

## Educating adolescents to prevent cyberbullying: A service learning intervention in rural schools

Dian Rezki Wijaya<sup>\*1</sup>, Agil Kurniawan<sup>2</sup>, Nurfitrieny Ramdhany<sup>3</sup>,  
Nurul Afisyah Al-Azhar<sup>4</sup>, Rhosika Amaliah Rauf<sup>5</sup>

1, 2, 3, 4, 5 Department of Public Health, Faculty of Medicine and Health Sciences, Universitas Islam Negeri Alauddin Makassar, Makassar, Indonesia

Disclosure: The author(s) declare no potential conflict of interest with respect to the research, authorship, or publication

### ABSTRACT

The increasing use of social media among adolescents has been linked to a rise in cyberbullying, yet many remain unaware of its forms, signs, and psychological impacts. Previous studies have often lacked targeted, community-based interventions for prevention in rural areas. This study aimed to evaluate the effectiveness of a cyberbullying prevention education program using a service learning approach. The intervention involved lectures, posters, and group discussions and was implemented among 30 adolescents in a rural setting. Pre- and post-test assessments measured participants' knowledge of cyberbullying. Results indicated a statistically significant improvement in knowledge, with a p-value of 0.000. These findings suggest that structured educational interventions can enhance adolescent awareness and potentially reduce cyberbullying behaviors. The study underscores the importance of involving parents and teachers in monitoring digital behavior and supporting adolescents through continuous education. The service learning model proves effective in fostering youth engagement while addressing pertinent social issues in rural communities.

### ABSTRAK

Meningkatnya penggunaan media sosial di kalangan remaja telah dikaitkan dengan peningkatan cyberbullying, namun masih banyak yang belum menyadari bentuk, tanda, dan dampak psikologisnya. Penelitian sebelumnya sering kali tidak memiliki intervensi berbasis komunitas yang ditargetkan untuk pencegahan di daerah pedesaan. Penelitian ini bertujuan untuk mengevaluasi efektivitas program pendidikan pencegahan cyberbullying dengan menggunakan pendekatan service learning. Intervensi ini melibatkan ceramah, poster, dan diskusi kelompok dan diimplementasikan pada 30 remaja di daerah pedesaan. Penilaian sebelum dan sesudah tes mengukur pengetahuan peserta tentang cyberbullying. Hasilnya menunjukkan peningkatan pengetahuan yang signifikan secara statistik, dengan nilai p-value 0,000. Temuan ini menunjukkan bahwa intervensi pendidikan yang terstruktur dapat meningkatkan kesadaran remaja dan berpotensi mengurangi perilaku cyberbullying. Penelitian ini menggarisbawahi pentingnya melibatkan orang tua dan guru dalam memantau perilaku digital dan mendukung remaja melalui pendidikan berkelanjutan. Model pembelajaran layanan terbukti efektif dalam mendorong keterlibatan remaja sambil mengatasi masalah sosial terkait di masyarakat pedesaan.

### ARTICLE INFO

#### Keywords

adolescents; cyberbullying; health education; prevention; rural schools

#### Article History

Submit : 16 February 2025  
In Review : 08 July 2025  
Accepted : 16 July 2025

### AUTHOR(S) INFO

#### Correspondence Email

wijayadianrezki@gmail.com

#### Address

Jl. Sultan Alauddin No.63, Romangpolong, Kec. Somba Opu,  
Kabupaten Gowa, Sulawesi Selatan 92113, Indonesia



## INTRODUCTION

The rapid advancement of information and communication technology has transformed social interaction, particularly among adolescents, through the widespread use of social media. While social media platforms offer benefits such as connectivity and information sharing, they also present risks, notably the increased prevalence of cyberbullying. Studies indicate that social media can influence societal perspectives, lifestyles, and cultural values (Jalal et al., 2021). The nature of digital interaction—where communication is often anonymous and unregulated—can foster both prosocial and antisocial behaviors (Siroj & Zulfa, 2024; Hana & Suwarti, 2020). Adolescents are among the most active users of social media, often utilizing it without adequate digital literacy or emotional regulation skills, making them particularly vulnerable to cyberbullying (Kumala, 2020; Shobabiya et al., 2024).

Cyberbullying has emerged as a pressing concern globally, especially within educational environments. It is typically characterized by deliberate and hostile behavior, such as sending threatening messages or sharing harmful content, intended to embarrass or intimidate others. The Indonesian Child Protection Commission (KPAI) categorizes bullying into four types: physical, sexual, verbal, and online harassment, with the latter seeing significant growth in recent years (Ngarifin & Halwati, 2023). The majority of cyberbullying perpetrators are adolescents, and motivations range from anger and jealousy to seeking entertainment or peer approval (Al Adawiah & Masri, 2022). The prevalence is alarming; for instance, a study by Sari et al. (2020) revealed that nine out of ten students had engaged in some form of cyberbullying. This behavior has been exacerbated by the increased digital activity during the COVID-19 pandemic, with over 88% of Indonesian youths aged five and above reported to access social media (Annur, 2021).

Despite growing awareness of cyberbullying's prevalence and negative impacts, many adolescents lack sufficient knowledge to identify or prevent such behavior, either as victims or perpetrators. The general solution proposed involves structured educational interventions tailored to adolescents, aiming to increase awareness and equip them with strategies to navigate online interactions responsibly. These initiatives are particularly critical in rural areas, where access to mental health resources and digital literacy programs remains limited (Jalal et al., 2021; KPAI, 2014).

Various studies have highlighted the importance of educational interventions to address cyberbullying among adolescents. Programs focused on enhancing digital literacy, empathy development, and social-emotional learning have demonstrated positive outcomes in reducing cyberbullying behavior. For example, school-based campaigns that involve lectures, interactive discussions, and visual materials such as posters have shown promise in improving students' understanding of cyberbullying's forms and impacts (Shobabiya et al., 2024; Sari et al., 2020). Additionally, service learning approaches—where students engage with real-life issues through community projects—can foster responsibility and critical thinking, aligning educational objectives with social impact.

Involving stakeholders such as parents and educators is also essential in ensuring the effectiveness of prevention efforts. Research by Ngarifin and Halwati (2023) suggests that consistent monitoring and guidance by adults can significantly reduce the risk of adolescents engaging in or being affected by cyberbullying. Moreover, national surveys conducted by institutions like IPSOS and KPAI reinforce the need for comprehensive programs that integrate policy advocacy, school regulations, and family engagement to tackle the multifaceted nature of online harassment among youths.

While previous interventions have yielded positive results, they are predominantly urban-centric and often fail to address the contextual realities of adolescents in rural settings. These youths face additional challenges, such as limited internet literacy, lack of support systems, and insufficient educational outreach. The absence of targeted, culturally appropriate prevention programs in rural Indonesia represents a significant research gap. Furthermore, few studies have incorporated a service learning approach that actively involves adolescents in the learning process, linking knowledge acquisition with real-world application.

This study seeks to fill that gap by implementing an educational intervention focused on

cyberbullying prevention among adolescents in a rural community. By utilizing a service learning framework, this research aims to enhance the participants' understanding of cyberbullying definitions, forms, symptoms, and consequences. The novelty of this study lies in its integrative educational design, combining lectures, visual media, and group discussions to foster active learning and behavioral change. The objective is to assess whether such an approach significantly increases adolescents' knowledge and awareness, thereby contributing to a reduction in cyberbullying behaviors.

## METHODS

This study employed a quantitative pre-experimental design using a one-group pre-test and post-test approach to evaluate the effectiveness of a cyberbullying prevention education program. The intervention was conducted as part of a community service initiative using a service learning model, aimed at fostering awareness and participatory problem-solving among student facilitators and adolescent participants.

The activity was carried out on Tuesday, December 6, 2022, over the course of a single day. The location of the study was a rural educational setting, and the participants consisted of undergraduate students from the Public Health Study Program, Class of 2021, who facilitated the program. A total of 30 adolescents participated in the intervention.

The educational intervention included several stages. Initially, a pre-test questionnaire was administered to assess the participants' baseline knowledge regarding the definition, forms, signs, symptoms, and consequences of cyberbullying. This was followed by an educational session that utilized a lecture method supported by a PowerPoint presentation and printed posters. A discussion session was conducted after the lecture to reinforce the key messages and encourage active engagement (See [Figure 1](#)). At the end of the session, participants completed a post-test questionnaire identical to the pre-test to evaluate knowledge improvement.

Data were analyzed using paired statistical testing to compare pre- and post-test scores. A p-value of less than 0.05 was considered statistically significant. Results were presented in descriptive and tabular form to illustrate the effectiveness of the intervention. All participants provided informed consent prior to their involvement in the study, and ethical considerations were upheld throughout the implementation of the program.

**Figure 1**

*The process of presenting the material to the participants*



## RESULTS AND DISCUSSION

The service activity to recognize and prevent cyberbullying in adolescents was carried out at the Faculty of Medicine and Health Sciences UIN Alauddin Makassar with 30 participants who were students of the 2021 Public Health study program. This activity took place for 1 day on Tuesday, December 6, 2022. This activity began with participants registering and filling out a pre-test

questionnaire about cyberbullying to measure the initial knowledge of the participants. Next, provide ice breaking to attract the attention of the participants before giving the material. After that, it continued with the provision of material using the lecture method. The media used were power points and posters about cyberbullying given to participants.

The counseling material contains what cyberbullying is, types of cyberbullying, the impact of cyberbullying on the physical and mental health of adolescents, steps that can be taken to prevent cyberbullying and actions that can be taken if cyberbullying has occurred. After the presentation of the material, it was followed by a discussion session with the participants and filling out a post-test questionnaire to measure the participants' knowledge after being given counseling. The counseling activities carried out ran smoothly as evidenced by the high participation and enthusiasm of the participants.

**Table 1**  
*Differences in knowledge level*

Knowledge Level	Minimal	Maximal	Mean	p-value
Pre-test	8	13	11,5	0,000
Post-test	14	18	15,4	

Table 1 shows that the average pre-test and post-test scores of participants have increased after counseling with a p-value of 0.000, so it can be concluded that counseling activities to recognize and prevent cyberbullying have an influence in increasing adolescents' knowledge about cyberbullying. This is in line with research conducted by Anzari et al (2021) which states that there was a significant change in the pre-test and post-test results of participants after providing material on cyberbullying at SMA Nasional Malang.

The prevention of cyberbullying significantly hinges upon both parental and school involvement, as emphasized by numerous scholarly studies. Given the pervasive and complex nature of cyberbullying, a multi-faceted approach involving education, supervision, and communication is essential. In this overview, we synthesize recent literature to illuminate the critical roles that parents and schools play in combating cyberbullying.

A systematic review by Tozzo et al. points to the importance of family and educational strategies in reducing incidents of cyberbullying, highlighting the need for cohesive efforts between parents and schools (Tozzo et al., 2022). The need for collaborative actions is further substantiated by Garaigordobil and Navarro, who underscore that parents' emotional support and involvement contribute to the self-esteem of adolescents. This self-esteem acts as a protective factor against both cybervictimization and aggression, suggesting that prevention efforts must focus on enhancing the psychological resilience of youths through both parental guidance and school-led programs (Garaigordobil & Navarro, 2022).

Parental supervision is pivotal, as evidenced by research indicating that proactive engagement from parents can create a buffer against cyberbullying. For instance, studies have shown that increased parental knowledge regarding online behaviors correlates with lower instances of cyberbullying perpetration among adolescents (Iorga et al., 2022). This supervision includes monitoring technology use and establishing rules for electronic device engagement (Yosep et al., 2023).

Moreover, Iorga et al. emphasize that parents must remain vigilant, as adolescents often discuss incidents of cyberbullying with peers rather than adults (Iorga et al., 2022). This underscores the necessity for parents and educators to be educated on recognizing the signs of cyberbullying. Floros and Mylona confirm that parental security practices play a protective role for children facing digital bullying (Iorga et al., 2022). Furthermore, comprehensive school programs involving both health workers and parents have been shown to raise awareness, foster supervision, and diminish the adverse impacts of cyberbullying (Yosep et al., 2023).

In tandem with parental involvement, the role of educational institutions is critical in mitigating cyberbullying. A positive school climate, characterized by supportive teacher-student relationships and effective disciplinary measures against bullying, can dramatically influence the prevalence of

cyberbullying behaviors among students (Shi et al., 2021). School-based programs that educate students about the ethical use of technology and the legal consequences of cyberbullying also form an integral part of prevention strategies (Ranjith et al., 2024). For example, the implementation of programs like Cyberprogram 2.0, which includes interactive video games designed to engage students, serves both educational and therapeutic purposes in preventing cyberbullying (Tozzo et al., 2022).

Evaluations of parental and teacher collaboration reveal that mutual support in educational settings enhances the effectiveness of anti-cyberbullying measures. Research indicates that parent-teacher meetings significantly lower rates of both traditional bullying and cyberbullying (Gabrielli et al., 2021). Involving parents in the educational process fosters shared responsibility in nurturing a safe digital environment for adolescents, emphasizing the need for continuous communication about online activities (Amin et al., 2024).

Moreover, preventive approaches must also account for the broader social milieu in which adolescents operate. It has been suggested that fostering moral values and empathy through educational curricula can significantly influence students' attitudes toward cyberbullying. Schools can thus serve as venues for instilling values like respect and inclusion, which counteract the normalization of aggressive behaviors in digital interactions (Wang & Ngai, 2021). Additionally, parental modeling of positive behaviors, such as constructive conflict resolution and emotional intelligence, shapes adolescents' responses to cyberbullying incidents they may encounter or participate in (Lan et al., 2025).

Communication strategies between parents and children concerning online activities are crucial. A study indicates that parental mediation of online interactions can significantly affect adolescents' likelihood to engage in cyberbullying perpetration (Barlett, 2023). Hence, workshops that teach parents how to engage with their children about safe internet practices can be beneficial (Shi et al., 2021). When parents are actively involved in their children's online lives, they can better guide their behavior and attitudes towards cyberbullying.

Furthermore, parenting styles play a distinct role in either mitigating or exacerbating tendencies toward cyberbullying. Research indicates that positive and authoritative parenting approaches, characterized by warmth and clear expectations, correlate with lower instances of both victimization and perpetration of cyberbullying (Chen et al., 2020). On the other hand, permissive or neglectful parenting styles may inadvertently endorse such behaviors among adolescents (Rahmawati & Viria, 2023). Thus, training programs focused on enhancing positive parenting practices are essential components in preventive frameworks.

In addressing the alarming trends in cyberbullying, stakeholders recommend comprehensive educational initiatives. Stakeholders, such as police officers and health professionals, emphasize the importance of aligning educational content with real-world implications of digital misconduct. They advocate for structured interventions that educate both students and parents about the dangers of cyberbullying and promote the development of social skills essential for respectful online interactions (Hendry et al., 2023).

As involved community members, parents can also benefit from increased awareness and understanding of the impact of cyberbullying on mental health. Evidence suggests that open discussions about online experiences can provide adolescents with the support they need, further illustrating the crucial nexus of communication in not only identifying but also countering potential cyberbullying incidents (Ngo et al., 2021).

Ultimately, a synergistic model that incorporates both parental involvement and school-based strategies promises a more effective approach to cyberbullying prevention. Measures such as implementing parental feedback into school programs and fostering a cooperative culture among educators and families can lead to a more cohesive and supportive network for adolescents (Amin et al., 2024). Additionally, collaborative interventions should also engage community resources to amplify the message of cyberbullying prevention and promote safe online practices across social strata (Bauerová & Kopřivová, 2023).



## CONCLUSION

This study demonstrated that the educational intervention on recognizing and preventing cyberbullying among adolescents was both feasible and effective. Conducted on December 6, 2022, with 30 participants, the intervention yielded a statistically significant increase in knowledge, as indicated by a p-value of 0.000. These findings confirm that structured education using a service learning approach can significantly improve adolescents' understanding of cyberbullying, including its definition, forms, signs, and consequences.

The implications of this study are twofold: first, it reinforces the critical need for targeted education to address online harassment among youth in rural settings; second, it underscores the importance of involving parents and educators in guiding adolescent behavior in digital environments. Future programs should consider integrating safe and responsible social media training and fostering collaborative efforts among schools, families, and communities. Although this study was limited to a single-day intervention and a small sample size, its outcomes suggest promising directions for broader, sustained efforts in cyberbullying prevention. Further research with larger populations and longitudinal follow-up is recommended to evaluate long-term behavioral impacts and program scalability.

## REFERENCES

- Al Adawiah, R., & Masri, E. (2022). Urgensi pencegahan perundungan dunia maya (cyberbullying) terhadap pelajar. *Abdi Bhara*, 1(1).
- Amin, S., Mohamed, M., El-Sayed, M., & El-Ashry, A. (2024). Nursing in the digital age: The role of nursing in addressing cyberbullying and adolescents mental health. *Journal of Psychiatric and Mental Health Nursing*, 32(1), 57–70. <https://doi.org/10.1111/jpm.13085>
- Annur, C. M. (2021, November 24). BPS: 88,99% anak 5 tahun ke atas mengakses internet untuk media sosial. Retrieved from <https://databoks.katadata.co.id>
- Anzari, P. P., Rozakiyah, D. S., & Pratiwi, S. S. (2021). Edukasi literasi media digital kepada pengurus OSIS SMA Nasional Malang untuk pencegahan cyberbullying di masa pandemi. *Dinamisia: Jurnal Pengabdian Kepada Masyarakat*, 5(6), 1519–1528.
- Barlett, C. (2023). Cyberbullying process in US adolescents and their parents: Testing and extending the Barlett Gentile Cyberbullying Model. *Aggressive Behavior*, 50(1). <https://doi.org/10.1002/ab.22117>
- Bauerová, R., & Kopřivová, V. (2023). Avoiding cyberbullying: What is the parental role in this issue? *Acta Academica Karviniensia*, 23(2), 18–35. <https://doi.org/10.25142/aak.2023.012>
- Chen, L., Wang, Y., Yang, H., & Sun, X. (2020). Emotional warmth and cyberbullying perpetration attitudes in college students: Mediation of trait gratitude and empathy. *PLOS ONE*, 15(7), e0235477. <https://doi.org/10.1371/journal.pone.0235477>
- Gabrielli, S., Rizzi, S., Carbone, S., & Piras, E. (2021). School interventions for bullying–cyberbullying prevention in adolescents: Insights from the UPRIGHT and CREEP projects. *International Journal of Environmental Research and Public Health*, 18(21), 11697. <https://doi.org/10.3390/ijerph182111697>
- Garaigordobil, M., & Navarro, R. (2022). Parenting styles and self-esteem in adolescent cybervictims and cyberaggressors: Self-esteem as a mediator variable. *Children*, 9(12), 1795. <https://doi.org/10.3390/children9121795>
- Hana, D. R., & Suwarti, S. (2020). Dampak psikologis peserta didik yang menjadi korban cyber bullying. *Psisula: Prosiding Berkala Psikologi*, 1, 20–28.
- Hendry, B., Hellsten, L., McIntyre, L., & Smith, B. (2023). Recommendations for cyberbullying prevention and intervention: A Western Canadian perspective from key stakeholders. *Frontiers in Psychology*, 14. <https://doi.org/10.3389/fpsyg.2023.1067484>
- Iorga, M., Pop, L., Croitoru, I., Hanganu, E., & Anton-Păduraru, D. (2022). Exploring the importance of gender, family affluence, parenting style and loneliness in cyberbullying victimization and aggression among Romanian adolescents. *Behavioral Sciences*, 12(11), 457. <https://doi.org/10.3390/bs12110457>
- Jalal, N. M., Idris, M., & Muliana, M. (2021). Faktor-faktor cyberbullying pada remaja. *IKRA-ITH Humaniora: Jurnal Sosial dan Humaniora*, 5(2), 1–9.
- Kumala, A. P. B., & Sukmawati, A. (2020). Dampak cyberbullying pada remaja. *Alauddin Scientific Journal of Nursing*, 1(1), 55–65.
- Lan, S., Wang, Y., Zhao, J., Hou, X., & Li, C. (2025). From home to the screen: How parental rejection fuels cyberbullying in college students. *PLOS ONE*, 20(5), e0323124. <https://doi.org/10.1371/journal.pone.0323124>
- Ngo, A., Tran, A., Tran, B., Nguyen, L., Hoang, M., Nguyen, T., ... & Ho, C. (2021). Cyberbullying among school adolescents in an urban setting of a developing country: Experience, coping strategies, and mediating effects of different support on psychological well-being. *Frontiers in Psychology*, 12. <https://doi.org/10.3389/fpsyg.2021.661919>
- Ngarifin, N., & Halwati, U. (2023). Layanan bimbingan informasi dalam mencegah perilaku cyber bullying di media sosial: Sebuah tinjauan literatur. *Al-Iyraq: Jurnal Bimbingan, Penyuluhan, dan Konseling Islam*, 6(2).
- Rahmawati, N., & Viria, S. (2023). The role of moral disengagement and authoritarian parenting style towards cyberbullying attitude among social media users. *Jurnal Ilmiah Psikologi Terapan*, 11(2), 105–111. <https://doi.org/10.22219/ijpt.v11i2.25550>
- Ranjith, P., Vranda, M., & Kishore, M. (2024). Barriers to mental health support in cyberbullying: A thematic analysis of what mental health professionals and cyber experts think. *Indian Journal of Psychological Medicine*. <https://doi.org/10.1177/02537176241253390>
- Riswanto, D., & Marsinun, R. (2020). Perilaku cyberbullying remaja di media sosial. *Analitika: Jurnal Magister Psikologi UMA*, 12(2), 98–

111.

- Sari, S. R. N., Nauli, F. A., & Utomo, W. (2020). Gambaran perilaku cyberbullying pada remaja di SMAN 9 Pekanbaru. *Jurnal Keperawatan Sriwijaya*, 7(2), 16–24.
- Shi, H., Fan, C., Chu, X., Zhang, X., & Wu, L. (2021). Positive perceived school climate and cyberbullying in Chinese adolescents: A moderated mediation model from the perspective of internet characteristics. *The Journal of Early Adolescence*, 41(8), 1177–1202. <https://doi.org/10.1177/0272431621989816>
- Shobabiya, M., Maulana, R. I., Hanafi, D. F., & Rosidi, M. F. A. (2024). Perilaku cyber bullying pada remaja. *Educational Journal: General and Specific Research*, 4(1), 122–129.
- Siroj, M., & Zulfa, A. (2024). Dampak cyberbullying pada remaja di media sosial. *Jurnal Intelek dan Cendekiawan Nusantara*, 1(2), 1124–1130.
- Tozzo, P., Cuman, O., Moratto, E., & Caenazzo, L. (2022). Family and educational strategies for cyberbullying prevention: A systematic review. *International Journal of Environmental Research and Public Health*, 19(16), 10452. <https://doi.org/10.3390/ijerph191610452>
- Wang, L., & Ngai, S. (2021). Understanding the effects of personal factors and situational factors for adolescent cyberbullying perpetration: The roles of internal states and parental mediation. *Journal of Adolescence*, 89(1), 28–40. <https://doi.org/10.1016/j.adolescence.2021.03.006>
- Yosep, I., Hikmat, R., & Mardhiyah, A. (2023). Nursing intervention for preventing cyberbullying and reducing its negative impact on students: A scoping review. *Journal of Multidisciplinary Healthcare*, 16, 261–273. <https://doi.org/10.2147/jmdh.s400779>