

Counter-Framing Effects of User Comments

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Past research shows that news frames shape audience reactions to news messages. As individuals receive more of their news online, where many news messages are accompanied by opportunities for audience members to comment, it has become important to investigate how such comments influence message framing effects, especially when they compete with the original news article. Therefore, this study examines the framing effects of user comments opposing a news editorial by directly challenging the editorial or featuring an alternative perspective to view the issue in focus. Findings demonstrate that the nature and tone of counter-framed comments can influence the editorial's impact.

Keywords: framing effects, counter-framing, user comments, incivility

Framing effects research assumes that message content interacts with the existing concept networks, known as mental schemas (Rumelhart, 1980) in the mind of the consumer. Frames are different structuring templates or central organizing ideas that are used to construct mass media messages that will activate the corresponding schemas for interpretation in the audience (Gamson & Modigliani, 1989). Therefore, frames of messages about public issues have the potential to suggest the nature or essence of the issue, its causes, and solutions (Entman, 1993). For example, a news article on offshore drilling can either emphasize its positive impact on the economy or highlight its negative consequences for the maritime environment (Druckman, Peterson, & Slothuus, 2013). As a result, readers are likely to view the issue through the perspective provided in the message by using the highlighted considerations when forming their own opinions, a process referred to as framing effects (Price & Tewksbury, 1997; Price, Tewksbury, & Powers, 1997).

The advent of the online communication environment has brought significant changes to the dynamics between message producers and consumers (Shah et al., 2017). Although political elites and media professionals still hold power in shaping the discourse on controversial public issues, audience members play an increasingly important role in commenting on messages, as well as creating and disseminating information online. In particular, various interactive features allow media users to express themselves, which can facilitate reflection and debate, and even broaden political participation. Reader

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comment systems on news websites are a case in point (Reich, 2011). Comment systems can foster the expression of diverse and heterogeneous views, introducing the potential for frame competition. Although previous framing studies tend to focus on framing effects of news articles or editorials (Gross, 2008; Nelson, Clawson, & Oxley, 1997; Shen & Edwards, 2005), reader comments accompanying these articles also need to be recognized as an important framing device in digital contexts.

Of particular interest is when reader comments oppose the article. They may do so either by directly challenging the frame of the original article, or by featuring an alternative perspective to view the issue at hand. For example, the article that supports welfare reform by advocating that it will "encourage people to work" (the target issue frame) can be challenged by a comment that directly counterargues that the reform will not sufficiently motivate people to work, or by framing the issue through highlighting alternative considerations that the reform imposes hardships on families with children. Either way, these counter-frames embedded in reader comments may interact with the news message frame, a phenomenon that has not been examined in the existing framing literature.

Furthermore, since incivility has become a common trait in anonymous user comments online (Coe, Kenski, & Rains, 2014; Rowe, 2015), the tone of reader comments should also be considered. When contradicting the article, the comment could simply present the opposing information without attacking the original message. Alternatively, in the process of providing such information, it could attack the message or even use uncivil language in its attack. As such, the comment might vary, not just in terms of its counter-framing approach, but also in terms of its tone (i.e., no attack against the message, attack, or uncivil attack). The latter alternatives represent varying levels of disrespectfulness, which might further influence the effects of the original message.

With these considerations in mind, this online experiment investigates the influence of counter-framed comments with varying tones toward an editorial in terms of their influence on readers' issue attitudes and emotions.

Literature Review

Framing Theory

Framing studies have their origins in both psychology (Tversky & Kahneman, 1981; 1986) and sociology (Gamson, Croteau, Hoynes, & Sasson, 1992; Gamson & Modigliani, 1987). The concept was later introduced to the field of mass communication as a media effects theory (Scheufele, 1999), but relevant research largely constituted a fragmented paradigm (Entman, 1993).

Because of the interdisciplinary nature of framing effects research, Druckman (2001) differentiated the major lines of research by using the term "equivalency framing" versus "emphasis framing." Although both approaches concern providing reference points and assigning contexts to the issue for audience interpretation, equivalence framing focuses on alternative formats of the same piece of information (e.g., 95% employment versus 5% unemployment) whereas emphasis framing addresses contrasting perspectives

on the same issue (e.g., the benefits of developing nuclear technology on energy and economy versus its risks for workers and the environment).

As a result, different implications are drawn. Effects from equivalence frames are considered as evidence for human irrationality because people are found to be responsive to alternative presentation formats even when the information being communicated is essentially identical. By comparison, emphasis framing points to competence in people's preference formation as readers are shown to be able to utilize different perspectives highlighted in the message for their subsequent judgments. Political communication research has a bias in favor of emphasis framing for the sake of reproducing variations in the real-life media discourse (for a review, see Liu & Scheufele, 2016). Thus, this study adopts the emphasis framing approach that excels in its ecological validity in capturing contrasting views of public issues under debate.

Reader Comments as a Framing Device

Framing theorists suggest that frames can be carried by different textual units (e.g., concepts, assertions, and arguments; see McLeod & Shah, 2015), message structures (e.g., syntaxes, scripts, and themes; see Pan & Kosicki, 1993) and article components (e.g., headlines, subheads, and leads; see Tankard, 2001). However, past framing effects studies typically embedded frames in news stories or editorials and opinion columns (Gross, 2008; Nelson, Clawson, & Oxley, 1997; Shen & Edwards, 2005) with other framing devices often being overlooked.

Although many previous studies on framing focused on the effects of differently framed full-length articles, recent reviews of framing literature suggests that the power of framing is not dependent on the length or the structure of messages because frames can be embedded in various message units from labels, statements to arguments (McLeod & Shah, 2015; Liu & Scheufele, 2016). For example, even a simple change in labeling can produce significant framing effects. Labels that have been found to have differential effects on readers include but are not limited to: "Obamacare" versus the "Affordable Care Act" (Holl, Niederdeppe, & Schuldt, 2018); "climate change" versus "global warming" (Benjamin, Por, & Budescu, 2017), "undocumented immigrants" versus "illegal immigrants" (Knoll, Redlawsk, & Sanborn, 2010), and "welfare" versus "assistance to the poor" (Rasinski, 1989).

Moreover, given that framing scholars have argued for investigating specific message components as framing devices, such as headlines, subheads, and quotes (Tankard, 2001; de Vreese, 2005), a recent study examined the effects of headlines of suggested articles for further reading as a framing device and found that seemingly innocuous cues from the online news recommendation system can significantly reinforce or undermine the influence of the article with which they accompanied (Liu, Lee, McLeod, & Choung, 2019).

Thus, as framing literature suggests that 1) frames can be embedded in different message units and website features; 2) framing effects are not determined by message length; and that 3) recent framing studies began to investigate specific framing devices, we conceptualize user comments in this study as an important framing device in the online communication environment.

Counter-Framing Effects of Opposing Reader Comments

Framing effects literature suggests that frames can influence audience issue attitudes (Nelson, Clawson, & Oxley, 1997; Nelson, Oxley, & Clawson, 1997) following the belief value expectancy model in attitude formation (Anderson, 1981; Ajzen & Fishbein, 1980). According to the model, one's attitude toward a target issue (e.g., offshore drilling) may shift if one's evaluation of particular beliefs changes (e.g., to what extent offshore drilling can bring energy benefits) or if the relative weight one assigns to different beliefs changes (e.g., how important the economic consideration is as compared with the environmental perspective of drilling in determining one's position on the issue). The former targets at changes in one's belief content whereas the latter centers on affecting to what extent particular considerations will be applied to issue interpretation and attitude formation (Price & Tewksbury, 1997).

Despite the volume of research looking at the effects of framing in news messages, the influence of framing in user comments and their interaction with framed news articles has largely been ignored. While comments can either support or oppose the article they accompany, we are especially interested in comments as a counter-framing device. Specifically, when user comments featured below a news editorial contradict the editorial's argument, they can either use an alternative frame to lead people to view the issue from a different perspective (alternative framing) or directly argue against the frame of the editorial (direct challenging).

On one hand, research has shown that exposure to alternative frames may undermine the effects of the original frame (e.g., see Brewer, 2002, 2003; Sniderman & Theriault, 2004). For example, in the coverage of gay rights, Brewer and Gross (2005) found that participants who were exposed to the equality frame were likelier to use equality language when thought-listing as compared with respondents who received both the equality frame and morality frame. Thus, alternative framing as a counter-framing approach represents an indirect challenge to the message by suggesting that there is another perspective to view the issue that may also be worthy of readers' attention.

On the other hand, counter-framed comments may also challenge the frame of the article with a more direct confrontation when the two sides go head-to-head against each other. For example, if an original message arguing on behalf of welfare reform is based on the argument that it will motivate people to find jobs, counter-framed comments could directly challenge the assertion that the reform will be a motivating factor.

In both scenarios, if the user comment system on news websites could function as a counter-framing device, then counter frames embedded in reader comments should be able to dampen the effects of the frame adopted by the news article.

Moreover, scholars have argued that framing effects typically go beyond cognitive dimensions to influence affective outcomes. According to the cognitive appraisal theory (Roseman, 1991; Smith & Ellsworth, 1985), respondents' emotional reactions can be attributed to their cognitive judgments: distinct emotions are generated with respect to the issue/object under cognitive evaluation. Thus, exposure to framed messages also affects the extent to which specific emotions are felt (e.g., see Gross & D'Ambrosio,

2004; Kühne & Schemer, 2015; Kühne, Weber, & Sommer, 2015). For example, on the issue of mandatory minimum sentencing, highlighting an individual case produced more empathy as compared with discussing the policy in general legal terms (Gross, 2008). Therefore, we propose Hypothesis 1.

H1: Counter-framed comments will undermine the effects of the article on readers' issue attitude and issue emotions.

Effects of the Tone of Opposing Comments

In examining the impact of comments that accompany a news story or editorial, it is important to consider the nature of the content of those messages. Many comments are oppositional, but among oppositional messages, the tone of that opposition may matter as well. Research has shown that features peripheral to the central content of the message can affect readers (Fichter & Jonas, 2008; Flanagin & Metzger, 2007). For example, Druckman (2001) found that frames were influential only when they were embedded in articles depicted as from a credible media outlet. Following this line of reasoning, we argue that the tone with which the content is presented can also be considered a peripheral feature, a characteristic that is particularly relevant to online communication, where incivility has been shown to be especially common (Sobeiraj & Berry, 2011).

Concern about growing incivility in public discourse has fostered considerable research in political communication (Mutz & Reeves, 2005). Discussions in an offensive manner may negatively influence deliberations on public issues, threatening the ideal of a well-functioning democratic system (Papacharissi, 2004; Shils, 1992). This is especially relevant to the continuing scholarly debates about the extent to which digital technology facilitated online environment may have the potential to revive public sphere (Papacharissi, 2002). Contrary to the normative hope that unhindered interaction may facilitate deliberative democracy, researchers have noted that a lack of face-to-face encounter, the absence of nonverbal cues and the anonymous nature of conversations may lower the perceived social risks of discussions and therefore make people online likelier to interact with others in a disrespectful manner (Dahlberg, 2001; Dutton, 1996; Stromer-Galley, 2002).

As many online media outlets provide opportunities for audience members to comment on news stories, user comment systems, which were designed to increase audience engagement (Reich, 2011), have become fertile ground for hostile discourse. Coe, Kenski, and Rains (2014) found that a large proportion of comments are impolite and disrespectful. Particularly, anonymous comments left on news websites are likelier to be uncivil compared with comments on social media which require users to register using real names (Rowe, 2015).

More importantly, such tones of comments can function as a heuristic/mental shortcut (Chen & Chaiken, 1999; Petty & Cacioppo, 1986) cueing readers as to the extent of opposition and tolerance other readers have toward the article's argument. That is, the extent to which online comments feature harsh language may indicate the comment posters' sentiments toward the article, as well as influence the reactions of subsequent readers.

For example, comments may simply provide opposing information. They may also include material that attacks the original messages. Some of those attacking comments may be uncivil. Our question is to what extent the tone of those oppositional messages matters in terms of audience reactions. The same opposing argument expressed in a more disrespectful manner in comments can heighten its effects in discrediting the article and directing readers away from the article's position. For example, research found that even when the message itself was well-intentioned (e.g., an antismoking public health announcement), people exhibited more opposing attitudes when the message was accompanied by uncivil comments (Shi, Messaris, & Cappella, 2014). Along this line, we hypothesize the following:

H2: As the level of disrespectfulness escalates, the effects of counter-framed comments on issue attitudes and issue emotions will increase.

Finally, with respect to readers' perceptions of the article, journalists have expressed concerns that uncivil exchange might negatively impact readers' perceptions of their work (Meltzer, 2014). Thus, although the reader comment system has become a typical feature of news websites, research has shown that journalists dislike the idea of anonymity and rarely interact with their audience through the comment system (Nielson, 2014).

At the root of this, since it has been documented that slanted articles are likelier to incur uncivil comments (Ksiazek, Peer, & Zivic, 2015), people may infer that the editorial itself must be problematic when it was accompanied by uncivil discussions below it. To make matters worse, exposure to biased comments can make readers likelier to post prejudiced comments themselves and, in this way, prejudice can easily reinforce itself through creating highly skewed opinions adjacent to the article (Hsueh, Yogeeswaran, & Malinen, 2015). Thus, this biased micro-opinion environment may also serve as a cue for readers indicating the poor quality of the article. Past research suggests that incivility in comments has negative influence on perceived article quality (Prochazka, Weber, & Schweiger, 2016). Considering this, we pose the following hypothesis:

H3: As the level of disrespectfulness escalates, counter-framed comments will make people perceive the article more negatively.

Method

We examined the effects of counter-framed comments along with different tones of response in those comments (no verbal attack versus verbal attack versus uncivil verbal attack) in the issue context of the iPhone dispute, which features the controversy over whether Apple Inc. should help the FBI decrypt the iPhone used by the mass shooter in the San Bernardino attack of 2015. Apple Inc. refused to obey the court order to help the FBI, arguing that unlocking the iPhone would entail creating backdoor access to iPhones, which poses risks for other iPhone users. A careful reading of the news coverage on the issue revealed that some people argued that if an iPhone backdoor is created by Apple Inc., it could be used by law enforcement agencies to keep the nation safe by monitoring national security threats (national security frame), while others argued that iPhone backdoors could largely expand the scope of domestic surveillance, which allows the government to collect private data of ordinary citizens, raising concerns about privacy (privacy frame).

Thus, although the iPhone dispute is a single public issue, the frames used in this study reflected the national security versus civil liberties debates that have been going on in the United States for more than a decade. Particularly, in the digital age, the expansion of government's surveillance power allows law enforcement agencies to collect data on a large scale. While digital surveillance can help make the nation safe, it also triggers civil liberties/privacy concerns. There have been a series of framing effects studies conducted using this context because of its significance in media and broad implications to the society (e.g. see Boyle et al., 2006; Chong & Druckman, 2013; Keum et al., 2005; McLeod & Shah, 2015).

Design

Participants were randomly assigned to one of the seven experimental conditions: six editorial-with-reader-comments conditions and one editorial-only condition. After reading the stimulus material about the iPhone dispute, participants answered questions about the article and the issue. In the editorial-only condition, participants read only the news editorial, as no reader comments were displayed. Among the six editorial-with-reader-comments conditions that featured a 2×3 between-subjects design, participants were exposed to a list of four reader comments after reading the same news editorial: the opposing comments differed in their counter-framing approach (alternative framing versus direct challenging) and their tones of response to the editorial (no verbal attack versus verbal attack versus uncivil verbal attack).

Message Stimuli

In all conditions, the editorial features the national security frame, arguing that Apple Inc. should create a backdoor access to iPhones because law enforcement agencies could use it to keep the nation safe. The editorial was portrayed in the form of a screenshot taken from the editorial page of the *USA Today* news website.

When reader comments were present, the editorial was accompanied by a list of four comments from anonymous users. Specifically, in direct-challenging-comments conditions, all the comments emphasized that a backdoor access would not be effective to enhance national security because it could be easily circumvented, as there are many other encrypted means of communication available. By comparison, in alternative-framing-comments conditions, all the comments emphasized privacy concerns, arguing that if a backdoor is created, it could be used to access all iPhones, putting ordinary citizens' privacy at risk (see Appendix A for exact wording).

The comments also differed in their response tones toward the editorial (see Appendix B). In the no-verbal-attack conditions, the comments featured only the argument on the issue without blaming the editorial. In the verbal-attack conditions, the comments started by downplaying the competence of the editorial and then proceeded with the argument. In the uncivil verbal-attack conditions, the comments criticized the editorial while also using uncivil language. The wording of the uncivil language was derived based on research by Coe, Kenski, and Rains (2014).

Participants

Adult respondents (age ≥ 18) were recruited from Qualtrics to take the experiment-embedded survey in exchange for monetary compensation. The final sample consists of 399 adults randomly and equally distributed across the seven conditions. The average age was 46.5 (range: 18–83, $SD = 16.3$). Of the respondents, 52.9% were female and 46.9% were male. Approximately 80.2% were white; 9.8% were black or African American; 4.3% were Asian; and 5.4% were of other ethnicities. With respect to the education level, 25.8% did not attend college, 38.6% received some college education, and 35.4% had a bachelor's degree or higher. For income distribution, 15.5% had a household annual income less than \$20,000; 38.1% between \$20,000 and \$50,000; 27.1% between \$50,000 and \$80,000; and 19.1% above \$80,000.

Measurement

Issue attitude. Issue attitude was measured by two questions: a) "Apple should have helped the FBI unlock the iPhone used by one of the San Bernardino shooters" and b) "Apple was justified in refusing to unlock the iPhone," both on a seven-point scale from 1 = *strongly disagree* to 7 = *strongly agree*. Response to the latter question was reverse-coded and then averaged with the former to form the issue attitude measurement ($r = .75$, $p < .001$, $M = 4.34$, $SD = 1.97$).

Issue emotions. Three items were used to measure respondents' levels of negative emotions toward Apple Inc. Anger, frustration, and annoyance were each gauged with an 11-point scale from 0 = *not at all* to 10 = *extremely* and then averaged as the negative emotion index for Apple Inc. ($\alpha = .97$, $M = 4.61$, $SD = 3.61$). Anger, frustration, and annoyance were selected as the emotions of interest because cognitive appraisal theory suggests that distinct emotions are generated as people cognitively evaluate issues and objects. Because the issue centered on Apple Inc.'s refusal to unlock the iPhone, it is expected that the emotions readers have on Apple Inc. after reading framed message stimuli will be in line with their postframe exposure issue attitudes. Thus, measuring respondents' levels of anger, frustration, and annoyance toward Apple Inc. represents the degree to which respondents blame Apple Inc. for its decision, which can then be directly compared with their issue attitudes.

Perceived editorial strength. Respondents were asked to indicate the strength of the editorial's argument on an 11-point scale ranging from 0 = *not strong at all* to 10 = *extremely strong* ($M = 5.88$, $SD = 2.57$).

Emotions toward the editorial. Participants were asked to assess how angry, frustrated, and annoyed they were toward the editorial, each on an 11-point scale where 0 = *not at all* and 10 = *extremely*. The three items were then averaged into the negative emotion index about the editorial ($\alpha = .96$, $M = 3.94$, $SD = 3.11$). Similarly, it is expected that the emotions readers have about the editorial will be in line with their perceptions of the strength of the editorial. Thus, measuring respondents' levels of anger, frustration, and annoyance toward the editorial reflects the degree to which respondents blame the editorial for failing to justify the position advanced in the editorial through its argument.

Manipulation checks. We asked respondents to indicate a) if they saw reader comments after reading the editorial (responses were then recoded as *correct* versus *incorrect* based on the experimental condition); b) the main argument featured in reader comments (responses were then recoded as *correct* versus *incorrect* based on the experimental condition); and c) the level of respectfulness in the tone of those comments (from 1 = *very disrespectful* to 6 = *very respectful*, $M = 3.64$, $SD = 1.27$).

Results

Manipulation Checks

Our manipulation was successful: 92.98% of respondents accurately identified whether a list of user comments was present, $\chi^2(1) = 294.86$, $p < .001$, and 73.43% of participants who read the comments correctly identified the nature of counter-framing featured in those comments, $\chi^2(1) = 59.52$, $p < .001$. In terms of the respectfulness in tone, $F(2, 314) = 19.61$, $p < .001$, the three different manners of comments' responses to the editorial significantly differed from one another. Specifically, the no-verbal-attack conditions were the most respectful ($M = 4.14$, $SD = 1.08$), followed by the verbal-attack conditions ($M = 3.68$, $SD = 1.11$), while the uncivil-verbal-attack conditions were perceived as the least respectful ($M = 3.13$, $SD = 1.33$).

Issue Attitude

Regarding issue attitude, the difference between conditions was statistically significant for alternative-framing comments, $F(3, 219) = 5.82$, $p < .001$ (see Table 1).

Table 1. Mean Scores of Outcome Variables by Conditions (Alternative Framing).

	Editorial-only	Alternative-framing comments			<i>F</i>
		no attack	attack	uncivil attack	
Issue-related DVs					
Issue attitudes	5.09 ^a (1.82)	4.13 ^{a,b} (2.07)	3.84 ^b (2.05)	3.72 ^b (1.88)	5.82***
Issue emotions	5.63 ^a (3.52)	4.45 ^{a,b} (3.70)	3.40 ^b (3.73)	3.52 ^b (3.36)	
Article-related DVs					
Perceived strength	7.00 ^a (2.32)	6.29 ^{a,b} (2.16)	5.62 ^b (2.67)	5.55 ^b (2.75)	4.23**
Editorial emotions	2.36 ^a (2.49)	3.52 ^{a,b} (2.93)	4.44 ^b (3.60)	4.38 ^b (3.15)	
					5.67***

Note. Table entries are mean values with standard deviations in parentheses. Cell means with different superscripts differ at $p < .05$ level according to the Bonferroni post hoc test.

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

Pairwise comparisons with Bonferroni correction found that in the absence of verbal attacks, alternative-framing comments alone failed to significantly move respondents' issue attitudes ($M = 4.13$, $SD = 2.07$, $p = .06$). However, participants became more supportive of Apple Inc. in the verbal-attack alternative-framing-comments condition ($M = 3.84$, $SD = 2.05$, $p = .009$) and the uncivil-verbal-attack alternative-framing-comments condition ($M = 3.72$, $SD = 1.88$, $p < .001$) as compared with the editorial-only condition ($M = 5.09$, $SD = 1.82$).

By comparison, for direct-challenging comments, the difference between conditions was not statistically significant, $F(3, 230) = 1.58$, $p = .19$. None of the pairwise comparisons turned out significant (see Table 2).

Table 2. Mean Scores of Outcome Variables by Conditions (Direct Challenging).

	Editorial-only	Direct-challenging comments			<i>F</i>
		no attack	attack	uncivil attack	
Issue-related DVs					
Issue attitudes	5.09 ^a (1.82)	4.38 ^a (2.14)	4.64 ^a (1.83)	4.48 ^a (1.75)	1.58
Issue emotions	5.63 ^a (3.52)	5.51 ^a (3.49)	4.65 ^a (3.50)	4.97 ^a (3.56)	1.00
Article-related DVs					
Perceived strength	7.00 ^a (2.32)	5.89 ^{a,b} (2.33)	6.13 ^a (2.51)	4.71 ^b (2.70)	8.53***
Editorial emotions	2.36 ^a (2.49)	4.05 ^b (3.26)	3.85 ^b (2.98)	4.98 ^b (2.87)	7.99***

Note. Table entries are mean values with standard deviations in parentheses. Cell means with different superscripts differ at $p < .05$ level according to the Bonferroni post hoc test.

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

Issue Emotions

In terms of issue emotions, there was significant difference between conditions for alternative-framing comments, $F(3, 219) = 4.68$, $p = .003$ (see Table 1). Specifically, a Bonferroni post hoc test revealed that without verbal attack, alternative-framing comments failed to significantly move respondents' issue emotions ($M = 4.45$, $SD = 3.70$, $p = .47$). However, respondents had significantly fewer negative feelings toward Apple Inc. after reading verbal-attack alternative-framing comments ($M = 3.40$, $SD = 3.73$, $p = .01$) and uncivil-verbal-attack alternative-framing comments ($M = 3.52$, $SD = 3.36$, $p = .008$) as compared with those who got only exposed to the editorial ($M = 5.63$, $SD = 3.52$).

In contrast, for direct-challenging comments, the difference between conditions was not statistically significant, $F(3, 230) = 1.00$, $p = .39$. Pairwise comparisons were statistically non-significant either (see Table 2).

Perceived Editorial Strength

Regarding the effects of reader comments on editorial perceptions, the difference between conditions on perceived editorial strength was statistically significant for alternative-framing comments, $F(3, 219) = 4.23, p = .006$ (see Table 1). Pairwise comparisons with Bonferroni correction found that in the absence of verbal attack, alternative-framing comments alone failed to significantly affect respondents' perceptions of the strength of the editorial ($M = 6.29, SD = 2.16, p = .76$). However, participants perceived the argument made in the editorial as weaker when it was accompanied by verbal-attack alternative-framing comments ($M = 5.62, SD = 2.67, p = .03$) and uncivil-verbal-attack alternative-framing comments ($M = 5.55, SD = 2.75, p = .009$) as compared with the editorial-only condition ($M = 7.00, SD = 2.32$).

With respect to direct-challenging comments ($F[3, 230] = 8.53, p < .001$, see Table 2), pairwise comparisons using Bonferroni correction found that uncivil-verbal-attack direct-challenging comments ($M = 4.71, SD = 2.70, p < .001$) significantly affected readers' perceived editorial strength as compared with the editorial-only condition ($M = 7.00, SD = 2.32$). Other conditions were not significantly different from the editorial-only condition: $M = 5.89, SD = 2.33, p = .10$ for direct-challenging comments with no verbal attack and $M = 6.13, SD = 2.51, p = .35$ for verbal-attack direct-challenging comments.

Editorial Emotions

In terms of negative emotions toward the editorial, a statistically significant difference was found between conditions with respect to alternative-framing comments, $F(3, 218) = 5.67, p < .001$ (see Table 1). Specifically, pairwise comparisons with Bonferroni correction found that in the absence of verbal attack, alternative-framing comments alone did not significantly move respondents' editorial emotions ($M = 3.52, SD = 2.93, p = .26$). However, respondents had more negative feelings toward the editorial after reading verbal-attack alternative-framing comments ($M = 4.44, SD = 3.60, p = .004$) and uncivil-verbal-attack alternative-framing comments ($M = 4.38, SD = 3.15, p = .002$) as compared with those who got only exposed to the editorial ($M = 2.36, SD = 2.49$).

With respect to direct-challenging comments ($F[3, 229] = 7.99, p < .001$, see Table 2), pairwise comparisons using Bonferroni correction found that direct-challenging comments with no verbal attack ($M = 4.05, SD = 3.26, p = .01$), verbal-attack direct-challenging comments ($M = 3.85, SD = 2.98, p = .04$) and uncivil-verbal-attack direct-challenging comments ($M = 4.98, SD = 2.87, p < .001$) significantly affected readers' emotions toward the editorial as compared with the editorial-only condition ($M = 2.36, SD = 2.49$).

Overall, as only those counter-framed comments with verbal attack or uncivil verbal attack significantly moved people's issue opinions and emotions away from the editorial's suggested direction, H1 was only partially supported. However, these findings suggest that disrespectfulness in comments' response to the article increased the effects of counter-framed comments on issue attitudes and emotions, supporting H2. In addition, findings show that respondents perceived the editorial more negatively as the disrespectfulness in comments increased, which supported H3.

Discussion

Online-user interactive features such as reader comment systems allow audience members to interact with the author of the article and other users. It raises the importance of looking into the effects of these website components as framing devices in digital contexts (Liu et al., 2019; Su, Liu & McLeod, 2019). This study investigates the user comment system on news websites, examining how comments opposing an editorial may affect people's issue attitudes and emotions. Findings suggest that counter-framed comments that were disrespectful to the editorial significantly pushed people away from the editorial's direction of support. Moreover, disrespectful comments also made readers perceive the editorial more negatively.

This study yields several important implications. First, it demonstrates that it might be necessary for framing-effects research to consider the complexity of the digital communication environment online (Shah et al., 2017). Particularly, apart from media professionals and political elites, audience members should also be considered as active frame builders expressing their views on controversial public issues which increases the chance of frame competition. While one may assume that the effects from frames embedded in relatively short texts from anonymous users may not be able to compete with the main article, our results suggest that such seemingly minor elements should not be overlooked, as disrespectful reader comments not only successfully counter-framed the issue, but their effects were also consistent across cognitive as well as affective domains. Therefore, future research on the effects of framing could be more ecologically valid (applicable to the real world) when it takes into account the interactions between frames embedded in both articles and readers' responses (i.e., addressing the feedback loop in the two-way communication model).

Second, as Sundar (2008) noted, heuristic cues can be carried by media technology facilitated online features. Incivility is an important trait to anonymous user comments on news websites (Rowe, 2015). In particular, it may function through cueing readers of the degree of opposition in comments' responses to the article. In this experiment, the different tones of response affected the effectiveness of counter-framed comments such that high levels of disrespectfulness in comments not only made readers perceive the article more negatively, but also enlarged the effects of counter-framed comments in swaying readers' issue attitudes and emotions against the editorial's direction. These findings validate media professionals' concerns that disrespectful comments will negatively impact the effectiveness of their messages (Meltzer, 2014). From a normative perspective, an inclusive discussion environment that conforms to the ideal of public deliberation requires respects to each other during the exchange of competing views. Therefore, empirical findings from this study about the effects of disrespectful comments could be used to justify the current trend of shutting down the anonymous comment system on news sites or moving it to social media (Ellis, 2015; Liu & McLeod, 2019).

Third, although it is widely acknowledged that frames have influence on opinion formation (Druckman, 2001; Nelson, Oxley, & Clawson, 1997; Price & Tewksbury, 1997), we found that disrespectful counter-framed comments exhibited a different degree of effects. Specifically, uncivil direct-challenging comments failed to significantly move people's issue attitudes. On one hand, it might be because the national security frame is usually used to argue in support of surveillance in mass media coverage (McLeod & Shah, 2015), thus featuring opposing arguments under this frame may be contrary to what readers expected. On the other hand, comments from unknown anonymous users might be undervalued when they directly

confront the argument in an editorial from a generally trusted mainstream media outlet. As such, the head-to-head strategy may favor the message sources with greater perceived credibility. By comparison, in the case of disrespectful alternative-framing comments, the fact that those comments did not challenge the editorial's argument directly but rather provided an alternative perspective to view the issue might make them likelier to be accepted by readers. Therefore, to build on our empirical findings that disrespectful counter-framed comments are of different effectiveness, future research might want to further explore its underlining mechanisms.

Fourth, content analysis found that reader comments in news comment sections were more uncivil than user comments on social media (Rowe, 2015). As people perceive a relatively low level of social risks when they are allowed to comment anonymously, anonymity can largely increase the likelihood of Internet users engaging in offensive remarks online (Stromer-Galley, 2002). Since social media platforms typically ask people to register with their real identities, conversations on social media are more respectful. Thus, future research might want to examine whether our findings can be applied to comments on social media where users comment on issues with their real names.

This study has limitations. First, it used editorials instead of straight news articles. News articles are expected to be neutral and balanced and thus usually feature mixed frames. To study frame competition, single frames are embedded in editorials that are considered opinionated (one-sided) to trigger opposition or debates in their comments. However, editorial readers may differ from general news consumers and may more actively judge the frame adopted by the article as they are aware that the message is persuasive and biased. Second, comments in each single experimental condition were with the same frame and of the same tone of response to the editorial. Although this accentuated the differences between conditions, it does not capture the heterogeneous nature of the comment system as a public space where diverse views are presented. Third, in order not to introduce confounding variables, the editorial and user comments were portrayed as from a generally well-known, trusted and ideologically neutral media outlet (the *USA Today* newspaper website). It remains unknown whether the pattern is replicable with media outlets that are highly partisan or the ones with relatively low credibility. Finally, this study was conducted in the context of national security versus privacy debates. Future studies might want to replicate the design with other issue topics to generalize findings across different issues.

In summary, this study addresses framing effects in the online news environment by empirically testing the effects of the user comment system as a counter-framing device. Findings suggest that counter frames embedded in disrespectful comments could undermine the effects of framed articles with which they accompany. Future research along this line could systematically explore other user interactive features to provide more empirical evidence to understand digital framing effects.

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Appendix A: Nature of Counter-Framed Comments

Alternative-Framing Comments from News Website Users

Myrrhh: Any court order that leads to a backdoor means that no phone is ever safe from the government coming in and seeing your private information.

Jeremy: There are 350 million reasons for not going along with the court order. If the FBI can get into people's cell phones, the privacy of all Americans will be violated.

Fusion36: The thought of the FBI accesses my iPhone makes me want to say: Hands off my phone! I have done nothing wrong and, until proven otherwise, my phone is none of your business.

Marsha H: A backdoor into the iPhone paves the way for abuse. And, although I'm a law-abiding citizen, I don't want other people to look at my private data. There is a need for encryption for privacy's sake.

Direct-Challenging Comments from News Website Users

Myrrhh: Any mandatory iPhone backdoor will simply be ineffective because anyone who wants to evade this backdoor has a wide variety of other encryption products they can use instead.

Jeremy: High-tech digital surveillance has been shown to be far less effective than conventional intelligence techniques. Most terrorists would know enough to avoid using communication platforms that have been backdoored.

Fusion36: Terrorists don't use the iPhone as the means of communication because of the large availability and affordability of Android phones, especially in underdeveloped countries.

Marsha H: By the time law enforcement agencies get hold of the terrorists' phones, it would be too late. The San Bernardino attack is a case in point.

Appendix B: Tones of Counter-Framed Comments

No Verbal Attack

(The comments featured arguments in Appendix A without criticizing the editorial.)

Verbal Attack

Whoever wrote this editorial is uninformed.

Simply put, this editorial's argument is basically wrong.

I really think this article isn't doing any justice to its argument.

This editorial is perpetuating a lie that has been discredited.

Uncivil Verbal Attack

Whoever wrote this editorial is a moron.

Simply put, this editorial's argument is idiotic.

Your article sounds like it was written by a fourth grader.

This editorial is spreading a lie that has been thoroughly discredited.