

Prevalence, Forms, and Role Overlap of Cyberbullying Among Students at a Public Elementary School in Pekanbaru

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ARTICLE INFO

Article History

Submission : 27-06-2026

Received : 08-07-2026

Revised : 23-07-2026

Accepted : 24-07-2026

Keywords

Cyberbullying;
Public Elementary School;
Student

DOI:

10.59066/ijoms.v5i2.2693

ABSTRACT

The increasing use of the internet among children has raised concerns regarding their involvement in cyberbullying. However, evidence on cyberbullying among elementary school students remains limited, particularly in Indonesia. This study aimed to describe the prevalence, forms, role overlap, and internet use patterns related to cyberbullying among elementary school students. A cross-sectional descriptive study was conducted involving 148 students from Grades IV–VI at one public elementary school in Pekanbaru, selected using total sampling. Cyberbullying was assessed using an adapted version of the Kuesioner Interaksi Sosial di Internet (KISI), and data were analyzed using descriptive statistics. Based on the scoring criteria of the instrument, 46.7% (n = 69) of students were categorized as victims, 29.7% (n = 44) as perpetrators, and 50.7% (n = 75) as witnesses of cyberbullying during the previous six months. The findings also revealed substantial role overlap, with the victim–perpetrator–witness role representing the largest subgroup (21%), followed by the victim–witness role (17%). Flaming and online harassment were the most frequently reported forms of cyberbullying. As this study was conducted in a single elementary school, the findings should be interpreted within the context of the study setting and should not be generalized to all elementary school students. These findings highlight the importance of school-based screening, digital literacy education, and early cyberbullying prevention programs for elementary school children.

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Introduction

The development of digital technology has led to an increasing number of people using the internet through mobile devices. The Global System for Mobile Communications Association report notes that 58% of the world's population, or about 4.7 billion people, use mobile internet, an increase of 2.2 billion users since 2015 (GSMA, 2025). Not excluding the age group of children and teenagers, who are the most active internet users (Sector, 2022). The Global System for Mobile Communications Association reported in 2024 that more than half of children aged 5–17 worldwide have used mobile internet (Shanahan et al., 2024).

One of the side effects of the availability and use of the internet is the possibility of cyberbullying (Muller et al., 2017). UNICEF (2019) even noted that one in three young people in 30 countries reported having been victims of cyberbullying. According to Zhu et al. (2021), the prevalence of cyberbullying among children and adolescents ranges from 6% to 57.5%.

Cyberbullying is the act of sending or publishing harmful material or engaging in other forms of social aggression using digital technology; this online communication can be very cruel because it can occur 24 hours a day, spread widely, and is impossible to erase (Willard, 2007). Willard (2007) explains seven forms of cyberbullying behavior: flaming, online harassment, cyberstalking, denigration, impersonation, outing and trickery, and exclusion. Flaming is the act of sending messages that are angry, rude, or vulgar. Online harassment is described as sending insulting or abusive messages online. Cyberstalking involves sending threatening messages that endanger the recipient. Denigration is the act of sending or spreading harmful and false information about someone to others. Impersonation is defined as the act of pretending to be someone else with the intention of damaging that person's image or reputation. Outing and trickery refer to the dissemination of someone's embarrassing personal information. Exclusion occurs when someone is excluded from a group or online community.

Although Willard's (2007) classification remains one of the most widely used frameworks for describing cyberbullying behaviors, recent literature emphasizes that cyberbullying differs from traditional bullying not only because it occurs through digital media but also because of its unique characteristics, including anonymity, rapid dissemination of harmful content, persistence of online material, and the potentially unlimited audience reached through digital platforms (Chicote-Beato et al., 2024). These characteristics make cyberbullying qualitatively different from face-to-face bullying, as victims may experience repeated exposure to harmful content regardless of time and place, thereby increasing the potential for emotional and social harm.

As children progress through elementary school, they generally experience greater autonomy in smartphone use, increased access to digital communication, and broader peer interactions through online platforms (Holfeld & Leadbeater, 2015; Veronika & Kaloeti, 2021). These developmental changes may increase opportunities not only to experience cyberbullying but also to participate in different cyberbullying roles. Rather than remaining exclusively victims, perpetrators, or witnesses, children may occupy multiple roles depending on the social context, peer relationships, and characteristics of online interactions (Demaray et al., 2021; Ryoo, 2015). Therefore, examining the prevalence of different cyberbullying roles together with students' internet use patterns may provide a more comprehensive understanding of cyberbullying among elementary school children.

Unlike traditional bullying, cyberbullying has unique characteristics such as the anonymity of the perpetrator, wide reach, and unlimited duration (Chicote-Beato et al., 2024). These characteristics often make the impact more severe, both emotionally and socially (Gini et al., 2018; Li et al., 2024). Victims of cyberbullying tend to experience depression, anxiety, suicidal thoughts, and social functioning disorders (Maurya et al., 2022; Wang & Ngai, 2020).

The majority of cyberbullying research has been conducted on subjects of middle school and high school age, and is still limited to subjects of elementary school age (Bansal et al., 2023). Although the findings of Holfeld & Leadbeater (2015) indicate that the roles of

victims or perpetrators of cyberbullying can be observed from the age of eight. Similarly, Chicote-Beato et al. (2024) suggest the need for further research on cyberbullying among elementary school students.

Several studies have been conducted, such as the research by Welly & Rahma (2022), which found that elementary school children have been involved in cyberbullying both as perpetrators and victims. However, the study did not examine the role of witnesses. Exploration of the role of witnesses in cyberbullying among elementary school students is also necessary due to the limited research on the topic. The research by Doumas & Midgett (2021) found that witnessing cyberbullying is associated with higher levels of depressive symptoms and social anxiety compared to witnessing school bullying.

Despite the growing body of research, several important gaps remain. Most previous studies involving elementary school children have primarily reported the prevalence of victims and perpetrators, whereas relatively little attention has been given to the distribution of different forms of cyberbullying, the role of witnesses, and the overlap between victim, perpetrator, and witness roles. Understanding these overlapping roles is important because children's involvement in cyberbullying is often dynamic rather than mutually exclusive, and different patterns of involvement may require different prevention strategies. Furthermore, empirical evidence describing these patterns among Indonesian elementary school students remains limited.

This study was conducted in one public elementary school in Pekanbaru because the school represents an urban educational setting where students have regular access to smartphones and internet-based communication. Although the findings are not intended to represent all elementary schools in Indonesia, examining one school in depth provides an initial description of cyberbullying patterns and generates baseline evidence for future studies involving broader and more representative samples.

With the increasing access to the internet among elementary school children and the risk of their involvement in cyberbullying, as well as the limited research on cyberbullying among elementary school students, a descriptive investigation is needed to better understand this phenomenon.

Therefore, this study aimed to describe (1) the prevalence of cyberbullying among elementary school students, (2) the distribution of cyberbullying forms, (3) students' involvement across victim, perpetrator, and witness roles, including overlapping roles, and (4) patterns of internet use as contextual information related to cyberbullying. It is expected that the findings will provide empirical evidence to support the development of school-based cyberbullying prevention and early intervention programs

Method

This study employed a cross-sectional descriptive research design to describe the prevalence, forms, and characteristics of cyberbullying among elementary school students. Cyberbullying was operationally defined as aggressive behavior carried out by an individual or group through digital media with the intention of repeatedly hurting or harming others over a certain period. Based on Willard (2007), cyberbullying consists of seven forms of behavior: flaming, online harassment, cyberstalking, denigration, impersonation, outing or trickery, and exclusion.

Cyberbullying was measured using an adapted version of the Kuesioner Interaksi Sosial di Internet (KISI) developed by Febrianti (2014). Since the original instrument was

designed for university students, several modifications were made to ensure its suitability for elementary school children. Following the recommendations of Ey et al. (2015), the wording of the questionnaire was simplified by using age-appropriate language, shorter sentences, and examples that were familiar to children while maintaining the original conceptual meaning of each item.

The questionnaire consisted of three subscales measuring involvement as a victim, perpetrator, and witness, with seven items for each subscale. Responses were recorded using a four-point Likert scale ranging from 1 (never) to 4 (often). The possible score for each subscale ranged from 7 to 28, with higher scores indicating more frequent involvement in cyberbullying.

Following the scoring procedure proposed by Febrianti (2014), respondents who obtained the minimum score of seven, indicating that they had never experienced or engaged in any of the listed behaviors, were categorized as not involved in cyberbullying. Likewise, respondents who reported only a single isolated incident were also classified as not involved because cyberbullying is conceptually defined as repeated aggressive behavior rather than a one-time occurrence. Therefore, only repeated experiences were included in the prevalence estimates reported in this study.

The questionnaire was administered in paper-and-pencil format during regular school hours. The study was conducted at one public elementary school in Pekanbaru. Participants consisted of 148 students enrolled in Grades IV, V, and VI, aged between 9 and 13 years ($M = 11$ years). All eligible students who met the inclusion criteria and provided parental consent were invited to participate. Permission to conduct the study was obtained from the university, the school principal, and the classroom teachers prior to data collection. An information letter describing the purpose and procedures of the study was distributed to parents or legal guardians before data collection.

Written informed consent was obtained from parents or legal guardians prior to data collection, while verbal assent was obtained from all participating children before questionnaire administration. Participation was voluntary, and students were informed that they could withdraw from the study at any time without any consequences. All responses were collected anonymously and treated confidentially throughout the study.

After parental consent had been obtained, the principal researcher visited each classroom to administer the questionnaire. Before data collection, students received standardized instructions regarding the purpose of the study, procedures for completing the questionnaire, voluntary participation, anonymity, and confidentiality.

Internal consistency reliability was evaluated separately for the victim, perpetrator, and witness subscales. The Cybervictim subscale (7 items) demonstrated a Cronbach's alpha of 0.791, with corrected item-total correlation coefficients ranging from 0.368 to 0.756. The Cyberperpetration subscale (7 items) yielded a Cronbach's alpha of 0.706, with corrected item-total correlation coefficients ranging from 0.238 to 0.561. The Cyberbystander subscale (7 items) demonstrated the highest internal consistency, with a Cronbach's alpha of 0.839 and corrected item-total correlation coefficients ranging from 0.369 to 0.753. Overall, these findings indicate acceptable to good internal consistency for the three subscales. Data were analyzed using descriptive statistics, including frequencies, percentages, means, and standard deviations, to describe the prevalence, forms, roles, and internet use patterns related to cyberbullying among elementary school students.

Results and Discussion

Descriptive data is presented in Table 1 below, providing an overview of the characteristics of the respondents in this study, which consist of gender, age, and class. The general overview of the respondents in this study is as follows:

Table 1. Demographic Characteristic

Characteristics	Category	Frequency	Percentage (%)
Gender	Boys	77	52
	Girls	71	48
Age	9 years old	6	4,1
	10 years old	38	25,7
	11 years old	57	38,5
	12 years old	46	31,1
	13 years old	1	0,7
Grade	IV	41	27,7
	V	58	39,2
	VI	49	33,1

Based on table 1, it is known that the gender of participants in this study has a fairly balanced proportion between the number of males and females. The male gender accounts for 52% and the female gender for 48%. Then, based on age, it can be seen that the majority of participants are 11 years old with a percentage of 38.5%. It is also known based on class classification, subjects in the 4th grade account for 27.7%, 5th grade for 39.2%, and 6th grade for 33.1%.

Based on internet usage pattern data, it is known that the majority of respondents have their own mobile phones, with a percentage of 68.9% of students. The majority of students admitted to using the internet for 1-2 hours per day, with home being the most common place they use the internet. Next, online games and TikTok are the most frequently used applications by students, with online games at 68.9% and TikTok at 63.5%. Additionally, it was found that 77% of students admitted that their internet activities are known by their parents, 16.2% know a little, and 6.8% claimed their parents do not know. As many as 48.6% stated they are often advised by their parents about the dangers of the internet, 43.9% sometimes, and 7.4% never.

The main result of this study is how elementary school students are involved. Based on the scoring by Febrianti (2014), respondents are categorized as not involved in cyberbullying if they score a minimum of seven or if they report involvement only once because they do not meet one of the criteria for cyberbullying, which is the repetition of behavior. The results are displayed in the table below:

Table 2 Data on student involvement in cyberbullying

Category	Role	Frequency (n)	Percentage (%)
Overall	Victim	69	46.7
	Perpetrator	44	29.7
	Witness	75	50.7
Gender			
Male	Victim	36	46.6
	Perpetrator	26	33.8
	Witness	40	52.0
Female	Victim	33	46.4
	Perpetrator	18	25.3
	Witness	35	49.0
Grade			
IV	Victim	17	41.5
	Perpetrator	8	19.6
	Witness	19	46.3
V	Victim	26	44.8
	Perpetrator	17	29.3
	Witness	25	43.1
VI	Victim	26	53.0
	Perpetrator	19	38.8
	Witness	31	63.2

Note: Percentages within the Overall category were calculated using the total study sample (N = 148). Percentages within the Gender and Grade categories were calculated separately using the number of participants in each subgroup.

Based on Table 2, 46.7% (n = 69) of students reported being victims of one or more forms of cyberbullying, 29.7% (n = 44) reported engaging in one or more forms of cyberbullying as perpetrators, and 50.7% (n = 75) reported witnessing one or more forms of cyberbullying among their peers.

Based on Table 2, 46.7% (n = 69) of students reported being victims of one or more forms of cyberbullying, 29.7% (n = 44) reported engaging in one or more forms of cyberbullying as perpetrators, and 50.7% (n = 75) reported witnessing one or more forms of cyberbullying among their peers. The prevalence of victimization was 46.7% (95% CI: 38.6%–54.7%), perpetration was 29.7% (95% CI: 22.4%–37.1%), and witnessing was 50.7% (95% CI: 42.6%–58.7%).

Within this sample, the highest proportion of victimization, perpetration, and witnessing was observed among Grade VI students (53.0%, 38.8%, and 63.2%, respectively). Similarly, the highest proportion of perpetration and witnessing was observed among boys (33.8% and 52.0%, respectively). Because this study employed a descriptive

design, these findings represent descriptive patterns only and should not be interpreted as statistically significant differences between groups.

Next, in further analysis regarding the roles that students have in cyberbullying. Based on the research by González-Cabrera et al. (2019), the researchers classified students into eight role groups, namely: not involved, pure victim, pure perpetrator, pure witness, victim-perpetrator, perpetrator-witness, victim-witness, and victim-perpetrator-witness. The data is presented in the table below:

Tabel 3. Data on the Role of Students in Cyberbullying

Category	Frequency	Percentage (%)
Not involved	59	40
Pure victim	9	6
Pure perpetrator	1	1
Pure witness	11	7
Victim-perpetrator	4	3
Perpetrator-witness	8	5
Victim-witness	25	17
Victim-perpetrator-witness	31	21

Based on the data above, it is known that there is an overlap of roles in cyberbullying. The most frequently found roles are the "victim-perpetrator-witness" (21%) and "victim-witness" (17%). Conversely, a low number of roles were found, namely the "pure perpetrator" (1%) and "victim-perpetrator" (3%). This study found that more students take on overlapping roles and fewer take on pure roles (pure victim, pure perpetrator, and pure witness).

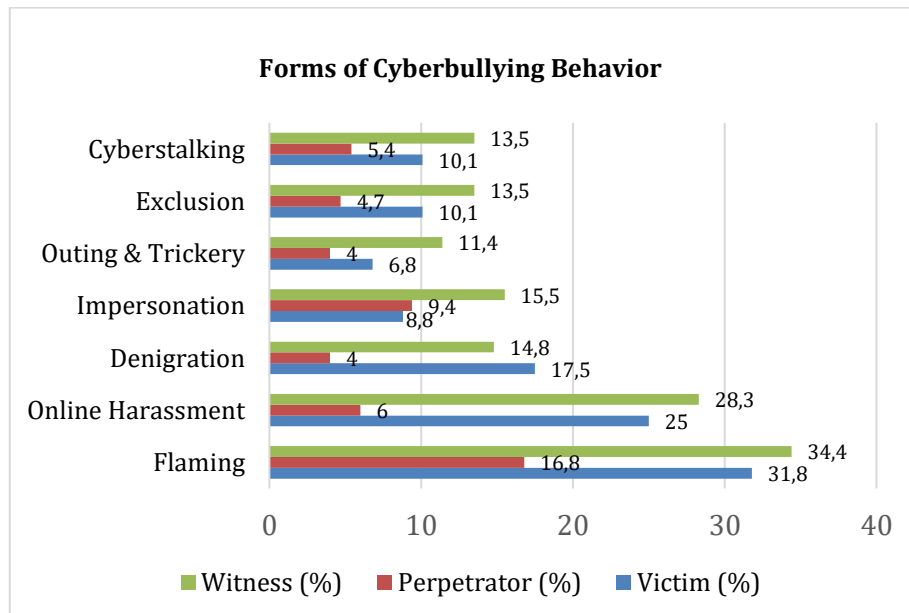


Figure 1. Types of cyberbullying behavior in students

Note: Percentages represent the proportion of students within each cyberbullying role.

In this study, various forms of cyberbullying behavior occurring among students were also identified. Based on the image above, it can be seen that the form of cyberbullying behavior, namely flaming, is the most frequently occurring, followed by online harassment. Flaming in this study is defined as sending rude messages, and online harassment is defined as mocking friends. In victims, flaming behavior occurred in 31.8% of participants (victims), was perpetrated by 16% of participants, and was witnessed by 34.4% of participants. Meanwhile, online harassment behavior occurred in 25% of participants (victims), was perpetrated by 6% of participants, and was witnessed by 28.3% of participants.

In this study, 60% of students (N=89) reported involvement in at least one role of cyberbullying (victim, perpetrator, witness), and 40% (N=59) of students reported not being involved in cyberbullying at all. As many as 46.7% of students reported being victims of one or more forms of cyberbullying behavior, 29.7% of students engaged in one or more forms of cyberbullying behavior, and 50.7% witnessed one or more forms of cyberbullying behavior. These results are consistent with previous research by Welly & Rahma (2022), which found the percentage of elementary school students involved as victims to be 49% and as perpetrators to be 32.3%. However, this study adds witnesses as a new element in the research on cyberbullying among elementary school students in Indonesia. Then, if we look at the percentage of cyberbullying involvement in other countries at the same age, the results are not much different. Research in the United States reported a 20% involvement of elementary school students as perpetrators (Barlett, 2023). Then, Doumas & Midgett (2021) also conducted research in the United States and found 38.8% involvement of students in cyberbullying as witnesses. Next, research conducted by Muller et al. (2017) in Australia on elementary school students aged 10 to 12 years also revealed that 48.6% of students reported having been victims of cyberbullying. These findings reinforce that cyberbullying has emerged among elementary school children and its prevalence cannot be underestimated.

Second, this research reveals the types of cyberbullying behaviors that most frequently occur among elementary school students. This study reveals that the form of cyberbullying behavior known as flaming is the most frequently occurring among elementary school children, followed by online harassment and impersonation. Flaming in this study is defined as sending rude messages, and online harassment is defined as mocking friends. This is consistent with several previous studies on cyberbullying among elementary school children. Welly & Rahma (2022) found that the types of cyberbullying frequently experienced by victims are being disrespected, mocked, and having their names ridiculed. The most common type of behavior experienced by students is receiving unpleasant, rude messages, and insults in chat rooms (Muller et al., 2017). Additionally, in this study, it was found that the second most common type of behavior perpetrated by the offenders is impersonation. There is a possibility that flaming becomes the most common type of cyberbullying behavior because it is an action motivated by spontaneous emotions (Arisanty & Wiradharma, 2022). These findings may warrant a reconsideration of interventions or preventive measures against cyberbullying in the future. One possible explanation is that flaming generally occurs

impulsively during online interactions and requires relatively little planning compared with other forms of cyberbullying such as impersonation or cyberstalking (Voggeser et al., 2018). The immediacy of digital communication allows children to express anger or frustration quickly, making flaming one of the most accessible forms of online aggression among elementary school students

Third, in this study, it was found that male students engage in cyberbullying behavior more frequently. These findings are consistent with Wright & Wachs (2023), who revealed that in elementary school students, boys are more often involved as both perpetrators and victims of cyberbullying. Additionally, Mehari et al. (2023) also found that boys reported higher levels of all forms of cyberbullying behavior. Wright & Wachs (2023) argue that technology use is a stronger indicator of involvement in cyberbullying, and the reason boys are more involved in cyberbullying is that they interact with technology more frequently. There is not much literature discussing gender differences in cyberbullying among elementary school children in Indonesia, so further research is needed.

Fourth, another relevant finding is that Within this sample, Grade VI students showed the highest proportion of involvement across all three cyberbullying roles. One possible explanation is that older elementary school students generally have greater autonomy in smartphone use, broader peer interaction through digital media, and more opportunities to engage in online communication than younger students (Veronika & Kaloeti, 2021).

Where this is in line with the findings of Holfeld & Leadbeater, (2015) who, in their research, found that sixth-grade students experienced the highest levels of cyberbullying as both perpetrators and victims due to their greater access to technology. Additionally, there are other findings suggesting a correlation with age. Previous studies and reviews have indicated that cyberbullying increases with age González-Cabrera et al. (2019). These findings can serve as input for the cyberbullying prevention process by prioritizing classes below grade VI, with the aim of preventing cyberbullying behavior before it becomes more frequent.

Fifth, another finding in this study is regarding the various roles in cyberbullying. The most frequently found roles are the "victim-perpetrator-witness" role (21%) and the "victim-witness" role (17%). Conversely, a low number of roles were found, namely the "pure perpetrator" role (1%) and the "perpetrator-victim" role (3%). In this study, it was found that more students took on overlapping roles and fewer took on pure roles (pure victim, pure perpetrator, and pure witness). The finding that overlapping roles were more common than pure roles suggests that cyberbullying involvement among elementary school students is dynamic rather than fixed. Rather than occupying a single role, children may alternate between being victims, perpetrators, and witnesses across different situations (Demaray et al., 2021). This observation is consistent with the concept of role fluidity, which proposes that involvement in bullying behaviors changes depending on social context, peer interactions, and online experiences (Ryoo, 2015). From a bystander perspective, repeated exposure to cyberbullying may normalize aggressive online behavior, making some

witnesses more likely to participate in similar behaviors over time. Likewise, children who experience victimization may retaliate against others, contributing to the overlap between victim and perpetrator roles. These patterns highlight that cyberbullying involvement should not be viewed as a static characteristic but rather as a dynamic process in which children's roles may change across different contexts.

In line with this, González-Cabrera et al. (2019) also found a lower percentage in pure roles such as "pure perpetrator" (3%) and "pure victim" (6.2%). Rabbani & Pusch (2023) explain the occurrence of these overlapping roles with the finding that teenagers who have engaged in cyberbullying in the past three months are more likely to be victims and witnesses of cyberbullying. Additionally, these overlapping roles are associated with low self-control. Nodeland (2020) found that those with low self-control are more likely to be both perpetrators and victims of cyberbullying.

Sixth, this study also found patterns of internet usage. Students use the internet mostly for playing online games (68.9%) and TikTok (63.5%). The findings regarding internet use should be interpreted as contextual information rather than evidence of risk factors for cyberbullying because no inferential analyses were conducted to examine these associations. Nevertheless, the high use of online games and TikTok provides an important description of the digital environment in which elementary school students interact. Several studies have indeed found that cyberbullying occurs quite frequently in the online gaming environment among teenagers and children (Huang et al., 2019). The study by Andrea & Yuliati (2019) also found that teenagers who play online games tend to become victims of cyberbullying. The online gaming environment that allows for anonymity, high competition, and normalizes aggressive behavior are some of the factors that encourage cyberbullying (Yunhao et al., 2025). However, because the present study did not examine the association between internet use and cyberbullying involvement, these previous findings should be considered as contextual information rather than direct explanations of the current results

Then, TikTok emerged as the most frequently used social media platform among students in this study, consistent with the findings of Dwi Fadillah et al. (2023), who reported that TikTok was one of the most commonly used social media platforms among fourth- to sixth-grade elementary school students in Bengkulu. This finding provides contextual information about the digital environment in which participants interact but should not be interpreted as evidence that TikTok use is associated with cyberbullying in the present study.

Previous studies have suggested that TikTok may provide opportunities for cyberbullying through features that enable rapid content sharing and public interaction. For example, Elsa Totti Bakistuta and Abduh (2023) reported that, although TikTok can support positive outcomes such as language learning, exposure to inappropriate content may also encourage the use of offensive language among elementary school students. Similarly, Doğan et al. (2025) found that adolescents who frequently used Instagram, TikTok, and WhatsApp reported higher levels of cyberbullying victimization than those who predominantly used YouTube and Snapchat. Hillier et al. (2026) also described trends such

as "*expose someone*" videos on TikTok, in which individuals are publicly embarrassed, ridiculed, or humiliated. Such behaviors may be classified as outing and trickery, particularly when personal information or embarrassing content is intentionally shared with a wider audience.

From the perspective of Social Learning Theory (Bandura et al., 1961), repeated exposure to aggressive online interactions may increase children's tendency to imitate similar behaviors, especially when these behaviors appear socially accepted or receive attention from peers. Furthermore, social media algorithms may repeatedly expose children to similar content, potentially reinforcing patterns of online interaction. These theoretical perspectives provide one possible explanation for why social media environments deserve attention in cyberbullying prevention efforts.

However, the present study did not examine the association between TikTok use and cyberbullying involvement. Therefore, these findings should be interpreted as contextual information describing students' digital environments rather than evidence that TikTok use increases the risk of cyberbullying. Future studies should investigate this relationship using appropriate inferential analyses to determine whether specific patterns of social media use are associated with cyberbullying involvement among elementary school students.

Conclusion

This study provides an overview of the prevalence, forms, and roles of cyberbullying among elementary school students in Pekanbaru. The findings indicate that cyberbullying was experienced not only by victims but also by perpetrators and witnesses, highlighting that children's involvement extends across multiple roles in online interactions. Flaming emerged as the most frequently reported form of cyberbullying across all three roles, while most participants reported moderate levels of daily internet use.

The findings suggest that cyberbullying prevention efforts in elementary schools should address the diverse ways children become involved in online aggression rather than focusing exclusively on victims or perpetrators. School-based prevention programs should promote responsible digital behavior, strengthen empathy and bystander intervention skills, and encourage collaboration among schools, parents, and teachers to foster safer online environments for children.

Because this study employed a cross-sectional descriptive design and was conducted in a single elementary school, the findings should be interpreted within this context and cannot be generalized to all elementary school populations. Future studies involving larger and more diverse samples from different regions are recommended to further examine factors associated with children's involvement in different cyberbullying roles and to support the development of more effective prevention strategies.

Declarations

Author contributions. Author 1 contributed to conceptualization, methodology, data collection, formal analysis, and preparation of the original draft. Author 2 supervised the research, contributed to data interpretation, critically revised the manuscript, and approved the final version for publication. Author 3 supervised the project, provided critical revisions,

and approved the final manuscript. All authors read and approved the final version of the manuscript.

Ethics approval and consent to participate. This study was approved by the Research Ethics Committee, Faculty of Psychology, Universitas Islam Riau (Approval No. 264/KPTS/FPSI-UIR/2026). Written informed consent was obtained from the parents or legal guardians of all participating students prior to data collection, and verbal assent was obtained from all children before participation. Participation was voluntary, responses were collected anonymously, and participants were informed that they could withdraw from the study at any time without any consequences. Because the study involved elementary school children, particular attention was given to creating a comfortable and supportive atmosphere during questionnaire administration. Before and during data collection, the researcher conducted brief ice-breaking and relaxation activities to help children feel calm, comfortable, and engaged. If a child appeared uncomfortable or emotionally unsettled while completing the questionnaire, the researcher paused the activity, provided reassurance, and guided the child through a brief relaxation exercise before asking whether they wished to continue. If additional emotional support had been required, the child would have been referred to the classroom teacher or the school's counseling personnel for appropriate follow-up.

Funding statement. This research received no external funding.

Conflict of interest. The authors declare that they have no competing interests or conflicts of interest, financial or otherwise.

Additional information. No additional information is available for this paper.

References

- Arisanty, M., & Wiradharma, G. (2022). The motivation of flaming perpetrators as cyberbullying behavior in social media. *Jurnal Kajian Komunikasi*, 10(2). <https://doi.org/10.24198/jkk.v10i2.39876>
- Bansal, S., Garg, N., Singh, J., & Van Der Walt, F. (2023). Cyberbullying and mental health: past, present and future. *Frontiers in Psychology*, 14. <https://doi.org/10.3389/fpsyg.2023.1279234>
- Barlett, C. P. (2023). Predicting Cyberbullying Perpetration in US Elementary School Children. *International Journal of Environmental Research and Public Health*, 20(15). <https://doi.org/10.3390/ijerph20156442>
- Chicote-Beato, M., González-Víllora, S., Bodoque-Osma, A. R., & Navarro, R. (2024). Cyberbullying intervention and prevention programmes in Primary Education (6 to 12 years): A systematic review. In *Aggression and Violent Behavior* (Vol. 77). <https://doi.org/10.1016/j.avb.2024.101938>
- Doumas, D. M., & Midgett, A. (2021). The association between witnessing cyberbullying and depressive symptoms and social anxiety among elementary school students. *Psychology in the Schools*, 58(3). <https://doi.org/10.1002/pits.22467>

- Ey, L. A., Taddeo, C., & Spears, B. (2015). Cyberbullying and primary-school aged children: The psychological literature and the challenge for sociology. *Societies*, 5(2). <https://doi.org/10.3390/soc5020492>
- Febrianti, R. (2014). *Cyberbullying Pada Mahasiswa Universitas Indonesia*. <https://doi.org/10.13140/RG.2.2.35692.07040>
- Gini, G., Card, N. A., & Pozzoli, T. (2018). A meta-analysis of the differential relations of traditional and cyber-victimization with internalizing problems. *Aggressive Behavior*, 44(2). <https://doi.org/10.1002/ab.21742>
- González-Cabrera, J. M., León-Mejía, A., Machimbarrena, J. M., Balea, A., & Calvete, E. (2019). Psychometric properties of the cyberbullying triangulation questionnaire: A prevalence analysis through seven roles. *Scandinavian Journal of Psychology*, 60(2). <https://doi.org/10.1111/sjop.12518>
- GSMA. (2025). *The Mobile Economy 2025*. www.gsmainelligence.com
- Holfeld, B., & Leadbeater, B. J. (2015). The Nature and Frequency of Cyber Bullying Behaviors and Victimization Experiences in Young Canadian Children. *Canadian Journal of School Psychology*, 30(2). <https://doi.org/10.1177/0829573514556853>
- Li, C., Wang, P., Martin-Moratinos, M., Bella-Fernández, M., & Blasco-Fontecilla, H. (2024). Traditional bullying and cyberbullying in the digital age and its associated mental health problems in children and adolescents: a meta-analysis. In *European Child and Adolescent Psychiatry* (Vol. 33, Number 9). <https://doi.org/10.1007/s00787-022-02128-x>
- Maurya, C., Muhammad, T., Dhillon, P., & Maurya, P. (2022). The effects of cyberbullying victimization on depression and suicidal ideation among adolescents and young adults: a three year cohort study from India. *BMC Psychiatry*, 22(1). <https://doi.org/10.1186/s12888-022-04238-x>
- Mehari, K. R., Beulah, B., Paskewich, B., Leff, S. S., & Waasdorp, T. E. (2023). Cyberbullying and Empathy Among Late-Elementary School Children. *International Journal of Bullying Prevention*, 5(1). <https://doi.org/10.1007/s42380-022-00119-9>
- Muller, R. D., Skues, J. L., & Wise, L. Z. (2017). Cyberbullying in Australian Primary Schools: How Victims Differ in Attachment, Locus of Control, Self-Esteem, and Coping Styles Compared to Non-Victims. *Journal of Psychologists and Counsellors in Schools*, 27(1). <https://doi.org/10.1017/jgc.2016.5>
- Sector, D. (2022). *Measuring digital development Facts and Figures 2022*.
- Shanahan, M., Bahia, K., Gleek, A., Tiel Groenestege, M., Sibthorpe, C., Shannon Baxter, A., Sarpong, E., Fernando Aquije Ballon, H., & Ouattara Boni, A.-N. (2024). *The State of Mobile Internet Connectivity 2024*. www.gsmainelligence.com
- UNICEF. (2019, September 3). *UNICEF poll: More than a third of young people in 30 countries report being a victim of online bullying*. UNICEF. <https://www.unicef.org/press-releases/unicef-poll-more-third-young-people-30-countries-report-being-victim-online-bullying>
- Wang, L., & Ngai, S. S. yum. (2020). The effects of anonymity, invisibility, asynchrony, and moral disengagement on cyberbullying perpetration among school-aged children

- in China. *Children and Youth Services Review*, 119. <https://doi.org/10.1016/j.childyouth.2020.105613>
- Welly, W., & Rahma, G. (2022). Cyberbullying Selama Pembelajaran Daring pada Anak Sekolah Dasar. *JIK JURNAL ILMU KESEHATAN*, 6(2). <https://doi.org/10.33757/jik.v6i2.613>
- Willard, N. E. (2007). Cyberbullying and Cyberthreats: Responding to the Challenge of Online Social Aggression, Threats, and Distress. In *Cyberbullying and cyberthreats: Responding to the challenge of online social aggression, threats, and distress*.
- Wright, M. F., & Wachs, S. (2023). Cyberbullying Involvement and Depression among Elementary School, Middle School, High School, and University Students: The Role of Social Support and Gender. *International Journal of Environmental Research and Public Health*, 20(4). <https://doi.org/10.3390/ijerph20042835>
- Zhu, C., Huang, S., Evans, R., & Zhang, W. (2021). Cyberbullying Among Adolescents and Children: A Comprehensive Review of the Global Situation, Risk Factors, and Preventive Measures. In *Frontiers in Public Health* (Vol. 9). <https://doi.org/10.3389/fpubh.2021.634909>
- Demaray, M. K., Malecki, C. K., Hoon, J., & Summers, K. H. (2021). Deconstructing bullying roles : A longitudinal latent profile analysis of bullying participant behaviors for students in grades 4 through 12. *Journal of School Psychology*, 86(March), 32–48. <https://doi.org/10.1016/j.jsp.2021.02.006>
- Ryoo, J. H. (2015). *Examination of the Change in Latent Statuses in Bullying Behaviors Across Time*. 30(1), 105–122.
- Veronika, D., & Kaloeti, S. (2021). *The Role of Social Media Use in Peer Bullying Victimization and Onset of Anxiety Among Indonesian Elementary School Children*. 12(April), 1–10. <https://doi.org/10.3389/fpsyg.2021.635725>
- Voggeser, B. J., Singh, R. K., & Göritz, A. S. (2018). *Self-control in Online Discussions : Disinhibited Online Behavior as a Failure to Recognize Social Cues*. 8(January), 1–11. <https://doi.org/10.3389/fpsyg.2017.02372>