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Online Political Discourse: Exploring Differences in Effects of Civil and Uncivil Disagreement in News Website Comments

Gina Masullo Chen and Shuning Lu

An experiment (N = 272) demonstrated that disagreement—either civil or uncivil—may have a chilling effect on the public discourse vital to a deliberative democracy. Both forms of disagreement—in comments posted on a news story about abortion—caused negative emotion and aggressive intentions. However, only uncivil disagreement led people to respond back uncivilly and indirectly led to greater intention to participate politically, if it aroused aggressive feelings. Findings support extending face and politeness theories to the computer-mediated space of online commenting. Results are discussed in relation to the impact on the public discourse.

Introduction

Disagreement is often seen as vital to the vigorous public debate that is a hallmark of a democratic society (Aitamurto & Landemore, 2015; Cohen, 2003; Landemore, 2012; Santana, 2014). However, disagreement that turns uncivil—defined as nasty, attacking remarks—raises concerns about its chilling effect on free-flowing public discourse (Hwang, Kim, & Hugh, 2014; Papacharissi, 2004). These concerns are rooted in the fact that incivility may ignite negative emotions, aggression, or retaliation (Brett et al., 2007; Locher & Watts, 2005) and damage impressions of online discussants (Ng & Detenber, 2005). Early evidence suggests incivility may spark political participation (Borah, 2014; Brooks & Geer, 2007). However, the literature is mixed on whether disagreement that is civil—expressing a counter view in a respectful manner—spurs political participation (McClurg, 2006) or undermines it (Huckfeldt, Mendez, & Osborn, 2004; Nir, 2005). This study used a contentious

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issue in American politics—the debate over abortion—to fill this gap in the literature by addressing one overarching question: Does uncivil disagreement influence the public discourse differently compared with civil disagreement?

The study used an experiment ($N = 272$) that manipulated the civility in disagreement comments on an online news site. It relied on face and politeness theories (Brown & Levinson, 1987; Goffman, 1959; Oetzel & Ting-Toomey, 2003). These theories suggest uncivil disagreement comments would threaten people's *face*, defined as their constructed public identity (Oetzel & Ting-Toomey, 2003), but civil disagreement would not.

Literature Review

Deliberative Democracy

The underlying relevance of this study relies on the concept of deliberative democracy, defined as an entity that fosters free debate of its members (Aitamurto & Landemore, 2015; Cohen, 2003). This deliberation is essential to the democratic process because it allows everyone to take part in collective decision-making, rather than limit that discussion to few. This is a positive value for society because, as Landemore (2012) explains, "In politics, the best knower is the group itself" (p. 252). In fact, Arendt (1958) argues that to be *political* means decisions are made through disagreement and persuasion, not physical battles. Public deliberation is not easy but results in better decisions for the whole (Kriplean, Morgan, Freelon, Borning, & Bennett, 2012). In today's digital age, democratic deliberation takes on more urgency, as the number of voices has multiplied. Some scholars have harnessed this wisdom of the group through online platforms that encourage crowd-sourcing solutions to societal ills (Aitamurto & Landemore, 2015; Klein, 2011; Kriplean et al., 2012). This study built on this foundation by examining a central element in democratic deliberation—disagreement (Aitamurto & Landemore, 2015)—in the context of online commenting.

Disagreement was defined as the exchange of views that challenge one's own beliefs (Klofstad, Sokhey, & McClurg, 2013; Nir, 2011). When people are confronted with disagreement, their views are challenged, which can create cognitive dissonance (Festinger, 1957), as people reconcile their views with opposing ideas. This process can contribute to more deliberative opinions (Price, Cappella, & Nir, 2002). According to affective intelligence theory, encountering disagreement also can arouse negative emotions (Parson, 2010) when the surveillance system is activated by novel or threatening information that differs from one's beliefs, (Marcus, Neuman, & MacKuen, 2000). However, whether disagreement alone leads to verbal aggression or retaliation is less clear than for incivility (Brett et al., 2007; Locher & Watts, 2005). In this study, disagreement was divided into two categories: civil and uncivil, as defined in the Introduction. This topic is particularly relevant in online comments, where incivility is common (Santana, 2014).

Face and Politeness Theories

Face and politeness theories (Brown & Levinson, 1987; Goffman, 1959) suggest that uncivil disagreement comments would threaten face, the socially constructed identity that indicates one has value as a relational partner (Oetzel & Ting-Toomey, 2003). Incivility would be a threat to positive face, defined as a challenge to one's relational value and desire for approval (Brown & Levinson, 1987). Positive threats to face cause people to lose face, which may result in negative emotion and aggression as people attempt to regain face by hurting the face of another (Brett et al., 2007).

Threatened Face Online

While face and politeness theories originated in face-to-face (FtF) communication, decades of research support the idea that people expect the same politeness online as they do offline. In a series of experiments Reeves and Nass (1996) found that people expected CMC by humans, or even computers, to follow FtF politeness rules. More recently, scholars have applied face and politeness theories to linguistic analyses of instant messages, emails, and virtual group conversations (Darics, 2010; Graham, 2007; Vinagre, 2008), suggesting CMC can threaten face even when the face cannot be seen. Experimental studies have shown people experience face threats and emotional pain if they are excluded from text message interactions (Smith & Williams, 2004), rejected by strangers on social media (Chen, 2015), or ostracized by computers (Zadro, Williams, & Richardson, 2004). One aim of the current study was to extend this line of research to online news story comments and empirically test the application of face and politeness theories to this computer-mediated discourse.

Negative Affect and Aggression

Negative affect was defined as an emotional state demonstrated through subjective distress (Watson, Clark, & Tellegen, 1988). Aggression was defined as an action intended to cause another pain (Bushman & Huesmann, 2010). Two types of aggression were considered. Aggressive intentions were defined as feelings of aggressiveness that may lead to behavior (Buss & Perry, 1992; Farrar & Krcmar, 2006). Retaliatory aggression was conceptualized as direct aggression against the perpetrator of the incivility (Bushman & Huesmann, 2010). Face and politeness theories (Brown & Levinson, 1987; Goffman, 1959) suggest that threats to positive face cause social pain, so people may become aggressive to regain face, hurt whoever caused their pain, or release emotions (Brett et al., 2007). Also, these theories suggest people might want to respond back to uncivil disagreement as they re-assert their face as a means to get the last word or put down the person who hurt them. In addition, these theories propose that this put down might be uncivil, ignited by having one's face threatened.

Civil disagreement may foster cognitive dissonance (Festinger, 1957) or arouse negative feelings (Parsons, 2010) as people attempt to resolve the differing opinion with their views (Marcus et al., 2000). However, it would not threaten one's sense of identity because it respects others' views (Santana, 2014). Therefore, the theories predict differences in how people respond to uncivil disagreement versus civil disagreement.

H₁: Uncivil disagreement comments will produce greater a) negative affect, b) aggressive intentions, and c) retaliatory aggression compared to civil disagreement comments and the control.

H₂: Uncivil disagreement comments will lead to a greater likelihood to restore face by responding back to the comments than civil disagreement comments.

H₃: Responses to uncivil disagreement comments will be more likely to be uncivil than responses to civil disagreement comments.

Incivility and Intention to Participate Politically

Intention to participate politically is related to both political engagement, which involves actions directed toward affecting government, and civic engagement, which centers on community problem solving (Borah, 2014; Gil de Zúñiga, Jung, & Valenzuela, 2012). We defined this concept as subjects' intention to participate in a series of actions in support of their views on abortion, such as attending a public meeting, participating in a rally, engaging in community problem-solving, and donating to a group. We describe how we measured intention to participate politically in the Method section. Using intentions to understand behavior is based on the theory of reasoned action, which posits that intentions can predict behavior (Ajzen & Fishbein, 1980). The foundation for predicting that incivility may influence intention to participate politically relies on the theory of motivated reasoning, which proposes that people's political reasoning may be driven by a goal to defend their beliefs (Borah, 2014). Incivility may provoke this defensive response (Borah, 2014), leading people to express an intention to participate politically (Hwang, Pan, & Sun, 2008). Face theory would explain this response by suggesting that uncivil comments make people feel attacked, and that arouses aggressive intentions. In turn, this affective experience leads people to defend themselves by re-asserting their face and re-affirming their own opinions through intention to participate politically. Therefore, these theories and prior research would predict that uncivil comments would lead indirectly to intention to participate politically, but only if the incivility arouses a person's aggressive intentions. Civil comments would not produce this effect. We hypothesized:

H₄: Uncivil comments will lead indirectly to greater intention to participate politically only if the comments arouse aggressive intentions, but civil comments will not produce this effect.

Method

The experiment utilized a three-condition, single-level, between-subjects design. Subjects ($N = 272$) were randomly assigned to exposure to uncivil disagreement comments ($n = 82$), civil disagreement comments ($n = 90$), or the no-comment control ($n = 100$). Comments were posted on the same news story about the U.S. Supreme Court declining to hear an appeal on the constitutionality of a law related to abortion. The story was used because pre-test respondents had rated it as not biased in opposition to abortion ($M = 3.20$, $SD = 2.33$) or in support of abortion ($M = 3.35$, $SD = 2.18$) on a 7-point scale with 7 indicating greater bias. A neutral story ensured subjects' responses were to the comments, not the story.

Analysis Strategy

To answer our hypotheses, three different analysis strategies were employed. To test H₁, a series of one-way analyses of covariance (ANCOVA) were conducted to assess differences between the three experimental conditions, with attitude toward abortion as a covariate. For H₂ and H₃, Chi-square tests of independence were used to examine whether the experimental condition was related to whether people responded back to comments, and, if so, whether their comments were more likely to be uncivil.

For H₄, two separate analyses were conducted. First, ordinary least squares (OLS) regression-based path analysis was conducted using the PROCESS macro for SPSS because this method offers a reliable test of both indirect and direct effects, using a bootstrapping technique (Hayes, 2013). Bootstrapping consists of resampling the original sample and computing indirect effects of each new sample (Hayes, 2013; Preacher & Hayes, 2004) to create a sampling distribution. A confidence interval is created from the sampling distribution, and if this interval does not include zero, an indirect effect has taken place (Hayes, 2013; Preacher & Hayes, 2013). Then path analysis using Amos was conducted because that enables a comparison between different statistical models to determine which best fits the data (Byrne, 2010; Kline, 2005; Yang, 2007). This allowed us to examine whether uncivil disagreement leads to intention to participate politically, compared with civil disagreement. More analysis details are provided in the Results.

Recruitment of Subjects

Three pre-tests were used to create the stimuli for the experiment. Participants for the pre-tests and experiment were recruited through Amazon.com's Mechanical Turk

(MTurk), an online tool that maintains an active group of self-selected survey respondents and uses quota sampling with geographic and demographic variables to create a sample. MTurk samples have been found to be more representative of the U.S. population than convenience samples, American college student samples, or general Web samples (Berinsky, Huber, & Lenz, 2012; Buhrmester, Kwang, & Gosling, 2011; Carr, Barnidge, Lee, & Tsang, 2014; Paolacci, Chandler, & Ipeirotis, 2010). Therefore, it provided a useful sample for the current study, which aimed to provide a reasonable representation of adult Americans. Different people participated in the pre-tests and experiment. Pre-test respondents were paid \$0.25, and experiment subjects received \$0.50. MTurk has a user-identification system that prevents the same participant from completing the project more than once, and MTurk's filtering mechanism was used to limit participants to U.S. residents. Table 1 provides descriptive statistics of participants.

Stimuli Construction

A multi-step procedure adapted from the literature (Chen, 2015; Shapiro & Chock, 2004) was used to create the stimuli. Four students collected real comments from

Table 1
Descriptive Statistics of Pre-Test and Experiment Samples

Protocol	N	Age		Gender	Race
		Mean	SD	(Males)	
Pre-Test 1	74	35.88	11.65	54.1%	75.7% White 8.1% Black/African American 8.1% Latino/Latina/Hispanic 6.8% Other/Multi-Racial 1.4% Asian
Pre-Test 2	20	36.30	12.09	60.0%	75.0% White 15.0% Black/African American 10.0% Latino/Latina/Hispanic
Pre-Test 3	11	34.27	9.57	45.5%	54.5% White 18.2 % Black/African American 9.1% Asian 9.1% Native American/Pacific Islander 9.1% Prefer Not to Respond
Experiment	272	38.47	13.23	54.0%	77.9% White 7.4% Latino/Latina/Hispanic 6.6% Black/African American 4.8% Asian 2.2% Other/Multi-Racial 0.7% Native American/Pacific Islander 0.4% Prefer Not to Respond

news websites that appeared to exhibit civil or uncivil disagreement, using the conceptual definitions in the Introduction. Comments were edited for length and to ensure the uncivil ones contained common markers of online incivility: profanity, name-calling, and capital letters to indicate a raised tone in CMC (Coe, Kenski, & Rains, 2014; Darics, 2010; Papacharissi, 2004). Real comments were used to be realistic. Gender and racially neutral anonymous screen names were created for comments, so these factors would not confound results. All comments had the same avatar, designed to resemble a default avatar content-management systems use for people who have not uploaded their own.

Respondents in the first two pre-tests rated the comments, using a positive face threat scale from prior research (Cupach & Carson, 2002). Respondents rated on a 1 (*does not describe this comment at all*) to 7 (*describes this comment extremely well*) scale whether each comment was "uncivil," "negative," "not supportive," "disagreement," "impolite," "rude," "insensitive," "hostile," "would show contempt for a person receiving it," "would damage a relationship between two people," and "would make a person look badly to others." They also rated whether each comment was "civil," "positive," "supportive," "tactful," "justified," "not disagreement," "polite," and "would not bother someone at all." These items were reverse coded so that a higher number indicated a greater threat to positive face. These 19 items were averaged into indices for each of 28 comments rated. Six comments with the highest or lowest means as well as the most reliable indices were chosen for the experiment. This resulted in three uncivil disagreement comments and three civil disagreement comments. Cronbach's α 's for the indices for all the comments ranged from .76 to .96, showing high or acceptable reliability. Uncivil comments had means that ranged from 6.08 to 6.40, showing they were perceived as threats to positive face. Civil comments' means ranged from 2.00 to 3.37, showing they were not threats. A series of paired *t* tests showed no significant differences in the means for the indices within each condition, suggesting comments within each condition were perceived equally. Another set of paired *t* tests showed means for uncivil versus civil comments were significantly different. Table 2 provides the comments and descriptive statistics.

Procedures

The experiment was embedded in an online survey on Qualtrics, accessed through the MTurk interface. After consenting, subjects read the news story about abortion and were prompted to think deeply about the topic of abortion and share their viewpoints in a comment. Subjects answered demographic and personality questions to provide a delay for hypothetical commenters to post. Once they finished the questions, they were exposed to comments (or no comments in the control) that varied by condition. Uncivil comments attacked the subjects' viewpoints, and civil comments disagreed in a constructive manner. Comments disagreed with the subjects in a general way without expressing a view on abortion. This was done so the

Table 2
Descriptive Statistics for 19-Item Indices for Three Messages in Each Condition

Uncivil Disagreement Comments	<i>Alpha</i>	<i>M</i>	<i>SD</i>
GOD DAMN are you really so fucking stupid? Obviously can't come up with something better.	.93	6.35	.83
Aw look at the little baby crying. How about you SHUT THE FUCK UP.	.87	6.08	.91
Do ALL of us a favor and step into traffic. We don't need stupid fucking people like you around.	.93	6.40	.76
Civil Disagreement Comments	<i>Alpha</i>	<i>M</i>	<i>SD</i>
Thanks for sharing your opinion, but it doesn't persuade me to change my mind.	.96	3.38	1.23
It's great to hear a different viewpoint—but I don't share your opinion.	.95	2.47	.93
I respectfully disagree with you, but I will give your ideas some thought.	.76	2.00	.47

Note. A series of *t* tests found that means for the indices for the uncivil disagreement comments were significantly different from the means for the indices for the civil disagreement comments at $p < .05$. No significant differences between means were found within conditions. Means, SD and Cronbach's *alphas* refer to threat to positive face indices, averaged from 19 measures, all on 7-point scales with 7 being a greater threat to positive face.

comments would make sense regardless of what the subject posted. Comments were created in advance, according to procedures outlined earlier, but to subjects, it appeared as if people were responding to their comments. The fact that subjects responded to these responses, often uncivilly, suggests they believed the comments were real.

Subjects were invited to post a comment in response to the comments they had received, and whether they did so became a dependent variable. The tone of the responses was coded as civil or uncivil as explained below. Dependent variables measured the cumulative effect of all three comments (or no comments in the control).

Manipulation Check

A manipulation check was embedded within unrelated questions (Borah, 2014) and placed after dependent variables, so it would not influence hypotheses results. Subjects in the civil and uncivil conditions rated the civility of the comments posted in response to their comments on a 7-point scale with 7 being *most civil*. Those in the control did not receive any comments, so they had none to rate. Overall, the manipulation was successful, $F(1, 170) = 475.31$, $p < .001$, $\eta^2 = .74$. Those in the civil disagreement

condition rated the comments in response to their comments as significantly more civil ($M = 5.93$, $SD = 2.63$) than those in the uncivil condition ($M = 1.43$, $SD = 1.33$).

Dependent Measures

Negative Affect. The negative portion of the Positive Affect Negative Affect Scale (PANAS, Watson et al., 1988) was used to measure negative affect. Subjects rated on a 1 (*not at all*) to 7 (*extremely*) scale of how much the following emotions described how they felt: "upset guilty," "jittery," "ashamed," "depressed," "angry," "irritable," and "annoyed." Negative emotions were averaged into an index with high reliability, $M = 3.84$, $SD = 1.41$, Cronbach's $\alpha = .92$.

Aggressive Intentions. This concept was measured using Buss and Perry's (1992) scale, adapted to detect state, not trait aggression (Farrar & Krcmar, 2006). Subjects rated on a 1 (*not at all*) to 7 (*extremely*) scale how the following statements described them: "I would tell someone openly that I disagree with him or her;" "If people annoy me, I may tell them what I think of them;" "If someone disagrees with me now, I may get into an argument;" "I feel like I could flare up quickly but then get over it;" "I feel so frustrated, I may let my irritation show;" "I feel like a powder keg ready to explode;" "I feel like a hot head;" "I might fly off the handle for no good reason;" and "I may not be able to control my temper." One additional statement, "I am an even-tempered person," was asked on the same scale and reverse coded. An exploratory factor analysis of the statements was conducted. To determine factors, a scree plot test (Cattell, 1966) and the traditional method for figuring out the number of factors, which relies on components with eigenvalues greater than 1, were used. Two factors were suggested, which collectively explained 67.08% of the variance. A principal components factor analysis was then conducted using oblique rotation that constrained loadings to two factors. Oblique rotation was used because it offers a better solution when items tend to correlate (Tabachnick & Fidell, 2007). Only the first factor was used in future analyses because all but three items loaded on it.¹ This factor was averaged into an index with high reliability, $M = 2.17$, $SD = 1.27$, Cronbach's $\alpha = .92$.

Retaliatory Aggression. This concept was measured by counting how many of two types of virtual gifts—black-and-red ticking bombs and bright yellow smiley faces—subjects sent to those who posted comments in response to their comments. Virtual gifts were used to mimic the common experience people have online, where these gifts indicate relational closeness or the lack of it (Bakshy, Simmons, Huffaker, Teng, & Adamic, 2010).

A ticking bomb was used a direct measure of retaliatory aggression because it is a symbol for a violent act. A smiley face was used as the absence of retaliatory aggression because smiles are easily recognized "spontaneous expressions of positive emotion" (Ekman & Friesen, 1982, p. 238) commonly used to indicate happiness

in online communication (Dresner & Herring, 2010; Lo, 2008). These two measures have been used in prior research (Chen, 2015) as measures of retaliatory aggression, with findings showing aversive online communication leads to sending more ticking bombs and fewer smiley faces.

In addition, to ensure that these measures were being perceived as we intended, we conducted a pre-test of both measures. Before the experiment, pre-test 1 respondents rated how aggressive they thought the gifts were on a 7-point scale where 7 indicated *greater aggression*. Results showed they viewed the bomb as significantly more aggressive ($M = 4.77$, $SD = 1.80$) than the smiley face ($M = 1.34$, $SD = .91$, $p < .001$). Based on this, we felt confident that both prior research and our own pre-test justified the use of these measures.

After reading the comments, subjects were asked to enter the number of ticking bombs and smiley faces they wanted to send to the people who had posted comments in response to their comments. On average, subjects sent 742.22 virtual ticking bombs² ($SD = 8590.49$), and 7428.83 virtual smiles ($SD = 85746.17$). Both variables were subjected to logarithmic 10 transformation because of their substantial positive skew (Tabachnick & Fidell, 2007), and the logged variables were used in all analyses.

Intention to Participate Politically. Measures from prior research (Borah, 2014; Gil de Zúñiga et al., 2012) were used to operationalize this concept. Subjects rated on a 1 (*not at all likely*) to 7 (*extremely likely*) scale how likely they were to perform 14 actions of political participation regarding abortion. An exploratory factor analysis was conducted with the same method described above to determine factors. Data suggested two factors, explaining a total of 70.05% of the variance. A principal components factor analysis was conducted using oblique rotation that constrained loadings to two factors. Oblique rotation was the best choice because of its suitability when items tend to correlate (Tabachnick & Fidell, 2007). The first factor related to political expression and comprised the following actions: intention to join a Facebook group, post a bumper sticker or yard sign, post a message on social media, share a message on social media, and follow an account on social media that supported their views on abortion. The second factor involved intention to participate politically offline and consisted of: attend a public meeting, participate in a rally, engage in community problem solving, and donate to a charity or political group that supported their views on abortion. Five items did not load high enough on either factor to be used. These were: contact a news organization, forward an email, persuade others politically, or read or watch news reports or blog posts about abortion. Political expression was averaged into an index with high reliability ($M = 2.90$, $SD = 1.63$, Cronbach's $\alpha = .92$), and offline political participation was averaged into an index with acceptable reliability ($M = 2.61$, $SD = 1.64$, Cronbach's $\alpha = .89$). Both factors were initially used in analyses, but only the second factor, intention to participate politically offline, provided any significant effects, so only the second factor was reported.

Likelihood to Respond to Comments. Overall, 32.7% of subjects choose to reply to the comments posted in response to their original comments.

Response Tone. Two trained coders analyzed the responses subjects posted as either civil or uncivil, using definitions in the Method section. Inter-coder reliability of 85% was achieved, according to Krippendorff's α . Of the 89 subjects exposed to either uncivil or civil comments in response to their comments, 23.6% replied uncivilly. Those in the control condition did not have the option to respond because they did not receive comments in response to their comments.

Control Variable

Subjects rated on a 1 (*strongly disagree*) to 7 (*strongly agree*) scale whether they opposed or supported abortion. More support for abortion was shown ($M = 5.14$, $SD = 2.22$), compared to opposition ($M = 3.23$, $SD = 2.34$). As a result, the support for abortion question was reverse-scored and averaged into an index with the opposition question with acceptable reliability, $M = 3.04$, $SD = 2.17$, Cronbach's $\alpha = .89$, with a higher number indicating greater support for abortion. The index was used as a covariate in all the hypotheses tests to control for whether opinion on abortion might have an effect. It is reported only if it had a significant effect.

Results

H_1 predicted that uncivil disagreement comments would produce greater a) negative affect, b) aggressive intentions, and c) retaliatory aggression, compared to civil disagreement comments and the control. Results showed partial support for H_{1c} , but H_{1a} and H_{1b} were not supported.

For H_{1a} , no significant differences by condition was found for negative affect, and attitude toward abortion explained any variance, $F(2, 269) = 7.44$, $p = .01$, $\eta^2 = .03$. This result suggested that those most opposed to abortion felt greater negative affect, but the manipulation did not exert an effect. No significant difference was found between the control and civil comments.

H_{1b} was not supported, as a significant main effect was not found, $F(2, 269) = 2.60$, $p = .07$, $\eta^2 = .02$. However, post-hoc corrections using the Scheffe test showed that those in the control condition reported significantly less aggressive intentions ($M = 2.0$, $SD = 1.10$) than those exposed to uncivil comments ($M = 2.38$, $SD = 1.24$, $p = .02$). No significant differences were found between the control and civil comments ($M = 2.21$, $SD = 1.43$, $p = .16$) or between civil and uncivil comments.

For H_{1c} , results showed a main effect for both measures of retaliatory aggression, the sending of ticking bombs ($F(2, 269) = 3.18$, $p = .04$, $\eta^2 = .02$) and the sending of virtual smiles ($F(2, 269) = 4.25$, $p = .01$, $\eta^2 = .03$). Post-hoc corrections on the logged variable showed that those exposed to uncivil disagreement sent significantly more ticking bombs ($M = .25$, $SD = .79$) than those in the control who received no comments ($M = .07$, $SD = .26$, $p = .047$), but not more than those exposed to the civil

disagreement comments ($M = .12$, $SD = .35$, $p = .25$). No significant difference was found between the control and civil disagreement comments.

For virtual smiles, post-hoc corrections on the logged variable showed that those in the control group sent significantly more virtual smiles ($M = .64$, $SD = .85$) than those exposed to uncivil comments ($M = .32$, $SD = .41$, $p = .01$), but not more than those exposed to civil comments ($M = .48$, $SD = .72$, $p = .31$). No significant difference was found between uncivil and civil comments.

H_2 predicted that uncivil comments would lead to greater likelihood to restore face by responding back to comments than civil disagreement comments. A Chi-square test of independence showed the data did not support this hypothesis, $\chi^2 (1, N = 172) = .55$, $p = .45$, as no significant relationship was found between the comments people were exposed to and whether they responded. Of the 89 people who responded to the comments, they were almost evenly split between those in the uncivil condition (40 people) and those in the civil condition (49 people).

H_3 predicted that responses to uncivil disagreement comments would be more likely to be uncivil than responses to civil disagreement comments. A Chi-square test of independence showed the data supported this hypothesis, $\chi^2 (1, N = 89) = 18.46$, $p < .001$. Of the 40 people in the uncivil condition who responded to the comments, 18 did so uncivilly. This compares to 3 people who responded uncivilly out of the 49 who responded in the civil condition.

H_4 predicted that uncivil comments would lead indirectly to greater intention to participate politically, but only if the incivility arouses a person's aggressive intentions, and civil comments would not produce this effect. Before analyses, experimental condition was dichotomously coded so the uncivil disagreement condition was analyzed separately from the civil disagreement condition, and coefficients reflect comparison to the control condition (Hayes & Preacher, 2014). Then a path analysis model was tested with uncivil comments as the predictor, aggressive intentions as the mediator, and intention to participate politically as the outcome variable. According to Byrne (2010) and Kline (2005), a structural model can be valid when the χ^2 is not significant, the value of the χ^2/df is less than 3, the value of the Comparative Fit Index (CFI) is equal to or greater than .95, and the value of the Root Mean Square Error Approximation (RMSEA) is between .05 and .08. As shown in Table 3, all these criteria were met for this model except the CFI was low, showing the data fit the model fairly well. Standardized coefficients showed that uncivil comments did not have a direct effect on aggressive intentions ($\beta = .11$, $p = .06$), but aggressive intentions directly influenced intention to participate politically ($\beta = .21$, $p < .001$).

PROCESS model 4 was used to further test this hypothesis because PROCESS provides bias-corrected bootstrapping confidence intervals that offer a reliable test of indirect effects (Hayes, 2013). To test for indirect effects, 5,000 bootstrap samples were used (Hayes, 2013). Results mirrored those from Amos, showing uncivil comments did not directly influence aggressive intentions, but that aggression intentions directly influenced intention to participate politically. Uncivil comments showed an indirect effect on intention to participate politically, as the bias-corrected confidence intervals for the indirect effects did not include zero (.01 to .24).

Table 3
Comparison of Civil and Uncivil Comment Path Analysis Models, $N = 272$

Model	df	χ^2	χ^2 / df	CFI	RMSEA	AIC
Uncivil Comments	1	1.91 ⁺	1.91	.94	.06	17.91
Civil Comments	1	.31 ⁺	.31	1.00	.00	16.31

Note. CFI = comparative fit index; AIC = Akaike information criteria; RMSEA = root mean square error of approximation. According to Byrne (2010) and Kline (2005), a structural model can be valid when the χ^2 is not significant, the χ^2/df is less than 3, the CFI is .95 or greater, and the RMSEA is between .05 and .08. A smaller AIC indicates the more ideal fit for multiple model comparisons (Yang, 2007).⁺ p value is not significant

Next, the same path analysis model was tested for civil comments, so the two models could be compared. As shown in Table 3, the data fit the model fairly well. The χ^2 was not significant and the CFI was greater than .95 and the χ^2/df was less than 3, which suggests good fit (Byrne, 2010; Kline, 2005). However, the RMSEA did not meet fit criteria. Standardized coefficients showed that civil comments did not have a direct effect on aggressive intentions ($\beta = .02$, $p = .70$), but aggressive intentions directly influenced intention to participate politically ($\beta = .21$, $p < .001$). Furthermore, the Akaike information criteria (AIC) showed that the civil comments model had a more ideal fit, as a smaller AIC is an indication of better fit when multiple models are compared (Yang, 2007).

PROCESS model 4 was used to test for indirect effects. Results were similar to those with AMOS, as no direct effect of civil comments was found on aggressive intentions, but aggressive intentions influenced intention to participate politically. However, unlike uncivil comments, civil comments did not indirectly influence intention to participate politically, through aggressive intention, as the bias-corrected confidence intervals included zero (-.08 to .12). Therefore, the data supported H_4 .

Discussion

The goal of this study was to examine one overarching question: Does uncivil disagreement influence the public discourse differently compared with civil disagreement? This question is vital to understanding and fostering a public debate that is part of a deliberative democracy (Aitamurto & Landemore, 2015; Arendt, 1958; Cohen, 2003; Landemore, 2012; Santana, 2014). To examine this question, we compared people's responses to uncivil disagreement comments and civil disagreement comments about abortion that were posted in reply to experimental subjects' own comments on a news Web site. Our goal was to understand differences in how civil and uncivil disagreement lead to negative emotion and aggression and ultimately to intention to participate politically. Our findings offer support for extending face and politeness theories (Brown & Levinson, 1987; Goffman, 1959) to the computer-mediated space of online commenting.

Disagreement and the Public Discourse

Overall, our findings showed both differences and similarities between civil and uncivil comments, suggesting that while incivility may hurt more than mere disagreement both can lead to negative emotion and even aggression. Our finding that uncivil disagreement comments lead to more retaliatory aggression than the control, but not than civil disagreement comments suggests support for affective intelligence theory that encountering disagreement also can arouse negative emotions (Marcus et al., 2000). In addition, our finding that uncivil and civil comments did not differ in their effects on aggressive intentions or negative emotion further supports this view. Clearly, disagreement alone had an effect on people, as they were confronted with new information that deviated from their own views and they attempted to resolve their cognitive dissonance (Festinger, 1957). In sum, these findings illustrate the overlap between incivility and disagreement. These findings suggest both uncivil and civil disagreement caused certain levels of negative emotion and aggressive intentions. For public political debate, this offers sobering news. It suggests people may be annoyed when others disagree with them, even if the discourse is civil. This finding offers evidence that the disagreement vital to a vigorous public debate (Aitamurto & Landemore, 2015; Arendt, 1958; Landemore, 2012; Santana, 2014) may cause the same concerns as more virulent speech.

Our findings also suggest that incivility does not make people more likely to respond to commenters, but it does make them more likely to respond uncivilly. This offers some positive news for public discourse—that disagreement alone does not produce incivility. Yet, it also offers a troubling commentary for public debate by suggesting that incivility foments incivility, at least in those people who feel the need to save face by getting in the last word (Goffman, 1959; Oetzel & Ting-Toomey, 2003).

Incivility, Disagreement, and Intention to Participate Politically

Our most notable finding may be that uncivil comments spark intention to participate politically if the comments arouse aggressive intentions, but civil comments do not produce this effect. This finding marks a clear difference in how people respond to these types of disagreement. These results support earlier research (Borah, 2014), based on the theory of motivated reasoning, that incivility may arouse a mechanism that leads people to defend their political opinions. This process may boost hostile perceptions of those who perpetuated the incivility, and these negative perceptions in turn ignite an interest in political involvement to defend one's viewpoints (Hwang et al., 2008).

Conclusion

This study examined one heated issue in American society, abortion, so responses may be unique to that topic. Future studies should attempt to replicate these findings

by using other polarizing topics. It is plausible that incivility operates differently for varying topics or that topics may have divergent effects on indirectly encouraging intention to participate politically. From a practical standpoint, these findings suggest that disagreement—whether uncivil or not—may make people feel challenged in their beliefs or viewpoints and experience cognitive dissonance (Festinger, 1957.) However, these findings also suggest that mere disagreement in an online political debate is not necessarily troublesome if it does not digress into incivility. These findings lend early support that incivility can lead to more incivility, which could create a dangerous escalation of aggressiveness. Indeed, incivility may have a bit of a positive side if it activates a defense mechanism that encourages the political engagement necessary for a healthy democracy (Aitamurto & Landemore, 2015).

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Notes

1. Excluded items for aggressive intentions were: “I am an even-tempered person;” I would tell someone openly that I disagree with him or her;” and “If people annoy me, I may tell them what I think of them.”
2. One subject had indicated wanting to send 9.999999999999999E+103 ticking bombs, but the number was too large compared to the other values for reliable analyses. So it was converted to 100,000 (the next highest number of bombs sent). Similarly, one subject indicated wanting to send 3,000,000,000,000 smiles, but the number was too large compared to the other values for reliable analyses. So it was converted to 1,000,000 (the next highest number of smiles sent.)

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