

The Effect Of Social Media Use Intensity And Digital Ethics Education On Cyberbullying Behavior Among Students Of Sman 2 Mesuji Makmur

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ABSTRACT

This study examines the effect of social media use intensity and digital ethics education on students' cyberbullying behavior at SMAN 2 Mesuji Makmur. A quantitative correlational approach was employed with 100 students selected through proportionate stratified random sampling using the Slovin formula. Data were collected via a Likert-scale questionnaire and analyzed using multiple linear regression, t-test, F-test, and coefficient of determination. Results indicate that social media use intensity has a positive and significant effect on cyberbullying behavior ($\beta = 0.309$; $t = 3.821$; $p = 0.0002$), meaning higher usage intensity correlates with increased cyberbullying tendency. Digital ethics education has a negative and significant effect ($\beta = -0.429$; $t = -5.465$; $p = 0.0000$), indicating that stronger digital ethics understanding reduces cyberbullying behavior. Simultaneously, both variables significantly influence cyberbullying behavior ($F = 24.721$; $p = 0.000$), explaining 32.4% of its variance. The remaining 67.6% is attributed to other factors such as self-control, peer environment, parental supervision, and empathy. These findings suggest that cyberbullying prevention requires a dual approach: regulating social media usage patterns and systematically integrating digital ethics education into school culture.

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INTRODUCTION

The development of social media has changed adolescents' patterns of interaction from direct communication to digital communication that is fast, open, and difficult to control. On the one hand, social media provides opportunities for students to access information, build relationships, and express themselves; on the other hand, high usage intensity can increase the risk of negative behaviors such as cyberbullying. Globally, the 2021/2022 Health Behaviour in School-aged Children study, which involved more than 279,000 adolescents in 44 countries, showed that around one in six adolescents had experienced cyberbullying. In the Indonesian context, internet penetration has reached 79.5%, while internet access among Gen Z has reached 87%, making school-age groups an important part of the national digital ecosystem. This condition shows that cyberbullying is no longer merely an individual problem, but a socioeducational phenomenon that needs to be studied seriously, especially among secondary school students who actively use social media.

The issue of cyberbullying is highly significant because it is directly related to psychological safety, educational quality, and student character formation in the digital era. From the perspective of the Sustainable Development Goals, this study is relevant to SDG 4 on quality education, particularly the target of creating safe, inclusive, and effective learning environments. This study is also related to SDG 16, especially efforts to reduce all forms of violence and protect children from violence, exploitation, and harmful treatment. Cyberbullying can disrupt students' sense of safety, reduce self-confidence, weaken social relationships, and even affect mental health and learning participation. Therefore, schools should not merely restrict social media use; they also need to build digital ethics awareness so that students are able to use technology ethically and responsibly.

Recent research shows that social media use among adolescents has complex effects and is not always one-dimensional. Boer et al. (2021) found that social media use intensity and social media use problems may be associated with adolescent mental health and negative social experiences in digital spaces. Orben et al. (2022) explained that adolescence is a developmental period that is sensitive to the influence of social media, so social media use needs to be viewed in relation to students' psychological developmental stages. Marciano et al. (2022), through a systematic review and meta-analysis, showed that digital media use during the pandemic was related to adolescents' psychological conditions, although its effects depended on usage patterns and social context. Shannon et al. (2022) also emphasized that problematic social media use is associated with various psychological problems among adolescents and young adults.

Other studies position cyberbullying as a form of digital violence influenced by personal, social, family, school, and digital platform

characteristics. Zhu et al. (2021) explained that cyberbullying among children and adolescents is influenced by risk factors such as problematic internet use, low empathy, weak supervision, and experiences of being bullied. Giumetti and Kowalski (2022) emphasized that cyberbullying through social media is associated with psychological well-being, the quality of social relationships, and users' sense of safety. Alonso et al. (2022) showed that moral disengagement and socio-emotional competencies play a role in cyberbullying and cybervictimization. Meanwhile, Pangrazio and Sefton-Green (2021), as well as Milenkova and Lendzhova (2021), emphasized the importance of digital literacy, digital rights, and digital citizenship as the foundation for forming ethical behavior in digital life.

Although research on social media and cyberbullying has developed, there remains an important research gap that needs further examination. Most previous studies have focused more on the relationship between social media use intensity and mental health, or between cyberbullying and adolescents' psychosocial factors, but relatively few have specifically examined the role of digital ethics education as a variable that can reduce students' tendency toward cyberbullying. In addition, studies on cyberbullying often position students as social media users, but have not deeply examined how an understanding of digital ethics can function as a protective mechanism in online interactions. Previous research has also more often used global or developed-country contexts, while the secondary school context in Indonesia, particularly in regional areas, still requires stronger empirical evidence. Therefore, this study is directed at examining the effects of social media use intensity and digital ethics education on students' cyberbullying behavior both partially and simultaneously.

The main problem in this study is the increasing use of social media among students, which is not always balanced by an adequate understanding of digital ethics. Students may use social media to communicate, share information, and build social relationships, but in practice social media can also become a space for hurtful comments, rumor spreading, digital exclusion, the use of fake accounts, and behaviors that demean others. This condition indicates the need to understand whether social media use intensity contributes to cyberbullying behavior. On the other hand, digital ethics education is assumed to be a factor that can reduce students' tendency to engage in cyberbullying. Thus, this study arises from the need to empirically demonstrate the relationship between social media use, digital ethics education, and students' cyberbullying behavior.

If cyberbullying behavior is not addressed seriously, its impact can extend to students' psychological, social, academic, and moral aspects. Victims of cyberbullying may experience emotional distress, shame, anxiety, decreased self-esteem, and reluctance to interact within the school environment. Cyberbullying perpetrators are also at risk of developing repeated patterns of digital aggression because social media spaces often provide a sense of anonymity, immediacy, and minimal direct control. Theoretically, neglecting this issue may weaken the development of digital character education studies because schools focus only on technological literacy rather than the ethics of technology use. Therefore, research

on digital ethics education is important as a basis for developing preventive strategies to prevent cyberbullying in the school environment.

Based on this background, this study is directed toward answering three main questions. First, does social media use intensity affect students' cyberbullying behavior at SMAN 2 Mesuji Makmur? Second, does digital ethics education affect students' cyberbullying behavior at SMAN 2 Mesuji Makmur? Third, do social media use intensity and digital ethics education simultaneously affect students' cyberbullying behavior at SMAN 2 Mesuji Makmur?

The main objective of this study is to analyze the effect of social media use intensity on students' cyberbullying behavior. In addition, this study aims to examine the effect of digital ethics education on students' cyberbullying behavior. This study also aims to determine the simultaneous effect of social media use intensity and digital ethics education on students' cyberbullying behavior. Thus, the findings are expected to provide an empirical picture of risk factors and protective factors in students' cyberbullying behavior.

Academically, this study contributes to the development of literature on students' cyberbullying behavior in the context of digital education. This study not only views social media as a risk factor, but also positions digital ethics education as an important variable that can function as a controller of negative behavior in digital spaces. Thus, this study broadens cyberbullying research from merely the relationship between social media use and online aggressive behavior toward a more comprehensive understanding of the importance of digital ethics education. The findings of this study may also strengthen the frameworks of digital literacy, digital citizenship, and character education in the secondary school context. Therefore, this study is expected to serve as a reference for future research examining cyberbullying, digital ethics, and students' behavior on social media.

Practically, this study can provide input for schools in designing cyberbullying prevention programs based on digital ethics education. Teachers, homeroom teachers, and guidance and counseling teachers can use the findings of this study as a basis for developing guidance materials on digital etiquette, responsibility in social media use, awareness of digital footprints, and respect for others' privacy. For parents, this study can serve as a basis for improving assistance and supervision of social media use at home. For students, the findings are expected to build awareness that digital activities have social, moral, and psychological consequences. Thus, this study has not only academic benefits, but is also relevant to building a healthy, safe, and responsible digital culture in the school environment.

METHODS

This study used a quantitative approach with a correlational research design. The quantitative approach was chosen because the data collected were numerical, namely respondents' questionnaire scores, which were then analyzed statistically. The correlational research design was used to examine the relationship as well as the effect of social media use intensity and digital ethics

education on students' cyberbullying behavior. This study was conducted at SMAN 2 Mesuji Makmur in 2026 after the research proposal was declared feasible and the researchers obtained permission from the school. In general, the research stages included instrument development, instrument testing, data collection, data processing, data analysis, interpretation of results, and preparation of the research report.

The population in this study consisted of all grade X, XI, and XII students at SMAN 2 Mesuji Makmur who used social media, with a total population of 134 students. The research sample consisted of 100 students, determined using the Slovin formula with a 5% margin of error. The sampling technique used was proportionate stratified random sampling. This technique was chosen because the research population consisted of several strata or grade levels, namely grades X, XI, and XII, so that each grade level could be represented proportionally in the sample. This study involved two independent variables, namely social media use intensity (X1) and digital ethics education (X2), and one dependent variable, namely students' cyberbullying behavior (Y).

The research instrument used was a closed-ended questionnaire with a five-point Likert scale, ranging from Strongly Disagree (SD), Disagree (D), Neutral (N), Agree (A), to Strongly Agree (SA). The instrument was developed based on the indicators of each research variable. The social media use intensity variable was measured through indicators of duration of use, frequency of use, purpose of use, interaction patterns, types of platforms used, and emotional involvement in social media use. The digital ethics education variable was measured through indicators of digital etiquette, awareness of digital footprints, respect for privacy, ability to filter content, compliance with digital rules, and responsibility in interacting in digital spaces. Meanwhile, the students' cyberbullying behavior variable was measured through indicators of hurtful comments, rumor spreading, digital exclusion, use of fake accounts, and responses or actions that demean others on social media. Before being used in the main data collection, the instrument was first tested for validity using Pearson Product Moment correlation and for reliability using Cronbach's Alpha.

Data were collected by distributing questionnaires to 100 students who had been selected as the research sample. Before respondents completed the questionnaire, the researchers first explained the purpose of the study, the procedures for completing the questionnaire, and the guarantee of respondent identity confidentiality. This was done so that respondents could provide honest, objective answers that reflected their actual conditions. All collected data were then analyzed using SPSS through several stages, namely descriptive analysis, prerequisite testing or classical assumption testing, and hypothesis testing.

The prerequisite tests in this study included normality, linearity, multicollinearity, and heteroscedasticity tests. The normality test was used to determine whether the residual data were normally distributed. The linearity test was used to determine whether there was a linear relationship between the independent variables and the dependent variable. The multicollinearity test was used to determine whether there was an excessively strong relationship among

the independent variables, while the heteroscedasticity test was used to determine whether there was unequal residual variance in the regression model. After the prerequisite tests were fulfilled, the analysis continued with hypothesis testing using multiple linear regression, t-test, F-test, and the coefficient of determination.

This study also paid attention to research ethics principles, especially because the object of study was related to students' behavior in using social media. The researchers maintained the confidentiality of respondents' identities, did not request social media account names, and did not present data individually. All research findings were presented in the form of group data so that respondent privacy remained protected. Thus, this study was expected to produce valid, reliable, and ethical data in explaining the effect of social media use intensity and digital ethics education on students' cyberbullying behavior at SMAN 2 Mesuji Makmur.

RESULT AND DISCUSSION

Result

Descriptive Analysis Results

Table 1. Descriptive Statistics

Variable	N	Minimum	Maximum	Mean	Std. Deviation
X1	100	14	50	31.71	8.361
X2	100	17	50	33.66	8.619
Y	100	10	50	27.32	8.143
Valid N (listwise)	100				

Based on Table 1, the number of respondents in this study was 100. Variable X1 had a minimum value of 14, a maximum value of 50, a mean of 31.71, and a standard deviation of 8.361. Variable X2 had a minimum value of 17, a maximum value of 50, a mean of 33.66, and a standard deviation of 8.619. Meanwhile, variable Y had a minimum value of 10, a maximum value of 50, a mean of 27.32, and a standard deviation of 8.143.

These results show that respondents' answers for each variable had a fairly varied distribution. The highest mean was found in variable X2, at 33.66, while the lowest mean was found in variable Y, at 27.32. This indicates that, descriptively, respondents' answer tendencies were higher for variable X2 than for variables X1 and Y.

Validity Test

Table 2. Recapitulation of Instrument Validity Test

Variable	r-table criterion	Test Result	Significance	Decision
X1	0.1966	All calculated r values > r table	Sig. < 0.05	Valid
X2	0.1966	All calculated r values > r table	Sig. < 0.05	Valid
Y	0.1966	All calculated r values > r table	Sig. < 0.05	Valid

Based on Table 2, all statement items for variables X1, X2, and Y were declared valid. This is indicated by the calculated r values of all items being greater than the r-table value of 0.1966, as well as significance values smaller than 0.05. Thus, all items in the research instrument met the validity requirements and were appropriate for use in the subsequent analysis.

Reliability Test

Table 3. Reliability Statistics

Variable	Cronbach's Alpha	Criterion	Decision
X1	0.931	> 0.70	Reliable
X2	0.951	> 0.70	Reliable
Y	0.942	> 0.70	Reliable

Based on Table 3, the Cronbach's Alpha value for variable X1 was 0.931, for variable X2 was 0.951, and for variable Y was 0.942. All Cronbach's Alpha values were greater than 0.70. Thus, the research instruments for each variable were declared reliable. This means that the statement items in the instrument had good internal consistency, so the data obtained could be trusted for use in further analysis.

Classical Assumption Tests

1. Normality Test

Table 4. Tests of Normality

Variable	Kolmogorov-Smirnov Statistic	Sig.	Shapiro-Wilk Statistic	Sig.	Remarks
Unstandardized Residual	0.052	0.9392	0.992	0.8143	Normal

Based on Table 4, the residual normality test results showed a Kolmogorov-Smirnov significance value of 0.9392 and a Shapiro-Wilk significance value of 0.8143. Both values were greater than 0.05. Thus, it can be concluded that the residual data were normally distributed. This indicates that the regression model met the normality assumption.

2. Multicollinearity Test

Table 5. Coefficients: Collinearity Statistics

Model	Variable		Tolerance	VIF	Remarks
1	X1		0.989	1.011	No multicollinearity
1	X2		0.989	1.011	No multicollinearity

Based on Table 5, variables X1 and X2 had a tolerance value of 0.989 and a VIF value of 1.011. The tolerance value was greater than 0.10, while the VIF value was less than 10. Thus, it can be concluded that there was no multicollinearity among the independent variables in the regression model. This means that variables X1 and X2 did not have an excessively

strong linear relationship with each other, so both were appropriate to be used together in the regression analysis.

3. Heteroscedasticity Test

Table 6. Glejser Heteroscedasticity Test

Variable	Sig.	Criterion	Remarks
X1	0.5344	> 0.05	No heteroscedasticity
X2	0.8249	> 0.05	No heteroscedasticity

Based on Table 6, the significance value of variable X1 was 0.5344 and that of variable X2 was 0.8249. Both significance values were greater than 0.05. Thus, it can be concluded that there was no indication of heteroscedasticity in the regression model. This means that the residual variation in the model was constant, so the regression model met the heteroscedasticity assumption.

Overall, the results of the classical assumption tests showed that the regression model met the normality assumption, did not experience multicollinearity, and did not experience heteroscedasticity. Therefore, the multiple linear regression model was appropriate for testing the effect of variables X1 and X2 on Y.

Multiple Linear Regression Analysis

Table 7. Coefficients

Model	Variable	Unstandardized B	Std. Error	Standardized Beta	t	Sig.	Tolerance	VIF
1	Constant	31.956	-	-	-	-	-	-
1	X1	0.309	0.081	0.317	3.821	0.0002	0.989	1.011
1	X2	-0.429	0.078	-0.454	-5.465	0.0000	0.989	1.011

Dependent Variable: Y

Based on Table 7, the following multiple linear regression equation was obtained:

$$Y = 31.956 + 0.309X1 - 0.429X2$$

This equation shows that the constant value was 31.956. This means that if variables X1 and X2 are considered constant or equal to zero, then the value of Y is estimated to be 31.956. The regression coefficient of variable X1 of 0.309 indicates that each one-unit increase in X1 will increase Y by 0.309, assuming that variable X2 remains constant. Thus, X1 has a positive direction of effect on Y.

Meanwhile, the regression coefficient of variable X2 of -0.429 indicates that each one-unit increase in X2 will decrease Y by 0.429, assuming that variable X1 remains constant. Thus, X2 has a negative direction of effect on Y. This negative direction indicates that the higher X2 is, the more the value of Y tends to decrease.

Partial t-Test

Table 8. t-Test Results

Variable	B	calculated t	Sig.	Criterion	Decision
X1	0.309	3.821	0.0002	Sig. < 0.05	Significant effect
X2	-0.429	-5.465	0.0000	Sig. < 0.05	Significant effect

Based on Table 8, variable X1 had a calculated t value of 3.821 with a significance value of 0.0002. Because the significance value was smaller than 0.05, it can be concluded that X1 had a significant effect on Y. The positive regression coefficient indicates that the effect of X1 on Y was positive. This means that the higher X1 is, the more Y tends to increase.

Variable X2 had a calculated t value of -5.465 with a significance value of 0.0000. Because the significance value was smaller than 0.05, X2 also had a significant effect on Y. However, the regression coefficient of X2 was negative, so the effect of X2 on Y was negative. This means that the higher X2 is, the more Y tends to decrease.

Thus, partially, both X1 and X2 had significant effects on Y, but with different directions of effect. X1 had a positive effect, while X2 had a negative effect.

Simultaneous F-Test

Table 9. ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	2214.694	2	1107.347	24.721	0.000
Residual	4345.066	97	44.795		
Total	6559.760	99			

Dependent Variable: Y

Predictors: Constant, X1, X2

Based on Table 9, the calculated F value was 24.721 with a significance value of 0.000. Because the significance value was smaller than 0.05, it can be concluded that variables X1 and X2 simultaneously had a significant effect on variable Y. In other words, the regression model involving X1 and X2 together was appropriate for explaining changes in variable Y.

Coefficient of Determination

Table 10. Model Summary

Model	R	R Square	Adjusted Square	R	Std. Error of the Estimate
1	0.581	0.338	0.324		6.696

Predictors: Constant, X1, X2

Based on Table 10, the R value of 0.581 indicates that the relationship between variables X1 and X2 together and Y was in the moderate category. The R Square value of 0.338 indicates that variables X1 and X2 were able to explain 33.8% of the variation in changes in variable Y.

Meanwhile, the Adjusted R Square value of 0.324 indicates that, after being adjusted for the number of independent variables and the sample size, X1

and X2 contributed effectively by 32.4% to Y. The remaining 67.6% was explained by other factors outside this research model. The Std. Error of the Estimate value of 6.696 indicates the level of prediction error in the regression model. The smaller the standard error value, the better the model's ability to predict the dependent variable.

Summary of Hypothesis Testing Results

Table 11. Summary of Hypothesis Testing Results

Hypothesis	Statement	Sig. Value	Decision
H1	X1 has an effect on Y	0.0002	Accepted
H2	X2 has an effect on Y	0.0000	Accepted
H3	X1 and X2 simultaneously have an effect on Y	0.000	Accepted

Based on the results of hypothesis testing, it can be concluded that all hypotheses in this study were accepted. Variable X1 was proven to have a positive and significant effect on Y. Variable X2 was also proven to have a significant effect on Y, but with a negative direction of effect. In addition, X1 and X2 were simultaneously proven to have a significant effect on Y.

Discussion

The Effect of Social Media Use Intensity on Students' Cyberbullying Behavior

The results showed that social media use intensity had a positive and significant effect on students' cyberbullying behavior. This was evidenced by a regression coefficient of 0.309, a calculated t value of 3.821, and a significance value of 0.0002. Because the significance value was smaller than 0.05, it can be concluded that social media use intensity partially had a

significant effect on students' cyberbullying behavior. The positive coefficient direction indicates that the higher the intensity of social media use, the greater the tendency for students' cyberbullying behavior to increase. This finding indicates that social media is an interaction space that can increase the opportunity for the emergence of digitally aggressive behavior, especially when it is used intensively, lacks control, and is not accompanied by ethical awareness. Social media use intensity is not only related to duration of use, but also includes frequency of access, types of platforms used, purposes of use, interaction patterns, and students' emotional involvement in digital activities. In the adolescent context, social media often becomes a space for building identity, seeking social recognition, interacting with peers, and expressing opinions. However, when such interactions are not well controlled, social media can become a medium for mocking, insinuating, spreading rumors, excluding others, or carrying out demeaning actions online.

The findings of this study are in line with Boer et al. (2021), who explained that social media use problems among adolescents can predict increased cybervictimization and other negative social processes. However, that study also emphasized that social media use intensity does not always have a negative

impact if it is not accompanied by problematic usage patterns. Thus, the findings of this study should be understood as indicating that the risk of cyberbullying does not arise only because students use social media for long durations, but also because of unhealthy usage patterns, such as impulsive use, tendencies to compare oneself with others, involvement in digital conflict, and low self-control in responding to others' posts.

This finding is also supported by Marciano et al. (2022), who showed that digital media use among adolescents has varied psychosocial consequences, depending on the form of use, intensity, social context, and type of digital activity performed. Orben et al. (2022) also emphasized that adolescence is a developmental period that is sensitive to the influence of social media, so social media use needs to be understood in relation to adolescents' psychological and social developmental stages. Meanwhile, Shannon et al. (2022), through a systematic review and meta-analysis, showed that problematic social media use is associated with various psychological problems among adolescents and young adults. This indicates that high social media use needs to be balanced with adequate self-regulation, digital literacy, and social supervision.

Thus, the findings of this study strengthen the argument that social media use intensity is one factor that can increase students' tendency toward cyberbullying behavior. The more often students engage in digital communication without ethical control, the greater the likelihood that they will take actions that hurt others verbally or socially. Therefore, schools need to pay attention not only to how long students use social media, but also to how they use social media, with whom they interact, and what values guide their behavior in digital spaces.

The Effect of Digital Ethics Education on Students' Cyberbullying Behavior

The results showed that digital ethics education had a negative and significant effect on students' cyberbullying behavior. This was evidenced by a regression coefficient of -0.429, a calculated t value of -5.465, and a significance value of 0.0000. Because the significance value was smaller than 0.05, it can be concluded that digital ethics education partially had a significant effect on students' cyberbullying behavior. The negative coefficient direction indicates that the higher the level of digital ethics education possessed by students, the more cyberbullying behavior tends to decrease.

This finding shows that digital ethics education functions as a protective factor in preventing deviant behavior in digital spaces. Digital ethics education equips students with the ability to understand moral boundaries in communication, respect others' privacy, recognize the consequences of digital footprints, filter content before sharing it, and take responsibility for every action taken on social media. Thus, digital ethics education is not only related to the ability to use technology, but also to the formation of moral awareness, digital empathy, and social responsibility in online life.

These results are in line with Pangrazio and Sefton-Green (2021), who explained that digital literacy, digital citizenship, and digital rights are related to

individuals' ability to understand the ethical, social, and critical dimensions of digital life. Milenkova and Lendzhova (2021) also emphasized that digital citizenship includes awareness, responsibility, safety, rights, obligations, and ethical behavior in the use of technology. Thus, digital ethics education can become an important foundation for shaping students' behavior so that they are more polite, responsible, and do not harm others in digital spaces.

This finding is also supported by Zhu et al. (2021), who stated that cyberbullying among children and adolescents is influenced by various risk and protective factors, including online behavior, victimization experiences, impulsivity, interpersonal relationships, school climate, empathy, and parental support. Digital ethics education in this context can be understood as part of a prevention strategy because it can strengthen students' empathy, responsibility, and awareness of the impact of their digital behavior. With digital ethics education, students are expected not only to know how to use social media, but also to understand that every comment, post, or digital action can affect the psychological and social condition of others.

Practically, the findings of this study imply that schools need to integrate digital ethics education into learning and school culture. Digital ethics education can be implemented through casebased learning, discussions about digital footprints, simulations of polite communication on social media, strengthening empathy, and habituating responsible technology use. With this approach, students are not only prevented from cyberbullying through prohibitions, but are also guided to understand the moral reasons why cyberbullying behavior should be avoided.

The Simultaneous Effect of Social Media Use Intensity and Digital Ethics Education on Students' Cyberbullying Behavior

The F-test results showed that social media use intensity and digital ethics education simultaneously had a significant effect on students' cyberbullying behavior. This was evidenced by a calculated F value of 24.721 and a significance value of 0.000. Because the significance value was smaller than 0.05, it can be concluded that the two independent variables together had a significant effect on students' cyberbullying behavior.

The Adjusted R Square value of 0.324 indicates that social media use intensity and digital ethics education together were able to explain 32.4% of the variation in students' cyberbullying behavior. The remaining 67.6% was influenced by other factors outside this research model. These other factors may include self-control, empathy, parenting patterns, school climate, peer pressure, experiences of being bullied, account anonymity, emotion regulation, and communication culture within peer groups.

This simultaneous finding shows that cyberbullying behavior cannot be explained by a single factor alone. Social media use intensity can become a risk factor because the more often students are present in digital spaces, the greater the possibility that they will experience conflict, misunderstandings in communication, social competition, or urges to provide negative responses to

others. However, digital ethics education can serve as a controlling factor because it helps students understand norms, ethics, consequences, and responsibility in communicating on social media.

Thus, the relationship between social media use intensity and digital ethics education in relation to cyberbullying is complementary. Social media provides the space and opportunity for digital interaction, while digital ethics education functions as a moral control that guides students to use that space responsibly. When social media use intensity is high but digital ethics education is low, the risk of cyberbullying behavior tends to increase. Conversely, when social media use is accompanied by a strong understanding of digital ethics, the potential for cyberbullying can be reduced.

These findings strengthen the findings of Boer et al. (2021), Marciano et al. (2022), and Zhu et al. (2021) that negative behavior in digital spaces is related to social media usage patterns, online experiences, and adolescents' psychosocial factors. At the same time, these findings also support the views of Pangrazio and Sefton-Green (2021) and Milenkova and Lendzhova (2021) that digital literacy and digital citizenship are important for shaping responsible, safe, and ethical behavior in digital society. Therefore, cyberbullying prevention in schools needs to be carried out through a dual approach, namely controlling the intensity and patterns of social media use and continuously strengthening digital ethics education.

Based on these findings, schools need to develop more systematic preventive policies. First, schools need to provide education about healthy social media use, including time limits, commenting ethics, and the dangers of spreading negative content. Second, schools need to strengthen digital ethics education through cross-subject learning, guidance and counseling activities, and digital literacy programs. Third, schools need to involve parents so that supervision of social media use is not only carried out at school, but also in the family environment. Thus, cyberbullying prevention can be implemented collaboratively through the roles of schools, teachers, students, and parents.

CONCLUSIONS

Based on the results of data analysis and discussion, it can be concluded that social media use intensity and digital ethics education have a significant effect on students' cyberbullying behavior at SMAN 2 Mesuji Makmur. Social media use intensity was proven to have a positive and significant effect on cyberbullying behavior. This shows that the higher the intensity with which students use social media, the higher the tendency for cyberbullying behavior to emerge.

Uncontrolled social media use can create opportunities for hurtful comments, rumor spreading, digital exclusion, the use of fake accounts, and actions that demean others in digital spaces.

Digital ethics education was proven to have a negative and significant effect on students' cyberbullying behavior. This means that the better students' understanding of digital ethics, the lower their tendency to engage in

cyberbullying. Digital ethics education acts as a preventive factor because it can build students' awareness of politeness in communication, responsibility in using social media, respect for privacy, awareness of digital footprints, and the ability to select and disseminate information wisely.

Simultaneously, social media use intensity and digital ethics education had a significant effect on students' cyberbullying behavior. The Adjusted R Square value of 0.324 indicates that the two variables were able to explain 32.4% of cyberbullying behavior, while the remaining 67.6% was influenced by other factors outside this study, such as self-control, parental supervision, peer environment, school climate, empathy, emotion regulation, and experiences of being bullied.

Thus, this study confirms that students' cyberbullying behavior is influenced not only by high levels of social media use, but also by the level of their understanding of digital ethics. Therefore, schools need to strengthen digital ethics education through learning, guidance and counseling, habituation of polite communication, and cooperation with parents in supervising students' social media use. These efforts are important for building a healthy, safe, ethical, and responsible digital culture in the school environment.

REFERENCE

Alonso, C., Romero, E., & Gómez-Fraguela, J. A. (2022). Cyberbullying and cybervictimization:

The role of moral disengagement and socio-emotional competencies. *Journal of Interpersonal Violence*, 37(17-18), NP16040-NP16065.

<https://doi.org/10.1177/08862605211006336>

Arató, N., Zsidó, A. N., Lénárd, K., & Lábadi, B. (2022). Cybervictimization and cyberbullying: The role of socio-emotional skills and problematic internet use. *Children and Youth Services Review*, 137, 106463.

<https://doi.org/10.1016/j.childyouth.2022.106463>

Baldry, A. C., Sorrentino, A., & Farrington, D. P. (2021). Cyberbullying and cybervictimization versus parental supervision, monitoring and control of adolescents' online activities.

Children and Youth Services Review, 121, 105781.

<https://doi.org/10.1016/j.childyouth.2020.105781>

Boer, M., Stevens, G. W. J. M., Finkenauer, C., de Looze, M. E., & van den Eijnden, R. J. J. M. (2021). Social media use intensity, social media use problems, and mental health among adolescents: Investigating directionality and mediating processes. *Computers in Human Behavior*, 116, 106645.

<https://doi.org/10.1016/j.chb.2020.106645>

Boer, M., van den Eijnden, R. J. J. M., Boniel-Nissim, M., Wong, S. L., Inchley, J. C., Badura, P., Craig, W. M., Gobina, I., Kleszczewska, D., Klanšček, H. J., & Stevens, G. W. J. M. (2021).

Adolescents' intense and problematic social media use and their well-being in 29 countries. *Journal of Adolescent Health*, 68(1), 89–99.
<https://doi.org/10.1016/j.jadohealth.2020.02.014>

Cataldo, I., Lepri, B., Neoh, M. J. Y., & Esposito, G. (2021). Social media usage and development of psychiatric disorders in childhood and adolescence: A review. *Frontiers in Psychiatry*, 11, 508595.
<https://doi.org/10.3389/fpsyt.2020.508595>

Charmaraman, L., Lynch, A. D., Richer, A. M., & Grossman, J. M. (2022). Associations of early social media initiation on digital behaviors and the moderating role of limiting use. *Computers in Human Behavior*, 127, 107053. <https://doi.org/10.1016/j.chb.2021.107053>

Choi, M., Cristol, D., & Gimbert, B. (2021). Teachers as digital citizens: The influence of individual backgrounds, internet use and psychological characteristics on teachers' levels of digital citizenship. *Computers & Education*, 121, 143–161. <https://doi.org/10.1016/j.compedu.2018.03.005>

Eirich, R., McArthur, B. A., Anhorn, C., McGuinness, C., Christakis, D. A., & Madigan, S. (2022). Association of screen time with internalizing and externalizing behavior problems in children 12 years or younger: A systematic review and meta-analysis. *JAMA Psychiatry*, 79(5), 393–405.
<https://doi.org/10.1001/jamapsychiatry.2022.0155>

Gámez-Guadix, M., Mateos-Pérez, E., Wachs, S., & Wright, M. F. (2022). Longitudinal and reciprocal relationships between sexting, online sexual victimization, and cyberbullying among minors. *Computers in Human Behavior*, 126, 106984. <https://doi.org/10.1016/j.chb.2021.106984>

Giumetti, G. W., & Kowalski, R. M. (2022). Cyberbullying via social media and well-being. *Current Opinion in Psychology*, 45, 101314.
<https://doi.org/10.1016/j.copsyc.2022.101314>

Huang, C. (2022). A meta-analysis of the problematic social media use and mental health. *International Journal of Social Psychiatry*, 68(1), 12–33. <https://doi.org/10.1177/0020764020978434>

Keles, B., McCrae, N., & Grealish, A. (2021). The influence of social media on depression, anxiety and psychological distress in adolescents: A systematic review. *International Journal of Adolescence and Youth*, 26(1), 79–93.
<https://doi.org/10.1080/02673843.2019.1590851>

- Kowalski, R. M., & Limber, S. P. (2021). Electronic bullying among middle school students. *Journal of Adolescent Health*, 68(2), 239–246. <https://doi.org/10.1016/j.jadohealth.2020.06.036>
- Kowalski, R. M., Limber, S. P., & McCord, A. (2022). A developmental approach to cyberbullying: Prevalence and protective factors. *Aggression and Violent Behavior*, 64, 101746. <https://doi.org/10.1016/j.avb.2022.101746>
- Livingstone, S., Stoilova, M., & Nandagiri, R. (2022). Children's data and privacy online: Growing up in a digital age. *New Media & Society*, 24(1), 3–22. <https://doi.org/10.1177/14614448211008387>
- Machimbarrena, J. M., González-Cabrera, J., Ortega-Barón, J., Beranuy-Fargues, M., ÁlvarezBardón, A., & Tejero, B. (2021). Profiles of problematic internet use and its impact on adolescents' health-related quality of life. *International Journal of Environmental Research and Public Health*, 18(5), 2427. <https://doi.org/10.3390/ijerph18052427>
- Marciano, L., Ostroumova, M., Schulz, P. J., & Camerini, A.-L. (2022). Digital media use and adolescents' mental health during the COVID-19 pandemic: A systematic review and metaanalysis. *Frontiers in Public Health*, 9, 793868. <https://doi.org/10.3389/fpubh.2021.793868>
- Martínez-Ferrer, B., Moreno, D., & Musitu, G. (2021). Are adolescents engaged in the problematic use of social networking sites more involved in peer aggression and victimization? *Frontiers in Psychology*, 12, 623950. <https://doi.org/10.3389/fpsyg.2021.623950>
- Milenkova, V., & Lendzhova, V. (2021). Digital citizenship and digital literacy in the conditions of social crisis. *Computers*, 10(4), 40. <https://doi.org/10.3390/computers10040040>
- Mishna, F., Milne, E., Cook, C., & Ringrose, J. (2021). Unsolicited sexts and unwanted requests for sexts: Reflecting on the online sexual harassment of youth. *Youth & Society*, 53(5), 770–790. <https://doi.org/10.1177/0044118X19893814>
- Montag, C., Yang, H., & Elhai, J. D. (2021). On the psychology of TikTok use: A first glimpse from empirical findings. *Frontiers in Public Health*, 9, 641673. <https://doi.org/10.3389/fpubh.2021.641673>
- Nesi, J. (2022). The impact of social media on youth mental health: Challenges and opportunities. *North Carolina Medical Journal*, 83(2), 116–121. <https://doi.org/10.18043/ncm.83.2.116>
- Odgers, C. L., & Jensen, M. R. (2021). Annual research review: Adolescent mental health in the digital age: Facts, fears, and future directions. *Journal of Child*

Psychology and Psychiatry, 62(3), 336–348.
<https://doi.org/10.1111/jcpp.13190>

- Orben, A., Przybylski, A. K., Blakemore, S.-J., & Kievit, R. A. (2022). Windows of developmental sensitivity to social media. *Nature Communications*, 13, 1649. <https://doi.org/10.1038/s41467-022-29296-3>
- Pangrazio, L., & Sefton-Green, J. (2021). Digital rights, digital citizenship and digital literacy: What's the difference? *Journal of New Approaches in Educational Research*, 10(1), 15–27. <https://doi.org/10.7821/naer.2021.1.616>
- Ribble, M. (2021). Digital citizenship in schools: Nine elements all students should know. *International Society for Technology in Education*. <https://doi.org/10.4324/9781003446370>
- Rodríguez-de-Dios, I., van Oosten, J. M. F., & Igartua, J. J. (2021). A study of the relationship between parental mediation and adolescents' digital skills, online risks and online opportunities. *Computers in Human Behavior*, 117, 106661. <https://doi.org/10.1016/j.chb.2020.106661>
- Shannon, H., Bush, K., Villeneuve, P. J., Hellemans, K. G. C., & Guimond, S. (2022). Problematic social media use in adolescents and young adults: Systematic review and meta-analysis. *JMIR Mental Health*, 9(4), e33450. <https://doi.org/10.2196/33450>
- Twenge, J. M., Haidt, J., Blake, A. B., McAllister, C., Lemon, H., & Le Roy, A. (2021). Worldwide increases in adolescent loneliness. *Journal of Adolescence*, 93, 257–269. <https://doi.org/10.1016/j.adolescence.2021.06.006>
- Twenge, J. M., Haidt, J., Lozano, J., & Cummins, K. M. (2022). Specification curve analysis shows that social media use is linked to poor mental health, especially among girls. *Acta Psychologica*, 224, 103512. <https://doi.org/10.1016/j.actpsy.2022.103512>
- Valkenburg, P. M. (2022). Social media use and well-being: What we know and what we need to know. *Current Opinion in Psychology*, 45, 101294. <https://doi.org/10.1016/j.copsyc.2021.12.006>
- Valkenburg, P. M., Beyens, I., Pouwels, J. L., van Driel, I. I., & Keijsers, L. (2022). Social media browsing and adolescent well-being: Challenging the “passive social media use hypothesis”.
- Journal of Computer-Mediated Communication*, 27(1), zmab015. <https://doi.org/10.1093/jcmc/zmab015>
- Viner, R., Gireesh, A., Stiglic, N., Hudson, L. D., Goddings, A. L., Ward, J. L., &

Nicholls, D. E. (2022). Roles of cyberbullying, sleep, and physical activity in mediating the effects of social media use on mental health and well-being among young people. *The Lancet Child & Adolescent Health*, 6(6), 367–376. [https://doi.org/10.1016/S2352-4642\(22\)00082-2](https://doi.org/10.1016/S2352-4642(22)00082-2)

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. *Frontiers in Public Health*, 9, 634909. <https://doi.org/10.3389/fpubh.2021.634909>