

Impact of Cyberbullying on Adolescent Mental Health and Strategies for Prevention in the Context of Social Media

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Abstract. With digital devices and social media enabling it, cyberbullying has emerged as a growing threat to adolescents' mental health, taking forms such as harassment, denigration, exclusion, and privacy invasion. Its impact is intensified by anonymity, rapid dissemination, and power imbalance. This study examines the characteristics and psychological drivers of cyberbullying, its negative effects on adolescents, and to propose multi-level strategies for prevention and intervention. By analyzing relevant domestic and international literature as well as typical case studies, the paper provides a systematic overview of the manifestations, trends, and governance measures of cyberbullying. The results show that under the impact of platform mechanisms, psychological motivations, empathy deficits, public opinion, legal gaps, and group psychology, cyberbullying often develops into cycles of harm and norm. These dynamics cause adolescents to face withdrawal, low self-esteem, mood instability, mental disorders, burnout, and poor school adaptation, with possibly serious outcomes.

Keywords: Cyberbullying, Social media, Mental health, Psychological effects, Prevention

1. Introduction

Through digital devices such as smartphones, computers, and tablets, cyberbullying happens when individuals send or post messages that are threatening, mocking, or intimidating in order to harass others. With the rapid development of electronic devices and the widespread use of social media platforms, cyberbullying has become increasingly frequent, and individuals' private lives are more exposed than ever. This phenomenon threatens mental health, particularly among adolescents and young adults, often causing depression, anxiety, social isolation, feelings of helplessness, and, in extreme cases, suicidal tendencies. Existing studies mainly examine the manifestations, causes, and mental health impacts of cyberbullying, emphasizing repeated harassment, power disparities, and the role of anonymity. Nevertheless, few studies have explored effective prevention measures or conducted comprehensive analyses of cyberbullying's underlying causes. Through a comprehensive review of the literature and analysis of relevant case studies, the paper explores effective prevention and intervention strategies from the perspectives of parents, schools, and local governments, hence offering practical guidance and policy recommendations for educational institutions and social media platforms to mitigate the prevalence and impact of cyberbullying.

2. Features and impacts of cyberbullying in online environments

2.1. The concept and characteristics of cyberbullying

Through the use of digital devices such as smartphones, computers, or tablets, cyberbullying targets individuals with harmful, false, or unwanted content, including personal data, which may result in embarrassment or distress, in some cases, constitute criminal conduct [1]. This behavior can be divided into six types. Harassment involves offensive or threatening messages, cyberstalking means repeated threats, denigration involves false or distorted information intended to harm reputation, exclusion entails deliberately leaving someone out of online communities, privacy invasion (doxing) involves sharing personal information or media without consent, and other behaviors can violate legal boundaries online [2]. Moreover, cyberbullying exhibits several distinctive features [3]. First, it is typically repetitive, forming stable behavioral patterns over time. Second, it reflects a notable power imbalance, where perpetrators' psychological, social, or technical advantages hinder victims from defending themselves. Third, it is typically marked by anonymity and rapid dissemination, as offenders may conceal their identities and harmful content can spread rapidly to many users. These factors together lead to psychological harm and make cyberbullying harder to manage.

2.2. The manifestations and trends of cyberbullying

Based on the conceptual understanding of cyberbullying, its prevalence on social media platforms has increased, presenting in diverse forms that reflect evolving online interactions. Existing studies have demonstrated that cyberbullying often manifests in forms like malicious jokes, false humor, impersonation, the disclosure of personal information, and even organized digital shaming activities [4]. Meanwhile, given that novel false information captures users' attention, a study in the United States found that about 70% of Twitter and other social media users struggle to distinguish between true and false news, which facilitates the rapid spread of misinformation [5]. In terms of trends, data from U.S. students aged 13 to 17 show a sharp rise in cyberbullying victimization and perpetration. From 2016 to 2025, 30-day victimization increased from 16.5% to 32.7%, while self-reported perpetration grew from 14% in 2019 and 2021 to 24.5% [6]. These figures underscore the growing role of social media environments in enabling both cyberbullying victimization and perpetration. To mitigate the negative effects of cyberbullying, adolescents typically use a range of coping strategies. These include self-expression for emotional control, limiting online contact, harmful coping such as self-harm or substance use, and seeking support by blocking or ignoring offenders [7].

3. The media environment and psychological motives behind cyberbullying

3.1. Platform mechanisms and dissemination motives

The occurrence of cyberbullying is driven by the combined influence of platform mechanisms and individual psychological motivations. On social media, anonymity, rapid information transmission, and patterns of user interaction substantially facilitate cyberbullying, while individual psychological motivations and bystander behaviors boost its manifestation [4]. Specifically, platform mechanisms facilitate cyberbullying via anonymous posting, exposing victims' privacy and reputations to attacks and swift spread. This anonymity and ease of information spread reduce the psychological burden on perpetrators and reinforce cycles of aggressive behavior. Besides, psychological motivations play a key role in cyberbullying, as individuals may perpetrate online aggression to achieve social recognition, conduct social comparisons, or exert dominance [1]. And these motivations are more

likely to translate into actual behaviors under the amplifying effects of platform mechanisms [7]. Bystander behavior is similarly affected by platform mechanisms and may facilitate the occurrence of cyberbullying [5]. In anonymous environments, users who observe victims being attacked may either intervene to provide social support or, conversely, participate in or spread bullying content as a result of conformity. Accordingly, platform features offer anonymity, fast spread, and interactive settings, while psychological motives, bystander actions, and individual traits together shape the complex dynamics of cyberbullying.

3.2. Communication patterns and empathy deficits

Empathy deficits are a significant psychological factor contributing to the increase of cyberbullying. This is supported by evidence showing that individuals with low empathy are more likely to adopt aggressive communication patterns in online environments, amplifying harm to others [1,8]. These patterns are evident in rude language and hostile comments. Moreover, a considerable proportion of social media users utilize offensive language in comments or interactions, thereby reflecting limited cognitive and affective empathy toward others' struggles and emotions. Thus, such communication not only directly harms victims but also creates a negative atmosphere within online communities. Besides, the predictive role of empathy deficits in individuals' aggressive behaviors has been well established. Evidence shows that low-empathy adolescents, irrespective of gender, are particularly vulnerable to cyberbullying, and anonymity and disinhibition online intensify this behavior [9]. Those with low empathy struggle to interpret and respond to others' emotional signals, which may cause miscommunication and conflict. Moreover, behavioral outcomes often include manipulative or indifferent actions that strain social relationships. Individuals with low empathy may engage in manipulative, neglectful, or malicious behaviors, hence undermining interpersonal connections and increasing victims' psychological distress. As such, communication patterns and empathy deficits interact in online environments, jointly facilitating the occurrence of cyberbullying.

3.3. Public opinion dynamics and justice distortions

The occurrence and persistence of cyberbullying are influenced not only by individual behaviors and platform mechanisms but by the combined effects of public opinion and gaps in legal protection. Public opinion structures and legal biases can lead individuals to perceive cyberbullying as justified or unconstrained, thereby increasing its likelihood. Firstly, public opinion plays a crucial role. This is evident in that public opinion structures reflect society's prevailing views on a particular event, individual, or new concept [5]. Following dominant trends, most social media users may perceive cyberbullying as acceptable or justified. This phenomenon arises partly from the normalization of certain behaviors and partly from the lack of visible punitive measures and social pressure, creating a self-reinforcing cycle of cyberbullying. Secondly, gaps in legal protection and justice biases affect the occurrence of cyberbullying [6]. For instance, cyberbullying often involves false statements and malicious behavior that spread rapidly online, hence resulting in substantial harm to victims. Nevertheless, legal frameworks at present do not sufficiently confront the distinct issues of digital communities and offer insufficient safeguards for victims. In addition, individuals' cognitive biases regarding social justice may lead them to perceive cyberbullying as justified. In the absence of federal cyberbullying legislation, victims frequently lack effective legal recourse, heightening their vulnerability. Consequently, public opinion and gaps in legal protection jointly reinforce the social legitimization of cyberbullying while reducing victim protection [6].

3.4. Collective psychology and emotional polarization

Through their influence on group-level cognition and emotional states, collective psychology and emotional polarization drive individuals' engagement in cyberbullying. Moreover, they reinforce such actions, thus forming a feedback loop in online communities. First, the dynamics of collective psychology influence cyberbullying, with conformity leading group members to view bullying as common, thereby lowering empathy and assistance toward victims [10]. Meanwhile, the anonymity of social media and mechanisms of social learning enable individuals to participate in bullying without directly confronting victims, lowering behavioral costs and increasing aggressiveness [4]. In addition, the cultural norms of peer groups may render bullying behaviors acceptable or tacitly condoned, thus making individuals more likely to engage in manipulative or indifferent actions. Consequently, group pressure and peer influence may worsen victims' emotional burden, forming a cycle of harm. Second, emotional polarization further facilitates the spread of cyberbullying. This happens as echo chambers in online environments expose individuals primarily to information that strengthens prior beliefs, normalizing bullying within certain groups and increasing hostility toward out-groups [1]. The effects of polarization and anonymity undermine accountability and maintain cyberbullying, while group conformity, peer norms, and emotional polarization facilitate its spread.

4. The impact of cyberbullying on adolescents' mental health

4.1. Social withdrawal and relationship breakdown

The elevated risk of social withdrawal and deterioration of interpersonal relationships in adolescents affected by cyberbullying can be explained by mechanisms such as social exclusion, psychological strain, perceived isolation, and preferences for online engagement. Besides, victims may experience marginalization within peer groups or communities, which intensifies feelings of loneliness and negative emotions, while also triggering psychological distress such as anxiety and depression, thus further undermining the stability of interpersonal relationships [10]. In addition, some victims may develop a sense of social isolation and gradually rely more on online interactions, which can reduce their engagement in offline social activities [11]. The sustained and unstable nature of cyberbullying may lead victims to use avoidance or defensive strategies in social settings, which in turn heightens strain and distance in interpersonal relationships [6]. For instance, previous studies have indicated that individuals exposed to peer verbal aggression and social pressure frequently display emotional distress and relational withdrawal. This illustrates how social exclusion, psychological strain, and interaction preferences collectively lead to social withdrawal and relationship breakdown.

4.2. Impaired self-esteem and emotional dysregulation

Not only may cyberbullying diminish victims' self-esteem, but it may also lead to multiple forms of emotional and psychological dysregulation. These outcomes are shaped by mechanisms including reduced self-worth, emotional distress, persistent psychological strain, the reinforcing influence of anonymity, and negative evaluation in public domains. Specifically, victims often show diminished self-worth, which fosters feelings of inferiority and helplessness [9]. Besides, cyberbullying may trigger anxiety, depression, isolation, and shame, thereby heightening psychological strain [9,12]. Sustained exposure to negative information further compounds this pressure, fostering helplessness and negative affect, and ultimately undermining self-esteem. In addition, the anonymity of online environments reduces behavioral constraints, making aggressive expressions more likely to occur,

while the rapid dissemination of information increases the likelihood of negative social evaluation, leading to enduring harm to self-image and social reputation [11]. For example, a study documented that a Canadian adolescent who shared personal photos online was subjected to sustained negative commentary. Despite transferring to another school, the bullying persisted, leading to symptoms of anxiety, depression, and dependence on medication. This illustrates the sustained adverse effects on psychological well-being that can arise from reduced self-esteem and emotional dysregulation.

4.3. Psychological symptoms and risk of disorders

With cyberbullying, victims’ mental health and susceptibility to psychological disorders are broadly impacted, reflected in both general psychological responses and age-specific patterns. Specifically, common manifestations consist of low mood, diminished interest, social withdrawal, and reduced self-evaluation, frequently associated with depression, anxiety, sleep disturbances, or compulsive behaviors [12]. Also, psychological responses vary across age groups, with younger, middle-aged, and older victims showing distinct patterns of emotional and behavioral outcomes. Compared with traditional bullying, cyberbullying exerts more enduring psychological effects due to its anonymity and the wide dissemination of information, increasing the difficulty of individual self-regulation, while psychological responses vary across age groups. In addition, psychological responses differ across age groups. Victims aged 18 to 39 are more likely to exhibit social withdrawal, diminished interest, and symptoms of depression and anxiety, whereas those aged 40 to 59 often experience lowered self-evaluation, frustration, and stress-related behaviors, and victims aged 60 and above primarily demonstrate reduced social participation and difficulties in daily life adaptation, as shown in Table 1 [12]. For example, the South Korean entertainer Sulli was reported by the media to have experienced emotional distress and psychological difficulties as a result of sustained negative online comments. This highlights the profound impact of cyberbullying on mental health and underscores the necessity of social support and educational interventions [13].

Table 1. Key emotional and mental health impacts of cyberbullying across age groups

Objective	Age Group	Key Indicators	Percentage (%)
1: Emotional experience	18-39	Withdrawing from friends/family; Losing interest in hobbies; Harassment difficulties	81.1-89.5
	40-59	Questioning own actions; Sense of missing out	74.8-76.9
	60+	Feeling judged negatively; Feeling financially vulnerable	86.1-87.5
	All ages	Feeling ashamed/humiliated; Negative thoughts/self-talk	91.3-92.4
2: Mental health impact	18-39	Depressive symptoms; Anxiety; Easy anger; Suicidal behavior	43.2-93.2
	40-59	Low self-esteem; Frustration; Substance use	74.8-78.1
	60+	Isolation; Sleep/eating disturbances	67.4-77.8
	All ages	Depressive symptoms; Negative thoughts/self-talk	79.7-91.3

4.4. Academic burnout and decreased school adjustment

The occurrence of academic burnout and reduced school adjustment among students can result from cyberbullying, driven by factors like lower grades, weaker self-belief, less motivation, and limited social adjustment. Victims often perform poorly in grades, attendance, participation in academic activities, and overall educational achievement. They may also experience reduced self-efficacy and

hold negative evaluations of their learning abilities and academic accomplishments, thus leading to lower engagement in learning [12]. In addition, victims often display decreased learning motivation, increased test anxiety, and greater reliance on external motivation, hence weakening their academic initiative [8]. The broad impact of cyberbullying can also create a negative social environment at school, undermining students' social participation and adaptive capacity, and these effects may persist even into university. For example, a 16-year-old high school student in San Antonio, Texas, David Molak, endured prolonged cyberbullying and ultimately took his own life. He was subjected to malicious comments and threats from classmates online, and even after his family transferred him to another school, the bullying continued. This incident drew widespread public attention to the impact of cyberbullying and led to the enactment of "David's Law," which gives schools and police more power and duty to handle cases involving minors.

5. Integrated responses and intervention strategies for cyberbullying

5.1. Collaborative protective mechanisms in education and family

In preventing and addressing cyberbullying among adolescents, schools and families serve as key defenses. Thus, close collaboration between schools and families fosters digital citizenship, boosts online safety awareness, and jointly supports prevention and intervention [14]. At the school level, measures should be taken from institutional and cultural perspectives. From a cultural perspective, fostering a respectful and inclusive campus atmosphere guides students to develop understanding and acceptance, thereby reducing discrimination and conflict. From an institutional perspective, the integration of the legal consequences of cyberbullying into school regulations and curricula acts as a policy that guides students to follow principles of responsibility and respect when using technology. In addition, schools should enhance digital literacy education, advising students to manage personal information carefully to minimize the risk of victimization. At the family level, parents and other guardians assume a crucial role in offering consistent support and guidance in daily life. They should educate children to refrain from engaging in bullying, while also helping them distinguish between bullying behavior and ordinary jokes. Parents need to establish clear rules for internet use and, through communication and supervision, stay informed about their children's online activities. Besides, they should model positive online behavior and guide children to report cyberbullying and manage privacy settings. If children experience bullying, parents should provide timely emotional support, encourage them to express their feelings, and seek help [6].

5.2. Individual capacity building and psychological support approaches

In preventing cyberbullying, personal resilience and mental support are essential for safeguarding adolescents, since victims frequently experience isolation and heightened anxiety when lacking coping strategies and emotional resources. Therefore, education should build individual skills, while social resources offer psychological support. First, schools should implement Social and Emotional Learning (SEL) programs to boost students' emotional regulation, empathy, and conflict resolution, fostering a positive campus climate and protecting cyberbullying victims [14]. At the same time, schools should guide students to recognize the importance of managing their online identity with caution, with an emphasis on psychological self-protection rather than repeatedly focusing on the technical details of information security. Second, capacity building at the individual level is equally important. Adolescents need to learn self-awareness and stress management skills so that they can identify and regulate emotional responses when facing cyberbullying. In addition, it is essential to

cultivate a help-seeking mindset, enabling adolescents to reach out to teachers, parents, or other trusted adults. Consequently, society and government should offer psychological support through hotlines linking victims to help and resources, thereby reducing feelings of isolation. When needed, professional interventions like Dialectical Behavior Therapy can alleviate victims' depression and anxiety, while hotlines help them document and report incidents for intervention [13].

5.3. Coordinated advancement of platform governance and policy regulation

As cyberbullying mainly occurs on social media platforms, relying solely on individual and family education is insufficient, making dual safeguards of platform governance and government policy necessary. At the platform level, social media companies should establish comprehensive user protection mechanisms. They should provide accessible reporting tools and psychological support, ensuring timely responses to reports, as feedback within 24 hours is crucial [6]. Besides, platforms should impose sanctions on perpetrators, like account suspension or permanent bans, to prevent further harm. At the governmental level, the necessity of laws and policies cannot be overstated [15]. On the one hand, legislation can offer institutionalized protection for cyberbullying victims while establishing punitive measures to deter potential offenders. On the other hand, policy-making can raise public awareness of prevention and promote education and advocacy efforts. For example, in 2024, the Australian government introduced a policy prohibiting minors under 16 from using social media platforms to reduce their exposure to risks. Meanwhile, in the United States, most states have established model anti-bullying school policies that address cyberbullying, harassment, intimidation, and threats, providing guidance for local school governance.

6. Conclusion

This study reveals that the frequent occurrence of cyberbullying is mainly due to a lack of empathy among some social media users and weak platform regulation, enabling users to share inappropriate content anonymously or under partial anonymity. In addition, some users engage in cyberbullying after observing others participate, often driven by a desire for group belonging. The results indicate that cyberbullying greatly harms adolescents' mental health, particularly females, often resulting in depression, anxiety, suicidal tendencies, anger, and social withdrawal. As such, effective prevention and intervention require families and schools to guide minors in self-protection, enable victims to report issues and receive emotional support, ensure platforms offer quick reporting tools, and have governments apply laws and sanctions to create a safer online environment. However, the study is limited to adolescents and young adults with a small sample. Future efforts could broaden the age range of participants and explore differences in mental health outcomes.

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