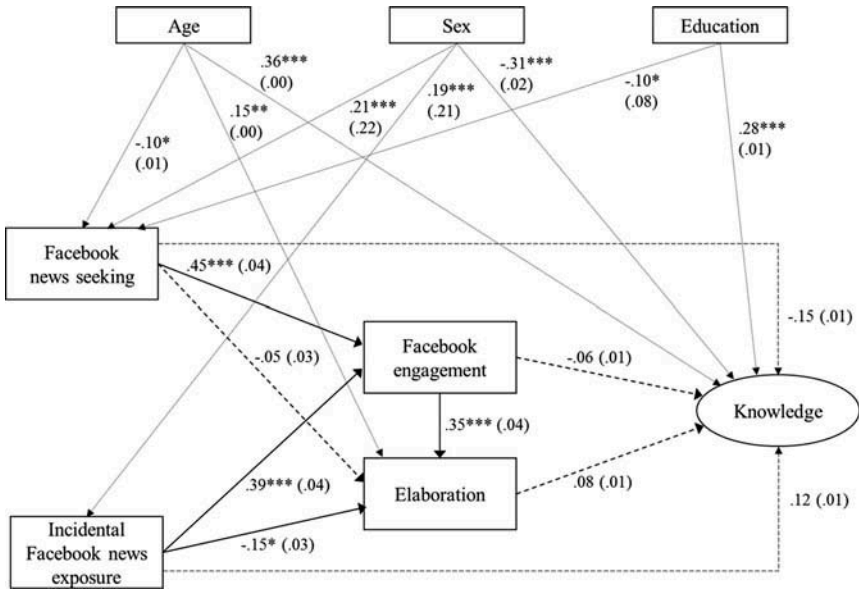
FIGURE 1 Statistical model for Facebook.
Note. Theorized paths and significant control paths shown. Sex: 0 = male, 1 = female. Coefficients are standardized. *$p < .05$. **$p < .01$. ***$p < .001$.

Figure 2. Contrary to H1, actively seeking news content on Twitter is not significantly related to current events knowledge ($\beta = .18$, $p = .09$). Actively seeking news is also not significantly related to elaboration (H3; $\beta = .15$, $p = .11$). However, actively seeking news on Twitter has a positive relationship with engagement in that content ($\beta = .42$, $p < .001$), supporting H2. Engagement has a positive relationship with elaboration ($\beta = .18$, $p < .05$), supporting H4. Engagement also mediates the relationship between active news seeking and elaboration ($\beta = .07$, $p < .01$), 95% CI [.02, .14]. The overall mediated effect of active news seeking on Twitter on knowledge through engagement and elaboration is negative, but not significant ($\beta = -.06$, $p = .08$), 95% CI [−.14, .01], providing no support for H5. This indicates that engagement negatively mediates the relationship between news seeking and knowledge but that this effect is mitigated by the positive effect of engagement on elaboration.

In support of H7, incidental exposure to news on Twitter shows a positive relationship with engagement in that content ($\beta = .35$, $p < .001$) but no significant direct relationships with current events knowledge (H6; $\beta = .08$, $p = .42$) or with
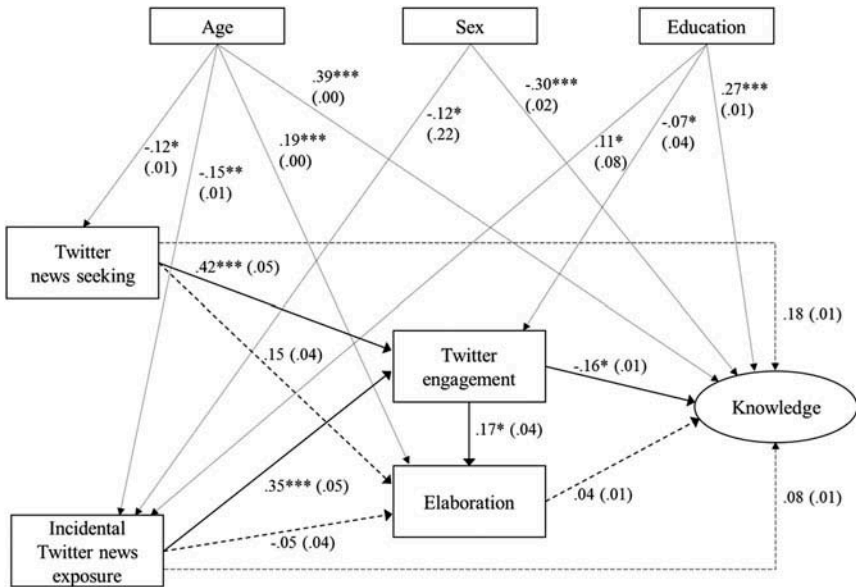
FIGURE 2 Statistical model for Twitter.
Note. Theorized paths and significant control paths shown. Sex: 0 = male, 1 = female. Coefficients are standardized. *p < .05. **p < .01. ***p < .001.

elaboration (RQ1; β = −.05, p = .57). However, engagement mediates the relationship between incidental news exposure and elaboration (β = .06, p < .01), 95% CI [.02, .12]. In answer to RQ2, the indirect relationship between encountering news on Twitter and current events knowledge is negatively mediated by engagement and elaboration (β = −.05, p < .05), 95% CI [−.12, −.00].

As with the Facebook model, the model for Twitter was run again testing the link between engagement and elaboration in the opposite direction. The overall fit for this model was the same as the hypothesized model, χ²(131, N = 400) = 183.27, p < .01; CFI = .961, RMSEA = .032, but the effect size was smaller for elaboration leading to engagement (β = .09, p < .05) than the reverse. Elaboration does have a mediating effect between active news seeking and engagement (β = .02, p < .05), 95% CI [.00, .06], but the effect is smaller than the mediating effect of engagement between active news seeking and elaboration. Elaboration does not have a mediating effect between incidental news exposure and engagement (β = .00, p = .92), 95% CI [−.02, .02], whereas engagement mediated the relationship between incidental news

exposure and elaboration. Active news seeking is directly related to elaboration ($\beta = .22$, $p < .05$), but this effect is smaller than the relationship between active news seeking and engagement. There was no direct link between incidental news exposure and elaboration ($\beta = .01$, $p = .92$), whereas engagement was significantly related to incidental news exposure. Thus, the hypothesized model, which states that engagement leads to elaboration, is the better explanatory model for Twitter as well.

In summary, results indicate that for both platforms, both active news seeking (H2) and incidental exposure to news (H7) positively predict engagement and that engagement positively predicts elaboration (H4). Furthermore, engagement mediates the relationship between news seeking and elaboration, and incidental news exposure and elaboration. However, neither active news seeking nor incidental exposure is a positive predictor of current events knowledge (H1, H6) or elaboration (H3, RQ1). Together, the relationships between active news seeking (H5) and incidental news exposure (RQ2) and current events knowledge are not mediated by engagement and elaboration.

DISCUSSION

The results show the most useful role that social media sites may play in news consumption is their ability to drive engagement with news content and prompt elaboration about current events. Both actively seeking news and incidental exposure to news are positively related to engagement in news content, supporting previous research (Greenhow & Reifman, 2009; C. S. Lee & Ma, 2012). This indicates that even if individuals stumble upon news on social media sites, they are likely to interact with that content just as if they were actively seeking it. In turn, this engagement with news through actions such as liking, commenting on, and resharing news stories predicts greater cognitive elaboration about the content. This corroborates previous research that active participation in news content on blogs and social media may drive political interest and involvement (Holt, Shehata, Strömbäck, & Ljungberg, 2013; Kushin & Yamamoto, 2010; Oeldorf-Hirsch & Sundar, 2015). In addition, engagement with social media news content mediates the relationship between active news seeking and elaboration, and between incidental news exposure and elaboration. This indicates that engagement with news through social media features is a key element in triggering deeper thought about the news content.

The lack of direct relationship between active news seeking and elaboration is key: It shows that on social media the process of elaboration requires engagement in news content first. Engagement is important for incidental exposure on Facebook, which otherwise has a negative direct relationship

with elaboration. Individuals may be using Facebook primarily for social purposes and may be unmotivated or unprepared to process news information during their visit to the site. As Pew reports, most users are finding news on Facebook when they log in to use the site for another purpose (Matsa & Mitchell, 2014). Yet, finding news on social media unintentionally presents a certain excitement and intrigue (Yadamsuren & Erdelez, 2010). Therefore, the finding that active engagement in this content is positively related to elaboration, even when mere exposure is not, provides evidence that through the interactive features on these sites, Facebook and Twitter can play beneficial roles in the understanding of news. The relationship between incidental news exposure on Twitter with elaboration, although not significant, is also negative ($\beta = -.05$), indicating that Twitter users may have similar views about stumbling upon news on Twitter but can still come to elaborate about news information they find by engaging in it.

A key contribution of this study is an understanding of how social media users are engaging with news content on both Facebook and Twitter and the effect that this has on how they process that content. For Facebook and Twitter, exposure to news has significant relationships with engagement in that content. That is, once users see news content, they are likely to actively react to it. Furthermore, once they engage with the content through the sites' features, they also cognitively engage with it. This is true regardless of how they get to that content: by actively seeking it or passively being exposed to it. This potentially allays fears that social media users are increasingly disengaged from news content they receive only passively. The results of this study show that even if users only stumble upon news, they can rise to the same level of engagement as those who actively seek news. From there, news seekers and passive news consumers alike think about that content more deeply. Together, this implies that the passive consumption of news that social media provides is a benefit of these sites, rather than a hindrance, by cognitively engaging users that are not otherwise seeking news content.

Ultimately, knowledge may not be the key outcome of engaging with news content on social media sites. Knowledge has a direct relationship only with engaging with news content on Twitter, though this relationship is negative. Beyond that, news exposure did not lead to greater knowledge through engagement and elaboration as predicted. This aligns with some previous research that shows mixed effects on knowledge of social media use for news (Bode, 2016; Gil De Zúñiga, Weeks, & Ardèvol-Abreu, 2017). Collectively, this growing body of research indicates that we must consider the role of social media in news content not necessarily as a place to gain factual knowledge about current events but as a gateway to engaging with and thinking about this information, particularly when not actively seeking it.

THEORETICAL IMPLICATIONS

These results inform both Eveland's (2001) cognitive mediation model and work on incidental news exposure in the context of social media. The cognitive mediation model proposes a path from news use motivations to political knowledge through the cognitive variables of attention and elaborative processing. Evidence for traditional media (Eveland et al., 2003; Mcleod, Scheufele, & Moy, 1999) indicates that news seeking leads directly to both greater attention and greater cognitive elaboration about that content. Yet, in the case of Facebook and Twitter, elaboration depends on engagement as an active form of attention, as there are no direct links for either site between active news seeking or incidental exposure and elaboration. The implication is that the act of paying attention to news may vary by the context of the news media itself. Television, newspapers, and radio present news content that can be watched, read, or listened to. Social media can offer the news in any of these formats, and yet the content is presented on the sites as posts that must be interacted with. Thus, in the new media landscape, a more nuanced understanding of the cognitive elaboration process is necessary.

Engagement and elaboration do not mediate the relationship between news seeking and current events knowledge, showing a lack of support for a key element of the cognitive mediation model. Cognitively elaborating on the news and learning from it may be two separate processes on social media, with social media being more useful for triggering the former. It could be the case that engaging in shared news content on social media takes on a more social function that redirects users away from the facts in a news story toward a variety of interactions about the topic. Engaging with news content leads to thinking about it more personally, but potentially at the expense of knowledge, as indicated by the negative link between engagement and knowledge for Twitter users.

The present study also introduces incidental news exposure to the cognitive mediation model, expanding it to the ways in which individuals increasingly consume their news. Like active news seeking, incidental news exposure on social media has a positive relationship with engagement, indicating that a surveillance need is not a prerequisite in a media landscape where individuals are regularly using these sites for non-news purposes (Matsa & Mitchell, 2014). This extends the cognitive mediation model by indicating that any exposure to news, not just the active seeking of it, can have a positive effect on engagement, and indirectly on elaboration through engagement. As with previous research on other media (Beaudoin, 2008; Tewksbury et al., 2001; Tian & Robinson, 2009), the data show a trend in the direction of a positive relationship between incidental exposure to news on Facebook and current events knowledge, though this relationship was not significant. The nature of these sites is changing, and the content on them is increasingly news focused. Although users may still be

visiting these sites for purposes other than news, social media have notable benefits for engagement in news content.

LIMITATIONS AND FUTURE RESEARCH

Survey data are limited in its ability to test causal relationships between variables. Although each model showed acceptable fit for the predicted relationships, and various models were tested, it is still possible that the causal directions are different than proposed. The results must be interpreted only as predictors between variables, and future research should test active news seeking and incidental news exposure experimentally. Another potential limitation is the measure of current events knowledge. The items on Pew's News Quiz measure are a sample of national and international news events, which may not be equally relevant to all respondents in the study. In addition, this quiz may be a measure of prior knowledge, and given the design of the study it is possible that this prior knowledge influenced social media news exposure and engagement. Future research is necessary to understand what it means to be knowledgeable about current events, and how to test this within the social media context. Another variable that was not measured is political party or ideology. This could also influence one's use of news, the type of content to which they are exposed, and their level of knowledge about current events. Moreover, Mechanical Turk samples tend to be more Democratic and liberal than the general population (Clifford, Jewell, & Waggoner, 2015; Levay et al., 2016), so these results could be skewed by the sample's political ideology. A third limitation is the ability for individuals to truly distinguish between their exposure to news across media through active news seeking and incidental news exposure. The measures here are based on prior research measuring these outcomes, but future research should also address more accurate ways to assess these types of exposure, potentially in real time. Finally, the sample poses a limitation, which underrepresents older individuals and overrepresents those with higher education. This is a consistent discrepancy between the general population and Mechanical Turk workers, who tend to be younger and more educated (Levay et al., 2016). Mechanical Turk users also spend more time reading news online (Levay et al., 2016). Consequently, this sample scored higher on the knowledge measure on average (eight of 12 correct answers) than the sample originally tested (five of 12 correct answers) by Pew Research Center (Doherty et al., 2014). Therefore their use of social media and online news is not representative of all news consumers. Thus, these findings are only applicable to this sample and are limited in their ability to explain news consumption behaviors and effects for the general population. Future research should replicate this study with samples of various demographics

to more comprehensively assess the role of social media in news exposure, engagement, elaboration, and knowledge.

CONCLUSION

New media spark both promise and concern about the changing ways in which individuals receive news content. The mixed results of this study indicate that social media sites are neither wholly beneficial nor detrimental to the distribution of news but that Facebook and Twitter may be play different roles in learning from news content. The interactive features of these sites show great potential for engaging an audience that may not be seeking news but highlight the need to consider the contexts of specific sites in learning about current events.

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