The Impact of Cyberbullying on the Mental Health of Teenagers and Public Health Countermeasures

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Abstract: With the development of digital society and social media platforms, adolescents increasingly rely on online spaces for communication. While this shift has enhanced interpersonal connectivity, it has also amplified risks such as cyberbullying, a phenomenon that emerged in the early 2000s and is now characterized by increasing prevalence and expanding impact. This paper employs case analysis and comparative research methods, integrating domestic and international literature, related book, conference, and online resources to systematically analyze the specific manifestations of cyberbullying's effects on adolescent mental health and public health-level interventions. By synthesizing existing research, the study mainly explores three core dimensions: first, analyzing the direct and indirect impacts of cyberbullying on adolescent mental health; second, exploring effective and actionable strategies from a public health perspective; and last, examining challenges and shortcomings in policy implementation, as well as identifying future directions for improvement.

Keywords: Cyberbullying, Adolescents, Public Health, Mental Health

1. Introduction

With the rapid development of the internet and smart communication devices, people's social interactions have undergone significant changes. Adolescents, in particular, increasingly prefer online platforms for social engagement [1]. While this shift has facilitated communication, it has also introduced inevitable negative consequences, such as cyberbullying. Cyberbullying first emerged on the internet in the early 2000s, and in recent years, the object of such behavior has increasingly trended toward younger age groups [2].

A global survey shows that from 2015 to 2022, incidents of cyberbullying among teenagers increased by 40%, with social media platforms being the worst-affected areas [3]. Furthermore, cyberbullying exerts severe negative impacts on adolescents. Research highlights that "victims of cyberbullying often develop social avoidance behaviors, leading to isolation and reduced peer support, which exacerbates mental health deterioration" [4]. In response to this issue, the World Health Organization (WHO) emphasizes that cyberbullying has become an increasingly severe public health crisis. Countries need to incorporate anti-cyberbullying policies into their national mental health frameworks [5].

Regarding current research progress, scholars such as Sameer Hinduja & Justin W. Patchin have made significant contributions. Through longitudinal studies, they revealed the long-term effects of cyberbullying on adolescents' mental health and proposed the "Cumulative Trauma Model." Their

development of a "school-family-technology" tripartite intervention framework has been adopted as a core component of anti-bullying guidelines by the U.S. Department of Education. Existing research still has limitations due to the unique characteristics of cyberbullying. Current public health responses are fragmented and lack integrated solutions that combine legal, educational, and technological measures to address the complexity of cyberbullying [6].

Under the rapid growth of the internet, cyberbullying has become a pervasive issue with increasingly diverse forms. Yet, systematic research on its impact on adolescent mental health remains insufficient. This paper synthesizes existing literature, theoretical frameworks, and case studies to investigate the psychological effects of cyberbullying on adolescents and proposes innovative public health strategies to address these challenges.

The significance of this research lies in two key aspects. First of all, it can fill the gaps in relevant research. By comprehensively analyzing the deep-seated connections and interactions between cyberbullying and adolescent mental health, this study provides a foundation for future research. In addition to this, it can also inform policy and practice. From a public health perspective, it examines the latent harms of cyberbullying and proposes targeted strategies, offering scientific evidence for governments to refine policies, optimize allocation of resources, and promote measures related to public health.

Additionally, this paper aims to raise societal awareness of the significance of cyberbullying, fostering collaboration among families, government, and communities to create a healthier and safer online environment for adolescents' holistic development.

2. The impact of cyberbullying on adolescent mental health

Cyberbullying exerts numerous detrimental effects on the mental health of adolescents, with the most immediate consequence being heightened depression and anxiety. Cyberbullying often weakens self-esteem through social exclusion (e.g., group mockery) and self-denial (e.g., appearance shaming), activating the amygdala (the brain's fear center) and disrupting emotional regulation [7]. In extreme cases, it can even lead to self-harm or suicidal behavior. For example, Zheng Linghua, a 23-year-old woman, shared a photo of herself and her grandfather in 2022 after receiving a postgraduate admission letter from East China Normal University. The image, which showed her dyed pink hair, was maliciously circulated and insulted online, leading to widespread cyberattacks, defamation, and derogatory labels. The relentless harassment triggered severe depression, and she ultimately took her own life. This tragedy underscores the devastating psychological toll of cyberbullying—a vibrant, innocent life was destroyed by baseless online cruelty. A popular saying online goes, "They precisely described the color of my basement, yet I don't even have one." This reveals how spreading online rumors carries zero cost, with perpetrators remaining unaware of the harm their words inflict.

Additionally, cyberbullying often damages adolescents' self-worth and social functioning. Victims may question their identity and value, falling into a state of self-doubt and emotional fragility. A longitudinal study found that 60% of cyberbullying victims reduced offline social interactions [8]. This avoidance and fear of social engagement hinders their ability to form and maintain healthy relationships. Such attacks directly lead to victims' inability to integrate into society, pushing them toward social marginalization. Beyond immediate harm, cyberbullying inflicts long-term and indirect consequences.

First, it can cause continuous psychological trauma: 30% of adolescents seeking therapy for cyberbullying meet the diagnostic criteria for PTSD [9]. Such post-traumatic stress disorder (PTSD) may persistently harm future relationships, career development, and family life. In the future, even minor incidents in their lives risk being endlessly magnified, while traumatic memories linger like unhealed wounds, perpetually haunting them.

Second, it disrupts personality development. Adolescence is a crucial period for self-identity formation, yet cyberbullying-induced "digital stigma" distorts self-perception and prolongs identity confusion [10]. This may foster maladaptive traits, such as dependent personality ("victims are more likely to relinquish decision-making to others [β=0.28, p<0.01], reflecting reinforced dependency traits" [11]) or neuroticism ("neuroticism scores among victims are 0.8 standard deviations higher than controls [p<0.001]" [4]). Adolescents' once positive traits and strengths may erode, replaced by detrimental personality traits—insecurity, hypersensitivity, or aggression—silently escalating the risk of extreme behavioral consequences.

Finally, victims of cyberbullying often become perpetrators themselves, perpetuating a vicious cycle. Cyberbullying is both a consequence of psychological harm and a catalyst for renewed violence [12]. Studies reveal that 35% of victims engage in similar abusive behaviors within a year, indicating that violent experiences reshape aggressive tendencies in personality [13]. For instance, in Japan, a 14-year-old girl ("Ako") suffered severe depression in 2018 after being targeted with maliciously edited photos online. After transferring schools, she joined an "anti-bullying support group," which gradually normalized retaliatory violence. By 2020, she used anonymous accounts to attack others' appearances, leak private information, and even issue death threats, culminating in legal repercussions.

Such cases illustrate how cyberbullying fuels an endless cycle of harm, silently expanding its reach and devastating more young lives. Cyberbullying's impact on youth is multidimensional and severe, potential or direct, transient or enduring, physical or psychological, yet universally and unequivocally destructive.

3.　Strategies from the public health perspective

Solutions can be identified across different temporal stages, broadly categorized into three phases: pre-occurrence, during occurrence, and post-occurrence.

First, before cyberbullying occurs, efforts should focus on minimizing its likelihood. Legally, specialized cyberbullying laws must be established. While many countries have begun addressing this, frameworks remain incomplete. For example, the U.S. Megan Meier Cyberbullying Prevention Act defines cyberbullying as malicious acts involving persecution, intimidation, harassment, or substantial emotional harm, with penalties including fines or up to two years' imprisonment. The UK's Communications Act and Anti-Terrorism Act prohibit behaviors like doxxing. China's Regulation on the Governance of Cyberbullying Information, effective August 1, 2024, clarifies legal liabilities, including civil, administrative, and criminal penalties. Measures such as real-name authentication and age restrictions should be implemented to reinforce accountability and reduce youth exposure to harmful content. Platforms must enhance content review and reporting mechanisms, including filtering sensitive content. This demands that platforms intensify content moderation efforts to prevent manipulative tactics aimed at bypassing review systems. Such behaviors are pervasive and unpredictable, requiring airtight mechanisms to eliminate loopholes for perpetrators. Schools should prioritize internet privacy protection and ethical guidelines in curricula, as seen in Nordic "digital citizenship education" programs designed to cultivate online literacy and mitigate cyberbullying risks, it can also prevent them from becoming part of perpetrators.

During a cyberbullying incident, the priority is to minimize the spread of harmful content.

AI-enabled moderation can shorten the response time to reports to 30 minutes [14]. Due to platform anonymity, traceability mechanisms must be strengthened to swiftly identify perpetrators and remove harmful content at its inception. A mechanism that can track the information of the content creators can increase the accountability rate by 50%. [15]. A coordinated societal response is essential. Models like the U.S. StopBullying.gov establish campus anti-violence teams involving counselors, social workers, and legal advisors to provide immediate victim assistance. National 24/7

mental health hotlines (e.g., India's iCALL), staffed by professional psychologists, ensure victims receive timely help rather than being left helpless [16]. As Livingstone notes in Children and Digital Media(2020),establishing a "prevention-response-recovery" mechanism requires inter-departmental collaboration, as no entity, not even platforms and schools, can tackle the issue of cyberbullying independently [17] Her EU study found that countries with multi-stakeholder cooperation (e.g., Finland's KiVa Anti-Bullying Program) reduced youth cyberbullying rates by 35% [18].

After an incident, victims require timely psychological rehabilitation, timely intervention maximizes psychological relief for victims, curbing prolonged emotional turmoil that may escalate into extreme acts of self-harm or harm to others. including follow-up consultations and family-involved therapy. Singapore's Family Matters program, for instance, hosts parent-child workshops to address emotional fragility and provide familial support. At the societal level, a national cyberbullying case database should be established to share best practices, as advocated by WHO's Global Mental Health Action Plan (2020–2030), which calls for transnational platforms to integrate data for policy and resource allocation. Nonprofits and NGOs should offer legal aid and employment support to help victims rebuild social confidence.

In summary, cyberbullying, as a topic of public health with significant influence, demands the adoption of various perspectives to formulate appropriate countermeasures. Effective outcomes depend on collaboration across all sectors of society. Addressing cyberbullying requires more than technical fixes; it demands coordinated efforts across education, policy, and community engagement [19].

4. Challenges and future directions

4.1. Challenges and shortcomings

Three major difficulties arise during implementation. First, the complexity of the online environment complicates regulation due to fragmented mechanisms and standards across platforms and regions. For example, in the high-profile Wu XX (pseudonym) defamation case, the perpetrator posted a fabricated article titled "73-Year-Old Entrepreneur Lavishly Marries 29-Year-Old Beauty" on social media, spreading false rumors about an "inappropriate relationship between an entrepreneur and a young woman." The post rapidly spread nationwide and was reposted on international platforms (e.g., Twitter), triggering widespread cyberbullying. Due to differing legal standards for cyber defamation, such as the U.S. prioritizing "free speech," foreign platforms refused to remove the content, hindering the victim's recourse. Legal disparities across regions allow perpetrators to exploit jurisdictional loopholes, evading accountability by operating across borders. Additionally, platforms relying on AI tools misclassified the post as "gossip" rather than defamation due to the absence of explicit vulgar language, while smaller platforms' inefficient manual reviews delayed tracking of cross-platform abuse, enabling further dissemination.

Second, insufficient societal awareness of cyberbullying's harm persists. Many dismiss it as a non-urgent issue, either due to personal inexperience or media downplaying its severity. Government, families, and communities lack coordinated efforts, failing to foster a collaborative governance culture. Post-incident accountability gaps exacerbate inter-departmental inefficiency and blame-shifting. As highlighted in Issues and Countermeasures in Chinese Government Crisis Communication, "inadequate multi-departmental mechanisms disrupt crisis information flows and hinder collaboration, necessitating a 'full-process responsibility checklist' to clarify roles."

Third, China's adolescent mental health services remain underdeveloped, with shortages of professionals and uneven resource distribution, particularly in rural areas. Despite lower internet penetration, these regions face higher risks due to limited education and awareness. For instance, Liu Xuezhou, a rural teenager, endured severe cyberbullying—including insults, slander, and

malicious speculation—after sharing his search for biological parents online. Lacking professional support and parental guidance (many parents work away as migrant laborers), he succumbed to psychological distress and took his own life. Rural (left-behind) children, with weak emotional resilience and minimal family support, are especially vulnerable.

4.2. Solutions and future directions

The government should unify legislation and apply systemic governance. The Guidelines on Lawfully Punishing Cyberbullying Crimes clarify legal definitions and penalties, address enforcement gaps (e.g., poor coordination between administrative, criminal, and civil procedures), and refine laws to provide clear enforcement criteria.

Social organizations and the media can strive to advocate for the enhancement of public awareness and education. Launch nationwide campaigns to highlight cyberbullying's societal harm, fostering collective responsibility and a culture of rejection toward such behavior.

Community and grassroots organizations should also commit themselves to strengthening mental health education and services. Optimize resource allocation by scaling models like Shandong Province's "Guardian of Growth" Student Mental Health Stations, which deploy a three-tiered network (city-county-township) supported by experts, teachers, and volunteers to extend care to grassroots communities. This approach merits nationwide adoption.

5. Conclusion

This study systematically explores the specific impacts of cyberbullying on adolescent mental health and proposes public health-oriented countermeasures. It analyzes both the superficial and deep-seated negative effects of cyberbullying on youth, offering targeted governance frameworks while advocating for societal collaboration to foster a healthier online environment.

However, the research has some limitations. For instance, discussions on technological governance remain theoretical, lacking in-depth practical operational details, which may overlook implementation challenges and resistance. Further interviews with victims and perpetrators are needed to deepen understanding. Additionally, the study's regional coverage is uneven, focusing on select representative areas, with insufficient exploration of localized strategies across different countries, necessitating expanded cross-cultural comparisons. For future directions, short-term priorities include refining domestic policies and enhancing interdepartmental coordination, while internationally, collaborative rule-making and information-sharing are crucial to combat cyberbullying as a global issue. Long-term goals call for universal public awareness and self-discipline to jointly eradicate cyberbullying and safeguard adolescent mental health.

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