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## User comments as news quality: Examining incivility in comments on perceptions of news quality

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**Abstract:** This chapter examines how the composition of civil and uncivil content in comment threads influences people's perceptions of news quality. Based on a mixed-design online experiment in the United States, we found that a higher proportion of incivility in comment threads diminished people's perceptions of news quality. The effects of online incivility vary across obtrusive and unobtrusive issues, referring to issues that individuals had either high or low amounts of direct personal experience with, respectively. Specifically, proportion of online incivility was found to have larger detrimental effects on news quality perceptions for obtrusive issues than unobtrusive ones. For obtrusive issues, comment threads starting with uncivil content exacerbated the negative effects of online incivility on news quality perceptions; for unobtrusive issues, comment threads ending with online incivility were more harmful for news quality perceptions. We concluded this chapter by discussing the theoretical and practical implications of our findings.

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High-quality news has important implications for both journalism and a democratic society. The commercialization and digitalization of the news ecosystem, however, have posed new challenges to quality journalism. One notable aspect is that online news articles are often accompanied by user comments. Those poorly worded and frequently uncivil user comments (Coe et al., 2014) remain one of the most concerning issues for news workers (Grieve, 2014). Uncivil comments posted on news have been shown to lead to media bias (Anderson et al., 2018), dampen credibility judgment, (Masullo et al., 2021) and lower news quality perceptions (Prochazka et al., 2018; Weber et al., 2019).

Given the growing role of user comments in signaling news quality, both news organizations and social media companies have devoted themselves to ranking user comments, such as prioritizing certain comments in the thread, to represent a range of views that either indicate their quality or popularity. Most organizations rely on either human-selection or social endorsement cues (e.g., the number of likes, shares, comments) to rank user comments under news stories. Yet, few have explored what impact – if any – the composition of civil versus uncivil comments in a given thread may have on people’s perceptions of news quality. Part of the rationale for foregrounding the composition of civil and uncivil comments rather than removing all uncivil content is that recent research suggests that uncivil messages online are not always intrinsically harmful (Rossini, 2020) or perceived as such (Liang & Zhang, 2021). Thus, understanding the effects of (de)prioritizing uncivil comments in comment threads on users’ perceptions of news quality becomes pivotal.

In response, this study conducted a mixed-design online experiment in the United States and systematically varied the proportion and position of uncivil content in a comment thread across obtrusive and unobtrusive issues. Drawing on repetition and serial effects in communication and social psychology, we investigated how the proportion and position of online incivility could impact news quality perceptions among audiences. Further, we explored the effects across issues that audiences had either low or high amounts of direct personal experience with. One underlying assumption is that people may devote varying amount of attention to issues with or without personal relevance, which in turn shapes the effects of online incivility on their evaluations of news quality.

The present study adds to the extant scholarship on online incivility and news quality in the following aspects. Building on research that examines the effects of incivility as opposed to civility (Anderson et al., 2018; Chen & Lu, 2017), our study takes a step further by exploring how the arrangement of incivility – proportion and position in particular – affects news quality perceptions. While previous research tested the effects of uncivil comments on news quality in Germany (Prochazka et al., 2018; Weber et al., 2019), our study looks at *The Associated Press* (hereafter *AP news*), a well-known news brand in the United States. The study also provides novel evidence on the differences in the effects of online incivility across different issue contexts, which goes beyond existing research that used a single-issue experimental design (Prochazka et al., 2018; Weber et al., 2019). Practically, this study suggests guidance about mitigating the detrimental impacts of uncivil user comments on news quality by carefully arranging comment threads for different types of issues.

## **Theoretical Framework**

### ***News quality and user comments***

News quality is crucial to understand from the audience perspective, because it is conducive to news consumption. News organizations, by providing quality content, could foster audience loyalty in the long term. Yet, news quality is a contested concept in the existing literature. First, the objects of news quality could be very different, ranging from media systems, media organizations to specific types of news and single news items (see Plasser, 2005; Humprecht & Esser, 2018). Second, the criteria of news quality are also widely debated. Some studies focus on normative dimensions of news quality, such as diversity, impartiality, objectivity, and ethics (McQuail, 2013; Urban & Schweiger, 2014); others focus on the informational dimension, including readability, comprehensibility and accuracy (Graefe et al., 2018; Waddell, 2020). Given both dimensions constitute the key aspects of news quality, this study follows Prochazka et al. (2018) and taps into normative and informational aspects of news quality to understand audience evaluations of commented-on news articles.

Accumulating evidence has suggested that in most cases, news audiences cannot evaluate the quality of news sufficiently. In an experimental study, Urban and Schweiger (2014) found that news users could better recognize news quality with regard to relevance, impartiality and diversity than ethics, objectivity, and comprehensibility. Researchers note news users' difficulty in developing sensible quality judgments based on news articles themselves could be attributed to the unique nature of online information processing (Prochazka et al., 2018; Weber et al., 2019). For instance, news users may rely on less complex components and heuristic cues, such as news brand, bandwagon metrics, and user comments, in judging journalistic quality (Conlin & Roberts, 2016; Waddell, 2020).

Since the inception of Web 2.0, user comments have become an integral part of news websites. About 55% Americans have left a comment online and 77.9% have read online comments on news websites at some point (Stroud et al., 2016). Not surprisingly, user comments serve as an important heuristic cue for audience to form news evaluations. For instance, Conlin and Roberts (2016) show that the mere appearance of user comments could decrease news site credibility. Other studies also found that users may infer a news item's quality from the characteristics of user comments, such as authenticity and sentiment (see Waddell, 2020).

### ***Online incivility and news quality***

The definition of incivility varies across theoretical traditions, research contexts, and empirical foci. Following the tradition of deliberative theory, one school of thought conceptualizes incivility as a deviation from the classic ideals of public deliberation. Accordingly, incivility refers to the discourse that lacks attributes of deliberation, such as reciprocity, or that disrespect citizens' rights or threaten democracy (Papacharissi, 2004), which Muddiman (2017) calls public-level incivility. The other school draws on politeness theory (Brown & Levinson, 1987) and conceptualizes incivility as violations of interpersonal politeness norms or personal-level incivility (Muddiman, 2017). When studying user comments on news websites, researchers have operationalized personal-level incivility as personal attacks, rude language, profanity, and words in all capital letters (Coe et al., 2014; Chen & Lu, 2017; Prochazka, et al., 2018). Following this line of research, we focus on personal-level incivility in this study because it is more prevalent in online comments than other forms of online incivility (Chen, 2017; Coe et al., 2014).

A growing body of literature has explored the effects of online incivility on audience evaluations of adjacent content. One study, for instance, shows that news stories were seen as biased and less credible if uncivil comments were posted on them (Anderson et al., 2018). Relevant to this study, studies have offered some mixed evidence on the impact of uncivil user comments on news quality perceptions. Prochazka et al. (2018) demonstrated that incivility in comments dampened users' perceptions of the news quality for both well-known and unknown news brands in Germany, whereas Weber et al. (2019) found that incivility decreased news quality perceptions only with an unknown news brand. Such inconsistent findings could be attributed to the lack of explicit measurement of brand awareness for the real news sites, which could confound the findings across unknown and well-known news brands. Another limitation is that both studies only tested the effects with a single issue in Germany. It remains unknown how those findings could be generalized into other types of issues and a different country. To extend this line of research, we seek to replicate the findings across different issue contexts for *AP news* – a well-known news brand in the United States. Based on the assumption that news users form judgments of news quality based on heuristic cues (i.e., user comments), we anticipate that incivility in comment threads will dampen news quality perceptions:

**H1:** Incivility in comment threads will result in lower perceptions of news quality.

To add to the literature, this study specifically looks at two important features of the composition of comment threads – proportion and position of incivility. The general concept of message repetition has received considerable attention in early communication research (entropy in information theory, see Shannon & Weaver, 1949). Empirical evidence shows that message repetition has strong effects on cognitive response, recall, and persuasion (Cacioppo & Petty, 1979). Similarly, the figure-ground hypothesis holds that higher proportion of negative content in a given text will stand out and have a larger effect on people's perceptions (Kanouse & Hanson, 1972). Accordingly, a higher proportion of incivility was found to cause hostile cognitions (Rösner et al., 2016). Concerning news consumption, it is revealed that a higher proportion of uncivil content in comment threads could decrease news outlet credibility (Masullo et al., 2021). These studies suggest that a higher proportion of incivility will have larger effects on news quality perceptions because it represents the repetition of uncivil content and it holds noticeability based on the figure-ground hypothesis. Here, the following hypothesis is posited:

**H2a:** Comment threads with a higher proportion of incivility will result in lower perceptions of news quality.

Given that user comment threads on news websites would typically appear as a mix of civil and uncivil messages, we further argue that whether uncivil messages appear at the beginning or the end may also account for differences in news quality perceptions. The position effects of messages have been extensively examined in persuasion literature. The primacy effect, also known as first impression, refers to the mechanism that information placed in the first position in an array of messages matters the most for attitudinal formation, change, and subsequent behavior (Lund, 1925; Schwartz, 2011). The rationale for a primacy effect is grounded in a belief from cognitive psychology that because memory capacity is limited (Waugh & Norman, 1965), people encode information into their long-term memory immediately. Thus, recall would be greatest for

items in a series that were learned first (Schwartz, 2011). In contrast, the recency effect refers to the mechanism that information placed in the last position in an ordered list of messages holds more memory advantage because people were exposed to it most recently (O’Keefe, 2002; Schwartz, 2011). Assuming individuals rely on short-term memory to recall, the items placed in the later position may still be available when they recall because they are still salient (Haugtvedt & Wegener, 1994). During web browsing, recency effects are more likely to be observed as people do not spend much cognitive effort (Murphy et al., 2006). Because English-speakers, who were the focus in this study, generally read from top to bottom of a page (Kress & Van Leeuwen, 2006), the most recently read comments would be at the end of a thread. Hence, we posit:

**H2b:** There will be a recency effect of incivility such that comment threads that end with incivility will lead to lower perceptions of news quality compared with comment threads that start with incivility.

### ***Issue obtrusiveness, online incivility, and news quality***

Scholars agree that people generally scan through online news articles and tend not to process online information thoroughly to form judgments about news quality (Prochazka et al., 2018). However, it is not always the case across issue contexts, because different issues may entail varying degrees of relevance to individuals and that relevance may shape the way they process such information. Indeed, when considering social issues, some of them are deemed more important and relevant than others based on their direct ramifications to people’s personal lives. Research shows the varied media effects across different types of issues. Issue involvement, for instance, could shape the effects of persuasion by enhancing message-relevant cognitive response (see Petty & Cacioppo, 1979). Moreover, agenda-setting scholars identified the “obtrusive contingency” of media effects, in which direct personal experience with an issue could sensitize or prime people’s attention toward this issue and a stronger media effect could be observed (Demers et al., 1989).

Given the importance of issue types in conditioning media effects, our goal here is to investigate how issue obtrusiveness – indicating the amount of personal experience with that issue – shape the effects of incivility on news quality perceptions. Conceptually speaking, obtrusive issues are those that affect nearly everyone and with which people can have some kind of personal experience; unobtrusive issues are those being far from reach to people’s daily lives and connoting low personal experience. Research shows that obtrusive issues may lead one to devote more attention to the content and in turn heighten media effects (Demers et al., 1989; Erbring et al., 1980). In this study, people may involve high-level message elaboration (i.e., carefully considering a message) and process content more thoroughly when reading news and comments on obtrusive issues. Therefore, given equal proportion of uncivil content, they would be more susceptible to uncivil comments on obtrusive issues than on unobtrusive issues. This leads us to predict a larger effect of incivility on news quality perceptions for obtrusive issues than for unobtrusive ones:

**H3a:** Issue obtrusiveness will moderate the effects of proportion of incivility on news quality perceptions such that proportion will have a larger negative effect on news quality perceptions for obtrusive issues than for unobtrusive issues.

Moreover, issue obtrusiveness could change how message position effects operate. In a study of Ohio's 1992 elections, Miller and Krosnick (1998) found that candidate primacy effects only existed when voters were highly involved with the party. Similarly, Haugtvedt and Wegener (1994) revealed that a primacy effect most likely occurred when one was involved in high levels of message elaboration, while recency effects happen if one processed the messages with low levels of elaboration. Applied to this study, we anticipate a primacy effect of incivility on news quality perceptions in obtrusive issues because people may engage in high levels of message elaboration when reading news and comments of personal relevance. On the contrary, we expect a recency effect of incivility on news quality perceptions for unobtrusive issues, because when reading news and comments about unobtrusive issues, people may not seriously consider the messages or process the information thoroughly. As a result, they may rely on the last items they encounter to form judgments:

**H3b:** Issue obtrusiveness will moderate the effects of position of incivility on news quality perceptions such that there will be a primacy effect of incivility on news quality perceptions for obtrusive issues and a recency effect of incivility on news quality perceptions for unobtrusive issues.

## **Method**

The study protocol was approved by the Institutional Research Board at the first author's university in August 2020. An online experiment was carried out in the United States in October 2020. The sample for this study was drawn from Prolific, an online panel consisting of a diverse sample of American adults. After removing those who failed the attention check ( $n=8$ ), a total of 291 participants were retained. In the sample, 52.9% were female, 60.5% were white, with the median age at 35-44 years old, and the median educational level a two-year college degree. Around 25% participants ( $n=73$ ) had not heard of *AP news* before the experiment.

### ***Design and procedure***

The experiment adopted a 4 (proportion of incivility: 20%, 40%, 60%, 80%) by 2 (position of incivility: primacy versus recency) by 2 (news topics: obtrusive or unobtrusive issues) mixed-factorial design. After consenting, participants answered a short pretest survey about their demographic information and if they had heard about *AP news* upon taking the survey. For those who knew *AP news*, we further asked them to rate the overall quality of news published by *AP news*. In the main experiment, participants were instructed to complete a total of four assessment tasks. In each task, they were asked to read a news story accompanying by a randomized comment thread featuring a different proportion and position of incivility. Then the participants answered questions about their assessment of the comment thread and news quality for each of the four stories. The order of the four stories was also randomized. On average, it took 8 minutes finishing the experiment. One U.S. dollar was provided to those who followed the instructions and completed the tasks.

### ***Stimulus material***

We chose four news articles published during the outbreak of COVID-19 in the United States. Two stories – “Jobless claims rise as cutoff of extra \$600 benefit nears” and “1 in 10 Americans think school should reopen this fall without restrictions” – were used to represent obtrusive issues, as people may have some personal experiences with those issues during the pandemic.

For unobtrusive issues, we used “Vice presidential debate to be held with audience in Utah” and “US signs contract with Pfizer for COVID-19 vaccine doses” because of the low amount of direct experience people may have. To enhance the political neutrality of the news stories, we used real stories from *AP news*, which is perceived as an unbiased news organization by the American public (Gallup & Knight Foundation, 2018), and we removed political cues such as the name of Donald Trump. We also trimmed down all original articles to about 300 words and added an identical timestamp “39 minutes ago” to guarantee the format-level consistency.

Given that *AP news* does not have a comment section on its website, we searched the titles and keywords of all articles and retrieved the relevant comments on Reddit.com, a social media site in the United States. We follow previous research on online incivility to edit the comments with elements, such as uppercase, name-calling, and profanity, to represent personal-level incivility (Chen & Lu, 2017; Coe et al., 2014; Muddiman, 2017). Civil comments did not have these attributes. We kept all spelling and grammatical errors in the original comments to reflect realism. To avoid user attributes from confounding the results, we used fictitious profiles with a capitalized letter that indicates the first letter of user names. For each comment thread, five user comments are included. We created eight comment threads, featuring different proportion and position of online incivility for each of the four news stories (see Figure 1). Participants were randomly assigned to one of the eight comment threads after reading a news story.

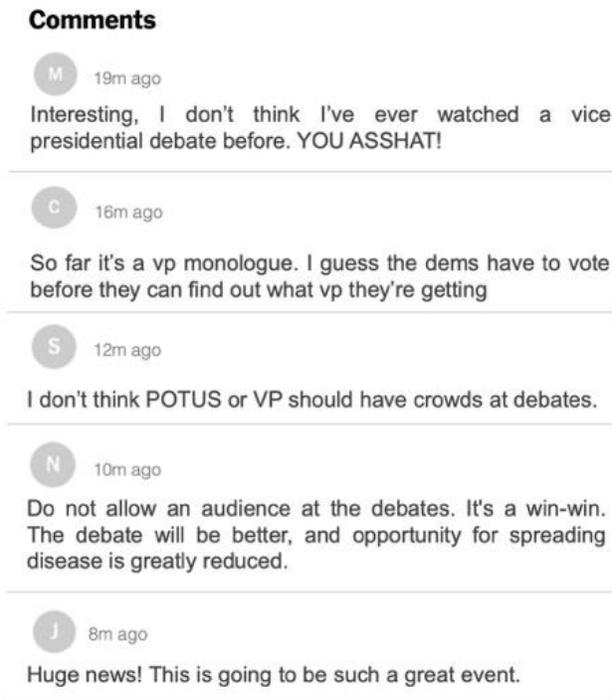


Figure 1. Comment thread following “site announcement for vice presidential debate” (proportion: 20%, position: primacy)

### **Measures**

*Perceptions of news quality.* Adapting from Prochazka et al. (2018) and Urban and Schweiger (2014), we asked participants to rate the quality of news on a 5-point scale (1=*not agree at all*, 5=*very much agree*) on the following statements: “The news story is objective,” “The news story

reports relevant information,” “The news story is comprehensible,” “The news story does not insult or discriminate,” and “The news story is harmless for children and young people.” We averaged the scores to create an index to indicate news quality perceptions, in which the higher scores indicated greater quality. We measured perceptions of news quality both in the pretest (i.e., overall news quality of *AP news*, Cronbach’s  $\alpha = .84$ ) and the posttest (i.e., the quality of each of the four news stories with user comments, Cronbach’s  $\alpha > .85$ ). Details for the descriptive statistics are reported in the result section.

*Reading habits.* In the end of the experiment, participants were asked to indicate if they read the comment threads “from the top to the bottom” or “from the bottom to the top.” There were three participants reading from the bottom to the top. We reversely coded the position effects for these participants.

### ***Manipulation Check***

To determine whether the manipulation of online incivility was successful, participants were asked about the extent to which they thought the comment threads were uncivil. We followed Kenski et al. (2020) and measured perceived incivility based on a 5-point scale (1=*not at all*, 5=*a great deal*), including “uncivil,” “rude,” “unnecessary,” and “respectful.” The four items were averaged into an index with higher scores indicating greater levels of perceived incivility, which yields high reliability across comment threads and news stories (Cronbach’s  $\alpha > .90$ ). A Pearson’s correlation test showed that the association between proportion of incivility and perceived incivility was statistically significant ( $r = .31, p < .001$ ). Therefore, the manipulation check was successful.

### ***Analytical strategy***

For **H1**, we used paired-sample *t*-tests to examine the difference in news quality perceptions between pretest and posttest ( $N=218$ ). For **H2-3**, we adopted multilevel modeling (nlme package in R) as each participant was presented with four news stories and their ratings of story-level news quality were not an independent observation, but instead nested within a participant. To account for the nested structure of the data, we entered a participant ID as a level-2 independent variable with random intercepts. For level-1 independent variable, we entered proportion and position of incivility, issue obtrusiveness and the two-way and three-way interaction terms of the three variables. In Model 1a-b, perceptions of news quality in the posttest were entered as the dependent variable ( $N=291$ ). In Model 2a-b, we employed the change-score approach to estimate the multilevel models among those who knew *AP news* and rated the overall news quality in the pretest ( $N=218$ ). In Model 2a-b, the difference of news quality ratings between pretest and posttest was entered as the dependent variable.

## **Results**

**H1** posited that incivility in user comments would result in negative perceptions of news quality. The paired-sample *t*-test showed that participants rated news quality significantly lower after reading uncivil user comments accompanying the news stories ( $M = 3.40, SD = 1.03$ ) than before ( $M = 3.82, SD = 0.75$ ),  $t(871) = -9.10, p < .001$ , supporting **H1**.

**H2a** predicted that comment threads with a higher proportion of incivility would lead to lower perceptions of news quality. In supporting **H2a**, it showed that proportion significantly

negatively predicted news quality perceptions. For posttest-only models, the estimated marginal means of news quality for different conditions were: for 20%:  $M = 3.55$ ,  $SE = 0.07$ ; for 40%:  $M = 3.45$ ,  $SE = 0.06$ ; for 60%,  $M = 3.35$ ,  $SE = 0.06$ ; for 80%:  $M = 3.25$ ,  $SE = 0.06$ . **H2b** posited that position of incivility would lead to lower news quality perceptions. It showed that position did not negatively predict news quality perceptions. For posttest-only models, the estimated marginal means of news quality for the position conditions were about the same:  $M = 3.40$ ,  $SE = 0.06$ , not supporting **H2b**.

**H3a-b** anticipated that issue obtrusiveness would moderate the effect of proportion and position of incivility on news quality perceptions. We found a significant three-way interaction effect of position, proportion of incivility, and issue obtrusiveness on perceptions of news. Proportion of incivility exerted larger effects on diminishing news quality perceptions for obtrusive issues than unobtrusive issues. The position effects of incivility on news quality perceptions varied across issue contexts (Figures 2 and 3). For obtrusive issues, incivility in the primacy position had a larger negative effect than incivility in the recency position when the proportion of incivility was no greater than 40%. For unobtrusive issues, incivility in the recency position had a larger negative effect than incivility in the primacy position when the proportion of incivility was no greater than 60%. Therefore, **H3a-b** were partially supported.

	Model 1a Posttest only	Model 1b	Model 2a Change-score approach	Model 2b
<i>Experimental condition</i>				
Proportion of incivility	-0.12(0.02)***	-0.15(0.03)***	-0.11(0.02)***	-0.15(0.04)***
Position of incivility (recency=1)	-0.003(0.04)	-0.17(0.18)	-0.04(0.04)	-0.22(0.14)
Issue obtrusiveness	-0.06(0.03)	-0.23(0.12)	-0.05(0.04)	-0.26(0.14)
<i>Interaction terms</i>				
Proportion × position of incivility		0.05(0.05)		0.06(0.05)
Position of incivility × issue obtrusiveness		0.50(0.18)**		0.50(0.20)*
Proportion of incivility × issue obtrusiveness		0.10(0.05)*		0.11(0.05)*
Proportion × position of incivility × issue obtrusiveness		-0.17(0.06)*		-0.18(0.07)*
Conditional $R^2$	73.2%	73.4%	76.2%	76.3%
N of observations		1164		872
N of groups		291		218

Table 1. Predicting news quality perceptions using multilevel modeling

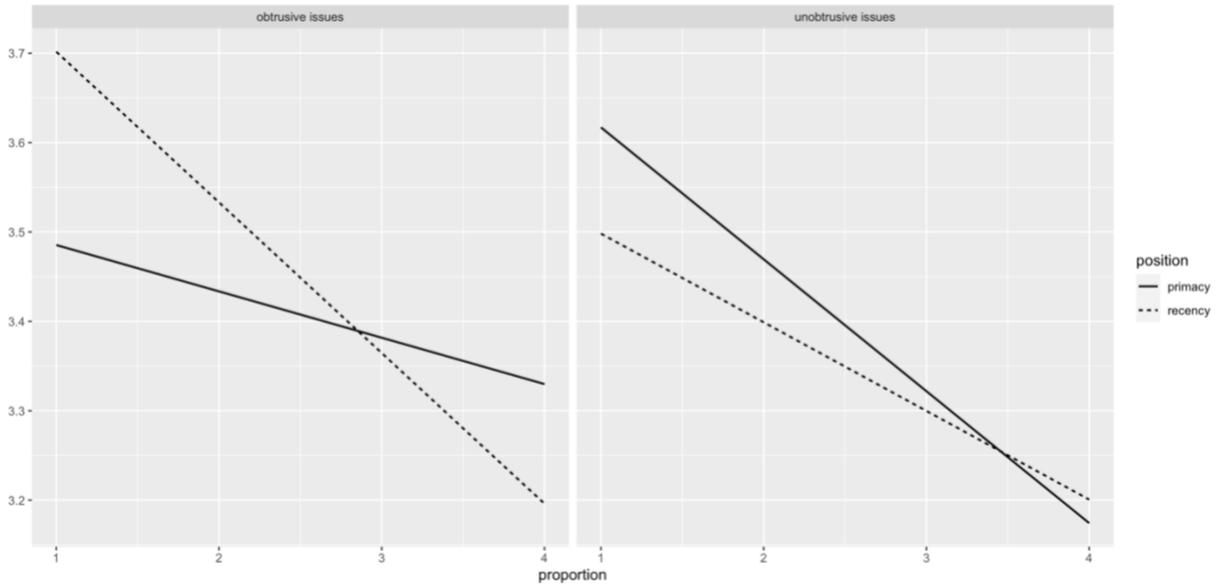


Figure 2. Predicting news quality perceptions (posttest only)

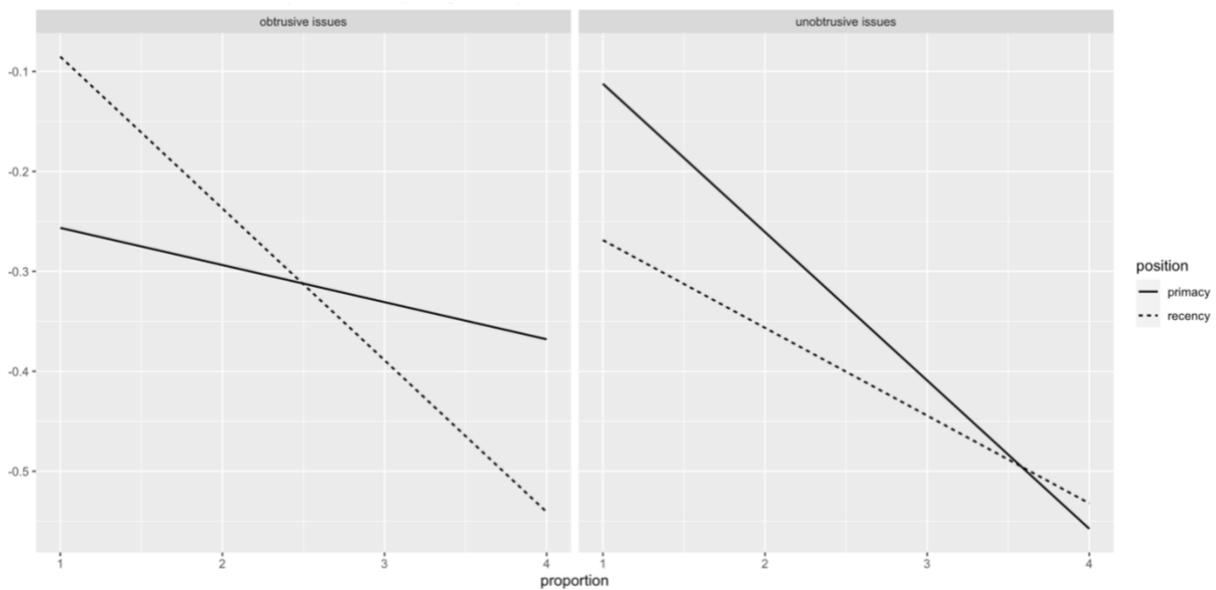


Figure 3. Predicting news quality perceptions (change-score approach)

## Discussion

Incivility in user comments on news websites has become an urgent and important question to address because these comments may taint the quality of online discussions and make the news websites less attractive to users. To address this concern, we conducted an online experiment to investigate how different arrangements of incivility (i.e., proportion and position) in comment threads deteriorate news quality perceptions and how such effects vary across obtrusive and unobtrusive issues.

In line with research conducted in Germany (Prochazka et al., 2018), our results show that uncivil comments dampened news quality perceptions of a real news brand (*AP news*) in the United States. As we explicitly gauged brand awareness in the pretest and analyzed the result with both posttest-only and change-score approaches, we are confident about the robustness of the findings. One notable finding is that when even one in five of comments in a given thread was uncivil, users' perceptions about the quality of the commented-on news articles decreased. This implies that user comments have been used as heuristic cues for people to judge journalistic output. Uncivil user comments, in particular, could signal news quality for a real news brand for those who have or have not heard of the brand.

Next, the study provides crucial evidence on the effects of the arrangement of civil and uncivil content in user comments on news quality perceptions. It revealed that proportion of online incivility in user comments dampened perceived news quality. While we did not identify any overall position effects of online incivility on news quality perceptions, we did find that the effects of proportion and position of online incivility on perceived news quality were contingent on issue contexts. One key observation is that the negative effects of proportion of online incivility on news quality perceptions were more pronounced in obtrusive issues than in unobtrusive issues. This indicated that news users were more susceptible to uncivil comments if they appeared on news stories that they have direct experiences with than those with little personal relevance. This corroborates scholarly accounts on the connection between obtrusive issues and larger media effects (Demers et al., 1989; Erbring et al., 1980). Given news users may find obtrusive issues personally relevant, they would devote more attention to the relevant content, and that heightened attention in turn strengthened the deleterious effects of online incivility on news quality perceptions.

Another crucial observation is that the position effects of online incivility on news quality perceptions operated differently across issue contexts. More specifically, we found that incivility in the primacy position had a larger negative effect on news quality perceptions than incivility in the recency position for obtrusive issues when proportion of incivility was no greater than 40%. We also observed that incivility in the recency position had a larger negative effect on news quality perceptions than incivility in the primacy position for unobtrusive issues when proportion of incivility was no greater than 60%. This line of findings supports our hypothesized mechanisms in light of literature on message-relevant elaboration and serial message effects (Haugtvedt & Wegener, 1994; Miller & Krosnick, 1998). It is plausible to surmise that people tended to engage in high-level message-relevant elaboration when reading news and comments about obtrusive issues that make the audience feel relevant. As such, they focused on the first several uncivil comments they read and used these as heuristic cues to form judgment about news quality. When encountering news and comments about unobtrusive issues, people were likely to scan through the content quickly, featuring low message-relevant elaboration. Therefore, they judged news quality by recalling the information they saw latest, which could be the last several uncivil user comments in the thread. Although our results are consistent with the theoretical expectation in a bounded fashion (i.e., the proportion of online incivility should not be too high), it is intriguing to delve into the tipping point of position effects of online incivility across different issue contexts in future research.

### ***Practical implications***

Our findings have implications more generally for practitioners interested in the impacts of user comments on audiences' judgment of the quality of journalistic content. Overall, the study offers some troubling findings that user comments, even with only one out of five comments being uncivil, could dampen audience perceptions of news quality for a real news brand. Given the fact that user comments remain an important tool for news engagement in today's online media environment, it is not realistic to eliminate all uncivil comments (Chen et al., 2019). Instead, both scholars and practitioners need to change the mindset toward how to minimize the detrimental impacts of online incivility. Actually, our study provides some hints on how practitioners could achieve this goal by tweaking the arrangement of comment threads. One way is to reduce the proportion of incivility in the comment threads through shielding the uncivil comments from the users. A second suggestion is to reorder the civil and uncivil comments in a given thread depending on what the topic of the commented-on articles is about. For obtrusive issues, news organizations and social media companies could manually or automatically deprioritize uncivil comments to attenuate the negative impacts of incivility on news quality perceptions. For unobtrusive issues, a thread with first several uncivil comments should not be that troublesome. But editors and moderators need to focus on the bottom comments on the first screens to avoid a recency effect of online incivility in dampening quality perceptions.

### ***Limitations and future directions***

Like other research, this study has several limitations. First, the four articles selected in this study, though representing a variety of issues, are all related to COVID-19 pandemic, which may not be generalized to other types of issues. Second, the study focused on *AP news*, the website of which does not have a comment section, so the findings may not speak well to news brands with comment sections. Third and relatedly, as we looked at politically neutral news brand, how online incivility dampens news quality of partisan media requires more inquiries. In addition, we only examined the effects of online incivility by using comment threads consisting of five comments. With a fixed number of comments in an experimental setting, users are able to read all the comments and form judgments. It is not clear if this line of findings could be applicable to a longer comment thread, which is more common in the real world. We encourage both researchers and practitioners to employ field experiments to further explore how the different arrangement of civil and uncivil comments would influence users' evaluations of news content.

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