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Predicting probabilities of bullying victimization or perpetration in adolescents: a multinomial logistic regression analysis

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Abstract

Context and relevance. Bullying remains a pervasive challenge across educational systems worldwide, posing serious risks to students' psychological well-being and academic performance. In Indonesia, its prevalence continues to grow, echoing patterns observed in various other countries and reinforcing the need for culturally informed, data-driven interventions. **Objective.** This study investigates high school students' risk of involvement in bullying — either as victims or perpetrators — based on age, gender, and school type. **Methods and materials.** Utilizing a cross-sectional survey design, data were collected from 1153 students aged 14 to 19 years ($M = 16$; $SD = 0,919$), including 514 males (45%) and 639 females (55%). The sample comprised 907 senior high school students and 246 vocational high school students from 10 sub-districts in Medan City, Indonesia. **Results.** A multinomial logistic regression analysis revealed that gender was the only significant predictor of victimization risk, while no variables significantly predicted dual roles as both perpetrator and victim. **Conclusions.** These findings underscore the importance of gender-sensitive monitoring and preventive strategies, particularly for female students, and contribute to a growing body of international research aimed at mitigating bullying behaviors through targeted educational programs.

Keywords: bullying, education, school, students, adolescents

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Оценка вероятности вовлеченности подростков в буллинг в роли жертвы или агрессора: мультиномиальный логистический регрессионный анализ

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Резюме

Контекст и актуальность. Буллинг остается широко распространенной проблемой в образовательных системах по всему миру, создавая серьезные риски для психологического благополучия и академической успеваемости учащихся. В Индонезии частота случаев буллинга неуклонно увеличивается, что соответствует тенденциям во многих других странах и еще раз доказывает необходимость разработки стратегий, которые опираются на культурные особенности и эмпирические данные. **Цель.** Настоящая работа направлена на изучение факторов риска вовлечения учащихся старших классов в ситуации буллинга (как в роли жертвы, так и в роли агрессора) в зависимости от их возраста, гендерной принадлежности и типа учебного заведения. **Методы и материалы.** В ходе кросс-секционного исследования были опрошены 1153 старшеклассника и учащихся профессиональных колледжей в возрасте от 14 до 19 лет ($M = 16$; $SD = 0,919$). Из них 514 (45%) — юноши, 639 (55%) — девушки. Выборка включала 907 учащихся общеобразовательных школ и 246 учащихся профессиональных учебных заведений из 10 районов города Медан (Индонезия). **Результаты.** Согласно результатам мультиномиального логистического регрессионного анализа, единственной статистически значимой переменной, предсказывающей риск стать жертвой, оказался пол респондентов. В то же время ни одна из включенных в модель переменных не позволила значимо предсказать совмещение ролей жертвы и агрессора. **Выводы.** Полученные результаты подчеркивают важность мониторинга и профилактических стратегий с учетом гендерных особенностей, особенно для учащихся женского пола, а также вносят вклад в растущий массив международных исследований, направленных на снижение случаев буллинга посредством целенаправленных образовательных программ.

Ключевые слова: буллинг, образование, школа, ученики, подростки

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Introduction

Bullying is a widespread global issue that has long disrupted teaching and learning activities in schools (Chan, Wong, 2015). A study by Biswas et al. (2020) examining data from 83 countries and 317869 students found that 30% of students had experienced bullying. Similarly, a 2022 survey conducted by the National Center for Education Statistics (NCES) in public and private schools across the United States reported that one in five students had been subjected to bullying (PAC-ER's National Bullying Prevention Center, 2025). In Australia, a meta-analysis and systematic review by Jadambaa et al. (2019) revealed that one in seven students had been victims of bullying. In Indonesia, bullying in schools remains a prevalent issue (Abdillah et al., 2020; Yusuf et al., 2022).

Bullying in Indonesia has reached a critical level, with cases continuing to rise (Borualogo, Casas, 2022). In 2024 alone, the Indonesian Education Monitoring Network recorded 573 reports of school-related violence (Lintang, 2025). The prevalence of violence in schools hinders the creation of a safe and supportive learning environment, which is essential for optimizing students' potential (Ramadhani, Purnama, 2024). The increasing trend of school violence is a pressing concern, as a safe and bully-free environment is a fundamental right of every child in their educational journey.

Bullying is a deliberate behavior intended to harm or distress another individual. It is characterized by intentionality, repetition, and an imbalance of power between the perpetrator and the victim (Olweus, 2013). Bullying can take various forms, including verbal, physical, and relational aggression, as well as cyberbullying, which has emerged as a significant concern in the digital era (Smith, 2016).

According to Coloroso (2003), bullying behavior stems from feelings of dislike toward individuals perceived as inferior or unworthy of respect. This behavior may be driven by a desire to assert dominance, intolerance of differences, or the intention to exclude others. Dominance is one way in which students who engage in bullying seek to gain popularity within their peer group (Fine et al., 2023; Olweus, 2013; Smith, 2016). The manifestation of bullying behavior

often differs between male and female students. Male students are more likely to engage in physical bullying, whereas female students tend to exert dominance through relational bullying, such as social exclusion or spreading rumors (Shalaginova et al., 2019).

In some cases, individuals who experience bullying may also engage in bullying behavior themselves. Chan and Wong (2015) identified several factors that increase the likelihood of individuals becoming both victims and perpetrators of bullying. These factors include low empathy, limited prosocial behavior, weak attachment to school, negative perceptions of school harmony, a diminished sense of belonging, and poor overall school experiences and involvement. Notably, female students with low empathy skills are particularly at risk. Furthermore, the cycle of victimization and perpetration can become a recurring pattern, perpetuating bullying behavior over time (Borualogo, Casas, 2022). Walters (2021), in a meta-analysis study, found that victims of bullying are at risk of becoming perpetrators in the future. Similarly, Evans et al. (2019) discovered that prolonged exposure to bullying increases the likelihood of victims developing psychological disorders and engaging in aggressive behavior later in life. As a result, bullying can become a recurring cycle if not effectively prevented (Abdillah et al., 2020).

Present study

This study explores the risk or tendency of high school students to become either victims or perpetrators of bullying. High school students fall within the adolescent age range, a developmental period characterized by psychological, physical, and social changes that may increase the likelihood of bullying behavior (Putri, Bhima, Saebani, 2015). The prevalence of bullying varies across different age groups. Physical, verbal, and relational bullying tend to peak at ages 12–13, while cyberbullying is most prevalent at ages 14–15, with both forms generally declining as students grow older (Pichel et al., 2021). In general, students with lower emotional maturity are more susceptible to engaging in bullying behavior (Ramadhani, Purnama, 2024).

Previous research on the tendency of students to become victims or perpetrators of bullying based on gender has yielded mixed results. Azid et al. (2022) found no significant difference between male and female students in their risk of becoming bullying victims. Additionally, Chapell et al. (2006) found no significant difference between boys and girls in their tendency to engage in bullying behavior. However, Baldry, Farrington, and Sorrentino (2017) reported contrasting findings, indicating that male students are more likely than female students to become victims of bullying, particularly physical bullying.

This study examines three student characteristics — gender, age, and school type (senior high school [SMA] or vocational high school [SMK]) — to predict the likelihood of students becoming victims or perpetrators of bullying. Identifying the most vulnerable student groups enables the implementation of targeted prevention and intervention programs. The study categorizes students into four groups based on their bullying tendencies: (1) those at risk of becoming victims, (2) those with a tendency to, (3) those who may be both victims and perpetrators, and (4) those who are neither victims nor perpetrators.

In summary, gender, age, and school type emerged as significant predictors of students' involvement in bullying, either as victims, perpetrators, or both. Gender plays a role in shaping behavioral expectations and social norms, which may influence how students express or experience aggression. Age is associated with emotional and cognitive development, affecting students' capacity for empathy, impulse control, and conflict resolution. School type contributes to variations in peer dynamics, institutional support systems, and exposure to preventive interventions. Taken together, these variables provide a multidimensional framework for understanding bullying roles within the adolescent population and underscore the importance of context-sensitive approaches to prevention and intervention.

Based on the discussion above, this study aims to address three main research questions:

1) Does age predict students' tendency to become victims or perpetrators of bullying?

2) Does gender predict students' tendency to become victims or perpetrators of bullying?

3) Does school type predict students' tendency to become victims or perpetrators of bullying?

The findings of this study are expected to inform the development of targeted programs or interventions for specific subgroups of high school students, based on age, gender, and school type. Identifying the factors influencing students' likelihood of experiencing or engaging in bullying is a crucial first step in preventing violence and bullying in schools. By understanding these tendencies, schools can implement effective measures to create a safer and more supportive learning environment.

Materials and methods

Participants

This study employed a convenience sampling method, targeting high school students in Medan City, Indonesia. Medan, the capital of North Sumatra and the third largest city in the country — after Jakarta and Surabaya — offers a culturally diverse urban setting that reflects broader national socio-cultural dynamics. Its multiethnic population, including Batak, Malay, Javanese, Chinese, and other communities, provides a meaningful context for examining adolescent bullying within a pluralistic society. This aligns with existing research suggesting that bullying may manifest differently across ethnic groups (Dadeh, 2021; Man et al., 2022).

A total of 1153 students participated in the study. The sample comprised 639 female students (55,5%) and 514 male students (44,5%). In terms of educational background, the majority of participants were enrolled in general high schools ($n = 907$, 79%), while the remaining 246 students (21%) attended vocational schools. All participants were recruited from public and private institutions across 10 districts in Medan, ensuring representation from different socio-economic and cultural backgrounds.

Measurement scale

This study utilized the Revised Olweus Bully/Victim Questionnaire (OBVQ-R), which has been modified and adapted for use in Indonesian. The

scale comprises 2 factors, such as victimization and perpetration, that assess five forms of bullying: physical, verbal, psychological, cyber, and relational. The scale demonstrated high validity ($CFI = TLI = 0,931$; $RMSEA = 0,093$) and reliability (Cronbach's $\alpha = 0,949$). The response options were structured using a five-point Likert scale, with values ranging from 0 to 4: 0 (never), 1 (once or twice), 2 (two to three times per month), 3 (approximately once per week), and 4 (several times per week). Scoring involves summing the item scores for each factor. Individuals are classified as potential perpetrators of bullying if their perpetration score is higher than their victimization score. Conversely, a higher victimization score suggests a tendency to be a victim of bullying. A balanced score between the two factors indicates a tendency to be a bully-victim, while a score of 0 on both factors suggests no tendency to be a perpetrator or a victim.

Procedures

This study used a cross-sectional survey design to investigate the prevalence and characteristics of bullying among senior high school students. The data was collected using a paper-and-pencil questionnaire specifically designed to measure various aspects of bullying behavior. The research team conducted data collection at multiple schools across 10 sub-districts in Medan City. The study employed a paper-and-pencil method, with the research team directly supervising the data collection process to ensure accuracy and consistency. Once all data were gathered, statistical analysis was conducted to examine the findings.

Data analysis

This study employed a quantitative research design, utilizing multinomial logistic regression to analyze the data. This method was selected because the dependent variable — students' bullying involvement — is nominal and consists of more than two categories. Specifically, participants were classified into four groups based on their reported tendencies: (1) victims, (2) perpetrators, (3) bully-victims (both victims and perpetrators), and (4) uninvolved (neither victims nor perpetrators).

The categorization was guided by criteria established by Solberg and Olweus (2003), which emphasize the repetitive nature of bullying behavior. This framework aligns with Olweus's (2013) widely accepted definition of bullying as a repeated and intentional act of aggression. Higher scores on the victimization and aggression scales were used to determine students' classification, with relative score balances indicating their tendency toward victim, perpetrator, or bully-victim roles.

Multinomial logistic regression was conducted to examine the relationship between bullying involvement and three predictor variables: age, gender, and school type. It is acknowledged that this method may not fully capture nuanced cases, such as students with low but equal scores on both scales or those whose experiences primarily involve witnessing bullying. Although witnesses play a critical role in shaping school climate and intervention outcomes, their experiences were beyond the scope of the present study.

Results

Multinomial logistic regression analysis

This study presents the results of a multinomial logistic regression analysis examining students' tendency to be victims and/or perpetrators of bullying. The majority of participants exhibited a tendency to be victims of bullying ($n = 795$, 69%), followed by those with no tendency to be either victims or perpetrators ($n = 134$, 12%). Additionally, 118 students (10%) showed a tendency to be perpetrators, while 104 students (9%) demonstrated a risk of becoming a victim and tendency to become perpetrators.

Based on Table 1, the statistical analysis demonstrates that the overall model provides a good fit to the data ($\chi^2[9] = 43,237$, $p < 0,001$), indicating that the selected predictors; age, gender, and school type collectively contribute to explaining variations in students' involvement in bullying. However, the *Nagelkerke* pseudo- R^2 value of 0,04 shows that these variables account for only 4% of the variance. This relatively small effect size suggests that, while significant, demographic factors alone are insufficient to fully capture the complexity of bullying dynamics. Other unmeasured variables,

such as school climate, peer relationships, family background, and personality traits, are likely to play a much more substantial role. The likelihood ratio test confirms that the predictors as a group are significant in differentiating between victims, perpetrators, bully-victims, and uninvolved students. Yet, a closer inspection of the multinomial logistic regression results reveals more nuanced insights. Gender emerges as the only significant predictor of victimization, suggesting that male and female students may experience or report bullying differently, possibly reflecting gendered expectations and social dynamics within Indonesian schools. In contrast, age and school type approach significance in predicting perpetration. This trend implies that older students or those in particular types of schools (e.g., vocational versus general high schools) may be more likely to engage in bullying behaviors, although the evidence in this data-set is not strong enough to draw firm conclusions. Taken together, these findings indicate that demographic factors provide only

a partial explanation of bullying involvement. Gender appears to be more strongly linked with victimization, whereas age and school type may influence perpetration but require further exploration with larger or more diverse samples. The low explanatory power of the model underscores the need for future research to incorporate psycho-social, contextual, and cultural variables that likely exert stronger influences on bullying dynamics.

The results of the likelihood ratio tests for the multinomial logistic regression of predictors of students' risk or tendency to become victims, perpetrators, or both victims and perpetrators of bullying are presented in Table 2. The multinomial logistic regression results in Table 3 provide important insights into the role of demographic factors in predicting students' involvement in bullying. Gender ($B = 0,668$, $p = 0,001$) emerges as the strongest and only statistically significant predictor, showing that girls are nearly twice as likely (195%) to be classified as victims compared to students who are uninvolved. This finding aligns

Table 1

Model fit and Pseudo-R-squared

	–2 Log likelihood	χ^2	Df	P
Intercept only	259,683			
Final	216,446	43,237	9	0,000
Pseudo-R-squared				
Cox and Snell		0,037		
Nagelkerke		0,043		
McFadden		0,020		

Table 2

**Likelihood ratio tests of multinomial logistic regression
of predictor variables of students' risk or tendency to be victims, perpetrators,
or both victims and perpetrators of bullying**

Effect	Model fitting criteria			Likelihood ratio tests		
	AIC of reduced model	BIC of reduced model	–2 Log likelihood of reduced model	Chi Square	Df	Sig.
Intercept	245,959	291,394	227,959	11,513	3	0,009
Age	249,463	294,898	231,463	15,017	3	0,002
Sex	257,391	302,826	239,391	22,945	3	0,000
School type	242,586	288,021	224,586	8,139	3	0,043

Table 3

Multinomial logistic regression of predictor variables of students’ risk or tendency to be victims, perpetrators, or both victims and perpetrators of bullying with tendency not to be a victim and not to be a perpetrator of bullying as a reference

		B	SE	Wald	Df	Sig.	Exp(B)	95% Confidence interval for Exp(B)	
								Lower Bound	Upper Bound
Victims	Intercept	−1,140	1,708	0,446	1	0,504			
	Age	0,114	0,103	1,222	1	0,269	1,120	0,916	1,371
	Gender	0,668	0,194	11,824	1	0,001	1,950	1,333	2,852
	School type	0,071	0,227	0,098	1	0,755	1,074	0,688	1,676
Perpetrators	Intercept	4,591	2,365	3,768	1	0,052			
	Age	−0,238	0,144	2,722	1	0,099	0,788	0,594	1,046
	Gender	−0,100	0,260	0,147	1	0,702	0,905	0,543	1,508
	School type	−0,672	0,344	3,820	1	0,051	0,511	0,260	1,002
Victims-perpetrators	Intercept	2,436	2,459	0,981	1	0,322			
	Age	−0,200	0,149	1,787	1	0,181	0,819	0,611	1,098
	Gender	0,512	0,271	3,572	1	0,059	1,669	0,981	2,837
	School type	−0,234	0,338	0,478	1	0,489	0,792	0,408	1,535

with prior studies suggesting that female students are more likely to acknowledge and report victimization, possibly due to heightened sensitivity to relational aggression and social exclusion. It also reflects broader patterns of gendered social dynamics in Indonesian schools, where female adolescents may face unique vulnerabilities linked to cultural expectations and gender inequality. While age ($B = -0,238, p = 0,099$) and school type ($B = -0,672, p = 0,051$) do not reach conventional significance thresholds, their near-significant values indicate trends worthy of attention. The negative coefficient for age suggests that younger students are more likely to engage in bullying behaviors than older students. This trend could be related to lower levels of emotional regulation and impulse control among younger adolescents, as well as the use of aggression as a means of establishing dominance within peer groups. Similarly, the negative association with school type suggests that students in vocational schools may be more at risk of involvement in bullying compared to those in general high schools. This may reflect differences in peer dynamics, academic pressures, or so-

cioeconomic backgrounds across school types. The model further suggests that high school students are 51% more likely to be uninvolved in bullying than to be bullies, highlighting a potential protective role of general high school environments. Conversely, younger students show a 79% higher likelihood of engaging in bullying behaviors compared to being uninvolved, reinforcing the importance of early intervention. Despite these tendencies, the overall findings emphasize that among the examined demographic predictors, only gender demonstrates a robust and statistically significant relationship with bullying involvement. Taken together, the results suggest that while demographic factors contribute to understanding bullying, their explanatory power is limited. Gender plays a clear role in victimization, whereas age and school type show trends that may become significant with larger or more diverse samples. These findings point to the need for future research to integrate additional predictors such as family dynamics, peer networks, personality traits, and school climate to achieve a more comprehensive explanation of bullying behaviors among Indonesian adolescents.

Discussion

This study investigated students' tendencies to become victims or perpetrators of bullying based on three key factors: age, gender, and school type. Drawing on data from 1153 students across senior and vocational high schools in Indonesia, the findings reveal that a substantial proportion of students ($n = 795$, 69%) are at risk of victimization. This figure is alarming, as it reflects a widespread experience of insecurity and discomfort within school environments — conditions that can significantly disrupt students' emotional well-being, academic engagement, and sense of belonging. These results echo the rising trend of bullying cases in Indonesia (Borualogo, Casas, 2022), and underscore the urgent need for systemic interventions that address both individual and contextual contributors to bullying.

Multinomial logistic regression analysis identified gender as the sole significant predictor of students' likelihood of becoming victims of bullying. Specifically, female students were more likely to be victimized than to fall into the category of neither victims nor perpetrators. This finding aligns with research conducted in Estonia (Mark, Varnik, Sisask, 2019), which similarly reported higher rates of victimization among female students. Meanwhile, a study from Russia suggests that male students are more frequently involved in physical forms of bullying, either as victims or perpetrators, while female students are more commonly associated with relational bullying in both roles (Bochaver, Khlokov, 2013). However, these patterns diverge from findings in Italy and Malaysia (Azid et al., 2022; Baldry, Farrington, Sorrentino, 2017), where male students were more often victimized or where no significant gender differences were observed. Such inconsistencies underscore that bullying is not a universal phenomenon, but one deeply shaped by socio-cultural contexts, institutional norms, and systemic inequalities.

Gender-based differences, as explored by Shalaginova et al. (2019), further illustrate how cultural norms and social hierarchies influence bullying experiences, echoing patterns observed in Indonesia. Comparative studies by Bochaver et al. (2022) and Novikova and Rean (2019) re-

inforce the notion that macrosocial conditions — including national policies, educational structures, and prevailing societal attitudes — play a decisive role in shaping bullying dynamics.

To interpret these findings critically, Bronfenbrenner's ecological systems theory provides a valuable framework. This theory posits that individual development is influenced by multiple layers of environmental systems, from immediate settings like family and school (micro-system) to broader societal structures (macro-system). In the Indonesian context, gender-based victimization may reflect macro-systemic influences — particularly entrenched patriarchal norms and institutional responses to aggression. The country's Gender Development Index (GDI) remains among the lowest in ASEAN (Fauzi, Ferdian, Intania, 2024), indicating persistent structural inequality. In societies with greater gender disparities, girls are disproportionately exposed to bullying (Cosma et al., 2022), often compounded by feelings of helplessness and inadequate institutional support. These dynamics suggest that bullying is not merely a behavioral issue but a manifestation of deeper power imbalances, where male students may enact dominance through aggression, and female students may internalize victimization due to cultural expectations of passivity.

Moreover, the intersection of gender and school climate plays a critical role in shaping students' experiences. In schools where gender stereotypes are reinforced — either through curriculum, teacher attitudes, or peer norms — female students may be more vulnerable to relational aggression and exclusion. This vulnerability is exacerbated when schools lack gender-sensitive policies or fail to respond effectively to bullying incidents. The normalization of aggressive behavior, particularly when framed as “teasing” or “play”, further silences victims and perpetuates cycles of harm.

Interestingly, gender did not predict students' likelihood of being perpetrators or both victims and perpetrators. This nuance supports findings by Azid et al. (2022) and Borualogo, Kusdiyati, and Wahyudi (2023), which show similar bullying prevalence across genders but differences in form. Male stu-

dents tend to engage in direct aggression — such as physical and verbal bullying — while female students are more likely to participate in indirect forms, including relational aggression and social exclusion (Mark, Värnik, Sisask, 2019; Neupane, 2014). These behavioral patterns are shaped by gender role socialization, often reinforced through parenting styles and cultural expectations.

Research among Indonesian adolescents indicates that boys exposed to authoritarian parenting may perceive bullying as a normative behavior, while girls may adapt to relational aggression styles shaped by parental expectations surrounding femininity (Zulkarnain et al., 2025). Authoritative parenting, which balances warmth and discipline, has been shown to mitigate bullying tendencies, while permissive or authoritarian styles may exacerbate them. These findings highlight the importance of family-based interventions that challenge normative beliefs about gender and aggression, and promote healthy emotional regulation and conflict resolution skills.

Cultural norms play a pivotal role in shaping how bullying is perceived, interpreted, and addressed. In the Indonesian context, verbal teasing is frequently dismissed as harmless humor, which blurs the boundary between playful interaction and psychological harm (Borualogo, 2025; Yusuf et al., 2022). This normalization — particularly within permissive or authoritarian parenting environments — can desensitize children to the emotional consequences of bullying and obstruct timely, effective intervention. Behaviors that may be classified as bullying in other cultural settings are often perceived as benign or even affectionate in Indonesia, especially when enacted among peers. This cultural framing complicates efforts to define, identify, and respond to bullying, highlighting the urgent need for frameworks that are both culturally responsive and locally attuned to how aggression and victimization are understood.

The pervasive attitude that finds humor in verbal teasing contributes to children, regardless of gender, viewing bullying as an acceptable form of peer interaction (Dadeh, 2021). When parents and teachers fail to intervene or trivialize such behavior, students may internalize

the belief that bullying is a normal part of school life. This not only perpetuates harm but also undermines the effectiveness of anti-bullying campaigns. Evidence from Indonesian studies suggests that a positive school climate — characterized by supportive peer relationships, respectful interactions, and consistent adult supervision — can significantly reduce the likelihood of bullying (Oktaviani, Dadeh, Sutatminingsih, 2024). The implementation of clear and consistent anti-bullying policies further contributes to the prevention and reduction of bullying incidents.

Complementing these observations, recent Russian scholarship offers valuable comparative insights into the macro-social dynamics of bullying. Studies by Stratiychuk and Chirkina (2019) and Bocharov et al. (2022) underscore the importance of institutional responses and adult involvement, particularly from teachers and parents, in shaping bullying prevalence. Their findings resonate with Indonesian research, which similarly points to the influence of school climate and adult modeling in either mitigating or perpetuating bullying behaviors. Moreover, Russian studies emphasize how broader societal factors, such as cultural norms and educational structures, interact with individual behavior to shape bullying dynamics (Bocharov et al., 2022). Integrating these perspectives strengthens the international relevance of the present study and reinforces the need for culturally grounded, system-level interventions that address both the social and psychological dimensions of bullying.

Although this study did not include direct measurement of cyberbullying, it is important to acknowledge its growing relevance in the broader landscape of student victimization. Bovina and Dvoryanchikov (2020) highlight the impact of digital environments and social identity on cyberbullying, a growing concern in both contexts. The rapid advancement of technology has increasingly blurred the boundaries between virtual and physical realities, leading to a significant rise in adolescents' engagement with digital platforms (Soldatova, Voiskounsky, 2021). As adolescents increasingly engage with digital platforms, cyberbullying has emerged as a pervasive and often under-reported form of

aggression. Its covert nature — characterized by anonymity, lack of physical cues, and rapid dissemination — poses unique challenges for detection and intervention (Kiriukhina, 2021; Merrill, Hanson, 2016). Victims may experience heightened emotional distress due to the inability to identify perpetrators, leading to feelings of isolation, anxiety, and depression (Przybylski, Bowes, 2017). Volkova and Volkova (2017) found that students who are involved in traditional bullying, whether as victims, perpetrators, or bully-victims, are also more likely to engage in or experience cyberbullying, indicating a significant overlap between offline and online forms of aggression. While our study focused on traditional bullying within school settings, future research should incorporate cyberbullying metrics to capture the full spectrum of peer victimization.

Given Indonesia's high rate of adolescent digital engagement, schools must proactively address online safety through digital literacy education, clear reporting mechanisms, and collaboration with relevant authorities to mitigate the psychological impact of cyberbullying.

The data analysis indicates that age is not a significant predictor of students' risk of victimization or tendency to be perpetrators. This suggests that high school students, regardless of age, have a similar likelihood of falling into one of the four categories: victim, perpetrator, both victim and perpetrator, or neither. One possible explanation is that all participants in this study were adolescents — a developmental stage characterized by heightened sensitivity to peer dynamics, identity formation, and emotional volatility (Putri, Bhima, Saebani, 2015). While previous research has shown that bullying tends to decrease as children grow older (Chappell et al., 2006; Novikova, Rean, 2019; Han et al., 2018), the present study's focus on high school students limits the ability to observe this downward trend across educational stages.

Similarly, the analysis of school type (senior high school vs. vocational high school) as a predictor of bullying involvement was found to be insignificant. This indicates that the likelihood of being a victim, a perpetrator, both, or neither is similar among students in both school types. These findings align with those of Putri, Bhima, and Saebani

(2015), who reported high bullying prevalence in both settings. The similarity may be attributed to the fact that both senior and vocational high school students fall within the same age range and are governed by the same national curriculum under the Ministry of Primary and Secondary Education.

However, the findings contrast with international research in Hungary and China (Horváth et al., 2018; Han et al., 2017), which reported higher bullying prevalence in vocational schools. This discrepancy may be attributed to differences in school climate and culture. Prevailing norms, leadership practices, and peer dynamics within a school can significantly influence bullying behavior (Moody, Stahel, 2025; Novikova, Rean, 2019; Strindberg, Horton, 2022). For instance, schools that emphasize competition, rigid discipline, or hierarchical relationships may inadvertently foster environments where bullying is more likely to occur. Future research should explore these micro-level factors to better understand the environmental conditions that foster or prevent bullying.

Conclusions

The results of the multinomial logistic regression analysis examining students' risk or tendency to be victims or perpetrators of bullying based on age, gender, and school type indicate that female students are more likely to be victims of bullying than to be neither victims nor perpetrators. This may be attributed to the persistence of gender inequality in Indonesia (Fauzi, Ferdian, Intania, 2024). Gender inequality heightens the risk of students engaging in gender-based violence (Mahendra et al., 2021). Female students often experience feelings of powerlessness and hopelessness when confronted with bullying, making them more vulnerable to victimization. Given these findings, it is crucial for schools to take proactive measures to ensure the safety of female students. One effective approach is the implementation of sensitization training programs aimed at reducing the gender inequality gap. Additionally, schools should provide awareness programs on how to respond to bullying and establish clear intervention strategies to address bullying incidents effectively.

Educating students, teachers, and parents about the effects of rigid gender roles that con-

tribute to bullying behaviors is crucial. Research indicates that bystanders often exhibit a gender bias, showing more empathy towards same-gender victims. Workshops and seminars can foster discussions that encourage students to challenge stereotypes and promote gender equity within school environments (Baldry, 2004; Fox et al., 2014). This can enhance peer support for victims and change the culture around bullying. It is important to note that bullying intervention should not rely on punitive measures. Harsh disciplinary actions, such as physical or verbal punishment, may inadvertently reinforce aggressive behavior by conveying that violence is an acceptable means of resolving conflict (Novikova, Rean, 2019).

Furthermore, teachers should receive training on handling bullying cases and develop greater vigilance in identifying signs of bullying, as victims often refrain from reporting incidents (Beilmann, 2017; Graham, 2016). Prior research has demonstrated that active teacher involvement plays a critical role in reducing bullying behaviors within the school environment (Bochaver, 2021).

Addressing the impact of parenting on bullying in schools requires context-specific strategies that account for these cultural and gender dynamics. Previous research has emphasized the significant influence of parenting styles on students' likelihood of engaging in bullying behavior, showing that variations in parental approaches may either foster or inhibit such tendencies (Bochaver et al., 2022). Furthermore, exposure to domestic violence within the home environment and neglect of the children's needs has been identified as a risk factor that can increase the probability of children becoming perpetrators of bullying (Bochaver, Khlokov, 2013; Novikova, Rean, 2018). Schools can implement educational programs that involve parents, fostering an authoritative parenting approach that emphasizes emotional support and healthy peer relationships. Holistic educational interventions can empower children to challenge traditional gender norms and promote non-violent conflict resolution strategies, thus narrowing the bullying gap while fostering a climate of respect and understanding among genders (Noboru et al., 2021; Zaneva et al., 2023).

Limitations. This study successfully identified the risk profiles and behavioral tendencies of high school students in relation to bullying — whether as victims, perpetrators, or both. However, several limitations must be acknowledged to contextualize the findings. First, although the sample size was substantial ($n = 1153$), all participants were drawn exclusively from schools within Medan City. This geographic concentration limits the external validity of the results, as the social dynamics, school climates, and cultural factors influencing bullying behavior may vary significantly across different regions of Indonesia. Consequently, the findings may not fully capture the diversity of experiences among adolescents in rural areas, other urban centers, or provinces with distinct educational and sociocultural contexts. To enhance generalizability and establish a more comprehensive national understanding, future research should replicate this study in varied settings across Indonesia, incorporating regional comparisons and potentially stratified sampling techniques.

Second, this study relied exclusively on self-report questionnaires for data collection. While this method was appropriate for efficiently capturing large-scale behavioral data across a broad adolescent population, it is important to acknowledge its inherent limitations. Self-report instruments are susceptible to response biases, including social desirability and recall inaccuracies, which may affect the precision of the findings. To enhance the validity and depth of future research, complementary methodologies — such as structured interviews, peer or teacher assessments, and direct observational techniques — should be considered. Accordingly, the conclusions drawn from this study should be interpreted with caution, recognizing the constraints associated with relying solely on self-reported data.

Third, this study did not account for several external factors that may significantly influence students' involvement in bullying — whether as victims, perpetrators, or both. Variables such as school climate, family environment, personality traits, and socioeconomic status were not measured, limiting the contextual depth and explanatory scope of the findings. These factors are known to shape adolescents' vulnerability and behavioral responses, and

their exclusion may constrain the interpretation of bullying dynamics within the school setting.

Moreover, the study did not include specific measures of bystander behavior, despite its critical role in the bullying cycle. Bystanders can reinforce, ignore, or intervene in bullying incidents, and their actions often determine whether such behaviors are perpetuated or disrupted. The absence of data on bystander responses represents a notable gap, as it prevents a more holistic understanding of the social ecology surrounding bullying.

Lastly, the study focused exclusively on traditional, face-to-face bullying and did not

examine cyberbullying — a form of aggression that is increasingly prevalent among adolescents. Cyberbullying, which occurs through digital platforms and social media, often transcends school boundaries and can have distinct psychological impacts. Its exclusion limits the comprehensiveness of the findings, particularly in light of the growing digital engagement among youth. Future research should incorporate measures of online victimization and perpetration to capture the full spectrum of bullying experiences in contemporary adolescent life.

References

1. Abdillah, M.H., Tentama, F., Suwandi, G.F. (2020). Bullying on students in Indonesia. *International Journal of Scientific & Technology Research*, 9(2), 3697–3703.
2. Azid, N., Nur, A.H.B., Md-Ali, R., Kiong, T.T. (2022). Stop bullying! Does gender influence bullying and bully victims? *Perspectives of Science and Education*, 55(1), 345–357. <https://doi.org/10.32744/pse.2022.1.22>
3. Baldry, A.C. (2004). 'What about bullying?' An experimental field study to understand students' attitudes towards bullying and victimisation in Italian middle schools. *British Journal of Educational Psychology*, 74(4), 583–598. <https://doi.org/10.1348/0007099042376391>
4. Baldry, A.C., Farrington, D.P., Sorrentino, A. (2017). School bullying and cyberbullying among boys and girls: Roles and overlap. *Journal of Aggression, Maltreatment & Trauma*, 26(9), 937–951. <https://doi.org/10.1080/10926771.2017.1330793>
5. Beilmann, M. (2017). Dropping out because of the others: Bullying among the students of Estonian vocational schools. *British Journal of Sociology of Education*, 38(8), 1139–1151. <https://doi.org/10.1080/01425692.2016.1251302>
6. Biswas, T., Scott, J.G., Munir, K., Thomas, H.J., Huda, M.M., Hasan, Md.M., David De Vries, T., Baxter, J., Mamun, A.A. (2020). Global variation in the prevalence of bullying victimisation amongst adolescents: Role of peer and parental supports. *EClinicalMedicine*, 20, 100276. <https://doi.org/10.1016/j.eclim.2020.100276>
7. Bochaver, A. (2021). School bullying experience and current well-Being among students. *Psychological Science and Education*, 26(2), 17–27. <https://doi.org/10.17759/pse.2021260202>
8. Bochaver, A., Khlovov, K. (2013). Bullying as a research object and a cultural phenomenon. *Psychology. Journal of Higher School of Economics*, 10(3), 149–159.
9. Bochaver, A., Navarro-Rodriguez, C.D., Korneev, A., Lagarda, Á., Khlovov, K.D., Vera Noriega, Á., Bauman, S. (2022). A comparative study of youth victimization during COVID-19 lockdowns in Mexico and Russia. *Psychology, Society & Education*, 14(3), 38–47. <https://doi.org/10.21071/psye.v14i3.15047>
10. Borualogo, I.S. (2025). Poly-bullying victimisation in Indonesia: Prevalence and factors related to children exposure to multiple bullying incidents, and its correlation to subjective well-being. *Behavioral Sciences & the Law*, 43(1), 114–134. <https://doi.org/10.1002/bsl.2699>
11. Borualogo, I.S., Casas, F. (2022). Understanding Bullying Cases in Indonesia. In H. Tilouine, D. Benatui, M.K.W. Lau (Eds.), *Handbook of Children's Risk, Vulnerability and Quality of Life* (pp. 187–199). Springer International Publishing. https://doi.org/10.1007/978-3-031-01783-4_12
12. Borualogo, I.S., Kusdiyati, S., Wahyudi, H. (2023). Keyakinan yang mendukung tindak kekerasan perundungan berdasarkan perspektif perbedaan jenis kelamin. *Jurnal Psikologi Sosial*, 21(1), 83–97. <https://doi.org/10.7454/jps.2023.10>
13. Bovina, I.B., Dvoryanchikov, N.V. (2020). Online and offline behavior: Two realities or one? *Psychological Science and Education*, 25(3), 101–115. <https://doi.org/10.17759/pse.2020250309>
14. Chan, H.C.O., Wong, D.S.W. (2015). The overlap between school bullying perpetration and victimization: Assessing the psychological, familial, and school factors of Chinese adolescents in Hong Kong. *Journal of Child and Family Studies*, 24(11), 3224–3234. <https://doi.org/10.1007/s10826-015-0125-7>
15. Chappell, M.S., Hasselman, S.L., Kitchin, T., Lomon, S.N. (2006). Bullying in elementary school, high school, and college. *Adolescence*, 41(164), 633.

16. Coloroso, B. (2003). *The bully, the bullied, and the bystander* (1st HarperResource pbk. ed). HarperCollins.
17. Cosma, A., Bjereld, Y., Elgar, F.J., Richardson, C., Bilz, L., Craig, W., Augustine, L., Molcho, M., Malinowska-Cieslik, M., Walsh, S.D. (2022). Gender differences in bullying reflect societal gender inequality: A multilevel study with adolescents in 46 countries. *Journal of Adolescent Health*, 71(5), 601–608. <https://doi.org/10.1016/j.jadohealth.2022.05.015>
18. Dadeh, T.H.D. (2021). *Exploring school climate and Indonesian Year 8 students' mathematics learning outcomes: A mixed method study* [Doctoral Thesis, University of Bristol]. <https://hdl.handle.net/1983/98d81078-788b-4e4d-ae36-78b83fb9c029>
19. Evans, C.B.R., Smokowski, P.R., Rose, R.A., Mercado, M.C., Marshall, K.J. (2019). Cumulative bullying experiences, adolescent behavioral and mental health, and academic achievement: An integrative model of perpetration, victimization, and bystander behavior. *Journal of Child and Family Studies*, 28(9), 2415–2428. <https://doi.org/10.1007/s10826-018-1078-4>
20. Fauzi, T., Ferdian, L., Intania, N. (2024). Kajian perlindungan terhadap perempuan dan anak serta pencegahan terhadap bullying. *Jurnal Lentera Pedagogi*, 8(1), 9–17. <https://doi.org/10.54895/lentera.v8i1.2488>
21. Fine, S.L., Pinandari, A.W., Muzir, S.M., Agnesia, L., Novitasari, P.I., Bass, J.K., Blum, R.W., Van Reeuwijk, M., Wilopo, S.A., Mmari, K. (2023). "If it's really excessive, it can enter your heart": A mixed methods investigation of bullying among early adolescents in Semarang, Indonesia. *Journal of Interpersonal Violence*, 38(3–4), 4088–4113. <https://doi.org/10.1177/08862605221111422>
22. Fox, C.L., Jones, S.E., Stiff, C.E., Sayers, J. (2014). Does the gender of the bully/victim dyad and the type of bullying influence children's responses to a bullying incident? *Aggressive Behavior*, 40(4), 359–368. <https://doi.org/10.1002/ab.21529>
23. Graham, S. (2016). Victims of bullying in schools. *Theory Into Practice*, 55(2), 136–144. <https://doi.org/10.1080/00405841.2016.1148988>
24. Han, Z., Fu, M., Liu, C., Guo, J. (2017). Bullying and suicidality in urban Chinese youth: The role of teacher–student relationships. *Cyberpsychology, Behavior, and Social Networking*, 21(5), 287–293. <https://doi.org/10.1089/cyber.2017.0484>
25. Horváth, L.O., Balint, M., Ferenczi-Dallos, G., Farkas, L., Gadoros, J., Gyori, D., Keresztesy, A., Meszaros, G., Szentivanyi, D., Velo, S., Sarchiapone, M., Carli, V., Wasserman, C., Hoven, C.W., Wasserman, D., Balazs, J. (2018). Direct Self-Injurious Behavior (D-SIB) and life events among vocational school and high school students. *International Journal of Environmental Research and Public Health*, 15(6), 1068. <https://doi.org/10.3390/ijerph15061068>
26. Jadambaa, A., Thomas, H.J., Scott, J.G., Graves, N., Brain, D., Pacella, R. (2019). Prevalence of traditional bullying and cyberbullying among children and adolescents in Australia: A systematic review and meta-analysis. *Australian & New Zealand Journal of Psychiatry*, 53(9), 878–888. <https://doi.org/10.1177/0004867419846393>
27. Kiriukhina, I.G.A.A., Pinandari, A.W., Choiriyah, I., Wilopo, S.A. (2021). Adolescents' communication on the Internet: The boundaries of normativity. *Journal of Modern Foreign Psychology*, 10(3), 40–47. <https://doi.org/10.17759/jmfp.2021100304>
28. Lintang, I. (2025, January 2). *Kasus bullying pelajar di Indonesia, banyak terjadi di lingkungan sekolah*. inilah.com. <https://www.inilah.com/kasus-perundungan-di-indonesia-2024>
29. Mahendra, I.G.A.A., Pinandari, A.W., Choiriyah, I., Wilopo, S.A. (2021). Are we passing on violence to the next generation?: Gender norms and gender-based violence attitudes among early adolescents in Indonesia. *Kesmas: National Public Health Journal*, 16(4), 279–288. <https://doi.org/10.21109/kesmas.v16i4.4538>
30. Man, X., Liu, J., Xue, Z. (2022). Effects of bullying forms on adolescent mental health and protective factors: A global cross-regional research based on 65 countries. *International Journal of Environmental Research and Public Health*, 19(4), 2374. <https://doi.org/10.3390/ijerph19042374>
31. Mark, L., Värnik, A., Sisask, M. (2019). Who suffers most from being involved in bullying—Bully, victim, or bully-victim? *Journal of School Health*, 89(2), 136–144. <https://doi.org/10.1111/josh.12720>
32. Merrill, R.M., Hanson, C.L. (2016). Risk and protective factors associated with being bullied on school property compared with cyberbullied. *BMC Public Health*, 16(1), 145. <https://doi.org/10.1186/s12889-016-2833-3>
33. Moody, Z., Stahel, T. (2025). School bullying: Children and adolescent norms, cultures and identity development. *Frontiers in Education*, 10, 1497681. <https://doi.org/10.3389/educ.2025.1497681>
34. Neupane, D. (2014). Gender role in school bullying. *Journal of Chitwan Medical College*, 4(1), 37–41. <https://doi.org/10.3126/jcmc.v4i1.10847>
35. Noboru, T., Amalia, E., Hernandez, P.M.R., Nurbaiti, L., Affarah, W.S., Nonaka, D., Takeuchi, R., Kadriyan, H., Kobayashi, J. (2021). School-based education to prevent bullying in high schools in Indonesia. *Pediatrics International*, 63(4), 459–468. <https://doi.org/10.1111/ped.14475>
36. Novikova, M.A., Rean, A.A. (2018). Family background of child involvement in school

- bullying: Impact of psychological and social characteristics of the family. *Psychological Science and Education*, 23(4), 112–120. <https://doi.org/10.17759/pse.2018230411>
37. Novikova, M.A., Rean, A.A. (2019). Influence of school climate on bullying prevalence: Russian and international research experience. *Voprosy Obrazovaniya / Educational Studies Moscow*, 2, 78–97. <https://doi.org/10.17323/1814-9545-2019-2-78-97>
 38. Oktaviani, A., Dadeh, T., Sutatminingsih, R. (2024). The effect of school climate on bullying behavior in boarding school students. *MULTIPLE: Journal of Global and Multidisciplinary*, 2(1), 943–957.
 39. Olweus, D. (2013). School Bullying: Development and Some Important Challenges. *Annual Review of Clinical Psychology*, 9(1), 751–780. <https://doi.org/10.1146/annurev-clinpsy-050212-185516>
 40. PACER's National Bullying Prevention Center. (2025, February 28). Bullying statistics. *PACER Center*. <https://www.pacer.org/bullying/info/stats/>
 41. Pichel, R., Foody, M., O'Higgins Norman, J., Feijóo, S., Varela, J., Rial, A. (2021). Bullying, cyberbullying and the overlap: What does age have to do with it? *Sustainability*, 13(15), 8527. <https://doi.org/10.3390/su13158527>
 42. Przybylski, A.K., Bowes, L. (2017). Cyberbullying and adolescent well-being in England: A population-based cross-sectional study. *The Lancet Child & Adolescent Health*, 1(1), 19–26. [https://doi.org/10.1016/S2352-4642\(17\)30011-1](https://doi.org/10.1016/S2352-4642(17)30011-1)
 43. Putri, D.P., Bhima, S.K.L., Saebani, S. (2015). Perbandingan karakteristik kekerasan yang terjadi terhadap anak di sekolah pada sekolah menengah atas dan sekolah menengah kejuruan di Kota Tegal. *Jurnal Kedokteran Diponegoro*, 4(4), 546–559.
 44. Ramadhani, A., Purnama, I.E. (2024). Maraknya kekerasan pada lingkungan sekolah. *WISSEN: Jurnal Ilmu Sosial Dan Humaniora*, 2(3), 37–44. <https://doi.org/10.62383/wissen.v2i3.166>
 45. Shalaginova, K.S., Kulikova, T.I., Zalygaeva, S.A. (2019). Gender features of bullying in adolescence. *Psychological Science and Education*, 24(4), 62–71. <https://doi.org/10.17759/pse.2019240405>
 46. Smith, P.K. (2016). Bullying: Definition, types, causes, consequences and intervention. *Social and Personality Psychology Compass*, 10(9), 519–532. <https://doi.org/10.1111/spc3.12266>
 47. Soldatova, G., Voiskounsky, A. (2021). Socio-cognitive concept of digital socialization: A new ecosystem and social evolution of the mind. *Psychology. Journal of Higher School of Economics*, 18(3), 431–450. <https://doi.org/10.17323/1813-8918-2021-3-431-450>
 48. Stratiychuk, E.V., Chirkina, R.V. (2019). Teacher's position in school bullying. *Journal of Modern Foreign Psychology*, 8(3), 45–52. <https://doi.org/10.17759/jmfp.2019080305>
 49. Strindberg, J., Horton, P. (2022). Relations between school bullying, friendship processes, and school context. *Educational Research*, 64(2), 242–256. <https://doi.org/10.1080/00131881.2022.2067071>
 50. Volkova, E.N., Volkova, I.V. (2017). Cyberbullying as a method of social addressing teenagers on the bullying situation. *Vestnik of Minin University*, 3, 17. <https://doi.org/10.26795/2307-1281-2017-3-17>
 51. Walters, G.D. (2021). School-age bullying victimization and perpetration: A meta-analysis of prospective studies and research. *Trauma, Violence, & Abuse*, 22(5), 1129–1139. <https://doi.org/10.1177/1524838020906513>
 52. Yusuf, A., Habibie, A.N., Efendi, F., Kurnia, I.D., Kurniati, A. (2022). Prevalence and correlates of being bullied among adolescents in Indonesia: Results from the 2015 Global School-based Student Health Survey. *International Journal of Adolescent Medicine and Health*, 34(1), 20190064. <https://doi.org/10.1515/ijamh-2019-0064>
 53. Zaneva, M., Minnick, E., Nahar, Ginting, V., Aryani, F., Ohan, F., Haryanti, R.H., Winarna, S., Arsianto, Y., Budiawati, H., Widowati, E., Saraswati, R., Kristianto, Y., Suryani, Y.E., Ulim, D.F., Bowes, L. (2023). Social norms predict bullying: Evidence from an anti-bullying intervention trial in Indonesia. *International Journal of Bullying Prevention*. <https://doi.org/10.1007/s42380-023-00176-8>
 54. Zulkarnain, Z., Tarmidi, T., Purwasih, E., Bochaver, S.N. (2025). Parenting styles, loneliness and problematic internet use among adolescents: A cross-sectional analysis. *Journal of Education Culture and Society*, 16(1), 231–249. <https://doi.org/10.15503/jecs2025.2.231.249>

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Тармиди — идеи исследования; дизайн исследования; сбор данных; анализ и интерпретация данных; подготовка статьи.

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Зулькарнайн — подготовка статьи и финальное рецензирование.

Мухаммад Розан Алфариси — подготовка черновика статьи и редактирование.

Conflict of interest

The authors declare that there were no conflicts of interest.

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Авторы заявляют об отсутствии конфликта интересов.

Ethics statement

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