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Cyberbullying through the lens of trauma: an empirical examination of US youth

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Abstract

Background Scholars have argued that cyberbullying should be characterized as an Adverse Childhood Experience (ACE) given its potential for traumatic impacts on youth development. Considering the current attention surrounding mental health and well-being among adolescents, it seems critical to empirically measure this relationship, and also determine if some types have a stronger negative influence.

Methods Data utilized in this study were derived from a survey conducted on a nationally-representative sample in 2023 involving 2,697 English-speaking middle and high school students aged 13 to 17 residing within the United States.

Results We identified a strong positive relationship between PTSD symptoms and experience with cyberbullying. Surprisingly, exclusion and rejection were just as harmful as overt threats when it comes to inducing trauma. Gossip and malicious comments were as detrimental as targeting someone based on their identity.

Conclusion By becoming more trauma-informed and implementing school-based specific measures, those who work with youth can better safeguard and support them in the face of cyberbullying.

Keywords Cyberbullying, Trauma, Teens, Adverse childhood experiences, Cyberviolence

Background

Around the world, there has been a growing movement to view bullying and cyberbullying through the lens of *trauma* [1, 2]. Trauma results from "an event, series of events, or set of circumstances that is experienced by an individual as physically or emotionally harmful or life threatening and that has lasting adverse effects on the individual's functioning and mental, physical, social, emotional, or spiritual well-being" [3, 11]. Bullying, widely considered a pernicious form of school violence, often occurs as a stressor that over time can have traumatic effects [4]. Indeed, bullying is being proposed by researchers as a type of Adverse Childhood Experience (ACE) [5, 6], and has been strongly and consistently linked (as is the case with many other ACEs) to poor outcomes later in life [7–10].

Similarly, scholars in recent years have argued that cyberbullying should be characterized as an ACE [11] given its potential for long-term traumatic impacts on healthy youth development. This conceptualization aligns with a growing body of research that demonstrates the interconnectedness between cyberbullying and other established ACEs [7, 12, 13]. Moreover, we understand that the tenuous developmental stages of childhood and adolescence are uniquely susceptible to certain risk factors that compromise health and well-being, and that ACEs are not only frequently experienced during this time but have a pronounced effect in both the short term

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and long term [14–16]. It appears, then, that considering the full spectrum of traumatic experiences in both offline and online contexts is necessary to mitigate negative health outcomes for this population.

Additional formal inquiry on this topic also is warranted given the heightened state of affairs in the United States where health professionals have suggested youth are entrenched in a mental health crisis [17–19]. Experts have proffered that the COVID-19 pandemic [20–22] and the ubiquity of social media use among teens [23] may be exacerbating factors. Any efforts to reduce the stressors that youth are facing, and more fully understanding the impact severity of such harms should compel and mobilize an urgent response. This seems especially critical given that bullying was largely dismissed as a normative component of growing up until Dan Olweus's [24, 25] pioneering empirical efforts among Scandinavian youth in the 1970s catalyzed a shift in how many societies across the world considered and responded to peer-based aggression. Fully appreciating the scope and seriousness of impact stemming from cyberbullying victimization is essential to marshaling and implementing the most appropriate interventions and supports.

In the following text, we first provide an updated picture of the frequency, scope, and outcomes associated with cyberbullying. Then, we detail what has been discovered thus far in the literature base regarding the link between bullying experiences and traumatic outcomes. Next, we empirically explore this proposed relationship among a national sample of youth from the United States (US). After detailing the results, we offer some focal points and strategies to consider when building a trauma-informed approach to optimally assist those who have been bullied online in a way that mitigates the emotional, psychological, physiological, and even behavioral fallout that occurs.

Bullying and cyberbullying

The Centers for Disease Control and Prevention (CDC) defines bullying as "any unwanted aggressive behavior(s) by another youth or group of youths who are not siblings or current dating partners that involves an observed or perceived power imbalance and is repeated multiple times or is highly likely to be repeated" [26, 7]. The United Nations has identified that 32% of all students around the world have been bullied in some form by their school peers in the past month [27]. In the United States, self-report survey data from the CDC's Youth Risk Behavior Surveillance System (YRBSS) in 2021 revealed that 15% of high schoolers were bullied at school over the last year [28]. Experience with bullying victimization has been linked to anxiety [29–31], depression [32–34], mental disorders [35–38], emotional and psychological struggles [39–42], physical health problems [43–45], and academic issues [46–48]. Generally speaking, bullying victims tend to consider suicide and attempt suicide more often than nonvictims [49–51]. Indeed, a meta-analytic work encompassing 47 studies from the US found consistent associations between bullying and suicidal ideation and behavior [52].

Cyberbullying has been defined as "willful and repeated harm inflicted through computers, cell phones, and other electronic devices" [53:10]. This form of bullying typically manifests through the dissemination of malicious, humiliating, or threatening content via social media platforms, gaming interfaces, and chat environments. A report by UNICEF [54] revealed that one-third of young people from the ages of 13 and 24 across 30 countries said they had been bullied online. YRBSS data from the US in 2021 show slightly lower prevalence rates, with approximately 16% of high school students reporting they were victims of cyberbullying in the past year [28].

Extensive research has indicated that cyberbullied youth are more likely to suffer academically, emotionally, psychologically, and even behaviorally [51, 53, 55–57]. Specifically, targets have struggled with substance use and abuse [58–60], negative affect [61–64], depression [65, 66], self-harm [67, 68], suicidal ideation [57, 69–71] and other psychosocial problems [72, 73]. Associations have also been found with lower academic achievement [65, 74, 75], lower self-esteem [70, 76–78], lower life satisfaction and well-being [40, 79], conduct problems [80], hostility and aggression [70, 81], and traditional bullying and interpersonal violence towards other youth [64, 82, 83].

Traumatic outcomes

Outside of these sequelae, chronic exposure to bullying has been linked to greater emotional, psychological, and physical distress, symptomatology, and pathology in children [36, 84–86]. Indeed, studies have shown that these social and emotional disturbances can have long-term consequences on targets into their adult years [87–89]. This leads us to the growing body of research showing that the effects of bullying resemble that of posttraumatic stress disorder (PTSD), and that the two are correlated [36, 86, 90–92]. For instance, 37% of British adolescents who were bullied indicated clinically significant levels of posttraumatic stress [93]. As another example, 25% of adults studied still experienced symptoms of PTSD, including intrusive memories of bullying, many years after they had finished their schooling [94]. In a meta-analysis of 29 cross-sectional studies, 57% of bullying targets on average reported symptoms of PTSD above thresholds for caseness (i.e., enough to formally classify it as trauma) [36].

Finally, emerging research largely involving non-representative school-based samples is confirming the

expected link between *online* bullying and post-traumatic stress symptomatology [95–97] as well as increased psychiatric symptom severity [98]. An examination of 5,058 Italian students between the ages of 11 and 18 identified that those who had been cyberbullied reported significantly high levels of post-traumatic stress compared to their peers [97]. Relatedly, a study involving 2,218 students between the ages of 11 and 19 across four secondary schools in London found that 28.6% of cyberbullying victims presented clinically significant PTSD symptoms [96]. Longitudinal research in China involving 661 adolescents ages 12–17 found that cyberbullying victimization was positively associated with PTSD over time [99]. Finally, a study of 353 adolescents aged 13–17 who presented to the emergency department in a primary children's hospital in the northeastern US identified that 61% of those who self-reported PTSD symptomatology also reported being cyberbullied in the past year [95].

Current study

In the present study, we propose three primary hypotheses regarding the relationship between cyberbullying experiences and traumatic outcomes among youth. First, we hypothesize a positive relationship between the frequency of cyberbullying experiences and the manifestation of PTSD outcomes. That is, the more cyberbullying that a youth experiences, the greater the number of PTSD indicators that will be observed. Second, we anticipate significant demographic differences in this relationship, and hypothesize that gender and age will play differentiating roles. Specifically, we predict that girls and younger adolescents will exhibit a higher likelihood of experiencing traumatic outcomes compared to boys and older adolescents, respectively. Third, we believe that the extent of traumatic outcomes will vary depending on the type of cyberbullying experienced. We predict that threats, privacy violations, and identity-based cyberbullying will be associated with more severe traumatic outcomes compared to other forms of cyberbullying (i.e., indirect cyberbullying and exclusion). This hypothesis is grounded in the argument that these particular forms of cyberbullying more directly impact an individual's sense of safety, security, and identity– each of which are fundamental components of psychological well-being, and core human needs [100, 101].

Table 1 Sample demographic characteristics of those who had been cyberbullied ($N = 2,697$)

		Percent
Gender		
	Girl	57.5
	Boy	42.5
Age (mean = 15.1)		
	13	18.1
	14	19.4
	15	19.8
	16	20.3
	17	22.5
Race		
	White/Caucasian	66.0
	Hispanic or Latin American	9.6
	Black/African American	8.6
	Asian	2.0
	American Indian or Native	0.8
	Multiracial	11.3
	Other	1.7

Methodological approach

Data utilized in this study were derived from a survey conducted on a nationally-representative sample of 5,005 English-speaking middle and high school students aged 13 to 17 residing within the United States in 2023. Informed consent was obtained from the parents, and assent was secured from the children prior to their participation in the study. A marketing research firm was commissioned to distribute the survey instrument via email invitations, a cost-effective strategy that has been employed by other scholars over the years [102–104]. Of the individuals sampled for this study, 51% met established age, race, gender, and region criteria, and 15% of these chose to complete the survey, which took an average of 23 min to complete. The final sample for this analysis was $n = 2,697$ (53.9% of youth in the full sample who had been cyberbullied at least once).

Measures

Demographic controls Age, gender, and race were included as controls in the models to account for any influence they might have on trauma associated with experiencing cyberbullying (see Table 1). *Age* was included as a continuous variable representing the respondent's age in years (range 13–17; mean = 15.1). *Gender* represents the student's self-reported gender (boy or girl– other genders were excluded from this analysis). The sample consisted of 57.5% girls and 42.5% boys. *Race* was a categorical variable where 1 = White, 2 = African American, 3 = Hispanic, 4 = Asian, 5 = American Indian or Alaskan Native, 6 = multiracial, and 7 = Other. Comparable to the population of early adolescents in the US [105], 66% of the sample was White/Caucasian, 8.6% was African American, 9.6% was Hispanic/Latin American, 2.0% was Asian, 0.8% was Native American, 11.3% was multiracial, and 1.7% was another race. For the multivariate models, race was dichotomized where 1 = Non-white and 0 = White.

Cyberbullying Experience with cyberbullying was measured using an 18-item scale that includes a variety of forms it can take (see Table 2). The varieties therein were

Table 2 Types of cyberbullying experienced (Total alpha: 0.914)

	Percent
Threats (Alpha: 0.786; Mean: 0.59)	
Someone threatened to hurt me through texts or direct messages	38.2
Someone threatened to hurt me online	34.2
Identity-Based (Alpha: 0.685; Mean: 0.40)	
Someone posted mean names, comments, or gestures about me with a sexual meaning	29.4
Someone posted mean names or comments online about my race or color	26.4
Someone posted mean names or comments online about my religion	16.2
Privacy Violations (Alpha: 0.799; Mean: 0.44)	
Someone repeatedly contacted me via text or online after I told them to stop	41.6
Someone stalked me online	25.8
Someone shared my personal information online without my permission	23.8
Someone pretended to be me online and acted in a way that was mean or hurtful to me	23.1
Someone tracked or monitored my location or activities after I told them to stop	18.2
Indirect Harassment (Alpha: 0.783; Mean: 0.36)	
Someone posted mean or hurtful comments about me online	56.3
Someone spread rumors about me online	52.5
Someone embarrassed or humiliated me online	49.8
Someone shared a mean or hurtful picture online of me	28.1
Someone shared a mean or hurtful video online of me	18.7
Someone created a mean or hurtful web page about me	13.3
Exclusion (Alpha: 0.588; Mean: 0.44)	
Someone intentionally excluded me from a group text or group chat	53.4
Someone encouraged others to gang up on me online	35.1
Any of the above	87.2

developed during several studies over the previous twenty years [53, 106]. We define cyberbullying to research participants in the following manner: "…when someone repeatedly and intentionally harasses, mistreats, or makes fun of another person online or while using cell phones or other electronic devices." Respondents are then asked how many times in the last 30 days they experienced each of the [listed] behaviors, with response options including: (0) never, (1) once, (2) a few times, and (3) many times. Therefore, higher values on the cyberbullying scale represent more experience with cyberbullying (Mean = 9.4; SD = 10.4). Cronbach's Alpha for the cyberbullying scale was 0.914.

PTSD To measure trauma outcomes developed after exposure to cyberbullying, respondents were asked 9 items comprising the Posttraumatic Stress clinical scale component of the original 54-item *Trauma Symptom Checklist for Children* [107]. Youth were asked whether *their experience with cyberbullying* specifically affected them in a variety of ways, including: "Feeling very upset when something reminded you of it?"; "Loss of interest in activities that you used to enjoy?"; "Having strong physical reactions when something reminded you of it (for example, heart pounding, trouble breathing, sweating)?"; "Having strong negative belief about yourself (there is something wrong with me)?"; "Having difficulty concentrating?"; "Trouble falling or staying asleep?"; "Hurt your schoolwork?"; and "Negatively impacted friendships?" Response choices ranged on a 5-point Likert scale including 0 = not at all, 1 = a little bit, 2 = moderately, 3 = quite a bit, and to 4 = extremely. The nine items were combined into a mean scale ranging from 0 to 4, with higher values representing more PTSD (Mean = 1.24; SD = 1.02). Cronbach's Alpha for the PTSD scale was 0.936.

Procedure

Statistical analyses were conducted using IBM SPSS (version 29.0). We begin by displaying the percentage of youth who experienced each of the 18 types of cyberbullying in the scale. Next, we use Ordinary Least-Squares (OLS) Regression to analyze the relationship between frequency of cyberbullying victimization and trauma, controlling for age, gender, and race. Finally, again using OLS Regression, we assess whether different forms of cyberbullying are more or less likely to be associated with traumatic responses. We estimated models for five different subgroups of cyberbullying (threats, identity-based cyberbullying, privacy violations, indirect cyberbullying, and exclusion).

This approach of stratifying specific behaviors into these five categories is logical and coheres with existing research on cyberbullying, online harassment, and general peer-based victimization via electronic technologies. First, the *Threats* category focuses on direct threats of physical harm, a distinct and severe form of cyberbullying which implicates a fear for one's own safety or property. Research is clear that threats can significantly harm individuals who are targeted online [108–110]. *Identity-based Cyberbullying* focuses on bullying based on protected personal characteristics core to one's self. Studies have shown that youth who belong to marginalized or minority identity groups (e.g., gender, race, religion) are disproportionately targeted and impacted by bullying and cyberbullying [111–114].

Third, *Privacy Violations* focus on those actions by others that invade one's personal boundaries and violate their feelings of security, control over their private information, and overall ability to freely be themselves. Examples involve cyberstalking, impersonation, doxing, and repeated unwanted contact [115–119], and affect a nontrivial proportion of youth and young adults. *Indirect Cyberbullying* relates to the various types of online harm that damage the target's reputation and social

relationships, such as rumors, the posting of hurtful comments, and the sharing of embarrassing pictures or videos [106, 120, 121]. Finally, behaviors in the *Exclusion* category are done with the intent of undermining the target's sense of value and belonging. Exclusionary behaviors have powerful negative effects on young people [122–124], especially during a season of life where peer relationships often are inextricably tied to one's self-worth, self-esteem, and happiness [125–127].

Results

Table 2 displays the 18 cyberbullying items, grouped into the five different forms, along with prevalence rates for each. Indirect forms of harassment were among the most commonly-experienced types of cyberbullying, with 56.3% of students saying someone posted mean or hurtful comments about them online and 52.5% reporting that someone had spread rumors about them online. Exclusion was also common, with 53.4% of students reporting that someone intentionally excluded them from a group text or group chat. Less commonly-reported were cyberbullying through a web page (13.3%) or based on religion (16.2%). Overall, 87.2% of the sample had experienced one or more of these types of cyberbullying in the last 30 days. To be clear, this does not mean that 87.2% of youth in the US have been cyberbullied in the last 30 days, but that 87.2% of those who were cyberbullied had experienced the types noted in the table.

Table 3 displays the results of the regression analysis examining the relationship between cyberbullying and trauma. We began by first running a model with only the control variables. As shown in Table 3, boys who experienced cyberbullying scored significantly lower than girls on the trauma scale (Beta=-0.23, $p<.001$). Moreover, older youth who were cyberbullied reported less trauma than younger students (Beta=-0.05, $p<.05$). There was no relationship with regard to race. Overall, the control variables only accounted for about 1% of the variation in trauma. When the cyberbullying summary scale was added to the model, the control variables largely stayed the same (age became statistically insignificant). The more cyberbullying a youth experienced, the more trauma they experienced (Beta = 0.56, $p<.001$). Notably, adding the cyberbullying summary scale resulted in a model that explained 32% of the variation in trauma.

Table 3 OLS Regression– Frequency of cyberbullying and relationship to trauma

	Controls	Cyberbullying Scale
	B (SE) Beta	B (SE) Beta
Boys	-0.23 (0.04)*** -0.11	-0.18 (0.03)*** -0.08
Age	-0.03 (0.01)* -0.05	-0.01 (0.01) -0.02
Non-white	-0.03 (0.04) -0.02	-0.04 (0.03) -0.02
Cyberbullying Summary Scale		0.05 (0.00)*** 0.56
Constant	1.86 (0.21)***	1.00 (0.18)***
Adjusted R^2	0.013	0.322

*$p<.05$; ***$p<.001$ (two-tailed)

Finally, Table 4 shows the results of five different regression models that utilize the various forms of cyberbullying. Not surprisingly, each was significantly related to experiencing trauma, with Beta coefficients ranging from 0.41 to 0.48 and adjusted R^2s ranging from 0.18 to 0.25. Overall, there is no clear difference from one model to the next. That is, type of cyberbullying does not seem to matter when it comes to the extent to which trauma could result.

Discussion

The current research found that experience with cyberbullying was significantly associated with trauma. The more cyberbullying a student experienced, the more traumatic outcomes they reported. There were no differences when examining different forms of cyberbullying; all forms were significantly related to trauma. This latter finding is particularly important given the perception among some that relatively minor forms of cyberbullying (e.g., indirect cyberbullying or exclusion) are less consequential than more serious forms (e.g., threats or privacy violations). Even seemingly minor forms of mistreatment online can have significant impacts on youth.

Results from the current research are important insofar as they illuminate what was commonly believed regarding the consequences of cyberbullying. Future research should explore whether there are any particular protective factors that could help minimize the trauma experienced by youth who have been cyberbullied. For example, youth with strong family connections or peer relationships may be less impacted by cyberbullying [128]. Similarly, youth who have enhanced levels of resilience may be able to brush off their experience with cyberbullying more easily [129]. Additional scholarly inquiry should also explore the long-term consequences of cyberbullying victimization. It would be important to know whether the trauma experienced is relatively short-lived (a few months), or whether it persists for many years (e.g., some research has shown the effects of school bullying to last well into the adult years [88, 130, 131]).

Limitations

Certain methodological limitations of our study warrant acknowledgment and consideration. Given that we utilized a cross-sectional research design which asked students about their experiences at one point in time, we are unable to ensure proper temporal ordering of the

Table 4 OLS Regression– Type of cyberbullying and trauma

	Indirect Cyberbullying	Threats	Identity-based Cyberbullying	Privacy-based Cyberbullying	Exclusion
	B (SE) Beta	B (SE) Beta	B (SE) Beta	B (SE) Beta	B (SE) Beta
Boys	-0.18 (0.04)*** -0.09	-0.24 (0.04)*** -0.12	-0.21 (0.04)*** -0.10	-0.17 (0.04)*** -0.08	-0.19 (0.04)*** -0.09
Age	-0.01 (0.01) -0.02	-0.03 (0.01) -0.04	-0.02 (0.01) -0.03	-0.03 (0.01)* -0.04	-0.01 (0.01) -0.01
Non-white	-0.00 (0.04) -0.00	-0.04 (0.04) -0.02	-0.12 (0.04)** -0.06	-0.03 (0.04) -0.01	0.02 (0.04) 0.01
Indirect Cyberbullying	1.56 (0.06)*** 0.48				
Threats		0.56 (0.04)*** 0.45			
Identity-based Cyberbullying			0.71 (0.03)*** 0.44		
Privacy-based Cyberbullying				0.77 (0.03)*** 0.48	
Exclusion					1.03 (0.04)*** 0.41
Constant	0.91 (0.19)***	1.42 (0.19)***	1.38 (0.19)***	1.45 (0.19)***	1.01 (0.20)***
Adjusted R^2	0.238	0.218	0.201	0.245	0.182

*$p<.05$; **$p<.01$; ***$p<.001$ (two-tailed)

independent and dependent variables. We minimized this concern by specifically asking respondents to report trauma associated with their cyberbullying experience(s). As such, we can assume the cyberbullying occurred before the trauma.

Second, caution must always be used when interpreting results from self-reported experiences of youth. Students may not be fully forthcoming about their experiences or could mis-remember when—or even if—a specific event occurred [132–134]. We sought to minimize this concern by asking youth about recent experiences with cyberbullying (within the most recent 30 days). We reason that if a child was cyberbullied within the previous 30 days, they likely remember it well.

Policy implications

Given the empirical link between cyberbullying and trauma, a goal in every school should be to move towards *trauma-informed care* [135–137] - also known as a *trauma-informed approach* or becoming *trauma sensitive*. This requires educators and other youth-serving adults to be familiar with (1) the research about the prevalence, trends, and impact of trauma on youth and (2) know the best practices and methods to support children and families who have experienced trauma [138]. Inherent in this approach is the prioritization of specific care leading to better outcomes especially when considering the heavy costs, burdens, and negative impact of trauma when untreated or otherwise unaddressed [139].

Many students who are bullied engage in avoidant coping, where they repress the intrusive thoughts or feelings that arise specific to the abuse they have experienced [140]. This manifests in a blunt affect, a general numbness, and the avoidance of any stimuli that may potentially trigger traumatic thoughts [141]. What appears most productive, then, is a solution-focused approach that revolves around providing emotional and practical support, as well as developing productive coping mechanisms to manage anxiety and traumatic symptoms [85, 142, 143].

The *National Institute for Trauma and Loss in Children* offers educators a number of steps to become a trauma-informed school [144]. Ultimately, a school may not be able to completely prevent a traumatic event but can cultivate skills and strategies within their students to appreciably reduce the impact of those events when they happen. To begin, schools should provide childhood trauma awareness training and understanding of how trauma impacts children's learning and behavior [145]. It does not matter what one's professional background or role in a school is. Administrators should provide opportunities for every adult in the school to grow in their knowledge of how stress and trauma affect students [146]. What is more, those adults should avail themselves of the knowledge to better serve those under their care. In addition, educators would do well to view trauma as an experience rather than an incident or a diagnostic category. Youth-serving adults must not get caught up in personal perceptions of what leads to trauma and what does not. It is not possible to fully know how a certain event might affect a child within a certain context, and so educators must focus on their experience [147]. If they

cannot readily articulate their experience, school personnel must be inquisitive and care enough to ask and find out.

Relatedly, educators should believe the link between private logic and behavior. Students think a certain way because of the collective impact and influence of their past (and current) experiences (which may be traumatic in nature). How they act may not be in line with what one thinks is logical, but it is logical given their unique past. Moreover, school personnel must firmly establish the experience of physical, emotional, and psychological safety. When students feel safe at school, they do so much better academically, socially, and relationally [148, 149]. Safety is not only about preventing violence, but also about creating an environment marked by clarity, structure, consistency, hope, empowerment, and autonomy. Students must believe that their perspectives are welcomed (e.g., when they convey to administration that they do not feel safe) and will not be disregarded, their experiences matter and will not be trivialized or thought of as the result of a joke [53, 55, 150].

Additionally, to reduce the impact of trauma intense hyper-arousal (an atypical heightened state of anxiety) must be lowered while improving the ability to regulate emotions [151–154]. When stress affects the body, numerous responses are triggered on a neurological, cognitive, emotional, and physical (somatic) level. As such, adolescents and youth-serving adults need to learn how to sense and understand what exactly is happening in these situations in order to temper or even forestall their negative impact. One way this can happen is through *experiential grounding.* Also known as centering, this is where those who have experienced trauma practice certain techniques to keep them in the present, instead of being swept away in more autonomic outcomes like withdrawal, rumination, panic, disassociation, defensiveness, and denial [155–158].

Third, it is incumbent upon all youth-serving organizations to develop a Crisis Intervention Plan. Essentially, this involves the proactive establishment of an "emotional first aid" response to traumatic incidents [159, 160]. This plan is formulated by a team composed of key administration, mental health associates or liaisons, and other relevant staff members [161, 162]. The team prepares email templates, protocols, flowcharts, resource dissemination strategies, and more. It is important to recognize that schools are not only grappling with typical tragedies (e.g., suicides, natural disasters like hurricanes, illnesses) but also the additional strain of new historical events (e.g., the COVID-19 pandemic, the Israel-Hamas war, the Ukraine-Russia war) that affect certain subpopulations of youth. Therefore, the creation and implementation of a crisis plan is of paramount importance to forestall significant emotional and psychological fallout among adolescents today.

Conclusion

Our research revealed a strong link between cyberbullying victimization and traumatic outcomes in youth. Contrary to our hypotheses, we found no significant differentiation in the severity of traumatic outcomes across subgroups of cyberbullying. Said another way, no single type of cyberbullying emerged as more detrimental than the others in terms of producing traumatic responses. Given the uniformity of trauma risk across all forms of cyberbullying, it seems vital to avoid prioritizing or trivializing any particular type over another. Exclusion and rejection are just as harmful as overt threats when it comes to causing trauma. Similarly, gossip and malicious comments can be as traumatic as targeting someone based on their identity characteristics.

Enhancing physical, emotional, and psychological safety measures for youth at school and in the community, incorporating experiential grounding activities, and developing comprehensive crisis intervention plans are key intervention strategies to consider in response. By becoming more trauma-informed and implementing such measures, those who work with youth can better safeguard and support them in the face of cyberbullying, and can help them move forward without greatly compromising their health.

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Authors' contributions

Sameer Hinduja: Funding acquisition, Investigation, Project administration, Conceptualization, Writing– original draft, Writing– review & editing.
Justin W. Patchin: Funding acquisition, Data curation, Conceptualization, Formal analysis, Methodology, Investigation, Writing– original draft, Writing– review & editing.

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Data availability

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Declarations

Ethics approval and consent to participate

The study was approved by the Institutional Review Board at the University of Wisconsin-Eau Claire. This research was conducted in full accordance with the ethical principles outlined in the Declaration of Helsinki for research involving human subjects. All participants provided informed consent prior to enrollment, and appropriate precautions were taken to minimize potential risks.

Consent for publication

Not applicable.

Competing interests

The authors declare that they have no competing interests.

Ethical considerations

The study was approved by the Institutional Review Board at the University of Wisconsin-Eau Claire. Informed consent/assent has been appropriately obtained.

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