

The Virtual Destruction of Self-Compassion: Cyberbullying's Damage to Young Adults

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ABSTRACT. Although cyberbullying is a growing concern, little research has examined cyberbullying's relationship with self-compassion or its occurrence among young adults. Thus, the current research explored the association between cyberbullying and elements of self-compassion among 232 undergraduates with a mean age of 19.05 years ($SD = 1.13$). Participants reported being cybervictimized an average of 4.48 ($SD = 6.90$) times in the past week and cyberbullying others an average of 3.55 ($SD = 6.51$) times. Victimization positively correlated with self-judgment ($R^2 = .05$, $p < .001$), isolation ($R^2 = .03$, $p = .008$), and overidentification ($R^2 = .03$, $p = .02$); perpetration positively correlated with self-judgment ($R^2 = .03$, $p = .02$) and overidentification ($R^2 = .03$, $p = .02$). These results suggested that victims of cyberbullying, more so than perpetrators, may have reduced propensities toward self-compassion. Clinicians should be mindful of this link to self-compassion when working with cyberbullying victims.

Lies, slander, and menace with a dose of anonymity—*cyberbullying* has become a media obsession and has recently been labelled an international concern (Education Insider, 2010; Li, Cross, & Smith, 2012; Sabella, Patchin, & Hinduja, 2013). As technology use increases, individuals are turning to new methods in their harassment of others. In fact, Hinduja and Patchin (2013) reported that about 11% of youth have perpetrated some sort of cyberbullying against others at least twice within the past month. Additionally, Lindsay and Krysik (2012) found cyberbullying to be similarly prevalent among young adults, with 43% being victimized through online harassment in a 2-year period. However, before this topic can be adequately explored, one must define cyberbullying and outline some implications of this behavior.

In the past several years, publications in a variety of domains have attempted to operationalize the term *cyberbullying* to consolidate and advance research on this topic (Grigg, 2012; Kowalski, Giumetti, Schroeder, & Lattanner, 2014; Kowalski & Limber, 2007; Willard, 2007; Williams & Guerra, 2007). Among these, one comprehensive and widely used definition reigns: "cyberbullying is willful and repeated harm inflicted through the use of computers, cell phones, and other electronic devices"

(Hinduja & Patchin, 2009, p. 5). This definition is broad enough to include a variety of harassment behaviors such as defamation, threatening, exclusion, and other forms of aggression, all of which can be perpetrated through cyberspace and measured empirically (Barlett et al., 2014; Grigg, 2012; Hinduja & Patchin, 2009; Holfeld & Grabe, 2012).

Cyberbullying is a crucial subject for psychological investigation because it can have devastating psychological consequences for those involved. Cyberbullying victims and perpetrators alike are significantly more susceptible to emotional distress, depression, anxiety, and suicidal ideation than those not involved in cyberbullying (Çetin, Eroğlu, Peker, Akbaba, & Pepsoy, 2012; Didden et al., 2009; Hinduja & Patchin, 2010; Ybarra & Mitchell, 2004). However, victims do appear to suffer more severe psychological consequences as a result of cyberbullying than do perpetrators. Adolescent victims of cyberbullying experience higher levels of loneliness and suicidal ideation along with lower levels of self-esteem, empathy, and life-satisfaction than either nonvictims or cyberbullying perpetrators (Didden et al., 2009; Hinduja & Patchin, 2010; Kowalski et al., 2014; Şahin, 2012). Cyberbullying victimization also has a positive correlation with depression after traditional bullying victimization has been

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accounted for (Perren, Dooley, Shaw, & Cross, 2010). Further, young adult victims of cyberbullying have been found to score higher on measures of depression, anxiety, paranoia, suicidal ideation, and suicide attempts than matched controls (Schenk & Fremouw, 2012).

Previous studies have also found a number of risk factors for cyberbullying perpetration. Individuals with low social intelligence, low self-construal interdependence (i.e., tendency to identify themselves in terms of their relationships), preexisting conduct problems, and deficits in self-control are more likely to engage in cyberbullying, according to a recent meta-analysis and cross-cultural study (Çetin et al., 2012; Kowalski et al., 2014; Vazsonyi, Machackova, Sevcikova, Smahel, & Cerna, 2012). Hinduja and Patchin (2013) concluded that the frequency of adolescent cyberbullying increases as perceptions of peer cyberbullying increases, as well as when adolescents do not anticipate being punished for this behavior. Similarly, adolescents engage in less cyberbullying when they perceive their school climate and peer relations to be positive and supportive (Williams & Guerra, 2007). In other words, individuals who tend to act aggressively in other domains are at an increased risk of generalizing that aggression to technological domains, adding cyberbullying to their preexisting antisocial behaviors.

Some general risk factors of cybervictimization were identified by Williams and Guerra (2007) and include school environments or peer relations that are perceived by the adolescent to be nonsupportive. This parallels the aforementioned contribution of school climate and peers to the frequency of cyberbullying perpetration. Çetin and colleagues' (2012) conclusion that victims of cyberbullying tend to have lower self-construal interdependence also matches the pattern found in perpetrators. Together, the aforementioned findings include little research examining the relationship between character traits or preexisting behaviors and the probability of becoming a victim of cyberbullying, which is a clear gap in the existing literature.

Self-Compassion

One concept that has yet to be included in cyberbullying research is self-compassion. The theory of self-compassion is borrowed from Buddhism's emphasis on self-exploration, and has been loosely applied to psychotherapy for decades (Neff, 2003a, 2004). However, it was only in 2003 that Neff formally introduced this concept to the research community, operationalizing self-compassion and

creating a measure of its three components.

To strip self-compassion down to its most basic level, the self can be conceptualized as the individual at the root of subjective experience. Markus and Kitayama (2010) added, "One's ongoing sense of self functions as a foundational schema that recruits and organizes [a variety of] more specific self-regulatory schemas" (p. 421). Embedded in this broad definition, self-compassion is both a cognitive schema and behavioral manifestation of one's attitude toward oneself. Self-compassion is the equivalent of compassion, as the name implies, but instead of being an external display of kindness toward others, self-compassion is the rotation of a compassionate and nonjudgmental attitude inward unto oneself. Neff (2003a) offered an original and complete definition of self-compassion as "being touched by and open to one's own suffering, not avoiding or disconnecting from it, generating the desire to alleviate one's suffering and to heal oneself with kindness" (p. 87). She continued that self-compassion also encompasses "offering nonjudgmental understanding to one's pain, inadequacies, and failures, so that one's experience is seen as part of the larger human experience" (Neff, 2003a, p. 87).

Self-compassion is ultimately segmented into three distinct factors: self-kindness, common humanity, and mindfulness (Neff, 2003a, 2003b). Self-kindness includes treating oneself gently in times of difficulty, and not judging or criticizing oneself for shortcomings or inadequacies. The noncompassionate counterpart of self-kindness is self-judgment, in which one treats one's flaws with impatience and disgust (Neff, 2003a, 2003b). Next, common humanity refers to the recognition that hardships and failings are part of the human condition and are not unique to oneself. Without common humanity, isolation reigns and individuals are likely to believe that they are alone in struggling with failures and flaws (Neff, 2003a, 2003b). Self-compassion's final component, mindfulness, requires one to recognize and allow negative emotions during times of hardship instead of avoiding or becoming engulfed by such feelings. Mindfulness is the identification and acceptance of sorrow without overidentification, or becoming swept away in a disproportionate sea of emotion (Neff, 2003a, 2003b).

This trio intertwines to augment one another, with self-kindness and connectedness being most central to self-compassion (Akin & Eroğlu, 2013; Neff, 2003a). However, any hint of evaluation or requisites of self-image are conspicuously lacking.

Indeed, although self-compassion is similar to other constructs such as self-esteem, it is unique in that self-compassion is the complete lack of judgment or comparative evaluation of the self (Neff, 2003a, 2004). Thus, in the decade since this operationalization, self-compassion has been demonstrated to share many of self-esteem's beneficial correlations without some of its troubling pitfalls (Neff, 2004, 2011).

Several of self-compassion's positive associations include increased emotional resilience and stability along with decreased self-evaluation, ego-defensiveness, and self-enhancement tendencies, which are relationships not shared with self-esteem (Neff, 2011; Petersen, 2014). Clinical interventions have also shown that higher levels of self-compassion are indicative of psychological well-being, protecting against depression, anxiety, narcissism, and familial discord (Neff, 2004; Neff & McGehee, 2010; Neff, Kirkpatrick, & Rude, 2007; Saricaoglu & Arslan, 2013). One explanation of these findings may be the close link between general self-compassion and one's use of constructive problem- and emotion-focused coping strategies, as well as employing autonomy and a mastery orientation instead of avoidance when faced with failure (Neff, 2004; Neff, Hsieh, & Dejitterat, 2005; Saricaoglu & Arslan, 2013).

Specifically in terms of interpersonal relationships, Yarnell and Neff (2013) found that young adults with greater self-compassion were more likely to compromise and act authentically in times of strife compared to those with decreased self-compassion who more frequently experienced emotional instability and engaged in self-subordination. This effect is amplified when self-compassion is combined with high conscientiousness, motivating individuals to attend to strife and fix relational mistakes (Baker & McNulty, 2011). It naturally follows that mindfulness and common humanity correlate positively with relational-interdependence of the self-construal, or defining oneself in terms of one's close others, and feelings of seclusion have a strong negative correlation with self-compassion (Akin & Eroglu, 2013). As self-compassion research expands, there exists an increasing opportunity for researchers to examine social interactions in relation to constructs such as self-acceptance.

Current Study

The current research aimed to address several of the aforementioned gaps in cyberbullying research including the lack of attention paid to cyberbullying

in young adults and the absence of research examining the link between cyberbullying and self-compassion. Additionally, this study hoped to demonstrate the applicability of a brief cyberbullying measure, recently developed in China, within a sample of American young adults (Lam & Li, 2013).

Young adults have been found to engage in socially aggressive behaviors like any other age group, and several studies have confirmed the presence of cyberbullying within this population (Crothers, Schreiber, Field, & Kolbert, 2009; Kowalski et al., 2014; Roland, 2013; Schenk & Fremouw, 2012). Even so, there continues to be a noticeable gap in cyberbullying research, specifically relating to the young adult population. The present study intended to add to the presently scarce research regarding young adults and cyberbullying behaviors by drawing from an undergraduate population instead of from primary or secondary schools, as seen in the majority of previous research (Kowalski et al., 2014; Wingate, Minney, & Guadagno, 2013).

Additionally, the current research examined the connection between cyberbullying experiences and self-compassion, which has not been addressed in previous literature. Because self-compassion is an important predictor of an individual's reaction to interpersonal conflict, it could play an equally important role in cyberbullying involvement (Baker & McNulty, 2011; Neff, 2004; Petersen, 2014). By identifying an association between self-compassion and cyberbullying, the current research could pave the way for the development of more effective interventions to eliminate cyberbullying behaviors, just as Neff et al. (2007) demonstrated that raising self-compassion could improve one's psychological well-being. Differences in self-compassion could also give researchers a glimpse into the distinction between victims and perpetrators, potentially highlighting the characteristics that distinguish those who are targets of harassment from those who attack others.

The final rationale for conducting the present study was to examine Chinese cyberbullying and cybervictimization measures within an American population. The E-Victimisation Scale (E-VS) and E-Bullying Scale (E-BS) were developed by Lam and Li (2013) for use in Chinese adolescent populations. However, due to the simplicity and psychometric strength of these scales, they were utilized in the current research. Because these measures have not been used outside of China, the present study hoped to demonstrate

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comparable psychometric success for these scales when employed within an individualistic culture and when used with an older population (i.e., a young adult sample instead of an adolescent sample).

If the above could be accomplished, a new validated measure of cyberbullying may be available for future data collection both intra- and cross-culturally. This would be an important contribution to the cyberbullying literature, which has experienced an explosion of new cyberbullying scales, most of which use language more suited to children than adults, without a consensus being reached regarding which are psychometrically superior (Kowalski et al., 2014). By providing further evidence for the psychometric strength and construct applicability of the E-VS and E-BS, the current study was conducted to align itself with these preexisting measures and to advance the field toward adhering to one generally accepted cyberbullying scale fit for both child and adult participants.

The current research's main hypotheses involved a predicted association between cyberbullying and factors of self-compassion. First, the three main aspects of self-compassion (self-kindness, common humanity, and mindfulness) were all expected to have negative correlations with cyberbullying victimization and perpetration. Second, the unhealthy counterparts of these aspects (self-judgment, isolation, and overidentification) were expected to have positive correlations with cyberbullying involvement. These hypotheses were formulated based on previous findings that self-esteem and interdependent self-construal are correlated negatively with cyberbullying whereas depression, anxiety, and feelings of isolation are correlated positively with cyberbullying victimization and perpetration (Barlett et al., 2014; Çetin et al., 2012; Didden et al., 2009; Kowalski et al., 2014; Patchin & Hinduja, 2010; Perren et al., 2010; Sahin, 2012; Schenk & Fremouw, 2012; Sticca, Ruggieri, Alsaker, & Perren, 2013). Because Akin and Eroğlu (2013), Neff (2004), and Neff and McGehee (2010) reported that self-compassion correlated positively with self-esteem and interdependent self-construal but negatively with depression, anxiety, and isolation, self-compassion was expected to interact with cyberbullying in a manner consistent with previous findings and with self-compassion's presently known correlates.

Third, after minimal adjustment of Lam and Li's (2013) E-VS and E-BS, it was hypothesized that these would be psychometrically strong measures valid for use in U.S.-based research. As such, the

E-VS was hypothesized to evidence a single-factor structure, and the E-BS was expected to evidence a two-factor structure of mild and severe bullying when employed in a sample of U.S. young adults. These predictions were made based on the initial psychometric properties established in a Chinese sample, and their coherent, precise linguistic structure without the use of age- or context-specific terminology (Lam & Li, 2013).

Method

Participants

This sample was composed of 258 undergraduate students attending a public university in the southwestern United States. Each participant was enrolled in a lower division psychology course at the time of participation and received course credit (either required or optional) in compensation for their time. In addition to the exclusion of incomplete questionnaires, participants over the age of 25 were excluded from analyses due to the current research's interest in the young adult population alone, resulting in 232 useable questionnaires.

In the final sample, 163 (70.3%) participants were women, 68 (29.3%) were men, and 1 (.4%) did not report their sex. Further, the sample was composed of the following ethnicities: 146 (62.9%) European American, 44 (19%) Hispanic, 13 (5.6%) Asian/Pacific Islander, 13 (5.6%) African American, 10 (4.3%) Native American, and 5 (2.1%) other. Additionally, participant ages ranged from 18 years to 23 years, with a mean of 19.05 years and standard deviation of 1.13 years. Several participants were excluded from this study based on age, but participants were not otherwise excluded based on sex or ethnicity.

Materials

The survey administered to participants was part of a larger study. The variables applicable to the present hypotheses were measured as follows.

Self-compassion. The Self-Compassion Scale (SCS; Neff, 2003b) consists of 26 items scored on a 5-point scale from *almost never* to *almost always*. Through the use of confirmatory factor analysis, these items were discovered to load onto six different factors, and grouped into the following subscales: Self-Kindness, Self-Judgment, Common Humanity, Isolation, Mindfulness, and Overidentification (Neff, 2003b). The SCS also has excellent internal consistency, with a Cronbach's alpha of .92 for the total scale and a comparable Cronbach's alpha of .93 in the current sample.

Interpersonal aggression. The tendency toward

social and relational aggression was measured using the Young Adult Social Behavior Scale (YASB) developed by Crothers and colleagues (2009). This Likert-type scale was chosen because it was specifically designed to measure the social and relational aggressiveness as well as interpersonal maturity of young adults. The YASB is composed of 14 statements rated on a scale from 1 (*never*) to 5 (*always*) pertaining to participants' use of aggression in social situations. The authors did not report internal consistency or test-retest reliability for this scale (Crothers et al., 2009). However, the current research found the YASB to have a Cronbach's alpha of .79.

Cybervictimization and cyberbullying. The current research aimed to examine the psychometric properties and factor structures of two scales within a sample of U.S. young adults. These measures, the E-VS and E-BS by Lam and Li (2013), are five and six items long, respectively, and ask participants to indicate the frequency of their involvement in a variety of cyberbullying behaviors on a scale from *zero* times to *six or more* times during the past 7 days. For the present research, these scales were modified slightly to improve their cultural relevance to a U.S. sample. The original E-VS and E-BS contain items that reference the website *Renren* as an example of social networking (Lam & Li, 2013). For the present data collection, *Renren* has been changed to *Facebook*®. The versions of the E-VS and E-BS employed by the current research can be further examined in Table 1.

Lam and Li (2013) found the E-VS to have a single factor structure and the E-BS to have a two factor structure of *mild* and *serious* cyberbullying. Additionally, the E-VS was shown to have a Cronbach's alpha of .92, the mild factor of the E-BS to have a Cronbach's alpha of .92, and the serious factor of the E-BS to have a Cronbach's alpha of .95 (overall $\alpha = .96$) within the Chinese adolescent sample (Lam & Li, 2013). The current research demonstrated a slightly lower, but still strong, internal consistency within this sample of U.S. young adults (Mild E-BS, $\alpha = .87$; Severe E-BS, $\alpha = .86$; E-BS, $\alpha = .87$; E-VS, $\alpha = .88$; overall, $\alpha = .92$).

Procedure

After institutional review board approval (Protocol # 571825-1) was given, participants were recruited through the university's online research participation system and provided with a general description of the purpose of the research. Participants were then directed to a secure survey host site and gave informed consent. A self-report survey containing

the aforementioned measures was administered to participants during a 30-min session.

For the current research, all participants completed the same survey containing the same measures. The measures were administered in the same order to each participant, with cyberbullying scales last as to not prime responses to the other items (e.g., so that participants were not asked to report on unpleasant experiences prior to answering questions pertaining to self-esteem and aggression). All participants were also provided with the primary investigator's contact information for any further concerns.

Results

Missing item scores for individual surveys were replaced with the personal measure mean because this method has been found to be superior in maintaining the integrity and power of the data compared to the commonly used overall mean substitution or listwise deletion (Eekhout et al., 2014; Hawthorne & Elliott, 2005; Peyre, Leplège, & Coste, 2011; van Ginkel, Sijtsma, van der Ark, & Vermunt, 2010). However, questionnaires missing more than one or two items per measure, depending on length of the measure, were removed from the sample following data collection, resulting in 232 usable surveys for inclusion in the final analyses.

TABLE 1

Factor Loadings From the Exploratory Factor Analysis With Varimax Rotation (N = 232)

Item	Description ^a	E-VS	E-BS
	"In the last 7 days using e-mail, texting, short messages, on websites such as Facebook®, etc.:"	Factor 1	Factor 2
V1	Teasing	.76	
V2	Name-Calling	.88	
V3	Derogation	.89	
V4	Physical Threats	.82	
V5	General Threats	.81	
B1	Teasing	.83	.22
B2	Name-Calling	.84	.37
B3	Derogation	.86	.29
B4	Physical Threats	.30	.90
B5	General Threats	.24	.90
B6	Defamation	.34	.69
	Variance Explained	39.9%	39.6%
	Total Variance Explained	69.7%	79.4%

Note. E-VS = E-Victimization Scale score; E-BS = E-Bullying Scale score.

^aFull items reported by Lam & Li (2013).

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E-VS and E-BS Psychometric Analyses

Analyses began with the psychometric assessment of Lam and Li's (2013) E-VS and E-BS. An exploratory factor analysis was conducted separately for the E-VS and E-BS in an attempt to replicate the single-factor structure of the E-VS and two-factor structure of the E-BS within an American, young-adult population. As predicted, all five items of the E-VS had strong factor loadings on a single factor, accounting for 69.7% of the response variation (see Table 1). Additionally, the E-VS demonstrated a Cronbach's alpha of .88 in the current research.

The E-BS was analyzed using exploratory factor analysis with a Varimax rotation to redistribute the variation between multiple factors. The six total scale items loaded onto two factors, previously identified as mild and serious cyberbullying by Lam and Li (2013), which explained 39.9% and 39.6% of the variation in responses, respectively (see Table 1). In totality, the E-BS had a Cronbach's alpha of .87, the mild subscale had a Cronbach's alpha of .87, and the serious subscale had a Cronbach's alpha of .86 in the current study. See Table 2 for correlations between E-VS scores, E-BS mild scores, E-BS severe scores, and overall E-BS scores.

Additionally, the E-VS and E-BS demonstrated strong convergent validity with the social and relational aggression subscales of the YASB. E-VS scores had a positive correlation with social aggression scores, $r(230) = .19$, $p = .003$, as well as relational aggression scores, $r(230) = .22$, $p = .001$. The E-BS had even stronger associations with interpersonal aggression because mild cyberbullying scores positively correlated with social aggression, $r(230) = .26$, $p < .001$, and relational aggression, $r(230) = .27$, $p < .001$. Severe cyberbullying scores correlated with social aggression, $r(230) = .31$, $p < .001$, and relational aggression, $r(230) = .41$, $p < .001$, as well. Thus, these analyses provided psychometric support for the use of the E-VS and E-BS for the assessment of U.S. samples. Due to these results, scores on the E-VS and E-BS were used as measures of cyberbullying involvement in the subsequent analyses.

Cyberbullying Frequency

Of the undergraduate students sampled, 62.1% reported having some level of cyberbullying involvement within the last week through the endorsement of at least one E-VS or E-BS item. Of these 62.1%, most (66.7%) reported both perpetrating cyberbullying and being cyberbullied, 22.9% were only victims, and the smallest proportion (10.5%) were only perpetrators. Overall, participants reported

being cybervictimized an average of 4.48 ($SD = 6.90$) times in the past week and engaging in cyberbullying themselves an average of 3.55 ($SD = 6.51$) times. Mild cyberbullying was much more frequent within this sample than serious cyberbullying. Young adults reported engaging in mild cyberbullying 2.73 ($SD = 4.47$) times in the past week, but threatened or defamed others an average of only 0.82 ($SD = 2.73$) times.

There was no sex difference in participant categorization as victim only, perpetrator only, neither, or both, $\chi^2(3, N = 232) = 0.37$, $p = .95$. Men and women also had no significant differences in their frequency of cybervictimization or perpetration as confirmed by independent-samples t tests not assuming equal variances, $t(100.70) = 1.01$, $p = .31$, and, $t(90.30) = 1.68$, $p = .10$, respectively. No significant age or ethnicity effects on cyberbullying were discovered.

Self-Compassion

Using ordinary least-squares regression and Pearson product-moment correlation coefficients (see Table 2), cyberbullying victimization and perpetration were found to be significant predictors of self-judgment. Victimization had a positive correlation with participant self-judgment, and accounted for 5.2% of the variation in self-judgment, $R^2 = .05$, $F(1, 230) = 12.56$, $p < .001$. In this fitted model, nonvictims had an estimated self-judgment score of 3.02 with a 95% CI of 2.89 to 3.16. Self-judgment increased ($\beta = .03$) with a 95% CI of .01 to .05 per instance of victimization. Mild and total cyberbullying perpetration were also associated with self-judgment increases ($\beta = .04$) with 95% CIs of .01 to .06 and ($\beta = .02$) .004 to .04 for each additional instance of mild or total perpetration, respectively. Mild cyberbullying accounted for 3.4% of the variation in self-judgment, $R^2 = .03$, $F(1, 230) = 8.03$, $p = .005$, and total cyberbullying accounted for 2.5% of self-judgment's variation, $R^2 = .03$, $F(1, 230) = 5.82$, $p = .02$. No evidence was found to support any link between perpetration of serious cyberbullying and self-judgment in young adults.

Next, participants' scores on the isolation component of self-compassion had a positive linear association with cyberbullying victimization, $R^2 = .03$, $F(1, 230) = 7.11$, $p = .008$. This fitted model accounted for 3.0% of the variation in isolation, and had an expected isolation score of 3.08 with a 95% CI of 2.95 to 3.22 in nonvictims, which increased ($\beta = .02$) with a 95% CI of .006 to .04 for each added instance of victimization. There was no evidence of a link between isolation and cyberbullying

perpetration.

Overidentification was positively correlated with cybervictimization and mild cyberbullying perpetration. Victimization positively predicted participant overidentification with an average overidentification score of 2.97 and a 95% CI of 2.82 to 3.11 for nonvictims and an increase in overidentification ($\beta = .02$) with a 95% CI of .004 to .04 for each additional instance of victimization, $R^2 = .03$, $F(1, 230) = 5.78$, $p = .02$. Victimization accounted for 2.5% in overidentification score variation. Perpetration of mild cyberbullying accounted for 1.7% of the variation in participant overidentification, produced a predicted increase ($\beta = .03$) with a 95% CI of .001 to .05 in overidentification, and was marginally significant, $R^2 = .02$, $F(1, 230) = 4.07$, $p = .05$. There was not sufficient evidence of a relationship between perpetration of severe cyberbullying and overidentification or total cyberbullying and overidentification.

Using ordinary least-squares regression, there were no significant correlations between self-kindness, common humanity, or mindfulness and any degree of cyberbullying involvement in young adults. Thus, the above findings failed to support the first hypothesis, in that self-kindness, mindfulness, and common humanity were not linked to any aspect of cyberbullying. See Table 2 for more details regarding the correlations found between negative aspects of self-compassion and cyberbullying.

The current study's second hypothesis was partially supported because self-judgment, isolation, and overidentification were each linked to some form of cyberbullying involvement. It is also important to note that there were no significant sex effects in the relationships between self-compassion and cyberbullying. Likewise, all of the aforementioned fitted models met all necessary model assumptions including the assumptions of independence, homoscedasticity, and normality of the error terms.

Discussion

The present study's hypotheses were partially supported by the results. First, this research examined the psychometric properties of the E-VS and the E-BS, and reported on these scales' measurement equivalence when employed within an U.S. young-adult sample. When these scales were initially developed, each subscale was found to have a strong Cronbach alpha and acceptable factor loadings on a single factor for the E-VS and two factors for the E-BS (Lam & Li, 2013). In addition, Lam and Li found scores on the E-VS and E-BS to have weak

positive correlations with depression and anxiety scores, as expected for cyberbullying involvement.

In the current study, the E-VS and E-BS had slightly lower Cronbach alpha coefficients than those reported by Lam and Li (2013), but this difference was inconsequential because each subscale had a Cronbach alpha of above .85. The factor structure obtained for the U.S. sample was the same as that found by Lam and Li (2013), but with universally higher factor loadings. This was a good sign for the validation of the E-VS and E-BS within a U.S. sample, and indicated that these measures perform well across ages and cultures.

Because the original analysis of the E-VS and E-BS found these scales to only weakly correlate with participants' anxiety and depression scores, the current study did not investigate this trend. Instead, due to previous findings that cyberbullying was positively associated with interpersonal aggression, the present study examined the link between E-VS and E-BS scores and social and relational aggression scores from the YASB (Kowalski et al., 2014). Convergent validity was found between victimization (E-VS score) and both social and relational aggression, with an even stronger correlation between YASB scores and cyberbullying perpetration (both mild and serious E-BS subscales). Therefore, the E-VS and E-BS were further supported for use in U.S.-based research and in research with young adults.

Taken together, the current results demonstrated that the E-VS and E-BS have excellent internal consistency, strong factor structures, and impressive convergent validity when employed in a sample of U.S. young adults. Further, these findings fully supported the fourth and fifth research hypotheses that the E-VS and E-BS are psychometrically

TABLE 2

Pearson Product-Moment Correlation Coefficients Between Self-Compassion and Cyberbullying ($N = 232$)

	E-VS	E-BS Mild	E-BS Severe	E-BS Total	Self-Judgment	Isolation
E-VS						
E-BS Mild	.73***					
E-BS Severe	.61***	.62***				
E-BS Total	.76***	.94***	.84***			
Self-Judgment	.23***	.18**	.07	.16*		
Isolation	.17**	.12	.08	.11	.67***	
Overidentification	.16*	.13*	.06	.12	.64***	.64***

Note. E-VS = E-Victimization Scale score; E-BS = E-Bullying Scale score.

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

sound and have measurement equivalence between American and Chinese samples.

Another result of interest was the frequency of cyberbullying victimization and perpetration found by the current research. The current research found higher rates of cyberbullying involvement than previously reported, with 55.6% of participants reporting at least one instance of cyberbullying victimization within the last week and 47.9% reporting at least one instance of perpetration. This might be due to measurement differences: surveys using the term *cyberbullying* tend to systematically under-report this behavior compared to those employing less emotionally charged language. For example, when Schenk and Fremouw (2012) asked a single question using the term *cyberbullying*, only 8.6% of young adults identified themselves as victims. On the other hand, 43.3% and 72% of participants reported being victimized when asked about their experiences with specific behaviors that fall under the definition of cyberbullying in Lindsay and Krysik (2012) and Juvonen and Gross (2008), respectively. Therefore, when compared to the few studies excluding the term *cyberbullying* from data collection, the current research actually found comparable rates of victimization.

There has been little research examining prevalence rates of cyberbullying perpetration within any age group (Kowalski et al., 2014). Among adolescents, Ybarra and Mitchell (2007) found a cyberbullying rate of 29%, which was quite low compared to the 47.5% of young adults who reported perpetrating cyberbullying in the current study. However, this too might be due to the term *cyberbullying* within Ybarra and Mitchell's measures and might not indicate that the current study over-estimated cyberbullying perpetration. In totality, the current findings indicated that cyberbullying may be more prevalent among young adults than previously reported by the literature, and could be underreported due to the stigma associated with the term *cyberbullying*.

The central purpose of the present research was to examine the link between self-compassion and cyberbullying involvement. Because no prior research had been conducted on this topic, the original hypotheses were formulated around previously demonstrated relationships between cyberbullying and self-esteem because self-esteem correlates positively with self-compassion (Kowalski et al., 2014; Neff, 2011; Patchin & Hinduja, 2010; Petersen, 2014; Sticca et al., 2013). Self-compassion was expected to have a negative association with

cyberbullying, just as decreased self-esteem relates to cyberbullying involvement (Neff, 2011; Petersen, 2014). Although several facets of self-compassion did exhibit this predicted relationship, several others did not correlate with cyberbullying at all, leaving the first and second hypotheses partially supported.

Cyberbullying perpetration had minimal and inconsistent relationships with self-compassion because perpetration was positively correlated with overidentification and self-judgment, but not linked with self-kindness, common humanity, or mindfulness. Additionally, the effect sizes of the two significant relationships were small, indicating that perpetration does not account for much of the variation in either self-judgment or overidentification.

Therefore, the current research did not suggest that cyberbullies are harsh on themselves or that they feel disconnected from others. In fact, the lack of relationship between perpetration and self-compassion was separate from but consistent with previous research because there have been mixed findings regarding the self-esteem of bullies. Although Patchin and Hinduja (2010) and Sticca et al. (2013) found reduced self-esteem in cyberbullies, Baumeister, Smart, and Boden (1996) determined aggression to be a consequence of high, unstable self-esteem. Thus, the lacking relationship between perpetration and self-compassion in the present research could indicate that maladaptive self-evaluation may be a predictor of cyberbullying whereas self-acceptance and other factors common to both self-esteem and self-compassion are not.

On the other hand, cyberbullying victimization has a slightly stronger relationship with self-compassion because victimization was positively correlated with self-judgment, isolation, and overidentification. First, it can be concluded that victims are less likely to treat themselves gently and nonjudgmentally. This increased self-judgment indicates that victims have difficulty tolerating their own flaws, which may stem from the criticism and harassment directed at them through cyberspace.

Because isolation was found to be positively associated with victimization, being cyberbullied might cause victims to withdraw and lose some of their perspective in terms of their own flaws, believing that they are alone in dealing with failure. However, without a significant association between victimization and common humanity, isolation's self-compassionate counterpart, this relationship appeared minimal at best.

Elevated overidentification was linked to

both victimization and perpetration alike, which indicated that individuals involved in cyberbullying tend to be more emotionally volatile. It is important to note that, although overidentification was associated with cyberbullying, its compassionate counterpart, mindfulness, was not. Thus, from these results alone, it appeared that victims and perpetrators do not differ much from others in this aspect of self-compassion.

Overall, the results of the current research were a solid starting-point for research on self-compassion and cyberbullying. The disparity between victims and perpetrators was particularly promising in terms of feelings of isolation, which could prove to be a clinically useful distinction between bullies and victims.

In terms of explaining these findings, it is perhaps most intuitive to hypothesize that victims treat themselves with less compassion simply because others are attacking their worth and isolating them in the cyberspace. However, individuals with lower self-compassion may be targeted by cyberbullies because of their fragile self-worth. Lower self-compassion is associated with the tendency to self-subordinate and seek self-enhancement, which could make a potential victim appear socially vulnerable to cyberbullies (Neff, 2011; Petersen, 2014; Yarnell & Neff, 2013). Alternatively, these same characteristics could encourage individuals low in self-compassion to interpret virtual interactions in a biased manner. For instance, an individual low in self-compassion might be more prone to misinterpret an episode of friendly teasing as malicious or hurtful in nature. Based on the current and previous findings, one potentially powerful intervention for cyberbullying victims could include bolstering their self-compassion, thereby enhancing their ability to cope with conflict and decreasing their vulnerability to future victimization (Neff et al., 2007; Yarnell & Neff, 2013).

Strengths and Limitations

The methodology of the current study had several notable strengths and limitations. First, the present study's strengths included the sample heterogeneity, psychometric properties of the measures, and the power of the statistical analyses employed. The participants included in this study were all young adult undergraduates of varied ethnic backgrounds. Although over half of participants were European American, the rest were Hispanic, African American, Asian American, and other ethnicities. This sample distribution was more diverse than the United States population, and made the present

findings applicable to a wide range of U.S. young adults (U.S. Census Bureau, 2014).

The strong psychometric properties of the materials were also a boon to the current study. The excellent internal consistency, convergent validity, and factor structure of the E-VS, E-BS, and SCS all contributed to the reliability and power of the results. Additionally, because each of these scales has been validated with young adults, these scales were appropriately applied by the current research (Neff, 2003b). The aforementioned psychometrics ensured that the present study rested upon a strong methodological foundation.

Another strength of the current study was the power inherent in each of the models fitted to the data. Because the assumptions of error, normality, homoscedasticity, and independence were tested and met by each model, the estimates and confidence intervals produced by this research were efficient and unbiased (Wood & Saville, 2013). Thus, this study's statistical analyses were conducted appropriately and produced reliable results.

Nonetheless, the current research was not without its limitations, which included the nonorthogonal sex distribution, possible response bias, and lack of experimentation. Although the current sample was strong in terms of ethnic diversity, its unequal sex distribution was a minor disadvantage. With a 70% female sample, the results of these data might contain an inherent sex bias. However, this was accounted for in the analyses by fitting models separately by sex. Because this study contained a large number of both men and women, and because no significant sex differences were found, this drawback was largely inconsequential.

A second limitation of the present data was the likelihood of response bias when measuring socially unacceptable behaviors. This pitfall meant that participants might be likely to engage in socially desirable responding, or responding in socially acceptable ways regardless of their actual behavior, when asked about sensitive subjects such as cyberbullying (Paulhus, 1991; Spector, 2004). If so, past findings related to cyberbullying involvement as well as the current research could be underestimating the prevalence of cyberbullying due to participant response bias. However, it was a strength that the current study attempted to minimize this bias by collecting data with the E-VS and E-BS, which do not include the term *cyberbullying* (Lam & Li, 2013).

The final limitation of the current research was that this study only examined the correlations between cyberbullying and self-compassion, and did

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not experimentally determine causation. Therefore, this study could only conclude that self-compassion is linked to cyberbullying involvement, particularly victimization, and only speculate about causation.

Future Directions

To expand upon the current study and address some of the aforementioned limitations, it is important that future research be conducted concerning young adults, cyberbullying, and self-compassion. The most obvious direction for future research would be examining causality between cyberbullying and self-compassion. This could be done through experimentation or, more practically, longitudinal research. Because the present results indicated that self-compassion and victimization are indeed linked, it is important to both researchers and clinicians that it be determined if self-compassion drops as a consequence of cyberbullying or if low self-compassion makes individuals more susceptible to victimization or to interpreting interactions in a pessimistic manner.

Another direction for experimentation should be to validate the use of self-compassion interventions with cyberbullying victims (Neff et al., 2007). Based on the current findings, this could be an untapped therapeutic method by which to increase the psychological well-being of cyberbullying victims, and it could improve their resiliency in the face of future threats (Neff, 2011; Neff et al., 2007; Saricaoglu & Arslan, 2013). Because of the intense psychological damage that can occur in tandem with cyberbullying, it is vital that clinical researchers continue to search for the best psychotherapeutic interventions possible for this population (Didden et al., 2009; Hinduja & Patchin, 2010; Kowalski et al., 2014; Schenk & Fremouw, 2012).

Additionally, future research should examine if these results can be replicated in other populations and should explore the prevalence of cyberbullying in more depth. Because of the key differences between adolescents and adults in terms of psychological maturation, it is possible for these associations to differ among other frequently cyberbullied populations (Berger, 2011). Specifically, the current research focused on young adults attending college, leaving future research to examine these trends among nonstudents. It is chiefly important that researchers are careful not to ignore entire age groups when attempting to understand and explain the phenomenon of cyberbullying.

Conclusion

Because of the wide availability of technology and

the prevalence of social media, cyberbullying has increasingly become a concern among technologically savvy populations. Although the majority of previous research has focused on adolescents, the current study showed that cyberbullying is equally prevalent among young adults, and can be similarly psychologically harmful. Facets of self-compassion decline with both cyberbullying perpetration and victimization, but victims appear to endure the majority of this suffering. Therefore, it is vital that researchers continue to examine cyberbullying in relation to young adults and begin to take self-compassion into account in future studies and when developing clinical interventions for cyberbullying victims.

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