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Understanding Facebook news post comment reading and reacting behavior through political extremism and cultural orientation

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ABSTRACT

Social media allows the readers of online news posts more engagement with the article through comments and comment Liking. Motivations for such actions are important because engagement around a comment increases the accessibility of that comment to other readers, leading to a far-reaching effect on the news post ground truth. Yet, motivations behind these actions and how they relate to the increasingly polarized political environment is understudied. This research investigates motivations for comment reading and Liking on social media news articles, and whether reading comments before or after reading the full article is related to different commenting and Liking motivations. In addition, we examine how political extremism and cultural orientation is related to users' motivations. Through survey data (N = 514) obtained from two samples, one Korean and one in the U.S., we conclude that cultural orientation was a salient independent variable when looking at comment and Liking motivations, while political extremism played a minor role in motivations.

People use social media to interact with each other, to understand the world around them, and to seek information, including news (Wohn & Bowe, 2016). More than two-thirds of U.S. social media users consume news on those platforms (Eva Matsa & Shearer, 2018). Social media allows readers a more profound role in shaping the narrative around a particular event in the form of interaction through comments and Liking (Matsa & Shearer, 2018; Wohn & Bowe, 2016). Comments, and to a lesser extent, Liking, enabled on news content shared on social media provide a new lens for the readers to investigate and broaden their understanding of the news content.

Social media posts provide numerous interactive tools, but the most commonly used to respond to others' posts are comments and Liking (Tam, 2015). When users read news content within the environment of social media, they are able to add comments and Likes visible to the whole readership, and this can impact how other readers process and understand the piece (Winter, Brückner, & Krämer, 2015), potentially changing the narrative original authors intended. This effect could be more profound depending on whether comments are read before or after reading the news article, but it is presently unknown what motivates an individual user to read comments, and when. This is a potentially impactful phenomena if news outlets are only able to provide a title for some readers who will get the details, whether factual or not,

from comments. Therefore, this research examines the relationship between if, and when, a user reads comments (before or after reading the full article) and the motivations for doing so.

In addition to commenting, social media news readers have the opportunity to Like the comments of others. Social media algorithms organize comments by their popularity, as determined by the number of Likes they receive (Mosseri, 2018). It is important to understand why users Like comments, as the comments that are featured first by the algorithm are much more likely to be read, thus contributing to the shaping of the narrative around the event covered. While Liking is one of the most common actions taken on social media platforms (Hayes, Carr, & Wohn, 2016b), research has only recently begun to emerge regarding users' motivations to Like news-related content. Moreover, little research exists regarding Likes given to content generated by those outside of the user's own personal network. Accordingly, this study investigates the motivations for providing Likes to news commentary.

Given the nature of the current political environment, political extremism is becoming increasingly salient to include in communication and news studies, and it could be a factor influencing users' comment reading and Liking motivations. However, political extremism is understudied in the context of commenting and Liking on news posts on social media. Due to the previously established connection between news

and political extremism, and how the Facebook algorithm chooses what to present to other users, we investigate the role of political extremism in shaping the behavior of social media users in reading and Liking news posts comments.

Culture affects how people communicate (Gudykunst et al., 1996), with Hall claiming that "culture is communication and communication is culture" (Hall, 1959, p. 186). Social media is a widely used communication tool, and top social media platforms, created in Western countries, cater to global users with different cultures and backgrounds. Therefore, triggering the need to include cultural variables in studies involving social media, communication and behavior. Thus, to understand comment and Liking motivations and how both political extremism and culture impact both, we use survey data collected in two countries of different cultural orientations, the United States and South Korea. This comparison allows for richer user behavior analysis and better understanding of global behaviors than would be allowed with a one-country sample, and thus a more complete answer to the overarching question of this work: What motivates individuals to Like and comment on news posts?

1. Literature review

1.1. Social media commenting behavior

The number of people consuming news via social media is increasing. The Pew Internet and Life Project found that 68% of U.S. participants use social media to consume news, and much of it is previewed within the actual social media site (Matsa & Shearer, 2018). Traditionally, news was received through one-way news outlets where the news segments would be broadcast or published, the news consumed, and the process allowed for little interaction with the content and other news consumers. Social media is inherently driven by user-generated, masspersonal content (Carr & Hayes, 2015), where even organizationally produced content, such as news, is added to by users through Likes and comments. Facebook, Twitter, Reddit, YouTube, and other social media platforms are providing new means for delivering news with an interactive component; the ability to instantly express and publish one's opinion through commenting. Commenting on news posts is a significant interaction that is used by news readers online (Boczkowski & Mitchelstein, 2012). Lee and Tandoc (2017), found that commenting has an effect on how news readers understand and consume news posts online (Lee & Tandoc, 2017). Winter et al. (2015) found that comments can bolster an article argument, making it more convincing. Similarly, researchers found that comments along with the original news post have an impact on perceptions of online political news (Houston, Hansen, & Nisbett, 2011, pp. 79–92).

Commenting online received considerable attention in previous research. Researchers found that comment posting motivation for news posts online is correlated with two personality traits: "narcissism" and "agreeableness" (Wu & Atkin, 2017). Furthermore, researchers found that comment reading is motivated by an entertainment factor (Springer, Engelmann, & Pfaffinger, 2015). Certain topics have more influence on the frequency of commenting and the degree of engagement with commenting. For example, sensitive topics (Toepfl & Piwoni, 2017) and controversial topics (Tenenboim & Cohen, 2015) yield more engagement in news articles through comments.

Commenting can be a very accessible means for discussing news articles and can occur between a large group of users who are strangers (Boczkowski & Mitchelstein, 2012), and have an influence on the perception of social media news posts (Winter et al., 2015). Thus, whether an individual reads the comments after the article, or first, without considering the actual content yet is important to consider, as the news narrative may be interpreted differently as a result. As of yet, no research has examined how the order of reading the article and reading the comments (i.e., reading comments before or after reading the news post) impacts comment reading and Liking motivations. In this

research, we explore the relationship between comment reading/comment Liking motivations with the order of reading comments (before or after reading the article).

- **RQ1:** How is reading comments before or after reading the full news post article related to different commenting and Liking motivations?

1.2. Paralinguistic Digital Affordances

Liking content on social media is one of the most common actions users take in their daily social media activity (Tam, 2015) and while it is less cognitively involved than commenting, the simple, one-click action is a form of nonverbal communication, indicating a range of meanings to both the sender and the receiver (Hayes et al., 2016b; Sumner, Ruge-Jones, & Alcorn, 2018). Not limited only to the iconic Facebook Like, these actions have been conceptualized across social media platforms as *paralinguistic digital affordances* (Hayes et al., 2016b), and as such, represent "cues in social media that facilitate communication and interaction without specific language associated with their messages" (pp. 172–173). They can be a form of self-presentation, as users are aware that their PDAs are publicly visible (Lowe-Calverley & Grieve, 2018).

A burgeoning and methodologically-diverse area of research has developed focused on the motivations for Liking, primarily those Likes sent to interpersonally-known network members (Hayes et al., 2016b; Lowe-Calverley & Grieve, 2018; Sumner et al., 2018). Across multiple studies, the most common driver of Liking behavior has been literal *liking*, or appreciation, of content posted (Hayes et al., 2016b; Levorashka, Utz, & Ambros, 2016; Lowe-Calverley & Grieve, 2018), but other motivations include relational maintenance (Hayes, Carr, & Wohn, 2016a; Levorashka et al., 2016), automaticity and social support (Carr, Wohn, & Hayes, 2016; Wohn, Carr, & Hayes, 2016) and reciprocity (Carr, Hayes, & Sumner, 2018), among others.

It has been argued that Likes provided to content "indicate as much about the relationship between sender and receiver as they do content" (Hayes et al., 2016b, p. 1). However, it is mostly unknown what motivates a social media user to send a Like when there is *no* relationship between sender and receiver. Scholarship regarding motivations for Liking has largely focused on content produced by personal network connections rather than on content developed by unknown others, such as other commenters on a news article. While some studies in journalism and marketing have examined what comments get Liked on news articles (Silva, Hutchens, Donaway, & Beam, 2018), how Liking political content online can serve as a gateway to more politically engaged behaviors (Bode, 2017), and why users Like social media marketing content (Malhotra, Malhotra, & See, 2013), no research to date has examined what motivates users to Like comments on social media-shared news articles, and none has examined how cultural orientations can impact motivations to Like. As the Facebook algorithm selectively and preferentially presents comments that receive the most Likes to users, what motivates users to Like a particular comment is important to the study of how consumption of online news shapes opinions. Given the frequently polarized nature of comments, and the fact that those who have strong political beliefs are more likely to comment, what motivates users to Like is important to consider when seeking answers to how social media-shared news impacts the conversation around a particular issue or event.

1.3. Political extremism and influence on social media news behavior

To understand the influence of political extremism on social media news consumption, we explain it under two concepts; confirmation bias and the theory of selective exposure. Confirmation bias is defined as a tendency to seek ideas or information that confirms to one's own beliefs (Nickerson, 1998). For example, under this concept, an extreme liberal would seek information that is supportive of liberal beliefs. The other

concept that we examine is the theory of selective exposure. It explains that individuals are more likely to selectively view information that is supportive to their opinions, which also entails less exposure to conflicting views (Festinger, 1957; Fischer, Jonas, Frey, & Schulz-Hardt, 2005; Sweeney & Gruber, 1984).

The use of the internet has increased selective exposure phenomena because individuals know that in a face-to-face debate they can't just abruptly end the conversation, however, on the internet, they can dismiss and avoid the conflicting opinion and/or seek reinforcing information (Garrett, 2009). Also, researchers found that the more a person has control to choose the information to be exposed to, the less the person would expose himself to opposite opinions (Mutz & Martin, 2001). The use of online news outlets provides for more control over what news is consumed, thus allowing users to be more selective in their news consumption behavior (Bimber & Davis, 2003; DiMaggio, Hargittai, Neuman, & Robinson, 2001; Garrett, 2009; Nemeth & Rogers, 1996). Moreover, it was found that the more extreme a person is with their political views, the more they will engage in selective exposure to support their views (Brannon, Tagler, & Eagly, 2007; Keene, Shoenberger, Berke, & Bolls, 2017; Stroud, 2008). Having this greater 'selective' ability in seeking information through online social media news, other relevant online behaviors such as reading news posts comments and Liking other comments might be influenced by this phenomenon. Consequently, we seek to explore political extremism role in news posts comment reading and Liking behavior. Thus, we investigate:

- *RQ2*: How is political extremism related to users' news comment reading motivations?
- *RQ3*: How is political extremism related to users' news comment Liking motivations?

1.4. Cultural orientation influence on social media news behavior

In order to understand why users have different motivations for reading comments, we use a cultural orientation theory that measures cultural orientation for individuals in two different countries. The theory by Triandis (Triandis, 1995) states that people can have four main cultural orientations that affect many of the behavioral choices they make in their lives. These orientations are Horizontal Individualism (H-I), Horizontal Collectivism (H-C), Vertical Individualism (V-I), and Verical Collectivism (V-C). Individualists are more autonumous, pursue personal goals, and keep relationships if their benefits exceed their costs. Collectivists are the opposite where they consider themselves as part of a larger group, interdependent, pusue group goals, and keep relationships even if their costs outwiegh their benefits. Those two broad constructs could be split into more specific orientations with horizontal and vertical traits. Vertical individuals believe in inequality, while horizontals strive for equality (Singelis, Triandis, Bhawuk, & Gelfand, 1995). Although Western and Eastern countries have different cultural orientations found through literature, we do acknowledge that in an Eastern country there could be *idiocentric* (individualist) persons and in a Western country there might be *allocentric* (collectivist) persons (Triandis, 1995).

The rationale behind choosing this theory is because comment writing and reading is similar to a group discussion, where one's background of beliefs and assumptions would contribute to the way a person engages in the group discussion. For example, Singelis et al. (1995) found that it is easier for horizontals to meet new people than verticals. Furthermore, horizontal and vertical individualism and collectivism have been studied in different fields to understand social behavior based on people's cultural orientations. Social behavior is expected to be very different between different cultural orientations (Triandis, Bontempo, Villareal, Asai, & Lucca, 1988). Traits of individualism and collectivism have been linked with different social phenomena (Singelis et al., 1995). For example, cultural orientation has

a relationship with loneliness and social support (Triandis et al., 1988). We argue that commenting and Liking news posts on social media is a communication attempt that is moderated by the persons' social predispositions that are affected by their cultural orientations.

In this research, we use the four constructs, rather than merely two, because there are differences in the two constructs of horizontal and vertical. Horizontal versus vertical individuals are different in their beliefs of which behaviors are acceptable and which are not (Cialdini, Reno, & Kallgren, 1990). Furthermore, individuals who are horizontal collectivists strive for equality, while vertical collectivists sacrifice and serve because they accept inequality (Singelis et al., 1995).

It is important to acknowledge that around 70% of the world population are collectivists who have opposing views with Western, typically individualist, countries (Triandis, 1995). That said, major social media companies were developed and are managed in Western countries, but cater to a world of different cultural orientations. Thus, due to the previous differences between different cultural orientations, that were mentioned earlier, we chose to conduct the study on two countries known to have different cultures. The U.S. population is mostly Individualist and Korea is mostly Collectivist. Moreover, a substantial number of previous studies (Layous, Lee, Choi, & Lyubomirsky, 2013; Sung & Tinkham, 2005; Tak, Kaid, & Lee, 1997; Yoo, 2009) attempting to research issues in different cultures, have used a U.S. and a KO sample. Also, the fact that Korea is composed of a homogenous population, allows for more pure representation of Collectivism, making it an alluring choice for cross-cultural studies. Moreover, we argue that it is one thing to understand the demographics of users, but knowing the cultural orientations of individuals will help researchers better understand social behaviors on the Internet (Beyari & Abareshi, 2019, pp. 973–984; Kim, Sohn, & Choi, 2011), and will help news producers better understand how users consume their news. In this scholarship, we aim to understand the role of cultural orientation with regard to users' motivation to read comments on social media news posts.

Thus, we explore the following questions:

- *RQ4*: How do cultural orientations relate to people's different news comment reading motivations?
- *RQ5*: How do cultural orientations relate to people's different news comment Liking motivations?

To explore these questions, we conducted survey research among two populations, U.S. and Korean social media users. In the following section, we delineate the sampling method, procedure of the research and the results of the statistical models testing the research questions.

2. Method

2.1. Sample

In this research, we had samples from two populations. One sample was from the U.S. to represent Individualistic people. The other sample was from South Korea and was intended to represent a Collectivist perspective. The study included 514 participants from the U.S. (N = 262) and Korea (N = 252). Participant age ranged from 18 to 35. There was a similar number of Male (N = 255) and Female (N = 259) participants. Basic demographics included participants' years of education ranging from 5 to 30 years ($M = 14.47$, $SD = 3.12$). Annual household income ranged from 1 = less than \$10,000 to 12 = more than \$150,000 ($M = 5.68$ $SD = 3.07$). For political orientation we found the following: extremely liberal (4.7%), extremely conservative (3.1%), liberal (24.5%), conservative (13.2%), in the middle (39.1%), don't care (14%), other (1.4%). There was a significant difference between political orientation for the U.S. ($M = 2.56$) and for the Korean ($M = 2.31$) samples.

2.2. Procedure

We conducted a survey through an online Qualtrics panel of young adults (born 1982–1999) in both South Korea and the United States. We chose this younger sample because previous studies have shown that this demographic is more likely to receive news through social media than any other news media (Newman, Fletcher, Kalogeropoulos, Levy, & Nielsen, 2017). Participants were asked about demographic information and basic Facebook behavior questions which included frequencies of using Facebook in the past week, reading news on Facebook in the past week, and commenting and Liking frequencies.

2.3. Measures

For Horizontal and Vertical Individualism and Collectivism we used an established scale by (Triandis & Gelfland, n.d., pp. 118–128). Participants also received questions about their comment reading behavior. For example, whether they read comments before, or after reading the entire article.

For comment reading motivations, we created a scale out of 24 items. Since we did not have a hypothesis of the news comment reading motivations, we ran an exploratory factor analysis (principal component analysis with Varimax rotation) to identify patterns. The participant to item ratio was almost 10:1, which is the recommended rule for a priori methods. The results were five different factors. The first factor was *to seek new information* ($M = 3.55$, $SD = 0.75$, $\alpha = 0.86$) and included the items: 'to find opinions different from my own', 'to get additional information', 'because there is information in the comments that is not in the article', 'to understand what others are thinking', 'to learn personal stories of others', 'to critically assess the article', and 'because I can learn something new'. The second factor was *to seek entertainment* ($M = 3.29$, $SD = 0.87$, $\alpha = 0.89$) and included the following items: 'because it amuses me', 'because it is entertaining', 'because they are funny', 'because it sometimes gives me a good laugh', and 'to have something to talk about'. The third motivation found was *social interaction* ($M = 2.83$, $SD = 0.88$, $\alpha = 0.85$) which included the following items: 'because it is thrilling', 'to get my blood pumping', 'to find subject matter to discuss with other people', 'to make new connections with new people', and 'so I can find people who have similar thoughts as me'. The fourth motivation was *to get quick analysis* of the article ($M = 3.23$, $SD = 0.89$, $\alpha = 0.87$), which included the following items: 'to avoid reading the whole article', 'so I can understand what is going on', 'to quickly get a sense of the article's content', 'to figure out what the main points of the article are', and 'to assess the talking points of the article'. The last factor was *to seek conflict* ($M = 3.07$, $SD = 1.03$, $\alpha = 0.70$) and included the items: 'to seek controversy', and 'because I like seeing people arguing'.

For comment Liking motivations we created 2 scales that included 5 items. All comment Liking motivations ranged from 1 = Never to 5 = Always. The first scale was related to strategically promoting content. *The strategic scale* ($M = 3.44$, $SD = 0.70$, $\alpha = 0.81$) included the following items: 'I want it to appear higher in the order of comments', 'I want other people to read the comment', 'I think the comment is more important than other comments', 'I think the comment is very well written', and 'The comment introduces interesting content'. The second comment reading motivation scale concerned emotional connections to the comment. *The emotional scale* ($M = 3.3$, $SD = 0.75$, $\alpha = 0.78$) included the following items: 'I feel strong emotions about the comment', 'The comment is a personal story of the person who wrote it', 'I want to show support to the person who wrote the comment', 'I agree with the comment', and 'I want to express how I feel about the comment'.

Cultural orientation was an existing scale (Triandis & Gelfland, n.d., pp. 118–128), which included 16 items, 4 items per construct. The four constructs are Horizontal Individualism (H-I) ($\alpha = 0.82$), Horizontal Collectivism (H-C) ($\alpha = 0.82$), Vertical Individualism (V-I) ($\alpha = 0.80$),

Table 1
Variables' means and standard deviations for the U.S. and Korean samples.

Variable/Sample	U.S.		Korea	
	M	*SD*	*M*	*SD*
Age	27.78	4.60	28.15	4.74
Facebook News Engagement	2.81	0.89	2.61	0.91
How often Like or react to comments	2.66	1.08	2.61	0.99
Horizontal Individualism	6.82	1.64	6.29	1.32
Horizontal Collectivism	6.32	1.61	6.13	1.35
Vertical Individualism	5.38	1.85	6.13	1.31
Vertical Collectivism	6.66	1.64	5.66	1.45
Political Extremism	2.50	0.96	2.30	0.67
Read comments before reading full article	2.84	1.15	2.62	1.04
Read comments after reading full article	3.03	1.08	3.02	0.97

and Vertical Collectivism (V-C) ($\alpha = 0.84$). Each item ranged from 1 = Never to 9 = Always. Please refer to Table 1 for Means and Standard Deviations.

Political extremism was measured by first asking people to select their political orientation from the following scale (1 = Extremely Liberal, 2 = Liberal, 3 = Middle, 4 = Conservative, 5 = Extremely Conservative, 6 = Don't Care, 7 = Other). Then, we recoded the scale to reflect political extremism into (1 = Don't Care, 2 = Slight, 3 = Moderate, 4 = Extreme, 5 = Other). 'Slight' included Middle from the previous scale under the assumption that being in the middle between two extreme parties signifies a lower level on the political extremism spectrum. 'Moderate' included Liberal and Conservative. 'Extreme' included Extremely Liberal and Extremely Conservative. 'Other' (N = 7) was removed from the scale because it was impossible to infer the degree of political extremism for participants. The new item ranged from (1 = Don't Care) to (4 = Extreme).

The first control variable is Facebook News Engagement Scale (FNE), which included the following six items: How often do you, Post links to stories or articles for others to read?, Comment on news posts?, Repost or "share" news that was originally posted by someone else? Like news posts?, React to news posts? Click on links of news posts? The scale for all previous items ranged from 1 = Never to 5 = Very Often. The scale was highly reliable ($\alpha = 0.90$). The second control variable is 'How often do you Like or react to comments?' The item ranged from 1 = Never to 5 = Always. Participants were asked how often they read comments on Facebook news posts before, and after reading the full article. Both items ranged from 1 = Never to 5 = Always. Table 1 contains means and standard deviations.

3. Results and analysis

In order to answer our research questions, we ran linear regression models using comment-reading motivations and comment-reacting motivations as our dependent variables. Independent variables included reading comments before or after reading the full article, political extremism, cultural orientation, sex and age. We also included two control variables that were expected to be highly correlated with the comment reading motivation: general engagement with news on Facebook and general Paralinguistic Digital Affordances behavior (e.g., Liking behavior).

The results were analyzed in SPSS. Please refer to Table 2 and Table 3 for the corresponding beta coefficient values.

3.1. Understanding motivations for reading comments

Models in this section provide answers for *RQ1, RQ2,* and *RQ4*. The first set of models looked at comment reading motivation *to seek new information*. This construct included items related to receiving more or different knowledge than the one presented in the article. The U.S. model was significant, explaining 40% of variance (adjusted R-

Table 2
Coefficient values for regression models examining factors that explain different comment reading motivations.

Sample Coefficient	U.S.	Korea
Read Comments: To seek new information	R-squared = .40 Adjusted R-squared = .37	R-squared = .34 Adjusted R-squared = .31
Age	-.02*	-.01
Sex	.06	-.01
FB News Engagement	.31***	.11*
How often Like or react to comments	.10	.07
Horizontal Individualism	.04	.13***
Horizontal Collectivism	.04	.06
Vertical Individualism	.02	-.01
Vertical Collectivism	-.01	-.04
Political Extremism	-.02	.05
Read comments before reading the full news article	.04	.06
Read comments after reading the full news article	.12*	.15**
Read Comments: For entertainment	R-squared = .38 Adjusted R-squared = .36	R-squared = .30 Adjusted R-squared = .27
Age	-.03**	-.00
Sex	-.08	.10
FB News Engagement	.15	.23**
How often Like or react to comments	.17**	.02
Horizontal Individualism	-.04	.06
Horizontal Collectivism	.00	-.07
Vertical Individualism	.08**	.11**
Vertical Collectivism	.04	-.05
Political Extremism	.02	-.10
Read comments before reading the full news article	.14**	.22***
Read comments after reading the full news article	.11*	.05
Read Comments: For social interaction	R-squared = .45 Adjusted R-squared = .42	R-squared = .42 Adjusted R-squared = .39
Age	-.02	.01
Sex	-.03	.17
FB News Engagement	.30***	.41***
How often Like or react to comments	.24***	.09
Horizontal Individualism	-.07	-.04
Horizontal Collectivism	.02	-.03
Vertical Individualism	.07*	.12**
Vertical Collectivism	.00	.02
Political Extremism	.06	-.11
Read comments before reading the full news article	.09	.13**
Read comments after reading the full news article	-.00	-.07
Read Comments: For quick analysis	R-squared = .26 Adjusted R-squared = .22	R-squared = .34 Adjusted R-squared = .31
Age	-.03**	-.02*
Sex	-.04	.01
FB News Engagement	.27**	.23**
How often Like or react to comments	.08	.03
Horizontal Individualism	.01	.06
Horizontal Collectivism	-.01	.04
Vertical Individualism	-.02	.05
Vertical Collectivism	.07	-.06
Political Extremism	-.03	.02
Read comments before reading the full news article	.15*	.24***
Read comments after reading the full news article	.04	-.00

Table 2 (_continued_)

Sample Coefficient	U.S.	Korea
Read Comments: To seek conflict	R-squared = .25 Adjusted R-squared = .21	R-squared = .25 Adjusted R-squared = .21
Age	-.03*	-.00
Sex	.17	.20*
FB News Engagement	.16	.20*
How often Like or react to comments	.07	-.01
Horizontal Individualism	-.01	.11*
Horizontal Collectivism	-.09	-.03
Vertical Individualism	.18***	.08
Vertical Collectivism	-.01	-.06
Political Extremism	.05	-.13
Read comments before reading the full news article	.21**	.18**
Read comments after reading the full news article	-.01	.09

Note: *$p < .05$, **$p < .01$, ***$p < .001$.

Table 3
Coefficient values for regression models examining factors that explain different comment Liking motivations.

Sample/Coefficients	U.S.	Korea
Emotional Scale	R-squared = .39 Adjusted R-squared = .36	R-squared = .42 Adjusted R-squared = .40
Age	-.06	-.01
Sex	-.04	-.09
FB News Engagement	.19**	.27***
How often Like or react to comments	.12*	.10
Horizontal Individualism	.09**	.05
Horizontal Collectivism	.03	.03
Vertical Individualism	-.00	.08*
Vertical Collectivism	.01	.00
Political Extremism	.08	.04
Read comments before reading the full news article	.01	.10*
Read comments after reading the full news article	.10*	.06
Strategic Scale	R-squared = .31 Adjusted R-squared = .27	R-squared = .38 Adjusted R-squared = .35
Age	-.01	-.02*
Sex	.09	-.04
FB News Engagement	.16*	.33***
How often Like or react to comments	.18*	-.01
Horizontal Individualism	.02	.09*
Horizontal Collectivism	-.01	.02
Vertical Individualism	.07*	.06
Vertical Collectivism	.00	.01
Political Extremism	.09	.10
Read comments before reading the full news article	-.01	.10*
Read comments after reading the full news article	.09	.06

Note: *$p < .05$, **$p < .01$, ***$p < .001$.

squared = 0.37). $F (11, 234) = 14.05$, $p < .001$. Reading comments after reading the full article was slightly significantly positively related to reading comments to seek new information. Younger adults are more likely to read comments to seek new information. The control variable Facebook News Engagement was significantly positively related to the dependent variable. The Korean model was significant, explaining 34% of variance (adjusted R-squared = 0.31). $F (11, 249) = 11.46$, $p < .001$. Horizontal individualism was significantly positively correlated with the dependent variable. Reading comments after reading the

full article was significantly positively related to reading comments to seek new information. The control variable Facebook News Engagement was slightly significantly positively related to the dependent variable.

The second two models examined the motivation to read comments *for entertainment*. This construct is related to any intention of reading comments to feel amused, to experience joy, or to laugh. The U.S. model was significant, explaining 38% of variance (adjusted R-squared = 0.36). F (11,234) = 13.28, $p < .001$. Younger people were more likely to read comments for entertainment. Vertical individualism is significantly positively related to the dependent variable. Reading comments before reading the full article was significantly positively related to reading for entertainment purposes. Also, reading comments after reading the full article was slightly significantly positively related to the dependent variable. The control variable 'how often Like or react to comments' is significantly positively correlated with reading comments for entertainment. The Korean model was significant, explaining 30% of variance (adjusted R-squared = 0.27). F (11,249) = 9.84, $p < .001$. Vertical individualism was significantly positively related to the dependent variable. Reading comments before reading the full article was significantly positively related to reading comments for entertainment. The control variable Facebook News Engagement was significantly positively related to the dependent variable.

The next two models examine *social interaction* as a motivation to read comments on news posts. Participants who scored high in this construct read comments to engage in social discussions and make new connections with other users. The U.S. model was significant, explaining 45% of variance (adjusted R-squared = 0.42). F (11,234) = 7.32, $p < .001$. Vertical individualism was slightly significantly positively correlated with the dependent variable. Both control variables: Facebook news engagement and how often Like or react to comments were significantly positively correlated with the dependent variable. The Korean model was significant, explaining 42% of variance (adjusted R-squared = 0.39). F (11,249) = 16.26, $p < .001$. Vertical individualism was significantly positively correlated with the dependent variable. Reading comments before reading the full article was significantly positively related to the dependent variable. The control variable Facebook news engagement was significantly positively correlated with the dependent variable.

The next two models explain comment reading motivation *to get quick analysis* of the news post. This construct represents users' motivation for reading comments to get the gist of the news post. The US model was significant, explaining 26% of variance (adjusted R-squared = 0.22). F (11,234) = 7.32, $p < .001$. Reading comments before reading the full article was slightly significantly positively related to the dependent variable and younger people were more likely to read comments to get quick analysis. The control variable Facebook News Engagement was significantly positively related to the dependent variable. The Korean model looking at the same DV, was significant, explaining 34% of variance (adjusted R-squared = 0.31). F (11,249) = 11.61, $p < .001$. Reading comments before reading the full article was significantly positively related to the dependent variable and younger people were more likely to read comments to get quick analysis. The control variable Facebook News Engagement was significantly positively related to the dependent variable.

The last two sets of models to understand comment reading motivation investigate the motivation of *seeking conflict*. This construct is related to reading comments to seek arguments and conflicting opinions. The U.S. model was significant, explaining 25% of variance (adjusted R-squared = 0.21). F (11,234) = 7.00, $p < .001$. Vertical individualism was significantly positively related to reading comments to seek conflict. Reading comments before reading the article was significantly positively related to the dependent variable of seeking conflict. Younger people were more likely to read comments to seek conflict. The Korean model was significant, explaining 25% of variance (adjusted R-squared = 0.21). F (11,249) = 7.35, $p < .001$. Horizontal

individualism was slightly significantly positively related to reading comments to seek conflict. Reading comments before reading the article was significantly positively related to the dependent variable of seeking conflict. Sex (being a male) was slightly significantly positively related to the dependent variable. The control variable Facebook News Engagement was slightly significantly positively related to the dependent variable.

3.2. Understanding motivations for liking comments

Models in this section attempt to understand *RQ1*, *RQ3*, and *RQ5*. The first two models address the motivation to 'Like' a comment for an *emotional reason*. The U.S. model was significant, explaining 39% of variance (adjusted R-squared = 0.36), F (11,200) = 11.61, $p < .001$. Horizontal individualism is significantly positively related to the dependent variable. The control variable 'how often Like or react to comments' is slightly significantly positively related to the dependent variable. The other control variable, Facebook news engagement was significantly positively related to the dependent variable. The Korean model was significant, explaining 42% of variance (adjusted R-squared = 0.40), F (11,214) = 14.34, $p < .001$. Vertical individualism is slightly significantly positively related to the dependent variable. Reading comments before reading the full article was slightly significantly related to the dependent variable. The control variable Facebook news engagement is significantly positively related to the dependent variable.

The next two models look at the motivation to Like comments for *a strategic reason*. The US model was significant, explaining 31% of variance (adjusted R-squared = 0.27), F (11,200) = 8.14, $p < .001$. Vertical individualism is slightly significantly positively related to the dependent variable. Both control variables are slightly significantly positively related to the dependent variable. The Korean model was significant, explaining 38% of variance (adjusted R-squared = 0.35). F (11,214) = 11.77, $p < .001$. Horizontal individualism is slightly significantly positively related to the dependent variable. Reading comments before reading the full article was slightly significantly related to the dependent variable. Facebook news engagement was significantly positively correlated with the dependent variable. This slight correlation indicates that younger people were more likely to Like comments for a strategic reason.

4. Discussion

4.1. Reading comments before or after reading social media news articles

To answer the first research question (i.e., *how is reading comments before or after reading the full news post article related to different commenting and Liking motivations?*), we compared comment reading before and after reading the full article with different comment reading motivations and found interesting correlations. For the first comment reading motivation: *to seek new information*, both the U.S. and Korean participants were found to read comments after reading the full article. The finding is reinforced with common sense because if a news reader would like to seek more information, they need to be familiar with the information in the article first. This implies that users who look for additional information in the comment section are more interested in the article, and thus, decide to gain more insight from other users. We can also argue that the discussions coming from those users are the most informed and article related and that they add to the overall understanding of the news piece.

Participants who read comments *for entertainment*, were found to read comments before reading the news article. It seems that participants were interested in the discussions that go in the comment section and the amusement factor more than the news article. This finding is interesting because it demonstrates the paramount influence of comments on the readers which supports earlier research findings (Winter

et al., 2015). We did not see a difference between the U.S. and Korean samples under the latter motivation.

Korean users who read comments *to seek social interaction* with other users, were also found to read comments before reading the news article. However, the U.S. sample did not show any significant relationship with reading comments before or after reading the article. Korean participants are mostly collectivists who value relationships of groups. It is possible that when Koreans read comments for social interaction, they believe that social interaction with the group is more valuable or is precedented to the article information presented by the author. For the fourth comment reading motivation *to get quick analysis*, our data showed consensus between our two samples. Both the U.S. and Korean participants were more likely to read comments before reading the whole article when they were looking for the gist. This also was expected. Users might have limited time and might not be interested in reading a lengthy article so they resort to the comment section. Finally, the U.S. and Korean users who read comments *to seek conflict*, decide to read comments before reading the whole article. We believe this finding is similar to the entertainment and social interaction motivations in that they are motivated by an external need, other than learning about the news post. Thus, it is expected from Facebook users to head straight to the comment section if they are looking for conflict. The latter notion requires more investigation because using the comment section for arguments' sake only without having adequate knowledge of the post, creates problematic issues.

Four out of five comment reading motivations were found to be significantly correlated to reading comments *before* reading the news article. This notion strengthens the importance of the comment section and demonstrates its effect on the user news behavior. This finding also hints at a predicament that comments under the article might supersede the importance and influence of the main news article that was, allegedly, carefully curated and fact-checked by an expert author. This is not to underrate the importance of users' comments that put forth enlightening and mind-opening discussions. However, comments that receive more attention under news posts in particular, warrant attention because news posts, supposedly, include facts that we argue are more important than other social media posts; thus, users' comments on news posts begs for attention from researchers and news outlets generating content in social media.

4.2. Liking and comment reading motivation

How do cultural orientations relate to people's tendency to Like Facebook news comments? Among both samples, those who had high Facebook news engagement were likely to be Liking comments, for either emotional or strategic reasons. However, possibly due to their higher Facebook news engagement, the U.S. sample was more likely to be doing so overall. Generally, the Korean sample did not Like comments often, perhaps this trend may be explained by the fact that these Likes are public and visible to others. This may be reinforced by the correlation between vertical individualism in the Korean sample and Liking. As with commenting, the collectivist nature of Korea would make public, and possibly dissenting, statements in a forum less acceptable, except where that person possessed some individualist tendencies. The individualist nature of the U.S. would make public concurrence of opinions and displaying of emotions more acceptable, as was evidenced in the stronger relationship between emotional motivations and Liking after reading evidenced in the U.S. sample.

Within these data, of particular note is the tendency among the Korean sample to Like comments before reading the full news article, but not after. This, combined with finding by Winter et al. (2015) that negative comments reduced the credibility and persuasiveness of an article, contributes to concerns that readers negatively inclined toward the topic of the article could disproportionately impact reception of the article among other users through their Liking behavior. As they disproportionately Like negative comments, those comments will be

highlighted by the algorithms driving comment order. Those users who head to the comments first could then be presented with an abundance of comments counter to the claims of the article, and discredit the article, no matter what the facts of the situation may be.

Overall, these data support the findings of Hayes et al. (2016b) and Sumner et al. (2018) who both documented a wide range of motivations and functions behind interpersonal Liking behavior. One can see in the present data support for emotional and strategic motivations driving Liking behavior, particularly among those who are highly engaged with news content on social media. It seems that range of motivations extends to non-personal (stranger-generated) content as well. This is consistent with the general purpose of paralinguistic digital affordances, the one-click feature that means something, but that "something" can depend on the context in which they are given (Hayes et al., 2016a).

4.3. Political extremism and comment reading and liking motivations

For the second and third research questions that aimed to understand political extremism influence on comment reading and Liking behaviors, our regression models did not show any significant correlations. According to the theory of selective exposure, we presumed a possible relationship with reading comments to seek conflict. However, that was not the case in our study. Selective exposure theory has been controversial with many studies of both sides accepting and rejecting it, especially the construct of challenging-opinion aversion, which translates to deterrence from the motivation of conflict in this study. For example, researchers found that there is no significant correlation between strength of political support and aversion from challenging opinions (Garrett, 2009), which this study supports as well.

There are other plausible explanations for the result that are not due to the applicability or validity of the theory itself. One possible reason is that most of the literature reviewed supported politically extreme individuals to averse from conflicting *political* news, while in this study, we are asking participants about news in general which may include other genres such as sports, finance and others. There might be other reasons for not seeing the expected effect, for example: (1) participants were young adults mostly – who are probably less likely interested in political news and (2) because of filter bubble effect where participants might be surrounded by like-minded people. This deduction is supported by the fact that younger adults are less likely to vote, demonstrating their less interest in politics (File, 2014, pp. 1964–2012). Also, the age category found to have the least interest in voting is 18–29 which constitutes the majority of our sample (File, 2014, pp. 1964–2012). Future research is recommended to control for age and degree of political extremism to better understand political extremism and comment reading motivations.

4.4. Cultural orientation and comment reading motivation

The last research question to address is *how do cultural orientations relate to people's different news comment reading motivations?* We found that, for the Korean sample, reading comments *to seek new information* and *to seek conflict* was highly correlated with being a horizontal individualist. Horizontal individualists tend to be autonomous, independent, pursue personal goals, and at the same time they strive for equality and don't believe in hierarchies (Triandis, 1995). *To seek new information*, traits of the H-I construct are relevant such as pursuing new knowledge, relying on others and receiving this new knowledge from the public; which is valued by horizontals. The horizontalness construct casts a larger impact on the discussions and views of others, which reflects a need to consider different versions of design for the comment section for different countries.

The association between H-I and *seeking conflict* in the Korean sample is intriguing. Koreans who read comments to indulge in arguments, were more likely to be horizontal individualists. Although being

an individualist entails pursuing one's own goals and desires, virtues of humility and humbleness are also traits of H-I. Thus, the underlying relationship between H-I and reading comments to seek conflict for the Korean sample is unanticipated. Further research should address the relationship between the two variables. On the other hand, the U.S. sample *seeks conflict* in comment reading if they are vertical individualists. First, the majority of the United States population is V-I (Shavitt, Johnson, & Zhang, 2011), thus, we expected to see correlations of V-I with the motivations to read comments for the U.S. sample. V-I traits include being autonomous and having a desire to be the best, as well as being self-interested (Shavitt et al., 2011). We believe this might contribute to the need to seek conflict; if a person thinks highly of themselves, they might be more likely to believe that they are right, and others are wrong, leading to conflicts. Also, competition is very prevalent and emphasized in V-I, therefore, rivalry in one's demeanor galvanizes one to read comments and engage in contentious and argumentative discussions.

When reading comments for *entertainment* and for *social interaction*, we see that both samples were significantly correlated with being a vertical individualist. Both motivations stem from a hedonic desire and an "emphasis on pleasure" which are features of V-I (Shavitt et al., 2011). Thus, V-I people are expected to serve their own need for entertainment and amusement, and one way to achieve that end is through reading news comments. Although Korea is not known for V-I, the sample still showed significant effects of V-I on reading comments for enjoyment and social communication. This solidifies our understanding of vertical individualists' comment reading decisions which are centered around egoistic and self-indulgent characteristics, regardless of country of origin.

Although this research provides worthy results regarding cultural orientations, not all cultural orientations showed a relationship with comment reading motivations. For example, horizontal collectivism and vertical collectivism were not significantly correlated with any of the comment reading motivations, although Korea is mostly V-C (Shavitt et al., 2011). Please refer to Table 4 for a summary of the correlations.

4.5. Theoretical implications

The results for RQ1 (*How is reading comments before or after reading the full news post article related to different commenting and Liking motivations?*) contribute to our understanding of how users use comments as information heuristics. It is interesting to see that news consumers on social media are utilizing comments as cues to aid them in their decision-making process regarding reading the news post article. This is analogous to theories of information processing where people rely on heuristics as simple cues to help them make their next move. For example, taking a single glance at the number of reviews for an online product, would be a quick signal for customers to help them deicide which product they might consider buying. Reading comments, although not as simple as a quick glance at a number for a cue because it requires reading the comments to process it, is still a more convenient and an easy enough indicator for the content of the article, which is a lot simpler than reading the whole news post. This is consistent with information processing theories which helps users avoid reading the entire article, or, might encourage them to consider reading it. The finding supports and adds to the information processing theories in that cues do not necessarily have to be effortless and momentary, they however, still provide considerable shortcuts for people using them.

As discussed earlier, and demonstrated by this research, we believe that there is still a need to consider horizontalness and verticalness as dimensions to the broader dichotomous cultural classification of collectivism and individualism. Adding the two further dissecting constructs, revealed different information and insights that are relevant in understanding human communication and behavior. Individualistic tendencies value each person's opinion rather than the group; which makes people care more about what other individuals have to say. Apparently, the commenting and Liking features appeal more to individualists, perhaps as a tool to express one's personal beliefs. A question that arises is: are there online news tools that could benefit the collectivist? We don't know yet, indeed, it is possible that most of the features provided for online interaction with news posts is pondered toward the individualist culture.

Another interesting insight that manifested from the results is that countries are not as homogenous as one might think. Indeed, the majority of a country's population might be consisting of a single orientation, however, there is variations in every country. As seen in this study, when asked about participants' orientations, they ranged on a spectrum regardless of their country of origin. This idea was originally proposed by Triandis (Triandis, 1995) and is solidified with the findings in this research. A case in point is what is happening currently in the American political landscape. The rise of socialism in a capitalist country proves the impossibility for complete homogeneity of a country's composition. Therefore, being mindful of the presence of minorities and taking their input into consideration would ultimately serve a greater purpose for an equal and fair society.

4.6. Future work

A number of suggested studies and future endeavors where mentioned in the discussion section where appropriate. However, we would like to reiterate and highlight some promising extensions for the study in hand. First, we recommend a study to validate the proposed scales for comment reading and Liking motivations. Including a larger sample with a wider range of ages would help validate the results and see how the results found in this study extend to other broader age categories. Second, doing exploratory research of this nature is invaluable for future studies to understand how the effects found in this research reflect on the design of the comment section in different countries. An experiment in a lab with a number of different designs for the comment section, taking into account the cultural aspect of participants, would be an interesting extension and next step for the study in hand.

4.7. Limitations

The research has a number of limitations. The participants were recruited through an online panel, which means they may be more technologically savvy than others in their age bracket. Also, we only surveyed young adults, so it is uncertain how these results would compare to those of different age groups. Being more technically literate might bias the results towards higher means for Liking and commenting. Consequences for those limitations is their effect on limiting the generalizability of the study. Due to lack of previous research on motivations to read comments, the authors did not have an a priori idea and conducted factor analysis to find possible motivations. Further research is encouraged to validate the scales presented by this study. Lastly, it is worth mentioning that R-squares in this study are relatively

Table 4
A summary of cultural orientation correlations with comment reading motivation.

H-I	H-C
Seek New Information (KO)	No significant correlations with comment
Seek Conflict (KO)	reading motivations.
V-I	V-C
Seek Conflict (US)	No significant correlations with comment
For Entertainment (US, KO)	reading motivations.
For Social Interaction (US, KO)	

H-I: "strive to be distinct without desiring special status". H-C: "emphasize interdependence but "do not submit easily to authority."" V-I: "strive to be distinct and desire special status". V-C: "emphasize interdependence and competition with out-groups." (Singelis et al., 1995).

small to moderate. However, it was found that relatively small effects, such as low R-squares in this case, are sometimes able to reflect large effects due to the type of population we are examining, which is millions of social media users (Bond et al., 2012). Furthermore, it is common for social sciences and psychology fields to have lower R-squares due to the fact of attempting to measure effects on latent variables.

5. Conclusion

News posts on social media are viewed by thousands of readers who have the ability to comment and Like news articles and other comments. This research studied motivations for Liking and commenting on news articles on social media. We found five motivations for commenting on news posts and two main reasons for Liking news posts comments. We used political extremism and cultural orientation to further dissect the results in an effort to better understand global user behavior.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.chb.2019.06.006.

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