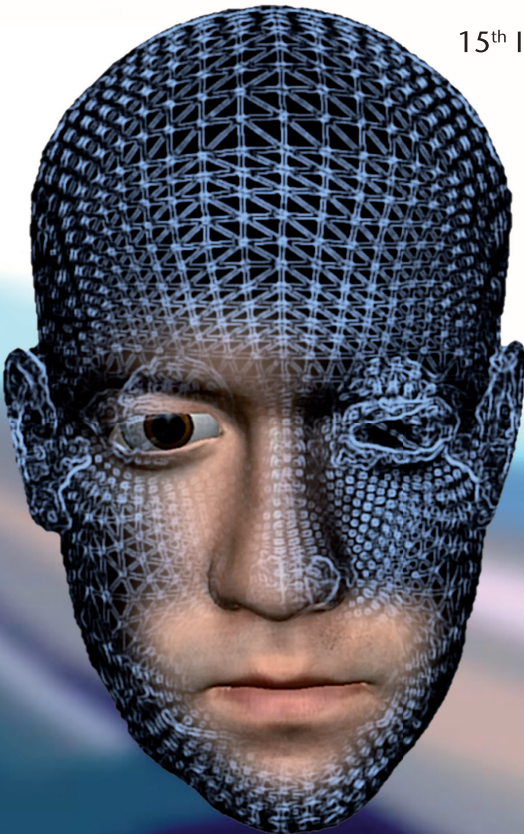Anna Felnhofer
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(Eds.)

Challenging Presence

Proceedings of the International Society
for Presence Research

15th International Conference on Presence

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Me, Myself, and Facebook: Cyber Bullying, Presence, and Self-Esteem

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Abstract. Due to a growing literature demonstrating its negative effects, cyberbullying is a rising concern for both adolescents and adults. Although this literature has investigated individual factors which might predict victimization, the current study explores how the experience of self-presence might influence the relationship between cyber bullying victimization and self-esteem. University students (N = 227) completed the study questionnaire consisting of instruments measuring cyber bullying victimization, state self-esteem and self-presence with students' Facebook profile. Results suggest that although there is a negative relationship between cyber bullying victimization and self-esteem, this relationship is not significantly stronger for those who experience higher levels of self-presence with their Facebook profile as opposed to those who experience lower self-presence. In spite of this, post hoc analysis provides reason to suspect that self-presence is an important variable to consider in future studies investigating the relationship between cyberbullying victimization and self-esteem.

Keywords. Computer-mediated communication; cyberbullying; Facebook; self-esteem; self presence

Introduction

On August 2nd, 2013, the home of Dan and Deborah Smith in Leicestershire, England was stuck by tragedy. On that date, Jo, the eldest of the Smith's two daughters, discovered the body of her 14-year-old sister Hannah. Hannah hanged herself in her bedroom after being bullied on the website Ask.fm. Hannah had joined the site to seek advice about eczema. Jo continues to be the target of abuse, and a Facebook memorial page set up for Hannah has continued to see negative comments (Smith-Spark, 2013).

If this were a unique story, it would still be heartbreaking. However, reports such as this seem to be an all too common occurrence, as many high profile cases of cyber bullying exist. This gives rise to concerns about how we interact in online environments. The current research was designed to examine these concerns. More specifically, it examines how the experience of telepresence impacts the relationship between negative online communication and resulting self-esteem. The paper will first discuss the prevalence and effects of bullying and cyber bullying before moving on to the importance of telepresence in understanding this process.

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Bullying: Prevalence and Effects.

As a form of antisocial communicative behavior, bullying, defined as "a deliberate and repeated aggression among peers" (Olweus, 1993), is a rising concern for adolescents and adults alike. In 2000, 17% of students in grades 6 through 10 reported being bullied (Ericson, 2001), in 2005, 28% of students between the ages of 12 and 18 reported having been bullied in the past 6 months (Dinkes, Cataldi, Lin-Kelly, & Snyder, 2007), and, in 2011, 55% of high school students reported being bullied (Gan, et. al, 2013). Although the term bullying is often equated with the behavior of adolescents or young adults (Hepburn, 1997), 1 in 10 U.S. workers report experiencing persistent abuse from a coworker and another 30% report being bullied sometime throughout their working lives (Lutgen-Sandvik & Tracy, 2012).

Concern about bullying exists because it is prevalent, and has very negative effects. Youth who are bullied have been shown to have increased risk for suicidal thoughts, attempts, and completed suicides (Baldry & Winkel, 2003; Mills, Guerin, Lynch, Daly, & Fitzpatrick, 2004: Rigby & Slee, 1991; Rigby & Slee, 1999). In the educational setting, students who are bullied have difficulty focusing on their school work and demonstrate decreased academic performance (Balard, Tucky, & Remley, 1999; Roberto & Eden, 2010), demonstrate higher levels of insecurity, anxiety, and depression (Nansel et al., 2001), and experience loss of self-esteem and feelings of isolation well into adulthood (Clarke & Kiselica, 1997). Likewise, in the workplace, bullying has negative effects on the physical and emotional wellbeing or workers (Kieseker & Marchant, 1999), results in staff turnover (Infante & Gorden, 1985), and increases the use of sick leave (Thomas-Peter, 1997).

Cyber bullying: Prevalence and Effects

With the explosion of communication technologies, a new way to bully has received increased attention: cyber bullying. Cyber bullying is defined as "the use of information and communication technologies to support deliberate, repeated, and hostile behaviour [sic] by an individual or group, that is intended to harm others" (Belsey, 2006, para. 23). Across a variety of ages and circumstances, various studies have found that between 11% and 36% of people have reported being the victim of cyber bullying (e.g., Hinduja & Patchin, 2008; Kowalski & Liber, 2007; Privitera & Campbell, 2009; Ybarra & Mitchell, 2004) and the phenomenon is becoming more widespread among school age individuals (Gan, et. al, 2013).

Like face-to-face bullying, cyber bullying has been shown to have negative effects on those who are bullied. Initial research has shown that cyber bullying negatively impacts victims' development, well-being, and physical, social and emotional functioning (Hinduja & Patchin, 2008). Victims of cyber bullying respond in a variety of ways including increased emotional distress (Ybarra & Mitchell, 2004) anger, crying, embarrassment, and blaming oneself (Beran & Li, 2005) and increased cyber bullying also increases offline problems for the victim (Hinduja & Patchin, 2010).

One of the most commonly found effects of cyber bullying is a decrease in self-esteem. Rosenberg (1965) defined self-esteem as "a favorable or unfavorable attitude toward the self" (p. 15). Others conceptualize self-esteem as an internal representation of social acceptance or rejection by which individuals gauge the degree to which they are accepted or rejected by others (Leary & Downs, 1995). Although different, both conceptualizations highlight the fact that self-esteem is a perception of one's social worth- a perception that is sensitive to individual bullying interactions. Existing research provides considerable evidence that being bullied lowers individuals' self-esteem (Wild, Flisher, Bhana, & Lombard, 2004). This same relationship has been found to exist for cyber bullying as well (Fauman, 2008; Patchin & Hinduja, 2010; Thomas, 2006); therefore, the following hypothesis is forwarded:

H1: Perceptions of cyber bullying victimization will be negatively related to self-esteem.

The Influence of Presence

In the case of cyber bullying, researchers have sought to identify individual factors that predict the instance of the phenomenon. Factors such as the victim's gender, self-concept, and parent-child relationship have been found to predict victimization (Katzer, Fetchenhauer, & Belschak, 2009). However, cyber bullying is an online phenomenon, and considering how individuals experience the online environment could provide other insights into the effects of cyber bullying.

One experience of online interaction that may have implications for cyber bullying is presence. Presence, defined as "the perceptual illusion of non-mediation" (Lombard & Ditton, 1997, p. 9), occurs when an "individual does not perceive the communication as being mediated and/or responds as if the medium were absent" (Westerman & Skalski, 2010, p. 64). One subtype of presence that may be especially useful for considering cyber bullying is self-presence (Ratan, 2010).

Self-presence and cyber bullying

As a concept, self-presence was first described as mental models media users held about his/herself in virtual world (Biocca, 1997), but has since been conceptualized in various ways. According to Lee (2004), self-presence is "a psychological state in which virtual (para-authentic or artificial) self/selves are experienced as the actual self in either sensory or nonsensory ways" (p. 46). Construing self-presence more broadly, self-presence is "the extent to which an individual's self is relevant during media use" (Ratan & Hasler, 2012, p. 7).

Although limited, scholarship centering on concepts similar to self-presence highlight the relevance of an individual's sense of self while interacting in virtual environments. For instance, Turkle's (1995) work on mediated identity suggests that users can experience their virtual selves as their actual selves. Likewise, others have also found that individuals tend to treat their virtual selves as their actual self (Bailenson et al., 2002; Bailenson et al., 2005; Bailenson & Yee, 2005). Following this logic, these findings would suggest that, in instances of cyber bullying, if one perceives their online identity as their "real" identity (i.e., feels self-present), then that person will have more of a "real" response to cyber bullying.

Although self-presence has predominantly been studied in terms of a connection between a user and his/her avatar (Jin, 2010; Ratan, 2010, 2011a, 2011b; Ratan & Hasler, 2009; Ratan & Hasler, 2010), it is possible that an individual might experience a similar connection with his/her Facebook profile. Offering a more detailed explication of self-presence, Ratan (2010) defines self-presence as "the extent to which some aspect of a person's proto (body-schema) self, core (emotion-driven) self, and/or extended (identity-relevant) self is relevant during media use" (p. 11). These facets of self can be considered in tandem or individually (Ratan, 2011b) and, as opposed to other types of presence (i.e., physical and spatial), self-presence is more closely related to a user's "affective response to virtual self-representation (interpersonal domain) in digital media" (Jin, 2011, p. 117). Thus, core (emotion-driven) and extended (identity-driven) self-presence are most likely relevant during Facebook use because as a digital medium, Facebook is site of identify formation (van Dijck, 2013) and emotional expression (Nitzburg & Farber, 2013) for many users. Because lower self-esteem is one of the frequently found effects of cyber bullying, an increased feeling of self-presence with one's Facebook profile should lead to a stronger relationship between victimization and self-esteem. Thus, the second hypothesis is:

> **H2:** The relationship between perceptions of cyber bullying victimization and self-esteem will be moderated by self-presence such that the relationship between victimization and self-esteem will be stronger for those with higher self-presence as opposed to those with lower self-presence.

Method

Participants

Participants were 227 students recruited from online courses and a research pool at a large Midwestern university. Participants were given course or extra credit in the class in which they were enrolled for their participation. Of the 227 participants, 37 total cases were removed due to not having a Facebook account (n = 23), missing data (n = 13) and not completing the self-esteem measure (n = 1). The resulting sample (N = 190) consisted of 40.7% male (n = 77), 58.4% female (n = 111), and 0.5% (n = 1) transgendered students and 0.5% students (n = 1) who did not indicate sex. The participants ranged in age from 18 to 52 years, with a mean age of 23.1 years (SD = 6.81). One participant did not indicate his/her age. Participants were predominantly White/Caucasian (77.9%); however, 8.9% were African American/Black, 7.9% were Asian/Pacific Islander, 1.6% were Hispanic/Latino/a, 2.6% were multi-racial or multi-ethnic, 1.1% were of other ethnic origins. Additionally, 84.5% of participants report logging into Facebook one or more days per week, 82.2% report logging in one or more times per day, and 78.4% report this pattern of logging in to have lasted one or more years.

Procedures

Participants completed a survey designed to address the hypotheses of this study using Qualtrics, an online survey service. To qualify, a potential participant had to be 18 years old or older at the time of consent. After consenting to participate in the study, participants completed a questionnaire that consisted of self-report items designed to assess participants' perceptions of Facebook usage, self-esteem, amount of negative CMC received in the past year, and amount of core and extended self-presence they experience with their Facebook profiles.

Measures

Self-esteem. Self-esteem was measured using the State Self-Esteem Scale (SSES; Heatherton and Polivy, 1991). Sample scale items include: "I worry about whether I am regarded as a success or failure" and "I feel as smart as others" and previous research has provided support for the discriminant and construct validity of the measure (Heatherton and Polivy, 1991). Participants responded to the 20-item scale ranging from 1 (not at all) to 5 (extremely). Seven items were removed from analysis due to poor factor loadings and the remaining 13 items were averaged to create a composite scale for overall self-esteem (M = 3.31, SD = 0.61, α = .83). Heatherton and Polivy (1991) forward that this scale can also be divided into three subcomponents consisting of performance (M = 3.67, SD = 0.65, α = .76), social (M = 2.90, SD = 0.90, α = .81), and appearance self-esteem (M = 3.29, SD = 0.88, α = .81). Although no specific hypotheses were made for each subcomponent, post-hoc analyses examined relationships among variables for each of these as well.

Negative CMC. Frequency of negative CMC was measured using Patchin and Hindula's (2010) 9-item cyber bullying measure. Items from the original measure were modified to reflect communicative experiences on Facebook. Sample items include "Received a negative message from someone you know" and "Had something negative posted about you on your wall that you did not want others to see." Participants self-reported the frequency of receiving negative CMC on a scale from 1 (never) to 5 (every day). Scores on the scale range from 0 to 36 with higher values representing more experience with negative CMC Individual items were summed to create a frequency of negative CMC score (M = 4.73, SD = 5.43).

Self-Presence. Self-presence was measured using a modified version of Ratan's Self-Presence Questionnaire (SPQ; 2010). Sample items include "When on Facebook, how much do you feel your profile is part of you?" and "When upsetting things occur on your Facebook, to what extent do you feel upset?" and previous research has provided support f or the validity of the measure (Ratan,

2010). Participants respond to the 9-item measure on a scale ranging from 1 (not at all) to 5 (very much). Individual items were averaged to create a composite scale with higher scores representing increased self-presence (M = 2.75, SD = 0.76, α = .85).

Results

Hypothesis one predicted a negative relationship between cyber bullying victimization and self-esteem. There was a negative correlation between the two variables, r = -.367, n = 189, p < .001. Thus, the data are consistent with hypothesis one.

Hypothesis two predicted that self-presence would moderate the relationship between cyber bullying victimization and self-esteem. Data were separated based on a median split resulting in higher self-presence (median ≥ 2.78) and lower self-presence (median ≤ 2.77). For higher self-presence, the relationship between cyber bullying victimization and self-esteem was significant, r = -.389, n = 99, p < .001. For lower social presence, the relationship between cyber bullying victimization and self-esteem was also significant, r = -.254, n = 90, p = .008; however, the difference between the higher and lower self-presence groups was not statistically significant, Z = -1.02, p = .15.

As mentioned above, Heatherton and Polivy (1991) also suggest that their scale can be divided into three subcomponents consisting of performance, social, and appearance self-esteem. Thus, the same analyses performed for the hypotheses were performed on each of the subtypes of self-esteem as well. For higher self-presence, results indicate a significant negative correlation between cyber bullying victimization and both performance self-esteem (r = -.559, n = 99, p < .001) and appearance self-esteem (r = -.220, n = 99, p = .014) but no relationship with social self-esteem (r = -.126, n = 99, p = .107). For lower self-presence, analysis indicates a significant negative correlation between cyber bullying victimization and both performance self-esteem (r = -.179, n = 90, p = .046) and appearance self-esteem (r = -.277, n = 90, p = .004), but no relationship with social self-esteem (r = -.138, n = 90, p = .097). Thus, those with high self-presence had a significantly higher correlation between victimization and performance self-esteem than those with lower self-presence (Z = -3.04, p < .01), whereas the difference between high and low self-presence groups on appearance self-esteem was not significant (Z = 0.41, p = .34). Thus, data were partially consistent with hypothesis two.

Discussion

The purpose of the study was to determine if self-presence moderates the relationship between cyber bullying victimization and self-esteem. The first hypothesis forwarded that there were would be a negative relationship between cyber bullying victimization and self-esteem. Data were consistent with this hypothesis and results, more generally, are consistent with previous research (Hinduja & Patchin, 2010) in spite of the relatively low incidence of cyber bullying victimization reported by participants. These findings contribute to a growing literature which suggests that cyber bullying has effects on self-esteem and could inspire inquiry into the exploration of other effects of cyber bullying victimization.

The second hypothesis forwarded that self-presence would moderate the relationship between cyber bullying victimization and self-esteem. Results for the overall self-esteem measures were partially consistent with this hypothesis. Although the negative relationship between cyber bullying victimization and global self-esteem was stronger among individuals with higher self-presence with their Facebook profiles, these differences were not statically significant. However, post-hoc analysis revealed that the predicted moderation of self-presence between cyber bullying victimization and performance self-esteem did show predicted patterns. Those with high self-presence had a significantly higher correlation between victimization and performance self-este-

em than those with lower self-presence. There were no differences for the other two subtypes of self-esteem. This may help explain why there were not significant differences found when all three types were combined to form an overall composite scale.

It is possible that performance self-esteem differs from both appearance and social self-esteem due to sample population. That is, many of the performance self-esteem items ask participants to assess performance that could be interpreted as academic performance (e.g., reading comprehension, comparative intelligence, and scholastic ability) that could be more salient to the participants. Similarly, performance self-esteem could mirror academic performance which has been shown to have a negative relationship with traditional bullying (Balard, Tucky, & Remley, 1999). Considering this, future studies should conduct analysis based on scale subcomponents, especially performance self-esteem, to examine these possibilities.

Despite the implications of findings, the results should be interpreted with the limitations of the study. The application of the self-presence measure in this study deviates markedly from pervious applications. Self-presence is most often considered an experience between a user and his/her avatar. Nonetheless, these findings contribute to the literature by identifying additional variables of interest in self-presence research. Also, these findings could transfer to instances of cyber bullying enacted in 3D or virtual environments. For example, future studies should employ experimental designs to assess the relationship between self-presence and cyber bullying enacted in environments which are more typically the basis of self-presence research.

Lastly, as these results are based on self-report data, it is possible that individuals who have diminished self-esteem perceive that they receive increased negative messages, thus study results should be interpreted with caution. In light of this, future studies should utilize experimental designs to establish causal relationships between self-presence and self-esteem. Another potential limitation of the study lies in considering presence as moderating verses and mediating variable. As presence tends to be considered a state instead of a trait variable (Bracken & Skalski, 2010) and the current study utilized scales traditionally used for this purpose, future research should utilize measures (e.g., telepresence tendency) developed to measure trait presence.

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