Exploring differences in how men and women respond to threats to positive face on social media

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\textbf{A B S T R A C T}

A three-condition (rejection, criticism, control) experiment (N = 78) with gender treated as an additional factor and moderating variable examined gender differences in response to two types of threats to positive face – rejection and criticism – on a social-networking site. Results showed it did not matter if men or women were rejected or criticized on a social-networking site; both threats to positive face lead to more retaliatory aggression, compared to the control. However, men retaliated to a greater extent than women to both types of threats. Also, men responded differently to criticism than to rejection, while women’s results did not vary. Findings are discussed in relation to face theory and politeness theory, particularly in regard to computer-mediated communication.

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1. Introduction

A rich history of scholarship has examined how people respond to threats to face, which are socially constructed identities people have about themselves (e.g. Brown & Levinson, 1987; Metts & Cupach, 2008; Oetzel & Ting-Toomey, 2003). Scholars have examined how face-threatening acts challenge people’s sense of identity during compliance-gaining episodes (Wilson, Aleman, & Leatham, 1998), vary across cultures (e.g. Ruhi & Isik-Guler, 2007; Yu, 2003), are influenced by nonverbal cues such as tone of voice and facial movement (Trees & Manusov, 1998), and may lead to retaliatory aggression (Chen, 2013). Some researchers have successfully applied these concepts to the computer-mediated world of chat rooms (Park, 2007), discussion groups (Burke & Kraut, 2008), online dispute resolution sessions (Brett et al., 2007), listservs (Herring, 1994), and email (Duthler, 2006). However, what has received little study is how responses to face threats may differ between men and women in the interactive world of strangers on social media.

This study aimed to fill this gap by using an experiment to examine how men and women differed in retaliatory aggressive responses to two types of face-threatening acts – rejection and criticism – on a specific type of online communication, a mock social-networking site created for this study. These two face-threatening acts were chosen because they both have a long history of being seen as threats to face, as they can decrease people’s relational value (e.g. Brown & Levinson, 1987; Duthler, 2006; Papacharissi, 2004). In addition, speech that rejects or criticizes people has become a growing problem online, ranging from uncivil comments on social-networking sites to outright bullying (e.g. Anderson, Brossard, Scheufele, Xenos, & Ladwig, 2013; Papacharissi, 2004; Wolack, Mitchell, & Finkelhor, 2007). That makes these two face threats particularly relevant for study of social media.

Examining the differences in how men and women respond to face-threatening acts on social media is an under-explored area with rich potential for increasing understanding of computer-mediated human behavior. Ample research suggests men tend to be more aggressive than women (e.g. Bushman & Huesmann, 2010; Loeber & Hay, 1997; Wood & Eagly, 2010). Yet most of the study of gender differences in aggression in the computer-mediated world has focused on video games (e.g. Anderson & Murphy, 2003; Bartholow & Anderson, 2002; Eastin, 2006). Other research has examined how men and women differ in terms of expressing emotion, conversation style, language, or participation in computer-mediated communication (CMC; e.g. Fischer, 2011; Herring, 1994, 2000). What has not been studied is how men and women differ in aggressive responses to face threats specifically on social media. Types of CMC vary in terms of their interactivity level, asynchronicity, and availability of social cues (Tanis & Postmes, 2007). As a result, it is important to study CMC platforms independently, rather than assume experiences on one platform will translate to another. In addition, research suggests men and

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women navigate digital spaces differently (e.g. Herring, 1994, 2000; Savicki, Lingenfelter, & Kelley, 1996). Yet little research has explored how these differences play out when men and women receive face threats on social media, as this current study examined.

Specifically, this study had two aims: The first was to examine whether men exhibit more retaliatory aggression than women when confronted with two types of face threats, rejection and criticism, in the specific context of an interactive exchange on a social-networking site. The second goal was to examine whether gender differences in retaliatory aggression vary dependent on the type of face threat, either rejection or criticism.

First, face theory and how it relates to this study will be reviewed. Then the literature will be examined on differences responses to rejection and criticism to offer support for specific hypotheses. Finally, how these hypotheses were tested and how the results fit into existing research will be explained.

2. Theory

*Face* describes the socially constructed positive way people want others to see them by highlighting attributes that society values (Goffman & Best, 2005; Locher & Watts, 2005). Using this concept, Goffman (1955) proposed that people produce verbal or nonverbal communication to present their own identity to others (Oetzel et al., 2001). In essence, people act out their socially constructed public face in a form of performance during communication that gives others a sense the person is a competent social player (Goffman & Best, 2005; Metts & Cupach, 2008). In a sense, having *face* means a person is valued as a relational partner. Therefore, face theory proposes that aversive communication that threatens *face* attacks people’s identities, undermining their sense of self by implying those who perpetrated the threat do not respect them (Brett et al., 2007).

Politeness theory (Brown & Levinson, 1987) builds on face theory by positing that any speech that violates politeness rules in society may be viewed as a *face threat*. Western society highly values politeness (Papacharissi, 2004), so impoliteness is considered a face-threatening act because it breaches societal rules (Duthler, 2006). Politeness theory divides threats to *face* that violate politeness into two categories. *Threats to positive face*, such as criticism and insults, challenge a person’s relational value and desire for approval (Brown & Levinson, 1987; Duthler, 2006; Metts & Cupach, 2008). *Requests or demands that challenge a person’s competency or need for autonomy are threats to negative face* (Brown & Levinson, 1987; Duthler, 2006; Metts & Cupach, 2008). This current study examined threats to positive face as subjects experienced either rejection from an online group they sought to join or criticism from that group. These two threats were examined because both rejection and criticism are common in many forms of online communication, from vitriolic comments on news websites to outright rejection that constitutes bullying or harassment on social media (Anderson et al., 2013; Papacharissi, 2004; Wolack et al., 2007).

2.1. Rejection and criticism

Both rejection and criticism are threats to positive face because they are forms of uncivil communication that violate politeness norms and challenge people’s relational value, making the people appear less desirable to others (Brown & Levinson, 1987; Duthler, 2006; Metts & Cupach, 2008). Criticism is defined as a type of verbal aggressiveness that attacks one’s identity and make a person feel badly about the self, similarly to taunts and insults (Rancer & Avtgis, 2006). Rejection also attacks one’s identity because it involves being rebuffed after one seeks a social connection with others (Blackhart, Nelson, Knowles, & Baumeister, 2009). Both rejection and criticism call into question one’s value as a relational partner (Leary & Guadagno, 2011; Williams, Forgas, & von Hippel, 2005), and, therefore, threaten a person’s social identity.

Under both face theory and politeness theory, rejection and criticism would lead people to lose *face*, which is a sense that one’s relational value is diminished. People are attached to their own self-images, so they attempt to maintain *face* during conflict in a process called *face work* that may involve attempts to neutralize the threat and restore *face* (Brett et al., 2007; Goffman & Best, 2005). As a result, it would be expected that criticism and rejection online could lead to attempts to repair face and neutralize the threat through retaliatory aggression (Brett et al., 2007; Metts & Cupach, 2008; Oetzel et al., 2001). Retaliatory aggression is an aggressive behavior against a specific target that has hurt the person (Bushman & Huesmann, 2010). The aggressive act then could restore the attacked person’s *face* by diminishing the *face* of the accuser (Brett et al., 2007; Metts & Cupach, 2008; Oetzel et al., 2001).

Research has found that people expect online communication that fits societal norms of politeness, even if they are communicating with a computer, not a person (Picard, 2000; Reeves & Nass, 1996). In CMC, some people may be more uncivil than they would be face to face (FTF) if they think they are anonymous (e.g. Christopherson, 2007; Halpern & Gibbs, 2013). However, people exhibit and experience emotions through online interactions much as they would in a FTF setting (Derks, Fischer, & Bos, 2008). So it stands to reason that people on a social-networking site in this current study would expect polite communication from other people on the site, and breaches of politeness would threaten *face* as has been found in offline communication.

2.2. Gender differences

The aim of this study was to expand on this foundation and examine whether men and women differed in retaliatory aggressive responses to two types of face-threatening acts, rejection and criticism, on a mock social-networking site designed for this project.

Gender was examined as a moderating variable because the relational work implicit in *face work* has been found to be dependent in part on social norms regarding gendered roles in society (Holmes & Schnurr, 2005). Gender was considered relevant because literature regarding politeness theory suggests that men and women have different concepts of what it means to be polite and how to respond to politeness or breaches in politeness (Holmes & Schnurr, 2005). Research has also found that men and women respond to threats to *face*, such as rejection and criticism in different ways (Blackhart et al., 2009; Downey, Mougios, Ayduk, London, & Shoda, 2004) both online and off. Women, for instance, are more likely to thank online, while men appear more comfortable violating politeness rules (Herring, 2000), although the gender make-up of an online group plays a role in how much people conform to stereotypical linguistic styles (Savicki et al., 1996). These studies suggest that men and women may bring their offline gendered norms of politeness to computer-mediated communication.

Meanwhile, decades of research support the view that men and women differ in how they exhibit aggressive behavior (e.g. Anderson & Murphy, 2003; Williams, Consalvo, Caplan, & Yee, 2009). Men are more likely to aggress physically and directly, while women are more apt to aggress indirectly (Bushman & Huesmann, 2010) through manipulation or withdrawing (Wood & Eagly, 2010). Scholars suggest both biological and psychological mechanisms explain these differences. Biological differences between
males and females (such as greater strength for men and child-bearing abilities for women) lead society to ascribe stereotypical roles that assume male assertiveness and female nurturance (e.g., Plant, Hyde, Keltner, & Devine, 2000; Spence & Buckner, 2000; Wood & Eagly, 2010). Both social cognitive theory (Bussey & Bandura, 1999) and script theory suggest people learn these roles as children. Then their experiences and media content they consume reinforce these behaviors as people grow into adulthood (Kunkel et al., 2007; Lauzen, Dozier, & Horan, 2008). So it seems very logical that men would exhibit greater retaliatory aggression online than women when faced with a threat to positive face. However, research has not specifically tested this premise on a social-networking site.

In addition, research has found that women tend to smile more than men in general (Hess & Bourgeois, 2010) and even when faced with a virtual human (Kramer, Kopp, Becker-Asano, & Sommer, 2012). Smiling more links specifically to societal gender-norms, where women are socialized to master negative emotions such as anger and aggression (Hochschild, 2003) but have more freedom to exhibit positive emotions than men (Fischer, 2011).

Therefore, face and politeness theories and the extant literature would suggest that online threats to positive face would lead to greater retaliatory aggression in men than women, compared to non-aversive comments. However, as both rejection and criticism can threaten positive face, it is unclear whether one would lead to greater effects in men compared to women. Based on this theoretical and research foundation, we posed the following hypotheses and research questions:

**H1**: Men will demonstrate greater retaliatory aggression in response to threats to positive face on social media than women.

**H2**: Gender will moderate the direct effect that threats to positive face have on retaliatory aggression.

**RQ1**: Will these effects differ for criticism versus rejection?

### 3. Methods

#### 3.1. Design

This study employed a between-subjects experiment with three conditions (rejection, criticism, and control), and gender was treated as an additional factor and moderating variable. This study focused only on the interplay of gender, as main effects of the experimental stimulation are reported elsewhere (Chen, 2013). The experiment was conducted on a social-networking site called "The College Network" that was created for this project using Ning, a customizable software. Fig. 1 shows a screen shot of the site. To create a premise for the experiment, subjects were told they were testing a new social media site aimed at college-age students, so they could offer suggestions before the site went to market. The site was preloaded with 20 mock profiles of college-age students, and 40 groups subjects could join.

#### 3.2. Focus group and pre-tests

College-age students from a university in the Northeastern United States who were uninvolved in the main experiment participated in a focus group and four pre-tests and helped make the site look realistic. They also created the rejecting, criticizing, and control statements that would serve as stimuli for the project. Table 1 provides descriptive statistics of these subjects, all of whom received $10 compensation each from a university grant.

Seven subjects comprised the focus group. They made up 79 groups typical of those they would expect to find on a social media site aimed at college students. After duplicates were removed, this list was reduced to 40 groups used on the mock site for the experiment. Some example were: "All my best friends are 4-legged," "I heart Apple," and "I’m sure I’d be an excellent Quidditch player." Each group displayed a picture and a brief description representing that group. The descriptions were created based on real Facebook groups. An example is shown in Fig. 2.

Focus group members then used a think-aloud procedure (Shapiro, 1994) to brainstorm rejecting, criticizing, and non-aversive comments (for the control) that they deemed typical of those they might receive if they attempted to join a group on a social-networking site. Focus group members came up with non-aversive comments that accepted people into groups, creating a control condition more comparable to other conditions than a control without any attempt to join groups. This resulted in 49 comments. After duplicates were removed, 29 comments remained (11 rejecting, 9 criticizing, and 9 non-aversive).

Next 4 pre-tests were conducted using a systematic method from prior research (Gaessler, 1981; Shapiro & Chock, 2004) where pre-test subjects rated comments focus group participants had generated. First, one set of subjects rated their agreement to the following statements on a 1 (not at all) to 7 (very much) in regard to the 29 comments generated by the focus group: "If I received this message after I tried to join a social media group, I would feel I had been rejected by the group," "If this message were posted on my social media-site wall, I would feel as if I had been criticized," and "If I received this message, it would not bother me at all." Subjects responded on an online questionnaire, with statements randomized to control for order effects (Krosnick, Judd, & Wittenbrink, 2005). Rejecting messages were those with mean scores above 5 on the 7-point "I feel I had been rejected" scale. Criticizing messages were those with average scores greater than 5 on the "I feel I had been criticized scale." Non-aversive messages had means greater than 5 on the "It would not bother me" scale. This resulted in 9 non-aversive statements, 19 criticizing statements, and 20 rejecting statements, suggesting overlap between rejection and criticism.

To deal with this overlap, a second group of subjects rated on a dichotomous scale the comments earlier pre-test subjects had deemed either rejecting or criticizing. Subjects were told to imagine they had tried to join groups on a social media site and received these messages. They were asked: "We want to know whether you would feel REJECTED or CRITICIZED if you received the following messages in response to your request. We realize you may feel BOTH. But you must pick which BEST describes how you feel." They could indicate that the statement would make them feel "mainly criticized" or "mainly rejected." This resulted in 4 statements for each condition, which became stimuli for the main experiment. The stimuli are described further below.

Two additional sets of students rated 51 photographs downloaded from Twitter or Facebook to assess whether the people in the pictures looked about their age on a 1 (strongly disagree) to 7 (strongly agree) scale. Both groups followed the same procedure, but each group viewed only roughly half the pictures to cut down on the time it would take to complete the review. Only photographs where subjects on average rated a picture at four or greater for being "about their age" were included on the mock social-networking site used in the experiment. Based on their ratings, 31 pictures were eliminated. The remaining 20 pictures were uploaded onto the mock social-networking site used for the main experiment, so it would appear the site was already populated with members. Each of the 20 fake profiles was assigned to join four different groups picked at random on the site. As a result, each of the 40 groups ended up with two members. The site administrator, who was one of the researchers, also joined every group, so all 40 groups had three members. This was done to ensure each group had the same number of members before the main experiment, so one group would not appear more popular than another.
3.3. Stimuli

Comments rated by pre-test subjects became the main experiment stimuli with 4 statements for each condition. A series of \( t \) tests were run to check whether messages in each condition were equally powerful. Rejecting messages were equal, but some criticizing messages and non-aversive statements showed intensity variability. To neutralize intensity differences, statements were randomized by subject. Every subject received four messages, and all dependent variables measured subjects’ response to all four statements collectively. Table 2 shows the statements the \( t \) test results.
3.4. Main experiment

3.4.1. Sample

A total of 84 students from entry-level classes were recruited for the main experiment at the same university where the focus groups and pre-tests were conducted. They were all uninvolved in earlier phases of the project. They were emailed a 17-item online questionnaire, which asked demographic (gender, race, income, age, year in school) and personality questions. Several weeks later, these students were invited to a campus laboratory to complete the experiment. However, data from one subject was removed from analysis because of technical problems linking that subject’s questionnaire to experimental data. Data for five additional subjects were removed from analysis because they failed a manipulation check, which is explained below. Table 1 shows descriptive statistics for the remaining 78 subjects.

3.4.2. Procedures

After completing a consent form, subjects were seated before a laptop, equipped with MediaLab experimental software and completed the experiment individually. Subjects were randomly assigned to three conditions, counterbalanced by gender. While female participants in the experiment out-numbered males overall (Table 1), a chi square test of independence showed no significant differences in the distribution of gender by condition. The breakdown of subjects in each condition was: rejection (n = 28; 7 male, 21 female), criticism (n = 23; 5 men, 18 female), and control (n = 27; 5 male, 22 female).

A researcher demonstrated to each subject how to navigate the social-networking site and explained that the site had profiles of...
other students at that university and 40 groups that participants could join. The researcher told subjects to browse the active site, create a profile on it, upload a photo for the profile, and then look over the other profiles and the 40 groups on the site, much as they would if they had just joined any new social-networking site. Subjects were told that they should browse the information about each of the 40 groups and decide which four groups they wanted to join. Once they were done browsing, the subjects moved to the next phase of the experiment, where the MediaLab software asked them to join each of the four groups they had selected, one at a time. Four groups per condition were considered enough to produce an effect but not so many as to make subjects weary or skeptical.

As soon as subjects joined each group, they received a message about whether they were accepted into the group. In the rejection and control conditions, subjects were told they had been accepted into the group but then they received either one of the four criticizing or non-aversive messages, depending on condition. For the rejection condition, the message informed them they had been rejected from the group followed by one of the four rejecting messages. In each condition, each subjects ended up receiving all four of the messages, although they were randomized to control for order effects (Krosnick et al., 2005). Messages were sent privately.

Subjects then completed a manipulation check and decided whether to send the group they had sought to join two types of virtual gifts – a ticking bomb or a smiley face. The gifts were dependent measures of retaliatory aggression and are explained below. Subjects were then assured the messages received were randomly assigned and not personal, following a debriefing procedure from prior research (Williams, Cheung, & Choi, 2000).

3.4.3. Manipulation check

Subjects reported which emotional experience “BEST describes how you felt during the experiment” on a 1–7 scale, with 1 being mainly criticized, 4 being mainly accepted, and 7 being mainly rejected. The goal was to prevent overlap between feelings and force subjects to choose, so that a lower score would indicate feeling criticized, a middle score feeling accepted, and a higher score feeling rejected. The manipulation worked, \( F(2.75) = 13.28, p < .001, \eta^2 = .28 \). Those in the control condition felt the most accepted \( (M = 3.93, SD = .27) \) compared to the others. Those in the rejected condition felt the most rejected \( (M = 5.14, SD = 2.27) \), while those in the criticism condition felt the most criticized. Differences between all groups were significant at \( p < .05 \), according to post-hoc Scheffe corrections.

3.4.4. Virtual gifts as dependent measures

Retaliatory aggression was measured by counting how many of two types of virtual gifts – a black-and-red ticking bomb and a bright yellow smiley face – subjects sent to the groups they sought to join. (See depictions of the gifts in Fig. 3). Virtual gifts were used in an effort to mimic the experience people often have on social-networking sites, where these types of gifts are common and indicate relational closeness (Bakshy, Simmons, Huffman, Teng, & Adamic, 2010) and help organize online relationships (Bergquist & Ljungberg, 2001).

A ticking bomb pictogram was used as a direct measure of retaliation because it symbolizes a violent action, and, therefore, offers face validity of retaliation. More ticking bombs sent to the groups one wanted to join were judged a measure of retaliation for being criticized or rejected. It is worth nothing that people sometimes interpret computer-mediated icons in idiosyncratic ways (e.g. Garrison, Remley, Thomas, & Wierszewski, 2011), so it is plausible that people could interpret a ticking bomb ironically or as a joke. However, in another portion of this project published elsewhere (Chen, 2013), rejection and criticism lead to increases in the sending of ticking bombs, mediated through increases in negative affect. That finding supports the idea that people felt some type of emotional pain from the rejection and criticism, offering evidence bombs were sent in retaliation not irony.

A smiley face pictogram was used as a reverse measure of retaliation because smiles are “spontaneous expressions of positive emotions” (Ekman & Friesen, 1982, p. 238). Therefore, a greater number of virtual smiley faces sent to the groups subjects wanted to join were considered a demonstration of happiness, which would indicate the absence of aggression. Smile faces have been found to be a means to add emotion to online communication that indicate affective states communicated through facial expression or other cues in offline conversations (Deris et al., 2008; Dresner & Herring, 2010; Lo, 2008). Research has found that the link between a graphical depiction of a smile and the emotion of happiness is so clear that even 4-year-olds can discern the meaning of the symbol (Visser, Alant, & Harty, 2008). Similarly, in a study of adults, Walther and D’Addario (2001) found 98.3% agreement that a smile face emoticon (created by typing a colon followed by a closing parenthesis) was associated with happiness, although a winking smile (created by typing a semi-colon followed by a closing parenthesis) offered a more ambiguous meaning of sarcasm, secretiveness, or joking. This finding suggests a more nuanced interpretation of a smile based on whether it is winking or not. However, it is important to note that in this study, a non-winking smile was used, suggesting less ambiguity. In addition, these earlier studies referred to emoticons, not the larger, more graphically rich pictograms used in the current study. Emoticons are created using ASCII-based character strings that must be read sideways to interpret as a smile (e.g. :)), while pictograms are more graphically rich smiles that do not require rotation for interpretation (e.g. :)).

3.4.5. Control variables

Experiment subjects answered a series of questions about rejection sensitivity, personality, trait self-esteem, and narcissism, and all analyses were run initially with these variables as covariates.

\(^2\) One subject entered a nonsensical answer for ticking bombs, 999999999999, so it was removed. The answer was converted to a zero because the answer the subject provided was deemed to be likely an attempt by the subject to advance to the next question without entering a true answer. The Media Lab computer program did not allow subjects to advance to the next question without entering an integer.

Fig. 3. Depictions of the smiley face and ticking bomb pictograms used as measures of retaliatory aggression. The ticking bomb was black with red numbers in the center, while the smile had a yellow face. Both are shown the actual size used in the experiment.
However, as none showed significant effects, analyses were re-run without these covariates. In the interest of space, operational definitions for these variables are not provided here but are available from the corresponding author upon request.

4. Results

H1 predicted men would demonstrate greater retaliatory aggression in response to threats to positive face on social media compared to the control. The data partially support this hypothesis. When gender was treated as an additional factor, it showed a moderate significant effect on the sending of ticking bombs, $F(2,77) = 7.73$, $p = .007$, $\eta^2 = .08$. While both men and women followed the same trend of sending more ticking bombs in the rejection or criticism conditions, compared to the control, this effect was more pronounced for men. Overall men ($M = 1.59, SD = 1.46$) were more likely than women ($M = 0.59, SD = 1.19$) to send ticking bombs. Also, men far exceeded women in the number of bombs sent in the rejection ($M_{\text{male}} = 2.14, M_{\text{female}} = 0.81$) and criticism ($M_{\text{male}} = 2.20, M_{\text{female}} = 0.83$) conditions, compared to the control ($M_{\text{male}} = 0.20, M_{\text{female}} = 0.18$). See Fig. 4. No such significant gender difference was found for the sending of virtual smiles, the reverse measure of retaliatory aggression.

H2 predicted that gender would moderate the direct effect that threats to positive face have on retaliatory aggression. Partial support was found for this hypothesis. A significant interaction for gender with a moderate effect was found for the number of virtual smiley faces sent, $F(2,77) = 4.12$, $p = .02$, $\eta^2 = 0.09$, and the main effect lost statistical significance when gender was entered into the equation. Using logged variables, the interaction showed that men sent more smiley faces overall ($M = 0.47, SD = 0.30$) compared to women ($M = 0.42, SD = 0.40$). However, women ($M = 0.65, SD = 0.43$) in the control condition sent more smiley faces than men ($M = 0.32, SD = 0.25$). Men ($M = 0.44, SD = 0.38$) sent more smiley faces in the rejection condition than women ($M = 0.22, SD = 0.31$). Men also sent more smiley faces in the criticism condition ($M = 0.66, SD = 0.05$) than women ($M = 0.36, SD = 0.31$). A significant interaction for gender was not found for the direct measure of retaliatory aggression, sending of ticking bombs.

The data also answer RQ3, which asked if how men and women differ in how they responded to two types of threats to positive face – criticism and rejection. For the direct measure of retaliatory aggression, the sending of ticking bombs, men and women showed no differences in responses to rejection compared with criticism. However, for the reverse measure of retaliatory aggression, sending virtual smiley faces, women showed no difference in how they responded to rejection and criticism, but men did. Men exhibited the least retaliatory aggression in response to criticism, while women showed the least aggression in response to the control. See Fig. 5.

5. Discussion

This research had two main goals. The first was to examine whether men exhibited more retaliatory aggression than women when confronted with two types of face threats, rejection and criticism, in the specific context of an interactive exchange on a social-networking site. The second was to examine whether gender differences in retaliatory aggression vary dependent on the type of face threat, either rejection or criticism.

These findings suggested that men and women differ in how they respond to two types of threats to positive face – rejection and criticism on social media. While men and women were both more likely to send virtual ticking bombs to the group that rejected or criticized them compared to the control, this effect was heightened for men. This finding fits nicely in the aggression literature, which has consistently found that men are more likely to aggress overtly (Bushman & Huesmann, 2010) while women more commonly manipulate or withdraw (Wood & Eagly, 2010). Similarly, differences have been found in how men and women navigate digital spaces, (Herring, 1994, 2000) employ face work (Holmes & Schnurr, 2005), and experience threats to their identity (Blackhart et al., 2009; Downey et al., 2004). This study built on this foundation by offering early evidence that men and women also respond differently to types of threats to positive face, namely rejection and criticism, as virtual strangers on social media.

In this study, this finding regarding a gender effect for the direct measure of retaliatory aggression, sending of ticking bombs, both confirmed the existing literature and also offered an interesting addition by showing that this effect is virtually the same whether people are criticized or rejected on a social-networking site. While it has long been known that rejection leads to retaliation, whether criticism leads to retaliation has received little study.

In addition, the significant gender interaction for the sending of virtual smiley faces offered some evidence of differences in the way men and women may respond to affronts to their sense of face, in accordance with both face theory and politeness theory. Sending virtual smiley faces was considered evidence of the absence of retaliation. Earlier research suggests a winking smile may indicate sarcasm or a joke more readily than happiness (Walther & D’Addario, 2001). However, a non-winking graphical smile – like
the one used in this study – has been found more consistently to indicate happiness (Gantzer et al., 2012; Visser et al., 2008).

In this study, women in the control condition sent more virtual smiley faces compared to the other conditions. However, contrary to predictions, men were more likely to send virtual smiley faces if criticized, followed by rejection. These findings elude a clear-cut explanation. However, it seems plausible that men felt a greater threat to their socially constructed face than women by either rejection or criticism, so perhaps they had a greater need to save face by sending smiley faces and acting like they did not care about the affront. Social norms about the stoic man may have shaped this need, following the ideas of script theory and social cognitive theory, which suggest that children model the stereotypical gender roles they see in life and in the media, perpetuating these traditional gender roles (Bussey & Bandura, 1999; Kunkel et al., 2007; Lauzen et al., 2008; Plant et al., 2000; Spence & Buckner, 2000; Wood & Eagly, 2010). More research is needed to fully understand why men might respond to criticism differently than rejection, while women respond to both as aversive speech. It is also notable that men sent more virtual smiley faces overall than women. This finding disputes prior research in the FtF world that suggests women smile more than men (Hess & Bourgeois, 2010). Given earlier research that found smiles may also communicate sarcasm or irony (Walther & D’Addario, 2001) or at least be viewed as playful (Dresner & Herring, 2010), it is also plausible that men sent smiles to be sarcastic or ironic, not to exhibit the absence of retaliation. Further research is needed in this area to provide clarification.

5.1. Limitations

A main limitation of this study was that females far outnumbered males among the sample. While this inequality in research subjects is not uncommon in psychological research (Patel, Doku, & Tennakoon, 2003), it limits the generalizability of these results. Future research should attempt to replicate these results with a sample including more men. However, it is worth pointing out that the men in the study were equally distributed between conditions, which is important in interpreting the results.

The study is also limited by the fact that threats to positive face that were used had to be mild enough not to cause serious pain for ethical reasons. It is plausible results would have been different in intensity if more painful stimuli were used. In addition, to closely mirror typical social media interactions, subjects in the control were accepted into groups and exposed to non-aversive statements. It is plausible results would have differed if subjects joined groups but received no comment from the group.

Finally, questions in this study were examined only on college-age American men and women, not a random sample of the general population. This was intentional because this age group remains the predominant social media users (Correa, Hinsley, & Gil de Zuniga, 2010). As a result, this age group is frequently the focus on research on social media (e.g. Kim, Sohn, & Choi, 2011; Steinfeld, Ellison, & Lampe, 2008), so this sample was particularly suited to this study. However, it is possible that members of other racial or ethnic groups, cultures, or demographic populations might respond differently to the stimuli.

5.2. Future research

This study offered several avenues for future research. This study provided some early evidence that men and women may respond to different types of threats to positive face on social media in ways that vary, but its results are by no means conclusive. More research using various types of criticism and rejection online are needed to parse out those differences more fully. Future research should use a sample that includes more males. Also, different intensities of both rejection and criticism should be examined to establish the boundary conditions at which men and women depart in their responses to threats to positive face. Furthermore, this study examined only how men and women differed in direct retaliatory aggression. Because research suggests women are more likely to aggress indirectly through manipulation and withdrawing while men tend to aggress directly (Wood & Eagly, 2010), future studies should examine gender differences in indirect retaliatory aggressive responses to threats to positive face on a social-networking site.

5.3. Conclusion

Clearly, the results showed that they way men and women respond to threats to positive face online differs. These differences in some ways mirrored gender differences found in FtF communication. This suggested, as much other research has, that people carry their gendered social norms to the computer-mediated world. In addition, results suggested that men and women may process two types of threats to positive face – rejection and criticism – differently, but more research is needed to understand why and how this happens. As such, these findings provide the beginning of an understanding of gender differences in the specific context of strangers interacting on a social-networking site.

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