

Digital anonymity and intensity of TikTok use: their effects on cyberbullying behavior among adolescents

Via Oviana

Dian Nuswantoro University, Indonesia

Nadia Itona Siregar

Dian Nuswantoro University, Indonesia

Corresponding Author: viaovianal@gmail.com

Abstract

The 2026 Indonesia Internet Penetration Survey shows that the internet penetration rate in Indonesia has reached 81.72%, or approximately 235.26 million users. The high level of internet and social media use among adolescents increases the likelihood of cyberbullying, which can have an impact on mental health, such as stress, anxiety, depression, and a decline in self-confidence. This study aims to analyze the influence of digital anonymity and the intensity of TikTok use on cyberbullying behavior among adolescents in Semarang City. The study employs an explanatory quantitative approach. Primary data were collected through a questionnaire distributed to adolescent TikTok users, while secondary data were obtained through a literature review. The study sample consisted of 144 respondents selected using purposive sampling. Data analysis was conducted using multiple linear regression with IBM SPSS Statistics version 25. The results indicate that digital anonymity and the intensity of TikTok use have a positive and significant effect on cyberbullying behavior among adolescents. These findings suggest that the higher the level of digital anonymity and the intensity of TikTok use, the greater the tendency for cyberbullying behavior to emerge among adolescents.

Keywords: Digital Anonymity, Frequency of Use, Cyberbullying, TikTok, Adolescents

Introduction

Digital transformation has significantly driven the growth of internet usage in Indonesia. According to the 2026 Indonesian Internet Profile Survey released by APJII, the national internet penetration rate reached 81.72%, or approximately 235.26 million users (Asosiasi Penyelenggara Jasa Internet Indonesia [APJII], 2026). This high level of internet access has encouraged the public to use social media more actively as a means of communication, interaction, and information exchange. Among teenagers, social media is not only used for entertainment and self-expression but has also become a space for various forms of social interaction that have the potential to lead to negative behaviors, one of which is cyberbullying.

Cyberbullying is the misuse of information technology and social media to spread content that intimidates, demeans, or emotionally harms others (Afralia et al., 2024). Unlike conventional bullying, cyberbullying can occur at any time and reach victims without the constraints of space or time. According to Patchin & Hinduja (2012) and Elpema & Nopia

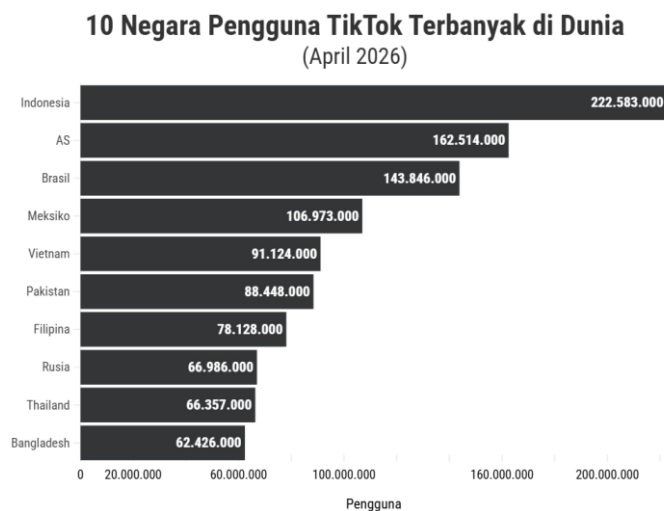
(2020), as cited in Budi et al. (2023), this phenomenon has emerged as a new problem that warrants attention because its destructive effects can threaten the safety of victims and, in more severe cases, may even lead to suicide attempts, particularly if victims struggle to process the trauma resulting from the digital bullying they have experienced. The nature of digital media allows these actions to occur repeatedly with a far more extensive reach than conventional bullying. The impact of cyberbullying is not limited to emotional distress alone but also profoundly affects the victims' mental health and psychological well-being, often triggering depression, deep sadness, and prolonged frustration. In this study, cyberbullying behavior was measured using six indicators proposed by Chadwick (2014), as cited in Putri et al. (2023), namely harassment, denigration, flaming, impersonation, outing, and cyberstalking.

The significant impact of cyberbullying makes this phenomenon an issue that warrants serious attention. Results from the 2024 National Survey on the Life Experiences of Children and Adolescents show that 14.49% of boys and 13.78% of girls aged 13–17 have experienced cyberbullying (Kemen PPPA, 2025). These findings indicate that cyberbullying remains a real problem in Indonesia and has the potential to threaten the psychological well-being of adolescents. Real-life cases, such as that of TikTok content creator Cimoy (@cimoycantik12), who received various abusive comments and insults (Hidayati et al., 2023), as well as the tragedy of Timothy Anugerah at Udayana University, who was mocked on social media after news of his death circulated (BBC News, 2025), serve as clear evidence of just how damaging this phenomenon is.

Adolescents (ages 15–24) are the most vulnerable group in the digital ecosystem. During this phase, adolescents are highly dependent on social validation and identity formation, much of which is derived from interactions on social media (Santrock, 2011, as cited in Pramudita et al., 2025). This reliance on social validation makes adolescents more vulnerable to becoming involved in cyberbullying, whether as victims or perpetrators (Utami & Nasihatun, 2024; Anam et.al., 2025). A similar situation has also been identified in the city of Semarang, where adolescents, as active users of smartphones and social media, exhibit vulnerability to various violations of digital ethics, including cyberbullying, online harassment, and hate speech, which in turn influence the development of their ethical standards when interacting in cyberspace (Arfika & Siregar, 2024).

The high level of digital activity among the public has helped make TikTok one of the most popular social media platforms in Indonesia (Fairuz & Pertiwi, 2025). According to a report by We Are Social and Meltwater compiled by Dataloka.id, Indonesia ranked as the country with the largest number of TikTok users in the world in 2026, with approximately 225,583 million users.

Figure 1. Number of TikTok Users in Indonesia (Source: Dataloka.id, 2026)



This popularity has made TikTok a dominant digital space for interaction, particularly among teenagers and young adults. TikTok's reliance on short-form video content, supported by features such as comments, direct messages, duets, and stitches, enables rapid and widespread interaction among users. On the other hand, these features also have the potential to increase the risk of cyberbullying, as negative comments and content can easily spread and reach a wider audience (Manurung & Jamba, 2024). The phenomenon of cyberbullying in digital spaces can be explained through symbolic interaction theory, developed by George Herbert Mead. This theory explains that individual behavior is shaped through the process of social interaction and the interpretation of symbols, influenced by the dialectic between the "I" as the spontaneous and impulsive drive within the individual and the "Me" as the internalized representation of values, norms, and social control acquired from the environment (Siroj & Zulfa, 2024). In face-to-face interactions, this balance is maintained by the presence of the "generalized other" that is, an individual's awareness of the social expectations and judgments of those around them. However, in digital spaces such as TikTok, this balance is potentially disrupted by anonymity and high usage intensity, which are believed to be driving factors behind the emergence of cyberbullying among adolescents.

One factor believed to drive this behavior is digital anonymity. According to Suler (2004), as cited in Alifah (2024), anonymity is understood as a condition in which individuals have the freedom to conceal or alter their true identities in digital interactions. The ease of creating anonymous accounts on TikTok serves as the primary catalyst exacerbating bullying, as perpetrators can disseminate unethical messages without fear of social or legal consequences (Manurung & Jamba, 2024). This finding aligns with the study by Utami & Nasihatun (2024), which states that anonymity and physical distance in digital communication make individuals more likely to engage in aggressive behavior in cyberspace. The qualitative study by Ningrum & Manalu (2023), further supports these findings, showing that adolescents involved in abusive speech on social media tend to shift negative comments to closed forums or use anonymous accounts to avoid social consequences. In this

study, digital anonymity was measured using three indicators proposed by Pfizmann and Hansen (2008), as cited in Alifah (2024), namely unlinkability, unobservability, and pseudonymity.

In addition to anonymity, the intensity of TikTok use is also believed to contribute to cyberbullying behavior. According to Mutib (2023), the intensity of social media use reflects an individual's level of engagement, as evidenced by the depth and extent of attention devoted to interactions on social media platforms. The higher the frequency and duration of a person's TikTok use, the greater their likelihood of being exposed to various forms of interaction in the digital space, including negative comments, hate speech, and cyberbullying. High intensity of TikTok use can increase an individual's likelihood of engaging in various forms of digital interaction that have the potential to trigger or reinforce cyberbullying behavior. In this study, the intensity of TikTok use was measured using four indicators proposed by Umami (2018), as cited in Sa'diyah et al. (2022), namely attention, absorption, duration, and frequency.

Several previous studies have shown a link between social media use and cyberbullying behavior. A study by Utami & Nasihatun (2024), found that digital anonymity can increase individuals' boldness to engage in aggressive acts in cyberspace, while Afralia et al. (2024), demonstrated that high intensity of social media use is associated with a tendency toward cyberbullying behavior among adolescents. These findings suggest that digital anonymity and the intensity of TikTok use have the potential to predict cyberbullying behavior. However, most studies still examine these two variables separately or use qualitative approaches to understand the phenomenon of cyberbullying on TikTok (Siroj & Zulfa, 2024). These limitations suggest that further research is needed to examine the simultaneous effects of digital anonymity and the intensity of TikTok use on cyberbullying behavior. Additionally, research focusing on adolescents and young adults in Semarang remains relatively limited. Therefore, this study was conducted to provide a more comprehensive understanding of the effects of digital anonymity and the intensity of TikTok use on cyberbullying behavior among adolescents.

Based on the above discussion, this study aims to analyze the partial and simultaneous effects of digital anonymity and the intensity of TikTok use on cyberbullying behavior among adolescents in Semarang. The findings are expected to provide a theoretical contribution to the development of digital communication studies, as well as practical implications for adolescents, parents, educational institutions, and platform administrators in efforts to prevent cyberbullying more effectively.

Methods

This study employs a quantitative method with an explanatory approach to analyze the influence of digital anonymity and the intensity of TikTok use on cyberbullying behavior among adolescents. The quantitative method was chosen because it allows researchers to examine the relationships between variables in a measurable way through statistical data analysis (Sugiyono, 2013). Meanwhile, the explanatory approach was applied to elaborate on the role of each variable in the research model and to test the causal relationships among these variables based on hypothesis testing (Sugiyono, 2013). This study was conducted in April 2026 through the distribution of an online questionnaire using Google Forms. The

objects of this study are digital anonymity and the intensity of TikTok use, while the research subjects are adolescents aged 18–24 who reside in Semarang and are active users of the TikTok platform. This study focuses on analyzing the influence of digital anonymity and the intensity of TikTok use on cyberbullying behavior among adolescents in Semarang.

Population and Sample

The population in this study consists of all active TikTok users aged 18–24 residing in Semarang, in accordance with the World Health Organization's (WHO) classification of late adolescence. Based on 2025 data from the Central Statistics Agency, the population of Semarang City in the 15–24 age group was recorded at 257,655 people, which served as the basis for calculating the sample size in this study. Sampling was conducted using purposive sampling, with the following respondent criteria: (1) aged 18–24; (2) residing in Semarang; and (3) being an active TikTok user in the past three months. The three-month activity threshold was set because users active during that period were considered to have sufficient exposure to digital interactions on the TikTok platform, making them relevant for describing the phenomenon under study.

The sample size was determined using the Slovin formula with a margin of error of 10%. According to Sugiyono (2013), a 10% margin of error is acceptable in social research aimed at describing general behavioral trends and perceptions, particularly in studies with large populations and non-probability sampling techniques. This is supported by Dharmarendra et al. (2024), who state that a 10% margin of error is used because the sample selection has been narrowed down based on specific criteria through purposive sampling. Based on calculations for a population of 257,655 people, a minimum sample size of 100 respondents was determined. In practice, this study successfully collected data from 144 respondents, a number that meets and exceeds the minimum sample size required for multiple linear regression analysis.

Data Collection Techniques

The primary data in this study were collected through an online questionnaire distributed to adolescent respondents who are active TikTok users in Semarang. The questionnaire was designed based on indicators of the three research variables: digital anonymity, intensity of TikTok use, and cyberbullying behavior. Respondents' attitudes were measured using a modified Likert scale ranging from 1 to 4, designed to encourage respondents to provide more definitive answers and avoid the tendency to choose neutral responses (Sugiyono, 2013). Secondary data were obtained through a literature review, which involved examining written sources relevant to the research topic. Sources of secondary data included scientific journals, reference books, and demographic data from Badan Pusat Statistik Kota Semarang (2026), which was used to determine the population size. This secondary data served to support and strengthen the theoretical framework and to deepen the interpretation of findings from the primary data.

Before being used for the main data collection, the research instrument was first pilot-tested on 30 initial respondents to ensure its validity and reliability. All tested items met the criteria, so the instrument was deemed valid and reliable for use in the research data collection process. The following table summarizes the results of the validity and reliability

tests for the variables of digital anonymity, TikTok usage intensity, and cyberbullying behavior.

Table 1. Results of the Anonymity Validity Test (Source: Data compiled by the researcher, 2026)

Question	R. calculate	R. Table	Description
P1	0.486	0.361	Valid
P2	0.496	0.361	Valid
P3	0.556	0.361	Valid
P4	0.379	0.361	Valid
P5	0.700	0.361	Valid
P6	0.496	0.361	Valid
P7	0.619	0.361	Valid
P8	0.533	0.361	Valid
P9	0.711	0.361	Valid
P10	0.596	0.361	Valid

Table 2. Results of the Validity Test for TikTok Usage Intensity (Source: Data compiled by the researcher, 2026)

Question	R. calculate	R. Table	Description
P13	0.683	0.361	Valid
P14	0.645	0.361	Valid
P15	0.752	0.361	Valid
P16	0.538	0.361	Valid
P17	0.604	0.361	Valid
P18	0.671	0.361	Valid
P19	0.644	0.361	Valid
P20	0.698	0.361	Valid
P21	0.752	0.361	Valid
P22	0.557	0.361	Valid
P23	0.746	0.361	Valid
P24	0.567	0.361	Valid
P25	0.528	0.361	Valid
P26	0.464	0.361	Valid
P27	0.458	0.361	Valid

Table 3 .Results of the Cyberbullying Behavior Validity Test (Source: Data compiled by the researcher, 2026)

Question	R. calculate	R. Table	Description
P29	0.551	0.361	Valid
P30	0.729	0.361	Valid
P31	0.519	0.361	Valid
P32	0.746	0.361	Valid
P33	0.634	0.361	Valid
P34	0.750	0.361	Valid

Question	R. calculate	R. Table	Description
P35	0.459	0.361	Valid
P36	0.520	0.361	Valid
P37	0.771	0.361	Valid
P38	0.936	0.361	Valid
P39	0.868	0.361	Valid
P40	0.711	0.361	Valid
P41	0.536	0.361	Valid
P42	0.821	0.361	Valid
P43	0.762	0.361	Valid
P44	0.860	0.361	Valid
P45	0.714	0.361	Valid
P46	0.845	0.361	Valid
P47	0.621	0.361	Valid
P48	0.906	0.361	Valid
P49	0.822	0.361	Valid
P50	0.809	0.361	Valid
P51	0.648	0.361	Valid
P52	0.838	0.361	Valid

Before being used in the data collection process, the research instrument was first tested for validity to determine the ability of each statement item to measure the variable under study. The test was conducted by comparing the calculated r-value with the table r-value of 0.361 at a significance level of 0.05. Based on the test results, all statement items used in the study had calculated r-values ranging from 0.379 to 0.936, all of which were greater than the table r-value. Based on the data in Tables 1, 2, and 3, all questions regarding the variables of anonymity, TikTok usage intensity, and cyberbullying behavior indicate that all statement items used met the validity criteria and are suitable for use as research instruments. Next, a reliability test was conducted to determine the level of consistency of the research instrument. The results of the reliability test are presented in the following table.

Table 4. Results of the Anonymity Reliability Test (Source: Data compiled by the researcher, 2026)

Indicators	Cronbach's Alpha	Reliability Score	Description
Unlinkability	0.694	0.60	Reliable
Unobservability	0.768	0.60	Reliable
Pseudonymity	0.776	0.60	Reliable

Table 5 Results of the Reliability Test for TikTok Usage Intensity (Source: Data compiled by the researcher, 2026)

Indicators	Cronbach's Alpha	Reliability Score	Description
Attention	0.826	0.60	Reliable
Absorption	0.782	0.60	Reliable
Duration	0.843	0.60	Reliable
Frequency	0.710	0.60	Reliable

Table 6. Results of the Reliability Test for Cyberbullying Behavior (Source: Data compiled by the researcher, 2026)

Indicators	Cronbach's Alpha	Reliability Score	Description
Harassment	0.805	0.60	Reliable
Denigration	0.754	0.60	Reliable
Flaming	0.918	0.60	Reliable
Impersonation	0.874	0.60	Reliable
Outing	0.890	0.60	Reliable
Cyberstalking	0.898	0.60	Reliable

A reliability test was conducted to ensure the instrument's consistency in measuring the research variables. The test was conducted using Cronbach's Alpha with a reliability criterion of 0.60. Based on the results shown in Tables 4, 5, and 6, all variables obtained Cronbach's Alpha values above 0.60. Thus, all research instruments were deemed reliable and can be used in the subsequent data analysis stage.

Data Analysis Techniques

Data processing and analysis in this study were conducted using Microsoft Excel and IBM SPSS Statistics version 25. The initial stage of analysis consisted of descriptive statistics, which served to describe the respondents' profiles and response patterns for each variable indicator through frequency and percentage values. Before proceeding to hypothesis testing, the regression model must pass the classical assumption tests, including tests for normality, multicollinearity, and heteroscedasticity, to ensure that the estimated results are not biased (Ghozali, 2021). Once the classical assumptions are met, hypothesis testing is conducted using multiple linear regression analysis. According to Ghozali (2021), this technique is appropriate when researchers wish to determine the combined contribution of two or more independent variables to a single dependent variable. This aligns with the study's design, which treats digital anonymity and TikTok usage intensity as two predictors whose simultaneous effects on cyberbullying behavior are tested. All hypothesis testing decisions were based on a significance level of 0.05. According to Ghozali (2021), a research hypothesis is accepted if the Sig. value is < 0.05 , with the calculated t-value exceeding the critical t-value for partial tests and the calculated F-value exceeding the critical F-value for simultaneous tests. This testing mechanism allows researchers to measure the simultaneous effects of digital anonymity and the intensity of TikTok use on cyberbullying behavior among adolescent TikTok users in Semarang.

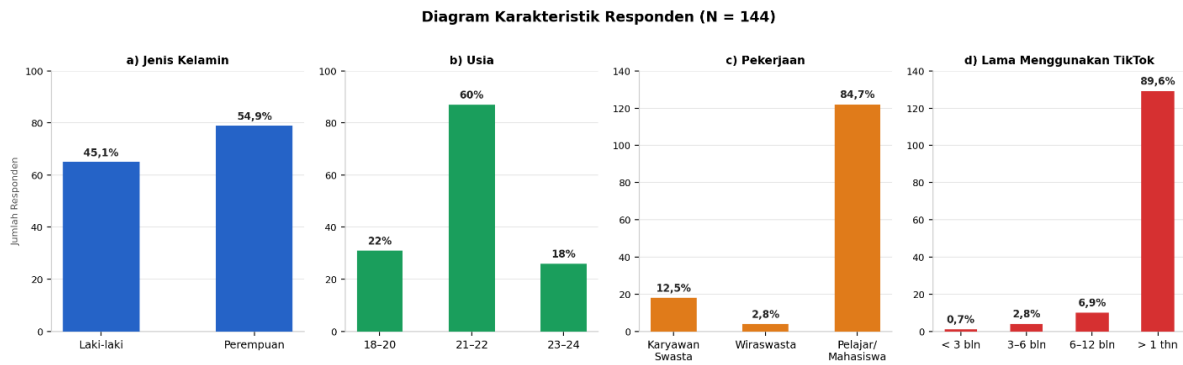
Finding and Discussion

Findings

Respondent Characteristics

The characteristics of the respondents were analyzed descriptively to provide an overview of the research sample's profile. The demographic data were grouped into four main variables: gender, age group, occupation, and duration of TikTok use. Details regarding the participants' profiles are presented below.

Figure 2. Characteristics of Respondents (Source: Data compiled by the researcher, 2026)



Based on the histogram data on demographic characteristics, female respondents outnumbered male respondents (54.9% vs. 45.1%), consistent with the findings of the Asosiasi Penyelenggara Jasa Internet Indonesia [APJII] (2026), that teenage girls tend to spend more time on visual-content platforms such as TikTok. In terms of age, the 21–22 age group accounted for 60% of respondents, followed by the 18–20 age group (22%) and the 23–24 age group (18%), reflecting the late adolescent phase during which young people are actively building their social identities through digital platforms (We Are Social Indonesia, 2023). By occupation, the majority of respondents were students (84.7%), while in terms of duration of use, 89.6% of respondents had been using TikTok for more than one year, indicating that they are active users who have been exposed to TikTok’s digital ecosystem for a considerable period and are therefore a representative research sample.

Anonymity

According to Suler (2004), as cited in Alifah (2024), digital anonymity refers to a condition in which individuals can conceal or not reveal their true identities in online interactions. This condition allows users to feel freer in expressing their opinions and behaviors because their personal identities are difficult for other users to identify. In this study, digital anonymity was measured using three indicators proposed by Pfizmann and Hansen (2008), as cited in Alifah (2024), namely unlinkability, unobservability, and pseudonymity.

Table 7 Categories of Anonymity Variables (Source: Data compiled by the researcher, 2026)

Indicators	Low		Medium		High		Total
	Freq.	Pct (%)	Freq.	Pct (%)	Freq.	Pct (%)	
Unlinkability	6	4%	54	38%	84	58%	144
Unobservability	17	12%	51	35%	76	53%	144
Pseudonymity	11	8%	52	36%	81	56%	144

Table 7 shows that all anonymity indicators are predominantly in the “high” category. The “unlinkability” indicator recorded the highest proportion, with 58% of respondents feeling that their digital identity cannot be linked to their real-world identity. The pseudonymity indicator follows closely with 56% in the “high” category, indicating a high prevalence of pseudonym use among respondents. The unobservability indicator is also

dominated by the “high” category at 53%, suggesting that most respondents feel their physical presence and visual identity are not easily observable by other users. The dominance of the “high” category across all these indicators is consistent with the findings of Alifah (2024) study, which states that teenage social media users leverage anonymity as a form of digital autonomy to experiment with new identities without fear of social sanctions. This situation is a serious concern, given that a high degree of anonymity has the potential to undermine user accountability and encourage cyberbullying in digital spaces (Manurung & Jamba, 2024).

Intensity of TikTok Use

According to Mutib (2023), the intensity of social media use reflects the level of an individual's attention, interest, and engagement in interacting through social media. This concept indicates the frequency, duration, and depth of social media use in a person's daily activities. In this study, the intensity of TikTok use was measured using four indicators proposed by Umami (2018), as cited in Sa'diyah et al. (2022), namely attention, absorption, duration, and frequency.

Table 8. Categories of the Intensity of TikTok Use Variable (Source: Data compiled by the researcher, 2026)

Indicator	Low		Medium		High		Total
	Freq.	Pct (%)	Freq.	Pct (%)	Freq.	Pct (%)	
Attention	3	2%	56	39%	85	59%	144
Absorption	0	0%	40	28%	104	72%	144
Duration	6	4%	44	31%	94	65%	144
Frequency	3	2%	56	39%	85	59%	144

Table 8 shows that all indicators of TikTok usage intensity are dominated by the “high” category. The “absorption” indicator recorded the highest proportion in the “high” category 72% with not a single respondent falling into the “low” category. These findings indicate that nearly all respondents experience very strong emotional engagement while using TikTok, namely feeling absorbed and losing control over the time spent on the platform. The “duration” indicator ranked second, with 65% of respondents in the high category, followed by “attention” (59%) and “frequency” (58%). This consistent pattern of the high category dominating across all these indicators reinforces that respondents' exposure to TikTok is highly intense in various aspects in terms of time spent, how often they open the app, and their level of concentration while using it. This finding supports the argument by Budi et al. (2023), that high levels of engagement with social media increase the risk of being involved in cyberbullying, either as a perpetrator or a victim.

Cyberbullying Behavior

According to Agustiningsih (2022), as cited in Siroj & Zulfa (2024), cyberbullying is a form of bullying carried out through digital media or internet-based platforms. This behavior utilizes information and communication technology as a means to intimidate, belittle, threaten, or psychologically harm others in cyberspace. In this study, cyberbullying behavior was measured using six indicators proposed by Chadwick (2014), as cited in Putri et al. (2023), namely harassment, denigration, flaming, impersonation, outing, and cyberstalking.

Table 9. Categories of the Cyberbullying Behavior Variable (Source: Data compiled by the researcher, 2026)

Indicator	Low		Medium		High		Total
	Freq.	Pct (%)	Freq.	Pct (%)	Freq.	Pct (%)	
Harassment	67	47%	38	26%	39	27%	144
Denigration	63	44%	42	29%	39	27%	144
Flaming	67	47%	34	24%	43	30%	144
Impersonation	77	53%	29	20%	38	26%	144
Outing	74	51%	33	23%	37	26%	144
Cyberstalking	47	33%	49	34%	48	33%	144

Table 9 shows that the distribution of indicators for the cyberbullying behavior variable is quite diverse. The cyberstalking indicator has the most even distribution across the low, medium, and high categories (33%, 34%, 33%), while the other indicators tend to be dominated by the low category. The largest proportion in the high category was found for the flaming indicator (30%), followed by harassment and denigration, each at 27%. Conversely, the impersonation (53%) and outing (51%) indicators showed a dominance in the low category, indicating that forms of cyberbullying with higher levels of complexity, such as identity theft and the dissemination of personal information, are relatively rarely engaged in by respondents. These findings align with the results of a study by Noya et al. (2024), which identified social media as one of the main factors driving bullying behavior. The high proportion of “flaming” and “cyberstalking” in this study indicates that forms of cyberbullying that are relatively easy to carry out, namely verbal provocation and excessive monitoring of online activity, are, in fact, the most prevalent among the respondents.

Discussion

The Effect of Digital Anonymity on Cyberbullying Behavior Among Adolescents

Table 10. Results of Multiple Linear Regression Analysis Coefficients^a (Source: Data compiled by the researcher, 2026)

Model	Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1 (Constant)	-24.744	7.996		-3.095	.002
Anonimitas	1.480	.195	.513	7.603	.000
Intensitas Penggunaan	.609	.155	.265	3.930	.000

a. Dependent Variable: Perilaku Cyberbullying

The statistical data presented in Table 10 show that digital anonymity has a positive and significant effect on cyberbullying behavior among adolescent TikTok users in Semarang. This is indicated by a significance value of 0.000 (< 0.05) and a positive regression coefficient of 1.480; thus, H1 is accepted. This finding indicates that the higher the level of anonymity adolescents perceive while using TikTok, the greater their tendency to engage in cyberbullying behavior.

This finding aligns with the explanation provided by Pfizmann and Hansen (2008), as cited in Alifah (2024), that anonymity manifested through unlinkability, unobservability, and pseudonymity creates conditions in which individuals feel free from surveillance and social consequences. Within the framework of Mead's Symbolic Interaction Theory, anonymity weakens the role of "Me" as a representation of internalized social values and norms, allowing the impulsive and spontaneous "I" to become more dominant in guiding individual behavior in digital spaces. Without the social pressure typically present in face-to-face interactions, self-control weakens and aggressive actions are more likely to occur (Tazkiyah et al., 2021). This is also supported by the findings of Olifia et al. (2025), who explain that anonymity increases adolescents' boldness to act aggressively because they feel they cannot be easily traced or held accountable, making cyberbullying difficult to stop and causing longer-lasting effects for victims.

The Effect of TikTok Usage Intensity on Cyberbullying Behavior Among Adolescents

The statistical data presented in Table 10 show that the intensity of TikTok use has a positive and significant effect on cyberbullying behavior among adolescent TikTok users in Semarang. This is indicated by a significance value of 0.000 (< 0.05) and a positive regression coefficient of 0.609; thus, H2 is accepted. This finding indicates that the higher the intensity of TikTok use among adolescents, the greater their tendency to engage in cyberbullying behavior.

High usage intensity reflects the level of attention, engagement, and duration (Umami, 2018, as cited in Sa'diyah et al., 2022). From the perspective of Symbolic Interaction Theory, the higher the intensity of use, the longer an individual's engagement in the process of symbolic exchange within a digital space with minimal oversight from "society" which serves as a representation of collective social control. This condition risks undermining adolescents' logical judgment and self-control; thus, the more frequently they interact on the platform, the greater their likelihood of engaging in negative behaviors such as cyberbullying (Meydiningrum et al., 2024). This finding is consistent with the results of a study by Kurniawan et al. (2026), which states that adolescents with high social media usage tend to be more frequently involved in bullying behavior both as perpetrators and victims because repeated exposure to abusive comments and online conflicts can reduce their capacity for empathy.

The Influence of Digital Anonymity and the Intensity of TikTok Use on Cyberbullying Behavior Among Adolescents

Table 11. Results of the F-Test (ANOVA) (Source: Data compiled by the researcher, 2026)

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig
1	Regression	18154.266	2	9077.133	49.816	.000 ^b
	Residual	25692.293	141	182.215		
	Total	43846.559	143			
a. Dependent Variable: Perilaku Cyberbullying						
b. Predictors: (Constant), Intensitas Penggunaan, Anonimitas						

The statistical data presented in Table 11 show that the calculated F-value is 49.816 with a significance value of 0.000. This significance value is less than 0.05 ($0.000 < 0.05$). Thus, H3 is accepted, meaning that digital anonymity and the intensity of TikTok use simultaneously have a significant effect on cyberbullying behavior among adolescent TikTok users in Semarang.

Within the framework of Symbolic Interaction Theory, the combination of anonymity and high intensity of use simultaneously creates mutually reinforcing conditions. Anonymity weakens the role of the “self” as an internal social control mechanism, while high usage intensity extends the duration an individual spends in a digital environment with minimal oversight from “society.” These two conditions work in synergy to form an interactive space where aggressive behavior is more easily normalized and cyberbullying is more likely to occur. The link between the two is further reinforced by the finding by Tazkiyah et al. (2021), that anonymity allows perpetrators to engage in repeated cyberbullying without fear. Additionally, Kurniawan et al. (2026), demonstrate that high usage intensity increases the frequency of conflicts and less empathetic communication.

Table 12. Results of the Coefficient of Determination Analysis (Source: Data compiled by the researcher, 2026)

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.643 ^a	.414	.406	13.498698
a. Dependent Variable: Perilaku Cyberbullying				
b. Predictors: (Constant), Intensitas Penggunaan, Anonimitas				

Based on the data presented in Table 12, the coefficient of determination (R-squared) of 0.414 indicates that digital anonymity and the intensity of TikTok use together account for 41.4% of the variation in cyberbullying behavior among adolescents in Semarang, while the remainder is influenced by other factors not examined in this study, such as self-control, peer influence, individual psychological conditions, and family dynamics (Jalal & Idris, 2021). These findings indicate that digital anonymity and the intensity of TikTok use are factors that simultaneously contribute to the emergence of cyberbullying behavior among adolescents who use TikTok. The results of this study are consistent with the findings of Meydiningrum et al. (2024), which show that factors related to social media use and an individual's psychological state collectively contribute to cyberbullying behavior. These findings are also consistent with the study by Budi et al. (2023), which states that social media use without a clear identity increases a person's risk of being involved in cyberbullying behavior, either as a perpetrator or a victim. Thus, high levels of digital anonymity and intense TikTok usage are important factors that require serious attention in efforts to prevent cyberbullying among adolescents.

Conclusion

Based on the research findings, digital anonymity and the intensity of TikTok use were found to have a positive and significant effect on cyberbullying behavior among adolescent TikTok users in Semarang, both partially and simultaneously. These findings

indicate that the higher the level of anonymity perceived by adolescents and the more intense their TikTok use, the greater their tendency to engage in cyberbullying behavior. From the perspective of Symbolic Interaction Theory, these research results show that anonymity weakens the role of the “self” as an internal social control mechanism, while high usage intensity prolongs an individual’s engagement in a digital environment with minimal oversight from “society.” When these two conditions occur simultaneously, adolescents’ capacity for self-reflection before acting is further weakened, making aggressive behaviors such as cyberbullying more likely to occur in the digital space. These findings reinforce the relevance of Symbolic Interaction Theory in explaining the dynamics of adolescents’ aggressive behavior on video-based social media platforms such as TikTok.

In practical terms, the findings of this study underscore the importance of managing anonymity features and usage intensity as part of a cyberbullying prevention strategy on digital platforms. Restricting anonymous accounts, strengthening content moderation, and improving digital literacy not only serve as mechanisms to protect users but also play a crucial role in building a safer and more responsible digital ecosystem, particularly for adolescents who are vulnerable to the negative effects of online interactions.

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