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ORIGINAL ARTICLE

Adults' Perceived Severity and Likelihood of Intervening in Cyberbullying

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Abstract

Cyberbullying research focuses largely on children and adolescents. Relatively little is known about cyberbullying among adults, particularly their perceived severity and likelihood of intervening in different cyberbullying acts. This research presents two studies that aimed to address these gaps. Utilizing Willard's (2007) classification, study 1 developed a scale to measure perceived severity of cyberbullying. Principal component analysis of participants' ($n = 389$; aged 18–70) severity ratings identified four behavioral groupings: defamation, harassment, pestering, and exclusion. A repeated-measures within-subject ANOVA showed that defamation was rated most severe followed by harassment, and perceived severity was higher among females than males. Study 2 extended this by developing visual cyberbullying scenarios of defamation and harassment, which participants ($n = 122$; aged 18–64) rated for perceived severity and likelihood of intervening. Participants also completed measures of empathy, moral sensitivity, and moral disengagement to determine whether these variables influenced ratings. Unlike study 1, no significant differences in ratings occurred for defamation and harassment, but multiple regressions showed that moral disengagement predicted lower severity ratings and lower likelihood of intervening in harassment scenarios. Older age also predicted higher likelihood of intervention in online harassment. None of the variables predicted defamation ratings, highlighting the importance of examining different cyberbullying acts in more depth. Cyberbullying is clearly a concern among adults, with 75% witnessing cyberbullying, 29% being a victim, and 15% a perpetrator during adulthood. Understanding adults' perceptions and intended reactions to different cyberbullying acts has important implications for intervention strategies.

Keywords Cyberbullying · Perceived severity · Intervention · Empathy · Moral disengagement · Moral sensitivity

Introduction

Cyberbullying is an "aggressive, intentional act carried out by a group or individual, using electronic forms of contact, repeatedly and over time, against a victim who cannot easily defend him or herself" (Smith et al., 2008, p. 376). The *intentionality*, *repetition*, and *imbalance of power* between the victim and perpetrator are three key features of cyberbullying that are shared with definitions of traditional bullying, and it is these criteria that differentiate bullying from general experiences of aggression (Dooley et al., 2009; Slonje & Smith, 2008; Slonje et al., 2013). Cyberbullying research has largely focused on young people's experiences. An earlier meta-analysis demonstrated a global prevalence rate of 20–40% for cyberbullying among young people (Tokunaga, 2010). A more recent meta-analysis of longitudinal studies indicated extremely wide ranging prevalence rates (1.9–84.0% for victimization and 5.3–66.2% for perpetration) (Camerini et al., 2020). Between 2019 and 2020, 19% of children in England and Wales aged 10–15 had experienced at least one type of cyberbullying (Office for National Statistics, 2020), while a systematic review in Australia indicated a 15.1% prevalence rate for cyberbullying over a 12-month period (Jadambaa et al., 2019). Given the prevalence rates reported and the serious psychological, emotional, and behavioral effects associated with cyberbullying (Bonanno & Hymel, 2013; Hellfeldt et al., 2020; Kowalski & Limber, 2013; Machmutow et al., 2012; Nixon, 2014; Ortega et al., 2012), it is unsurprising

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that it is deemed a societal-level health concern (Tokunaga, 2010).

Despite studies highlighting the occurrence of cyberbullying among adults (Farley et al., 2015; Kowalski et al., 2018), relatively little is known about adults' perceptions of cyberbullying, particularly in terms of its severity. Perceived severity relates to one's perception of potential harm of a behavior to oneself or others (Chen et al., 2015), and this is of interest as individuals are more likely to intervene in acts they witness online when they consider them to be more severe (Bastiaensens et al., 2014; DeSmet et al., 2012). Perceived severity has been examined in relation to definitional criteria and contextual factors linked to cyberbullying, and recent studies have done so systematically using experimental designs (e.g., Palladino et al., 2017). Although studies have manipulated aspects such as context (e.g., online or offline), publicity (public vs. private), and audience size (e.g., Sticca & Perren, 2013), research has not focused on different types of cyberbullying acts — and this remains a limitation. Understanding adults' perceptions of severity and likelihood of intervening in different types of cyberbullying holds implications for intervention strategies.

This paper presents two studies conducted with these gaps in mind. *Study 1* explored perceived severity of cyberbullying among adults by using an established framework to conceptualize items for a self-report scale, while *study 2* assessed perceived severity and likelihood of intervening in cyberbullying using visual scenarios and also explored the role of moral sensitivity, moral disengagement, and empathy.

Cyberbullying: Willard's (2007) Framework

Cyberbullying has been conceptualized by the covert or overt nature of the acts, the electronic medium used to bully others, or according to specific types of behaviors (Menesini et al., 2012) which has been influential in operationalizing the construct. A useful framework outlining specific types of behaviors is that of Willard (2007) who proposed seven distinct types of direct and indirect cyberaggression and cyberbullying. This includes (i) *flaming* (angry, rude, or confrontational messages), (ii) *harassment* (repeated cruel, insulting, or offensive messages), (iii) *denigration* (spreading rumors or making derogatory statements to damage someone's reputation), (iv) *outing and trickery* (disseminating private information to embarrass someone), (v) *impersonation, masquerading, or identity theft* (pretending to be someone else and communicating in derogatory ways that damage someone's reputation), (vi) *exclusion* (deliberately excluding someone from an online group), and (vii) *cyberstalking or cyberthreats* (instilling fear via repeated offensive messages or threats of harm) (Willard, 2007). This classification shows diverse acts that represent different motivations by perpetrators, effects on victims, and possible perceptions by witnesses. As such, this presents a useful framework for exploring perceived severity of different types of cyberbullying.

Individual Differences in Perceived Severity and Intervention in Cyberbullying

Many bullying interventions aimed at schools involve engaging bystanders (e.g., Kärnä et al., 2011; Salmivalli & Poskiparta, 2012), and perceived severity of an incident is an important factor in the likelihood of bystander intervention (Bastiaensens et al., 2014). More severe incidents increase intention to intervene due to the situation being evaluated as an emergency, thereby increasing one's sense of responsibility to react (Obermaier et al., 2016). Studies among school teachers found that perceived severity of bullying was important in relation to their chosen responses to incidents (Ellis & Shute, 2007; Mishna et al., 2005). Adults considered physical bullying to be more severe than verbal or socio-emotional bullying (Hazler et al., 2001) indicating differences in perceptions across traditional bullying types. Traditional bullying was also considered more severe than cyberbullying (Boulton et al., 2014). However, it is unclear how adults perceive the severity of different forms of cyberbullying.

Individual differences affect perceived severity, including gender, age, and direct experiences of cyberbullying. Victims perceive cyberbullying as more severe compared to non-victims (Bauman & Newman, 2013), and female victims perceived higher severity than male victims (Campbell et al., 2012). Perpetrators may also be less aware of the impact of their actions (Gini et al., 2011; Sticca & Perren, 2013) due to the lack of non-verbal and physical cues in online spaces, which can influence their perceptions of severity. Perpetrators were more likely to report that engaging in cyberbullying was humorous (Mishna et al., 2010) and also demonstrated less empathy (Brewer & Kerslake, 2015; Zych et al., 2019).

Empathy refers to one's ability to experience and understand emotions felt by others (Jolliffe & Farrington, 2006a; Lazuras et al., 2012). It constitutes an *affective component* (i.e., the ability to experience the emotions of others and an awareness of the impact of one's actions on others) and a *cognitive component* (i.e., the ability to take another's emotional perspective) (Davis, 1983; Jolliffe & Farrington, 2006a). Empathy enhances prosocial behavior (Krevans & Gibbs, 1996) and inhibits antisocial behavior, including bullying (Jolliffe & Farrington, 2006a) and cyberbullying (Brewer & Kerslake, 2015; Del Rey et al., 2016). Low affective and cognitive empathy have both been associated with cyberbullying perpetration (Ang & Goh, 2010; Renati et al., 2012). Affective empathy also influenced teacher

interventions in different bullying types (Boulton et al., 2014), but others found this association in traditional bullying and not cyberbullying (Eldridge & Jenkins, 2019). Empathy is clearly relevant in the context of morally relevant behaviors and is considered a moral emotion alongside guilt (Thornberg & Jungert, 2013).

Moral sensitivity and moral disengagement are constructs associated with social-cognitive domain theory and link to a general ability to consider the effects of one's actions on others. Moral sensitivity is the ability to recognize immoral acts and the harm they may cause, with higher moral sensitivity associated with experiencing moral emotions, including empathy (Thornberg & Jungert, 2013). Both the experience of moral emotions generally and the experience of moral sensitivity specifically have been linked to higher defender behavior and lower perpetration of bullying (Perren & Gutzwiller-Helfenfinger, 2012; Thornberg et al., 2015). In contrast, moral disengagement refers to one's ability to disengage from positive acts in order to commit negative behaviors towards others (Thornberg & Jungert, 2013) and involves various cognitive strategies to avoid aversive emotions such as guilt or shame (Bandura, 1991, 2002). The eight mechanisms of moral disengagement can be grouped into four broader strategies. Firstly, individuals can alter their view of the behavior through *moral justifications* and *euphemistic labelling* to make it appear less negative, or through *advantageous comparison* of the behavior to something worse. This allows individuals to view their behavior as more benign than it is in reality (Bandura, 1990, 1991). Secondly, individuals can alter their sense of responsibility for the behavior via *displacement* and *diffusion of responsibility* onto others who may be present (Bandura, 1991, 2002). Individuals can also cognitively restructure their views of the victim's role in the behavior through *victim blaming* and *dehumanization* (Bandura, 1991, 2002). Finally, individuals can minimize the severity and impact of the behavior through *distortion of consequences* (Bandura, 2002).

Moral disengagement has been associated with aggressive behavior among children and adolescents (Gini et al., 2014), including bullying (Hymel et al., 2005). Specific mechanisms of moral disengagement, namely, moral justification and victim blaming, have been linked to bullying among 10–14-year olds (Thornberg & Jungert, 2014). Moral disengagement also negatively influences defender behavior in bullying (Thornberg et al., 2015) and links directly to cyberbullying perpetration (Renati et al., 2012; Yang et al., 2018). It has been argued that features of the online environment such as anonymity, a lack of social-emotional cues, and the distance between the communication partners can facilitate moral disengagement online (Pornari & Wood, 2010; Runions & Bak, 2015). Thus, it is important to explore this variable alongside moral sensitivity and empathy as they may influence perceptions of severity and likelihood of intervening in cyberbullying.

Current Study

There is a gap in knowledge about adults' perceptions and likely reactions towards cyberbullying, particularly in relation to different cyberbullying behaviors. Given that studies have linked perceived severity to bystander intervention (Bastiaensens et al., 2014; DeSmet et al., 2012) and to adult reactions to children's reports of cyberbullying (Ellis & Shute, 2007; Mishna et al., 2005), further research is warranted. Moreover, adults are also impacted by cyberbullying (Farley et al., 2015; Kowalski et al., 2018). *Study 1* bridges this gap by measuring adults' perceived severity of cyberbullying using Willard's (2007) framework to determine severity of different acts. *Study 2* extends this by examining perceived severity and likelihood of intervening in visual cyberbullying scenarios and also explores the role of empathy, moral sensitivity, and moral disengagement in this regard. Findings from both studies can inform an understanding of adults' perceptions and possible reactions to cyberbullying and the individual differences that may affect this, which has implications for intervention strategies.

Study 1

Using Willard's (2007) conceptual framework, a comprehensive list of cyberbullying items was developed to measure perceived severity. Self-reported severity ratings for each item were obtained from an international adult sample of social media users. Principal component analysis (PCA) was used to determine item factor loadings and to reduce the items down into behavioral groupings, which were used to compare severity ratings. Additional exploratory analyses on demographic data in relation to perceived severity were also conducted. These included gender, age, and previous experience of cyberbullying as a victim, perpetrator, and witness as prior research showed that these may influence severity ratings (e.g., Bauman & Newman, 2013).

Method

Research Design

The study used a quantitative, cross-sectional online survey design, with data collected via Survey Monkey. The survey was advertised on Facebook as this is still indicated as the most popular social media platform among more general adult demographics, with balanced use across males and females, across urban/rural areas, and across ethnic groups (Gramlich, 2019; Pew Research Center,

2019; Smith & Anderson, 2018). Facebook is also used across broader age ranges than other social media platforms, with a dip in use occurring later from 50–64 and 65 + age groups (Pew Research Center, 2019; Smith & Anderson, 2018). It also has a wide international reach (Omnicore Agency, 2021). The sampling goal was to engage a wide international sample of Facebook users as the study was exploratory. Participants were required to be aged 18 and above to take part in the research. Data was collected by means of convenience and snowball sampling over a 3-week period in September 2018. The survey link was posted on personal and community pages known to the researchers (e.g., university student groups and parent groups). The survey was also shared widely by other Facebook users.

Participants

A total of 389 adults aged 18–70 years ($M = 29.14$, $SD = 9.36$) completed the online survey (67% female). Participants were from 57 countries, with responses being largely from Singapore (23.1%), the UK (21.6%), the USA (8%), Canada (5.5%), Australia (4.7%), and Thailand (3.2%). Remaining countries were at 2% or below in relation to participant distribution. Country differences are descriptive and were not used for the main analyses.

Measures

Perceived Severity A comprehensive item pool was developed that tapped into each of the behavioral definitions proposed by Willard (2007). This was done systematically for each of the seven behavioral classifications to capture the full range of possible behaviors for each. The initial 47 items were reviewed and items were removed due to (i) duplication, (ii) containing overlapping features with another item, (iii) including more than one behavioral component, and (iv) ambiguous wording. A total of 35 items were retained following this procedure, with roughly 5 items for each of the 7 behavioral categories. Participants were instructed to rate how severe they perceived each behavior to be on a 5-point Likert scale (1-not severe at all, 2-slightly severe, 3-moderately severe, 4-very severe, 5-extremely severe). Items were described as "reflecting behaviors that some individuals experience online" without mention of the term "cyberbullying" in order to reduce potential bias. Higher scores reflected higher perceived severity.

Demographics Participants also provided basic demographic information (gender, country and age). Once they had completed the severity ratings, participants indicated whether they had ever been a victim, perpetrator, or had ever witnessed cyberbullying (yes/no).

Procedure and Ethics

The study received full ethical approval from the University of Buckingham. A short overview of the study along with a link to the survey was shared on Facebook. Clicking on the survey link led participants to an information sheet outlining the nature of the study along with the key ethical considerations. Participants provided consent at the end of the information sheet. A full debrief was provided on the final page.

Data Analysis

Using SPSS-26, PCA and item analysis were conducted to determine the factor structure and reliability of the perceived severity of cyberbullying scale. To determine the differences in severity ratings across the groups of behaviors that emerged in the PCA, a repeated-measures within-subject ANOVA was used. Independent samples *t*-tests explored some of the demographic data in relation to severity ratings.

Results

PCA with oblique rotation (direct oblimin) was used to determine the factor structure of the items in the scale. The Kaiser–Meyer–Olkin measure was 0.96 and Barlett's Test of Sphericity was significant ($x^2 = 8848.96$, $df = 595$, $p < 0.001$) indicating suitability for PCA. The rotated pattern matrix showed that items clustered onto four distinct factors explaining 62% of the variance (see Table 1). Factor 1 included aspects of *denigration*, *impersonation*, and *outing and trickery* from Willard's (2007) conceptualization and items were largely linked to targeting someone's reputation. This factor was labelled "Defamation" (14 items). Factor 2 included only items involving *exclusion* in line with Willard's (2007) categorization and was thus labelled "Exclusion" (5 items). Factor 3 grouped items relating to *harassment*, *flaming*, and *cyberthreats/cyberstalking* from the classification. This factor was labelled "Harassment" (10 items). Factor 4 clustered items related to general bothering of someone online. This was not in the original classification and was labelled "Pestering" (4 items) as items largely appeared to be milder forms of behaviors from the harassment, flaming, and cyberthreats/cyberstalking categories. Two items were removed due to cross-loadings. The remaining 33 items had high reliability ($\alpha = 0.94$). Individual factors had Cronbach's alphas of 0.91, 0.84, 0.90, and 0.73, respectively.

Using the four factors as subscales of key cyberbullying behaviors, a total mean score per subscale was calculated

Table 1 Factor structure of the perceived severity of cyberbullying ($n = 389$)

Scale items	Factor 1 (defamation)	Factor 2 (exclusion)	Factor 3 (harassment)	Factor 4 (pestering)
Someone impersonates you online by stealing your personal information and creating a fake account	**.821**			
Someone reveals private information about you online	**.801**			
Someone accesses your email or social media account without your permission in order to interact with others and make it seem as if the messages are coming from you	**.800**			
Someone repeatedly threatens to leak private information if you do not adhere to their requests	**.780**			
Someone pretends to be you online and posts on your behalf	**.774**			
Someone shares your private images	**.766**			
Someone creates a page about you online that is used to damage your reputation	**.733**			
Someone publicizes a private message you sent online	**.727**			
Someone repeatedly gives out false information about you online	**.707**			
Someone you communicated something in confidence to reveals your secret online	**.705**			
Someone that you exchanged sexually themed images with disseminates them to others	**.702**			
Someone you exchanged sexually themed comments with disseminates them to others	**.656**			
Someone spreads several rumors about you online	**.591**			
Someone repeatedly send you messages online that make you feel like your online behavior is being watched	**.590**			
Someone posts several embarrassing digitally altered images of you online*	.398		−.328	
Someone intentionally excludes you from an online group or community		**.877**		
Your friends create an instant messaging group but intentionally exclude you from being a member		**.856**		
Someone repeatedly rejects your friend or follow request on social media		**.737**		
A group of mutual friends all unfriend you on social media at the same time		**.724**		
Someone persistently ignores your social media posts or messages		**.658**		
Someone repeatedly sends you nude images of themselves online			**−.852**	
Someone repeatedly sends you explicit sexual messages or sexual content online			**−.850**	
Someone repeatedly requests that you send nude images to them online			**−.820**	
Someone repeatedly sends you obscene emails			**−.732**	
Someone repeatedly sends you angry, rude, and confrontational messages online containing vulgar language			**−.728**	
Someone repeatedly sends you cruel, insulting, or offensive messages online			**−.709**	
Someone repeatedly tries to engage you in an online fight			**−.546**	
Someone repeatedly threatens you online			**−.537**	
Someone repeatedly sends you negative comments on your online post in an attempt to get a reaction out of you			**−.519**	
Someone repeatedly attempts to engage you in a heated exchange relating to a political or religious issue			**−.502**	
Someone repeatedly teases you on social media*			−.391	.327
Someone you have not responded to has gone out of their way to communicate with you on multiple platforms				**.832**
Someone repeatedly sends you friend requests online				**.707**
Someone you do not wish to interact with repeatedly comments on your posts, images, and online activities				**.529**
Someone repeatedly bothers you online				**.404**
Eigenvalue total	14.91	3.90	1.79	1.10
% of variance explained	42.60	11.14	5.11	3.15

Principal component analysis with oblique (direct oblimin) rotation; loadings above .30 are shown

*Denotes items that were removed from the scale due to cross-loading

for each participant to account for varying numbers of items. A repeated-measures within-subject ANOVA was used to compare severity ratings across the four factors. The Greenhouse–Geisser estimate of sphericity showed a substantial deviation ($\varepsilon = 0.83$), thus multivariate statistics are reported. Perceived severity ratings were significantly different across the four types of cyberbullying, $V = 0.86$, $F(3, 365) = 767.25$, $p < 0.001$. Post hoc tests using Bonferroni adjustments showed that differences were significant for all groups ($p < 0.001$). Defamation was rated most severe ($M = 4.37$, $SD = 0.56$), followed by harassment ($M = 3.78$, $SD = 0.80$), pestering ($M = 2.74$, $SD = 0.82$), and exclusion ($M = 2.29$, $SD = 0.87$).

No significant age differences emerged, but females had higher perceived severity of cyberbullying ($M = 120.90$, $SD = 16.57$) compared to males ($M = 108.93$, $SD = 18.76$), $t(365) = 6.15$, $p < 0.001$, $d = 0.67$ (medium effect). In the overall sample, 35.6% ($n = 138$) indicated that they had ever been a victim of cyberbullying (36.3% female, 33.1% male). Perpetration of cyberbullying was reported by 11.3% ($n = 44$) of the sample (8.7% female, 16.5% male). Most of the sample (75.3%, $n = 293$) had ever witnessed cyberbullying (76.0% female, 73.6% male). No significant differences in severity ratings were found between those who had or had not been a victim, perpetrator, or witness of cyberbullying.

Brief Discussion

Study 1 extended the use of an established classification (Willard, 2007) to examine adults' perceived severity of different cyberbullying acts. Scale items capturing nuances of each behavior in the classification were developed, which participants rated in terms of severity. While the original classification included seven behaviors, the analysis showed that items clustered onto four main behaviors labelled: defamation, harassment, pestering, and exclusion. This presents an avenue for future research to utilize these four behaviors as the basis for further investigation. As noted, experimental studies have previously manipulated definitional criteria and contextual factors in examining severity ratings of cyberbullying which have led to important insights (Palladino et al., 2017). However, these have not been explored alongside different types of cyberbullying behaviors. This is potentially due to the range of behaviors possible and the number of conditions that would be required in order to examine these systematically. The current study findings suggest that four main behavioral categories can be considered when exploring perceived severity, which can facilitate further research.

In addition to outlining four key behavioral categories, the results also show that defamation, linked to damage of one's reputation and sharing of private information in public contexts, is rated as the most severe form of cyberbullying among adults. This category included items linked to *denigration*, *impersonation*, and *outing and trickery* from the original conceptualization. Previous studies have suggested these to be more serious acts of cyberbullying (Staude-Müller et al., 2012). This is followed by harassment, involving persistent and potentially threatening contact. Pestering and exclusion were rated less severe. This is a first attempt at utilizing an established framework to examine perceived severity of cyberbullying among adults and the findings show that defamation and harassment may be areas of priority for intervention and prevention efforts aimed at adults.

Age did not influence perceived severity, but significant gender differences were found. Females perceived cyberbullying to be more severe than males, adding to the current literature (Bauman & Newman, 2013; Doucette, 2013). However, it is important to note that the age and gender differences shown are not conclusive as the sampling for this study was broad. As such, future research should examine this more closely with more specific sampling criteria. While the study collected data from numerous countries and thereby included diverse perspectives, these still tend to be countries where research on cyberbullying is more developed. Country of origin may thus be of interest to explore further as well as other potential demographics (e.g., education level). Despite these limitations, prevalence rates showed that over a third of adults had been victimized and one in ten had perpetrated cyberbullying. Moreover, with most adults having witnessed cyberbullying, the findings collectively indicate that cyberbullying is a concern among adults. Prior experience in cyberbullying was shown to have an influence on ratings of severity in previous studies (Bauman & Newman, 2013; Gini et al., 2011; Sticca & Perren, 2013), but this did not emerge in the current research. This is interesting as the items are phrased in a way that places the participant in a victim role. It could, therefore, be expected that those who were victimized might rate their experience higher than non-victims and that perpetrators may rate acts less severely if they engaged in the behavior themselves. These are additional exploratory findings and further research is indicated.

Study 2

Findings from study 1 presented new insights into adults' perceived severity of cyberbullying. However, a key limitation is that the scale items simply describe acts of cyberbullying. Although previous studies have used descriptions and vignettes (Sticca & Perren, 2013; Walker & Jeske, 2016), such approaches are simplistic and do not contain the features of online communication as they are encountered in reality. Studies have also asked participants to recall a time when they witnessed cyberbullying (Brody & Vangelisti,

2016), but this also does not allow for a standardized approach as there is likely to be a variation in severity of cases recalled. The use of more realistic, visual representations of cyberbullying may thus extend research in this area.

In searching the literature, we located a single study that utilized visual representations of cyberbullying; it simulated cyberbullying acts on a custom social media platform to examine bystander intervention and allowed for manipulation of aspects such as audience size (DiFranzo et al., 2018). However, hypothetical platforms do not represent social media sites that adults engage with daily. Therefore, study 2 developed visual cyberbullying scenarios on existing social media platforms as a more standardized and realistic means of examining adult perceptions. Defamation and harassment (rated most severe in study 1) were the focus of the visual scenarios. Moreover, study 2 measured both perceived severity and likelihood of intervention in cyberbullying. It also measured moral sensitivity, moral disengagement, and empathy (emotional contagion, cognitive empathy, and emotional disconnect) as possible predictors of adult ratings. Based on previous literature, hypotheses included the following:

H1: Empathy will predict (1a) higher perceived severity of cyberbullying and (1b) higher likelihood of intervening;
H2: Moral sensitivity will predict (2a) higher perceived severity of cyberbullying and (2b) higher likelihood of intervening;
H3: Moral disengagement will predict (3a) lower perceived severity of cyberbullying and (3b) lower likelihood of intervening.

Method

Research Design

Study 2 was a quantitative, cross-sectional, online survey design. Data was collected via Survey Monkey. Similar to study 1, the survey was shared on social media (Twitter and Facebook) via personal and group pages and users also shared the survey. Thus, convenience and snowball sampling were used. Due to the exploratory nature of the approaches taken to measure perceived severity, a broader sample of adult users was of interest and inclusion criteria required participants to be aged 18 and above. Data was collected over a 4-week period in November 2020.

Participants

A total of 122 participants completed the survey (71.3% female). Participants were aged between 18 and 64 ($M = 27.96$, $SD = 9.71$), with 85% of the sample aged 35 or below. The sample is thus skewed to females and younger adults and the findings should be interpreted with this in mind.

Measures

Cyberbullying Scenarios Six visual cyberbullying scenarios were developed for study 2. This included three representations of defamation and three of harassment. Scenarios were informed by the scale items from study 1. Items that loaded onto defamation and harassment were individually assessed in terms of (i) relevance to something individuals are likely to encounter in day-to-day use of social media (i.e., not obscure or unlikely to be observed in normal day-to-day interactions online), and (ii) the ease with which the item could be represented visually.

Given that actions intending to damage someone's reputation online (defamation) are generally only effective when they occur in a public context with an audience, these scenarios were all of a public nature. In contrast, actions intended to cause fear or anxiety (harassment) tend to be more private in nature and thus the scenarios were developed with a private platform in mind. Scenarios were developed to represent either public wall posts on Facebook (which is still the most widely accessed social media platform across a broad adult age range; Pew Research Centre, 2019) or private instant messaging via iMessage (which is very similar to other instant messaging platforms including those on various social media platforms). An application, which allows the creation of hypothetical social media posts shown as screenshots, was used to develop the scenarios for the study. Set criteria for development of scenarios were that the (i) definitional criteria of cyberbullying (i.e., intentionality, repetition, and imbalance of power) are as overt as possible; (ii) scenarios have minimal shock value, i.e., they capture the core behavior of interest but are not extreme forms of the behavior; (iii) scenarios are not overtly explicit in nature but allude to this where necessary to depict the behavior accurately; and (iv) scenarios are plausible in an online context. These criteria ensured that all scenarios captured cyberbullying acts, were plausible, and were all relatively mild in nature to allow for more consistency and somewhat of a baseline threshold for each behavior. Scenarios depicting defamation are shown in Fig. 1a–c and scenarios depicting harassment are shown in Figs. 2a–c.

Inter-rater Reliability The scenarios were assessed for inter-rater reliability (IRR) using three independent raters. Firstly, raters indicated whether the scenario was occurring in a public or private context. Secondly, they were provided with

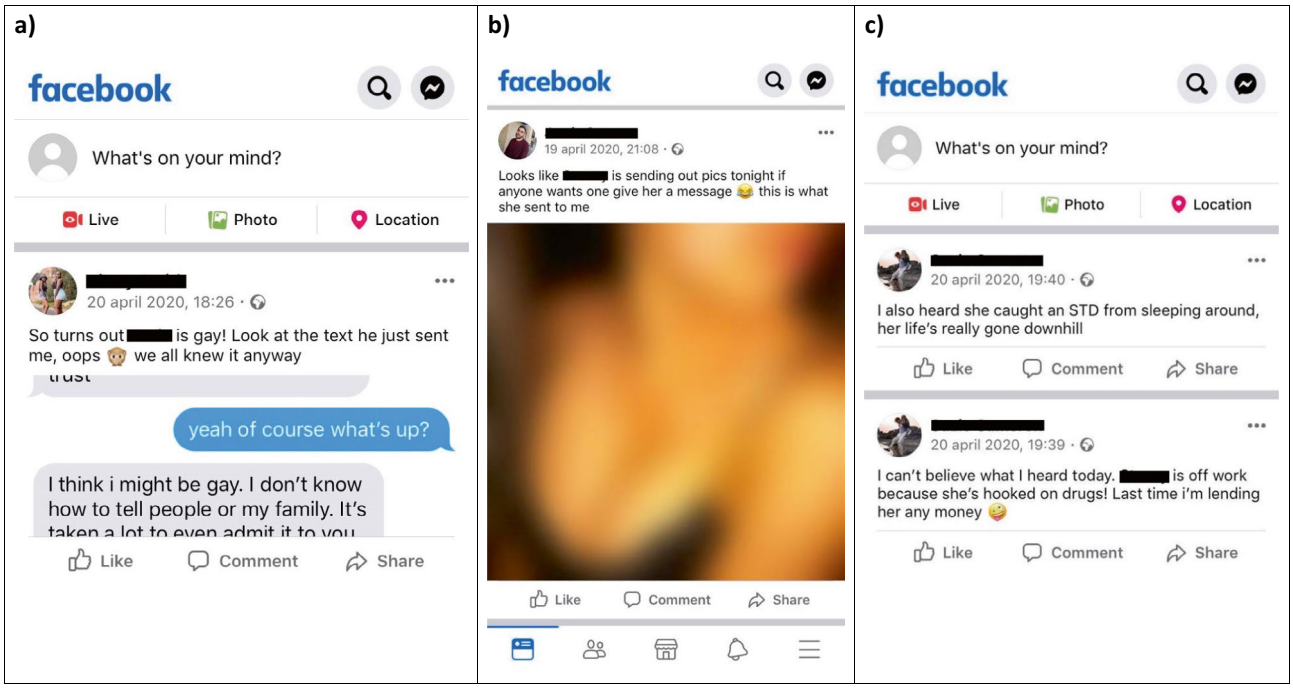

Fig. 1 **a**–**c** Defamation scenarios

a list of the 19 scale items linked to defamation and harassment from study 1 and asked to view each scenario and match it to the scale item that best corresponds. Finally, they were provided with definitions for all four of the behavioral groupings from study 1 and indicated which behavior was represented in each scenario. IRR for accurately linking the scenario to the original scale item and accurately categorizing the scenario as public or private was 1. IRR for accurately linking the visual scenario to the correct behavioral grouping was 0.89. Incorrect responses occurred in cases where scenarios were aligned with pestering as opposed to harassment. Given that pestering involves milder forms of

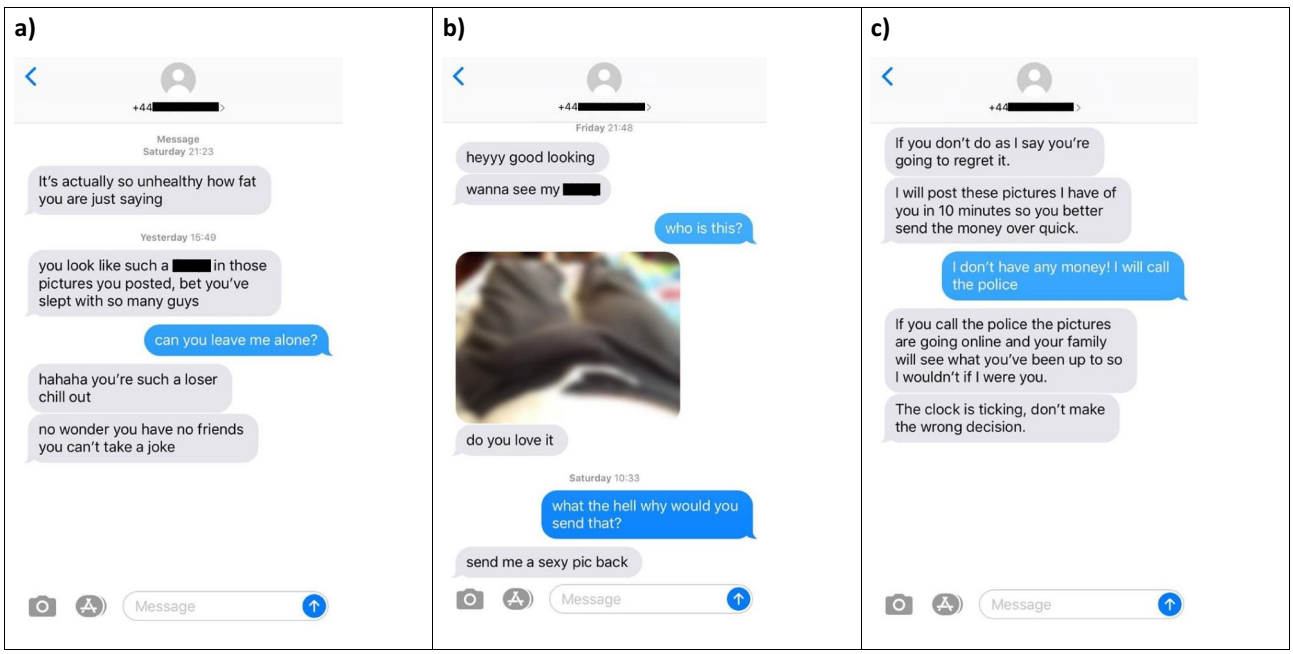

Fig. 2 **a**–**c** Harassment scenarios

harassment, discrepancies in the IRR in this task were likely aligned with perceived severity of the incidents by the raters rather than the fundamental nature of what the scenario is depicting. As such, the researchers deemed the scenarios appropriate for data collection.

Rating Perceived Severity and Likelihood of Intervening in Cyberbullying Participants were presented with all six scenarios in a randomized order within the survey to mitigate any order effects. Participants were instructed to view each scenario and to respond to two main questions. One was related to perceived severity: "In your opinion, how severe is the above scenario?" (1-not severe at all to 5-extremely severe). The second was related to likelihood of intervening: "How likely are you to intervene if you observed the above scenario happening to someone?" (1-not at all likely to 5-highly likely). Total scores for perceived severity and likelihood of intervening were calculated for defamation and harassment by summing the respective ratings across scenarios. Higher scores reflected higher perceived severity or higher likelihood of intervening.

As the scenarios were used in research for the first time, additional questions were included to allow for further validation of the scenarios. This included two open-ended questions that followed each of the main questions linked to severity and likelihood of intervening: "Which aspects of the scenario influenced your rating of the most?". Furthermore, participants were asked: "In your opinion, how realistic is the above scenario?" (1-not realistic at all to 5-extremely realistic). This ensured that any problematic scenarios or unintended influences within the scenarios could be assessed (see "12").

Empathy Empathy was measured using the 20-item Basic Empathy Scale-Adults (BES_A; Jolliffe & Farrington, 2006b), which was validated in an adult sample (Carré et al., 2013). The scale measures three dimensions of empathy: emotional contagion (e.g., "I get caught up in other people's feelings easily"), emotional disconnection (e.g., "I am not usually aware of my friends' feelings"), and cognitive empathy (e.g., "I have trouble figuring out when my friends are happy"). Participants indicate how much they agree or disagree with each statement on a 5-point Likert scale. Cronbach's alphas are 0.69–0.82 for the different subscales. The three subscales are included as separate variables in the analyses. Higher scores indicate higher presence of each empathy dimension.

Moral Sensitivity Moral sensitivity was measured using the 16-item Moral Foundations Questionnaire (Graham et al., 2009). The scale is based on Moral Foundations Theory (Graham et al., 2009, 2013) which proposes five domains of morality: harm/care, fairness/reciprocity, ingroup/loyalty, authority/respect, and purity/sanctity. The scale measures sensitivity towards domains. Participants respond on a 6-point Likert scale indicating how relevant each item is to their moral thinking (1-not at all relevant; 6-extremely relevant). Example items include the following: "Whether or not someone cared for someone weak or vulnerable" (harm/care), "Whether or not some people were treated differently than others" (fairness/reciprocity), "Whether or not someone did something to betray his or her group" (ingroup/loyalty), "Whether or not someone showed a lack of respect for authority" (authority/respect), and "Whether or not someone violated standards of purity and decency" (purity/sanctity). The measure has a Cronbach's alpha between 0.64 (authority) and 0.76 (purity). In the current study, moral sensitivity was assessed as an overall score. Higher scores reflect higher moral sensitivity. The Cronbach's alpha for the current study was 0.92.

Moral Disengagement Moral disengagement was measured using an 8-item scale that was developed for use with adults (Moore et al., 2012). Each item of the scale taps into a single mechanism of moral disengagement proposed by Bandura (1990, 1991). Participants are asked to rate their level of agreement on a 7-point Likert scale (1-strongly disagree; 7-strongly agree), with higher scores indicating higher levels of moral disengagement. Example items include the following: "It is okay to spread rumors to defend those you care about" (moral justification) and "People who get mistreated have usually done something to bring it on themselves" (dehumanization). This scale was validated in multiple forms and across various samples, with Cronbach's alpha for the scale being around 0.77–0.90 in different samples (Moore et al., 2012). The Cronbach's alpha in the current study was 0.82.

Demographics In line with study 1, participants provided their age and gender. They also indicated whether they had ever been a victim, perpetrator, or had witnessed cyberbullying since the age of 18 (yes/no).

Procedure and Ethics

The study received full ethical approval. An overview of the study along with the link to the survey was posted on Facebook and Twitter. Clicking on the link led participants to the information sheet, which described the nature of the study and the ethical considerations, including that the study involved viewing acts of cyberbullying. Participants were discouraged from participating if they felt that the study may cause them any discomfort or harm. Participants provided consent electronically at the end of the information sheet and completed the survey in the same order as presented in

the "9" section above. A full debrief including contacts for support services was provided.

Data Analysis

SPSS-26 was used to conduct initial validation analyses of the scenarios using paired samples *t*-tests. This was followed by correlational analysis of the main study variables followed by separate hierarchical multiple regression analyses with harassment severity, defamation severity, harassment intervention, and defamation intervention as outcome variables. Age, gender, and previous experience of being a victim, perpetrator, or witness of cyberbullying were controlled for.

Results

Scenario Validation

Paired samples *t*-tests were conducted to determine if there were any significant differences in participant ratings of severity, likelihood of intervening, and how realistic the scenarios were by comparing the mean ratings between defamation and harassment scores. There was no significant difference in ratings of severity between defamation ($M = 12.65$, $SD = 1.86$) and harassment ($M = 12.36$, $SD = 1.93$) or likelihood of intervening (defamation: $M = 10.51$, $SD = 3.18$; harassment: $M = 10.65$, $SD = 3.01$). However, there was a significant difference in terms of how realistic participants perceived the scenarios to be for the two behavioral groupings, with harassment scenarios being perceived as more realistic ($M = 12.31$, $SD = 1.95$) than defamation scenarios ($M = 10.45$, $SD = 2.34$), $t(120) = 10.34$, $p < 0.001$ (CI: 1.50; 2.40). Inspection of the individual item mean ratings did not suggest that any single item was problematic. Furthermore, open-ended responses indicated that participants were picking up on aspects of the scenario which were intended as part of the original items on which the scenarios were based. Therefore, all visual scenarios were included in subsequent analyses.

Descriptive Statistics and Correlations

Similar to study 1, participants had personal experiences with cyberbullying. The majority (74.8%; female: 73.8%, male: 77.1%) had ever witnessed cyberbullying as adults, 28.6% had been victims (female: 33.3%, male: 17.1%), and 15.1% had been perpetrators (female: 11.9%, male: 22.9%).

Descriptive statistics and Pearson correlations of the main study variables are shown in Table 2. Harassment severity and defamation severity scores were significantly positively correlated ($r = 0.487$, $p < 0.001$) and harassment intervention and defamation intervention scores were also significantly positively correlated ($r = 0.532$, $p < 0.001$). There were also significant positive correlations between harassment severity and harassment intervention scores ($r = 0.438$, $p < 0.001$) as well as defamation severity and defamation intervention scores ($r = 0.480$, $p < 0.001$).

Interesting differences in correlations were also noted in relation to the independent variables. For example, moral sensitivity was significantly positively correlated with harassment severity ($r = 0.240$, $p < 0.001$) but not with defamation severity. Similarly, moral disengagement was significantly negatively correlated with harassment severity ratings ($r = -0.208$, $p < 0.001$) but not with defamation severity ratings. Harassment intervention ratings also followed the same correlational directions with moral sensitivity ($r = 0.187$, $p < 0.05$) and moral disengagement ($r = -0.268$, $p < 0.001$). Defamation intervention did not significantly correlate with moral sensitivity, but a significant negative correlation existed for moral disengagement ($r = -0.229$, $p < 0.001$).

Table 2 Descriptive statistics and correlations of main variables

	1	2	3	4	5	6	7	8	9
1. Harassment (severity)	-								
2. Harassment (intervention)	.438**	-							
3. Defamation (severity)	.487**	.211*	-						
4. Defamation (intervention)	.252**	.532**	.480**	-					
5. Moral sensitivity	.240**	.187*	.086	.093	-				
6. Moral disengagement	−.208*	−.268**	−.139	−.229*	.040	-			
7. Emotional contagion	.056	.207*	.148	.213*	.204*	−.112	-		
8. Cognitive empathy	.026	.223*	.192*	.136	−.117	−.325**	.365**	-	
9. Emotional disconnect	−.058	−.172	−.080	−.092	−.014	.419**	−.474**	−.579**	-
Range (min–max)	5–15	3–15	6–15	3–15	28–91	8–41	7–25	19–39	6–26
M	12.36	10.65	12.65	10.51	64.21	19.71	17.10	32.31	12.25
SD	1.93	3.01	1.86	3.18	9.43	5.91	3.51	3.47	4.07

*$p < .05$; **$p < .001$

Hierarchical Multiple Regression Analyses

Given that some research shows demographic differences in cyberbullying (Olenik-Shemesh et al., 2017; Van Cleemput et al., 2014) and that personal experiences of cyberbullying can influence perceived severity and bystander intervention (Bauman & Newman, 2013), these variables were entered as control variables at step 1 of the hierarchical multiple regression analyses. This included age, gender (0 = male, 1 = female), and experiences of being a victim, perpetrator, or witness (in each case: 0 = no experience, 1 = previous experience). The main study variables, namely, moral sensitivity, moral disengagement, and the empathy subscales (emotional contagion, cognitive empathy, and emotional disconnect), were entered at step 2. Separate analyses were conducted for each of the four dependent variables: harassment severity scores, defamation severity scores, harassment intervention scores, and defamation intervention scores.

Perceived Severity Ratings Data for perceived severity of harassment was non-normally distributed and bootstrapping was applied. Inspection of the correlations as well as the tolerance (ranging between 0.51 and 0.94) and VIF statistics (ranging between 1.10 and 1.96) indicated that multicollinearity was not a concern. The Durbin-Watson statistic was at the appropriate level indicating independence of errors (1.74). The overall model was significant. Findings showed that the control variables at step 1 explained 14.0% of the variance in perceived severity of harassment. With the inclusion of the main variables at step 2, variance explained increased to 20.7%. Although older age and not having previous experience as a perpetrator of harassment were significant in model 1, the bootstrapped confidence intervals crossed zero and these variables were non-significant with the inclusion of the main variables in model 2. The only significant predictor was moral disengagement ($\beta = -0.22$), indicating that higher moral disengagement predicted lower perceived severity ratings of harassment (see Table 3).

The regression model with perceived severity of defamation as an outcome variable was non-significant.

Likelihood of Intervening For likelihood of intervening in harassment scenarios, data was normally distributed and inspection of the correlations along with the tolerance (ranging between 0.51 and 0.94) and VIF statistics (ranging between 1.06 and 1.98) indicated that multicollinearity was not a concern. The Durbin-Watson statistic was at the appropriate level indicating independence of errors (1.81). The overall model was significant. Findings showed that the control variables at step 1 explained 12.4% of the variance. With the inclusion of the main variables at step 2, variance explained increased to 24.1%. Age ($\beta = 0.25$) and moral disengagement ($\beta = -0.22$) were significant predictors, indicating that older age and lower moral disengagement predicted higher likelihood of intervening in harassment (see Table 4).

The regression model with likelihood of intervening in defamation as an outcome variable was non-significant.

The results suggest that H1a and H1b associated with empathy and H2a and H2b associated with moral sensitivity are rejected. H3a and H3b associated with moral disengagement are accepted but only for harassment scenarios.

Table 3 Hierarchical regression analysis (harassment perceived severity)

	Model 1					Model 2				
	B	***SE B***	***β***	***p***	**Bootstrap 95% CI**	***B***	***SE B***	***β***	***p***	**Bootstrap 95% CI**
(Constant)	11.67	.658		.001	10.29, 12.93	9.37	3.51		.005	3.20, 17.20
Gender	−.050	.379	−.012	.886	−.779, .729	−.210	.436	−.049	.616	−1.06, .668
Age	.032	.016	.162	.045	.000, .064	.026	.018	.131	.153	−.010, .063
Victim	−.269	.465	−.063	.571	−1.20, .570	−.336	.454	−.078	.480	−1.22, .524
Perpetrator	−1.54	.771	−.284	.045	−3.01, .026	−1.35	.823	−.249	.112	−2.97, .310
Witness	.080	.408	.018	.861	−.740, .851	.035	.415	.011	.887	−.736, .844
Moral sensitivity						−.073	.020	.167	.089	−.004, .076
Moral disengagement						.017	.032	−.222	.023	−.144, −.017
Emotional contagion						.031	.057	.030	.761	−.104, .122
Cognitive empathy						.044	.065	.056	.629	−.104, .149
Emotional disconnect							.058	.090	.426	−.085, .143
R^2	.140					.207				
Adj R^2	.102					.133				
F	3.67*					2.81*				
p	.004					.004				

Brief Discussion

Unlike study 1, there was no significant difference in severity ratings between harassment and defamation. There was also no significant difference in likelihood of intervention across scenarios. Although no individual defamation scenarios were deemed problematic, participants perceived the harassment scenarios as being more realistic overall. Despite no significant differences, further analyses were conducted on the two cyberbullying acts separately as examining different cyberbullying acts remains a limitation in current research. Moreover, psychological variables may differentially influence ratings of the two behaviors.

Previous research observed associations between the independent variables of the current study. For example, empathy is considered important for morally relevant behaviors and is viewed as a moral emotion that has been linked to moral sensitivity (Thornberg & Jungert, 2013). This study found positive correlations between one of the empathy subscales (emotional contagion) and moral sensitivity. Lower empathy and moral sensitivity have both previously been linked to bullying and cyberbullying (Ang & Goh, 2010; Brewer & Kerslake, 2015; Del Rey et al., 2016; Perren & Gutzwiller-Helfenfinger, 2012; Thornberg et al., 2015). However, results showed that moral sensitivity was associated with harassment severity but not defamation severity, while cognitive empathy was associated with defamation severity but not harassment severity. When looking at likelihood of intervention, moral sensitivity, emotional contagion, and cognitive empathy were all positively correlated with harassment intervention, while only emotional contagion was correlated with defamation intervention. Moreover, although moral disengagement was positively associated with cyberbullying previously (Renati et al., 2012; Yang et al., 2018), moral disengagement was only significantly negatively correlated with harassment severity and not defamation severity but was negatively correlated with likelihood of intervention for both behaviors. These findings are important as they show that psychological variables influence perceptions and intended behaviors differently in relation to different cyberbullying types. This adds to the complex nature of cyberbullying and points to the importance of examining different cyberbullying acts in more depth than has been done in literature to date, where cyberbullying is often examined as a broader behavioral construct.

Despite significant correlations, only harassment severity and harassment intervention regression models were significant. The variables explained 21% and 24% of the variance of the models, respectively. This indicates that other key variables may play a more significant role as a large proportion of the variance remains unexplained. Although the chosen variables were identified as important from previous research and represent socio-emotional and cognitive aspects to attitudes and behaviors, future research should identify further variables of interest. Moral disengagement was a significant predictor of harassment severity ratings and likelihood of intervention, with higher moral disengagement predicting lower perceived severity and lower intervention likelihood. Older individuals were also significantly more likely to intervene in harassment. Moral disengagement involves cognitive strategies to distance oneself from one's harmful behavior to avoid aversive emotions (Bandura, 1991, 2002). Thus, other cognitive strategies may be of interest along with more in-depth explorations of the different moral

Table 4 Hierarchical regression analysis (harassment intervention)

	Model 1					Model 2				
	B	***SE B***	***β***	***p***	**95% CI**	***B***	***SE B***	***β***	***p***	**95% CI**
(Constant)	8.16	1.01		.000	6.17, 10.16	− 1.67	4.68		.723	− 10.95, 7.62
Gender	.938	.609	.143	.126	− .269, 2.15	.369	.622	.056	.555	− .865, 1.60
Age	.076	.028	.248	.008	.021, .131	.076	.028	.249	.007	.021, .131
Victim	− .025	.703	− .004	.972	− 1.42, 1.37	− .279	.676	− .042	.681	− 1.62, 1.06
Perpetrator	− 1.016	.935	− .122	.226	− 2.67, .638	− .725	.825	− .087	.381	− 2.36, .910
Witness	− .286	.670	− .041	.670	− 1.61, 1.04	− .413	.650	.059	.526	− 1.70, .875
Moral sensitivity						.043	.029	.135	.146	− .015, .101
Moral disengagement						− .113	.049	− .223	.022	− .209, − .016
Emotional contagion						.134	.090	.158	.136	− .043, .312
Cognitive empathy						.185	.094	.212	.053	− .003, .372
Emotional disconnect						.129	.088	.174	.144	− .045, .303
R^2	.123					.241				
Adj R^2	.084					.170				
F	3.13					3.39				
p	.011					.001				

disengagement mechanisms. Features such as anonymity, a lack of social-emotional cues, and the distance between the communication partners have been shown to influence moral disengagement online (Pornari & Wood, 2010; Runions & Bak, 2015). Further understanding of how aspects of the online environment may influence different moral disengagement strategies is indicated. With most (74.8%) participants witnessing cyberbullying as adults, 28.6% being victims, and 15.1% being perpetrators, this reflects the importance of further research among adults.

Conclusion, Limitations, and Future Directions

This paper presents two studies that address gaps in current research by examining adults' experiences, perceptions, and likely reactions to different cyberbullying acts. Study 1 utilized an established framework to examine perceived severity using self-report scale items. Findings showed that perceived severity clustered onto four behavioral groupings: defamation, harassment, exclusion, and pestering. Defamation was rated most severe followed by harassment, suggesting that these two behaviors were of particular concern. Study 2 further examined defamation and harassment using visual cyberbullying scenarios, which participants rated for severity and intervention likelihood. Participants' empathy, moral sensitivity, and moral disengagement were also explored as predictors of these ratings.

While study 1 demonstrated differences in perceived severity between defamation and harassment, this did not emerge in study 2. Study 1 items were phrased from a first-person (i.e., victim) perspective while the visual scenarios depicted cyberbullying experienced by others (i.e., witness perspective), which may have influenced ratings. Defamation and harassment scenarios were also depicted differently in terms of publicity, thus contextual factors such as private/public, audience size, and victim/witness perspectives should be examined more closely. Such factors have been examined previously but not in relation to different cyberbullying acts, and the current research presents avenues for future investigation: study 1 outlines four specific behavioral groupings, while study 2 extends this by developing visual scenarios. Previous experiences of cyberbullying did not influence ratings, but study 2 showed that psychological variables differentially influence perceptions and intended reactions to cyberbullying acts. Moral disengagement predicted harassment severity and intervention likelihood, but not defamation. This highlights the importance of examining cyberbullying acts separately in future research, and other social, emotional, and cognitive factors as possible predictors.

Importantly, different sampling criteria and different demographics should also be investigated more closely to add to the current findings as both study 1 and study 2 participants were largely comprised of younger female social media users. This limits the conclusions that can be drawn about adults in general as well as social media users in particular. While the study used novel means of assessing perceptions relating to different cyberbullying acts, future research should consider other sampling techniques (including beyond social media) to assess adult perceptions and experiences and to understand the nuances of adult online behavior. To this end, other demographic variables should also be considered as control variables in future. Such variables may also include country of origin (both in terms of not only cultural factors but also language and the way different cyberbullying acts may be understood) as well as education level. Further consideration should be given to instructions provided to participants for visual scenarios (e.g., explicitly stating that individuals are adults/children; that participants should imagine each scenario as happening to them/someone they know) which can lead to further nuanced understanding of adult perspectives and reactions. Finally, further investigation into *how* adults may intervene in such acts is also warranted.

Cyberbullying is clearly a concern among adults, with prevalence rates in both studies showing rates that are comparable with those of adolescents (Popovac, 2016, 2017). This underscores the importance of further research among adults. Perceived severity of an incident is an important factor in bystander intervention (Bastiaensens et al., 2014; Obermaier et al., 2016) and studies have tended to focus on teachers' perspectives due to their unique position in intervening in children's experiences (Hektner & Swenson, 2012; Mishna et al., 2005). While this is important, understanding adults more broadly has significant implications for bystander intervention in online environments in general as they are in a position to intervene on children's and adults' experiences of cyberbullying and to influence social norms. Understanding adults' perceived severity of different acts, their likelihood of intervening, and the potential psychological variables that influence their perceptions and intended behaviors opens up areas of focus for more targeted intervention and prevention strategies aimed at older demographics. The findings thus present important new insights on a topic of great interest in current research, practice, and policy development.

Declarations

Conflict of Interest The authors declare no competing interests.

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