



Science and Technology in Bullying Behavior: A Case Study of Students in the WhatsApp Group of Private Junior High School Al Ma'sum Langkat Regency

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Abstract: This study aims to explore the role of science and technology in bullying behavior that occurs through WhatsApp groups among students of Al Ma'sum Private Junior High School, Langkat Regency. The method used was a descriptive qualitative approach with data collection through observation, in-depth interviews, and documentation. The results showed that common forms of bullying include verbal bullying, cyberbullying, and social exclusion, which are triggered by factors such as lack of empathy, peer pressure, and the influence of negative content on social media. This study recommends science-based prevention strategies, including anti-bullying education, awareness campaigns, and active parental involvement, to reduce bullying behavior in school settings. The findings provide important insights into the dynamics of bullying in the digital age and emphasize the need for a more systematic approach to tackling it.

Keywords: Adolescent education; Cyberbullying; Science and technology.

Introduction

The development of science and technology, particularly in the field of communication, has transformed the way humans interact, including among teenagers (Park et al., 2024). Although digital platforms offer many benefits in terms of connectivity and access to information, this technology also facilitates the emergence of harmful behaviors, such as cyberbullying (Madon & Masiero, 2025). One platform that has garnered attention is WhatsApp groups, which are widely used and have the potential to become a means of bullying that often goes undetected. Bullying in WhatsApp groups presents unique challenges as it encompasses verbal aggression, social exclusion, and other forms of harassment in a digital space that is both private and pervasive (Li et al., 2025).

Bullying is a deliberate, repeated aggressive behavior that involves an imbalance of power or strength, whether physical, verbal, or relational,

causing harm or suffering to the victim (Kumar, 2021; Mailana & Dafit, 2023). A survey conducted by the Programme for International Student Assessment (PISA) in 2023 revealed that 41.1% of students in Indonesia experienced bullying, placing the country fifth highest among OECD countries. Additionally, the Indonesian Teacher Union Federation (FSGI) reported that cases of bullying in schools in 2023 were predominantly at the junior high school level, occurring through both direct interactions and digital platforms like WhatsApp (Mason et al., 2025).

The lack of supervision from schools and parents regarding students' activities in WhatsApp groups contributes to the reinforcement of this phenomenon (Masan et al., 2021). Furthermore, the lack of education on the wise use of social media and the limited bullying prevention programs in schools exacerbate the situation. This is further worsened by weak regulations or policies governing the use of social media among students. As a result, cyberbullying in WhatsApp groups can have widespread impacts on the social,

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psychological, and academic lives of victims (Donia et al., 2025).

As a form of cyberbullying, this behavior often involves insults, mockery, or the dissemination of negative content that can be seen by many people in a short time (Çakar-Mengü & Mengü, 2023). This makes victims feel ashamed, isolated, and even experience profound emotional distress, such as anxiety and depression. In addition to the impact on victims, this behavior also affects social dynamics in the school environment. WhatsApp groups, initially used for communication, become a medium for conflict, worsening relationships among students. Bystanders in the group are often reluctant to help victims for fear of becoming the next target, perpetuating the cycle of bullying. The lack of parental and teacher supervision in these groups allows perpetrators to feel free to bully without immediate consequences (Zhu et al., 2025).

This research aims to explore the forms of bullying that occur in WhatsApp groups, identify the factors causing such behavior, and formulate effective prevention strategies (Salawu et al., 2022). The focus of this study is on the students of Al Ma'sum Private Junior High School in Langkat Regency, North Sumatra, where WhatsApp is widely used for academic and social interactions. By understanding this phenomenon, this research aims to provide relevant recommendations for schools, parents, and policymakers in creating a safer and more conducive learning environment.

Method

This research employs a qualitative descriptive approach with a phenomenological perspective to explore the experiences of students who are victims of bullying through WhatsApp groups at Al Ma'sum Private Junior High School. The research informants were selected using purposive sampling, involving various relevant parties, namely students, teachers, and parents. The chosen informants are individuals who have direct involvement with incidents of digital bullying or who have a deep understanding of the phenomenon (Wang et al., 2024).

Data were collected through several techniques, including direct observation in the school environment to observe social situations and interactions among students related to bullying, in-depth interviews with guidance and counseling teachers, religious education teachers, civic education teachers, parents of students, victimized students, and the vice principal to explore their experiences and perceptions of digital bullying, as well as documentation that includes photos, digital messages, and other related evidence that can support

the understanding of bullying occurring through WhatsApp media.

This research was conducted over three months at Al Ma'sum Private Junior High School, starting with observations at the school, followed by in-depth interviews with selected informants, with the timing of interviews and observations adjusted to the school activity schedule and the availability of informants. The collected data were analyzed using data reduction techniques, data presentation, and conclusion drawing to obtain a comprehensive picture of the forms of digital bullying occurring, the underlying factors, and the prevention strategies that can be implemented in schools.

To ensure data validity, this research utilized source and method triangulation, where source triangulation was conducted by comparing data from various informants (students, teachers, parents) and method triangulation combined interviews, observations, and documentation to confirm the research findings. The process of validating and ensuring the reliability of the data was also strengthened by re-examination by several parties involved in the research, as well as through discussions within the research team to ensure that the data interpretation remains consistent and accountable. With this method, the research aims to gain a deep understanding of the experiences of students as victims of digital bullying on WhatsApp, as well as the steps that need to be taken to prevent similar occurrences in the future.

Result and Discussion

Bullying in WhatsApp Groups is one form of digital-based bullying that is increasingly prevalent among students. Research findings indicate that bullying in WhatsApp Groups tends to be verbal and social rather than physical (Suraseth & Koraneekij, 2024). This phenomenon has escalated alongside the development of communication technology, which provides perpetrators with the means to bully without spatial and temporal limitations. This study identifies three main forms of bullying that occur in WhatsApp Groups:

First, verbal bullying is a common form of behavior among students, which includes insulting comments, mockery of parents' names, or derogatory nicknames (Arifuddin et al., 2021; Joukov & Caspar, 2021). This behavior is often expressed through texts, memes, or images intended to undermine the victim's self-esteem. Students who hold a dominant position within the group tend to exploit the WhatsApp platform (Sari et al., 2024) as a means to mock others,

particularly regarding physical appearance, academic abilities, or other personal aspects perceived as weaknesses to belittle.

Second, cyberbullying is a form of intimidation carried out through digital media, such as social media and instant messaging applications (Ademiluyi et al., 2022; Kintonova et al., 2021). Unlike traditional bullying, cyberbullying is more challenging to control because it can occur anytime and anywhere (Malik & Dadure, 2024). The dissemination of negative information, threats, or insults within WhatsApp groups can increase social pressure on the victim, which in turn leads to more severe psychological impacts. This indicates that cyberbullying has the potential to significantly harm the mental health of victims.

Third, social exclusion is also a common form of bullying that occurs in WhatsApp groups. This action involves excluding individuals from social interactions within the group, where the excluded students feel isolated and experience emotional distress due to not being given the opportunity to participate in group conversations. Social exclusion can exacerbate the psychological condition of victims, making them feel worthless and lose their sense of self-confidence (Rostam-Abadi et al., 2024).

Factors Contributing to Bullying

Several factors that encourage students to engage in bullying through WhatsApp Groups include: a) Lack of Empathy – Students who do not understand the emotional impact of their actions tend to view bullying as entertainment. b) Dysfunctional Family Environment – Authoritarian or permissive parenting styles can influence children's behavior in interacting with peers. c) Peer Pressure – The urge to be accepted in a group can lead students to imitate aggressive behavior (Ajisuksmo, 2024). d) Influence of Negative Content – Exposure to digital content that demeans others can trigger the normalization of bullying behavior (Chen et al., 2023).

The Influence of Science and Technology on Bullying in WhatsApp Groups

The advancement of science and technology plays a dual role in the phenomenon of digital bullying (Rini et al., 2023). On one hand, communication technologies like WhatsApp accelerate and expand the reach of bullying. On the other hand, technological developments also provide solutions for monitoring and preventing bullying behavior.

Positive Impacts of Technology: artificial Intelligence (AI) can be used to detect abusive language in group chats and provide early warnings to group moderators; anonymous reporting applications can

help victims report bullying incidents without fear of retaliation; digital education campaigns through social media can raise students' awareness about the dangers of cyberbullying (Alismaiel, 2023).

Negative Impacts of Technology: the speed of information dissemination makes it more difficult for victims to control narratives that are harmful to them; the ease of creating anonymous accounts allows perpetrators to bully without immediate consequences; and technology addiction can increase the frequency and duration of negative interactions in the online world (Lechner et al., 2023).

Prevention and Intervention Strategies

Efforts to prevent bullying through WhatsApp groups require a comprehensive approach involving students, parents, and school authorities: education and anti-bullying campaigns, regular outreach regarding the dangers of bullying and its impacts should be conducted. WhatsApp groups can also be utilized to disseminate educational information about communication ethics in the digital world; enhancing parental involvement, parents need to monitor their children's digital activities and foster open communication so that children feel supported and are less likely to engage in aggressive behavior (Rinaldi et al., 2023); regulation and supervision in schools; and schools should implement clear rules regarding the use of social media and provide training for teachers to detect signs of digital bullying (Şahin & Ayaz-Alkaya, 2023).

This research highlights that bullying through WhatsApp Groups has distinct patterns compared to traditional bullying. Factors such as a lack of empathy, peer pressure, and insufficient supervision are the main causes of this behavior. The implementation of prevention strategies involving schools, parents, and the community is essential to reduce the impact of bullying, both in the school environment and in the digital world.



Figure 1. Anti-Bullying Campaign Action

In addition, advancements in science and technology play a role in influencing patterns of digital bullying. While technology can exacerbate the problem through anonymity and rapid information dissemination, technology-based solutions such as AI and reporting applications can also help mitigate the impact of bullying in WhatsApp Groups. Therefore, collaboration between technological innovation and educational approaches is crucial to creating a safer and healthier digital environment.

This research provides insights into how technology facilitates digital bullying and the need for stronger preventive approaches. Schools need to adopt strict policies regarding the ethical use of social media, while parents should be more active in monitoring their children's digital activities. Digital counseling programs can serve as a solution to help students manage their emotions and behaviors.



Figure 2. Anti-Bullying Socialization

However, this research has several limitations that need to be considered. First, the study was conducted at only one school (Al Ma'sum Private Junior High School), making it difficult to generalize the results to a broader population. Second, the qualitative methods used may be influenced by the subjectivity of the informants, which can affect the validity of the data. Third, this study focused solely on the WhatsApp platform, whereas forms of cyberbullying can also occur on various other social media platforms such as Instagram, Facebook, or TikTok.

Based on the findings of this research, several recommendations can be made. Schools are encouraged to develop digital literacy programs that teach students about communication ethics in the online world. Parents are also advised to enhance communication with their children regarding healthy social media use and to build trust for discussing the issues they face online. Additionally, future research could expand the scope by investigating bullying on other digital platforms and considering quantitative research methods to obtain more comprehensive data.

Conclusion

This research provides insights into the phenomenon of bullying in WhatsApp groups, which often takes verbal and social forms. Cyberbullying has significant negative impacts on the mental health of victims, including anxiety, stress, and depression. This study also emphasizes the importance of the roles of schools, parents, and regulations in addressing this issue. Although this research has limitations in terms of location and methodology, its findings still contribute significantly to the understanding of bullying in the digital age and the preventive measures that can be implemented to create a safer digital environment for students.

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