

# The role of social-emotional learning in reducing bullying among adolescents: Evidence from Aceh, Indonesia

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**Abstract.** *Background and aim of the work:* Bullying among students is an issue that need collective efforts from various stakeholders, including healthcare providers. The impacts of this aggressive behavior extend to internalization problems, such as anxiety, depression, low self-esteem, and the development of suicidal ideas. Bullying also negatively affects the academic achievement among students. Therefore, this research aimed to evaluate the effectiveness of social-emotional learning (SEL) intervention in mitigating bullying among students in Aceh Province, Indonesia. *Research design and methods:* The researcher utilized an intervention-based approach was adopted in two distinct groups, including the intervention and the control groups, through a pre-post control group design from two Senior High Schools within Aceh Besar District. The determination of sample size was predicted on power analysis, considering a medium effect size and a power level of 0.08, resulting in the selection of 45 respondents for each group. After the randomization of schools, a total of 45 students were selected from each school. A pre-test was administered to both groups one week before the six-session intervention, and a post-test followed one week after the completion of all sessions. The obtained data were then subjected to comprehensive analysis using the Mann-Whitney test. *Results:* The results showed that SEL intervention substantially affected knowledge (p-value: 0.001), attitudes (p-value: 0.010), and bullying behavior (p-value: 0.011) among students. *Conclusions:* Health practitioners, particularly community and family nurses were promoted to incorporate SEL intervention as a fundamental component to prevent this aggressive behavior in students. ([www.actabiomedica.it](http://www.actabiomedica.it))

**Key words:** social-emotional learning, bullying prevention, Aceh Indonesia, SEL, adolescents, social skills development, emotional skills education.

## Introduction

Bullying is an aggressive behavior, where an individual or a group repeatedly attacks, insults, and isolates a relatively defenseless individual (1). This behavior is commonly defined as intentional acts of persistent peer aggression, typified by an inherent power imbalance between the aggressor and the victim (2). The affliction of bullying among children and

adolescents represents a global public health dilemma, demanding comprehensive attention, particularly from healthcare practitioners (3–5). Furthermore, the International Center for Research on Women (ICRW) reported that a staggering 84% of Indonesian students have endured bullying in school, a figure surpassing many other countries in the Asian region (6). This alarming trend extends to students in Aceh Province, where an analysis uncovers that 46.9% of State Junior

High School (SMP) students in Banda Aceh City are victimized by their peers 2 to 3 times a month or more frequently (7). The high incidence of bullying can cause serious adverse consequences among students (8), particularly in the context of health (9). Previous research showed that this aggressive behavior caused mental health, psychosocial, physiological, and behavioral challenges for its targeted victims (10). Furthermore, bullying causes traumatic stress among victims, moving continuously into sleep disturbances with far-reaching implication for mental and physical health (11). Other investigations also showed that students subjected to this behavior, or engaged in cyberbullying, had an elevated risk of self-harm and suicidal tendencies (12). In Addition, children who are being victimized tend to suffer more mental health issues compared to their peers (13,14). The negative impact of bullying extends beyond the victims, incorporating the perpetrators as well. Although internalization issues tend to afflict victims more frequently (15), extensive research shows that engagement in various aggressive behaviors, whether physical, relational, verbal, or cyberbullying, represents a substantial risk factor for a spectrum of internalizing problems, such as anxiety, depression, low self-esteem, and suicidal ideation (16). The intricate interplay of factors is contributing to bullying, underscoring the necessity for a comprehensive approach to prevention and intervention, particularly among students (17). Previous study conducted in Aceh showed that bullying could be attributed to personality traits and self-esteem issues (18). To achieve effective prevention strategies, there is a growing emphasis on psychological approaches, including the development of emotional intelligence and self-efficacy (19). This implies that educational intervention have assumed an important role as an effective strategy in preventing bullying among students (8). This study aimed to examine the effect of Social Emotional Learning (SEL) intervention on the prevention of bullying among students in Aceh province, Indonesia. SEL intervention included aspects of knowledge, attitudes, and skills aimed at enhancing the ability of the respondents to understand and regulate emotions, express empathy towards others, set and attain positive objectives, cultivate and maintain positive relationships, as well as make responsible decisions. These facets are in line with

the five core competencies of SEL intervention, comprising self-awareness, self-management, social awareness, skills in social relationships, and the aptitude for responsible decision-making (10). The selection of two Senior High Schools in Aceh Besar District was based on the increased prevalence of bullying among students. These schools are located in remote areas, characterized by limited access to information, particularly concerning health-related issues. Therefore, this research offers invaluable insights to healthcare providers, especially community health nurses in preventing bullying among senior high school students.

### **Participants and methods**

This study used a pre-post intervention design with two groups, including the intervention group and the control group. The outcomes variable included knowledge, attitude, and bullying behavior. These outcomes were assessed through a comparative analysis of measurements obtained at two distinct time points, particularly the pre-test and post-test, conducted within both the control and intervention groups (20). The pre-test occurred one week before the initiation of SEL intervention, while the post-test was carried out one week after the intervention was administered. Previous study also measured the effect on an intervention on student's behavior after one week of intervention (21). SEL intervention sessions were in line with SEL concept including self-awareness, self-management, social awareness, responsible decision-making, and relationship skills (22). These intervention sessions were conducted in groups, with each group consisting of 15 respondents, facilitated outside regular class hours. The intervention of study consisted of six sessions, sequentially addressing the identification of bullying incidents and their root causes, followed by health education segments focusing on self-awareness, self-management, social awareness, responsible decision-making, and finally, health education on relationship and social skills (22). The intervention used a diverse array of media resources, comprising videos, LCD presentations, booklets, and informational leaflets covering topics related to bullying and its prevention. SEL intervention spanned six sessions, with

one session held each week, lasting between 40 to 60 minutes per session. Subsequent to the completion of the SEL intervention, this research conducted a one-week follow-up to monitor its progress. Following this monitoring period, a post-test was administered to both the intervention and control groups to discern disparities in bullying between the two cohorts. The duration of this intervention was supported by previous investigations, suggesting that short-term intervention initiatives could span from 2 to 6 months (23). The research samples comprised of the entirety of students from two Senior High Schools located within Aceh Besar District, Aceh, Indonesia. These two schools were selected due to their high incidence of bullying and the large number of unexplained student dropouts. Furthermore, the two institutions were located in remote villages characterized by a predominantly low-income and low-education population. The determination of the sample size was executed through power analysis, considering a medium effect size and a power level of 0.08, alongside a confidence level of 95% and an alpha of 0.05, yielding a value of  $d = 0.70$ . Consequently, the size for this research was set at 45 respondents per group (24). After the randomization of schools, approximately 45 students who met the established criteria were selected from each school. Subsequently, randomization was used to assign students to the control or intervention groups, using a random generator. A total of 45 students for each group were selected through this generator. This research received approval from the Ethics Committee of the Faculty of Nursing at Universitas Syiah Kuala, Aceh, Indonesia, approval number 113001200623. The instrument used in this study was a questionnaire consisting of dimensions of knowledge, attitude, and bullying behaviour. Knowledge questionnaire consist composed of 15 dichotomous items, attitude questionnaire composed of 15 items with Likert scale and behaviour questionnaire composed of 16 Likert scale items (18). Data collection was carried out using a self-report technique. The research initiatives started with the administration of the pre-test on respondents in both the control and intervention groups. Subsequently, SEL intervention was exclusively administered to the intervention group, with no intervention extended to the control group. The data were analyzed by using

both descriptive and inferential statistical methodologies. Descriptive statistics facilitated a comprehensive understanding of the data through metrics such as frequency, percentage, mean, and standard deviation. Meanwhile, inferential statistics were adopted, exemplified by the Mann-Whitney U test to assess the difference in mean scores between the intervention and control groups (25).

## Results

### *Demographic characteristics*

The research consisted of both the intervention and control groups, with 45 respondents in each group, resulting in a total of 90 respondents. The majority of the students in both the intervention (51.1%) and control groups (60%) were in Grade X. Furthermore, most parents in both groups had a secondary school education, with a total of 55.6% in the intervention group and 57.6% in the control group.

### *Description of knowledge, attitudes, and bullying behavior*

The descriptive analysis of knowledge, attitude, and bullying behavior in both groups during the pre-test and post-test was presented in Table 1 below.

**Table 1.** Descriptive Analysis of Knowledge, Attitude and Bullying Behavior in the Intervention Group and Control Group During the Pre-Test and Post-Test

Variable	Intervention group		Control group	
	Mean	SD	Mean	SD
<b>Knowledge</b>				
Pre-test	10.49	1.82	10.60	1.75
Post-test	13.58	1.3	10.49	1.74
<b>Attitude</b>				
Pre-test	30.60	6.96	30.71	6.79
Post-test	27.13	4.6	30.67	6.74
<b>Behavior</b>				
Pre-test	30.84	8.7	30.96	8.59
Post-test	26.62	5.47	30.93	8.56

Table 1 showed that the intervention group had an increase in knowledge during the post-test, while the control group did not experience this particular increase. Regarding bullying attitude and behavior variables, the analysis indicated a decrease in mean values within the intervention group during the post-test, while no decrease was observed in the control group. The results suggested that SEL intervention contributed to an enhancement in knowledge concerning the dangers of bullying and a reduction in pro-bullying attitudes and behaviors among students.

#### *Comparison of knowledge, attitudes, and bullying behavior in the intervention and control groups*

The Mann-Whitney U test was used to compare the knowledge, attitude, and behavior between the SEL intervention group and the control group in both the pre-test and post-test. In-depth analysis results can be found in Table 2.

Table 2 showed the results for the knowledge variable, and in the pre-test, the intervention group had a mean rank of 44.66, which increased to 64.29 in the post-test. The control group had a mean rank of 46.34 in the pre-test, but it decreased to 26.71 in the post-test. The analysis comparing the mean rank of knowledge between the intervention and control groups in the post-test yielded a p-value of 0.001, signifying a significant difference in knowledge concerning bullying between the two groups. Regarding the bullying

attitude variable, as shown in Table 2, the pre-test mean rank for the intervention group was 45.20, while it decreased to 38.39 in the post-test. In the control group, the pre-test mean rank was 45.80, which increased to 52.61 in the post-test. The analysis of bullying attitudes between the two groups in the post-test resulted in a p-value of 0.010, indicating significant differences in bullying attitudes. These results signified that the SEL intervention could effectively reduce pro-bullying attitude among the respondents. The analysis of the bullying behavior variable based on Table 2 showed that the mean rank of bullying behavior in the intervention group decreased from 45.24 in the pre-test to 38.54 in the post-test. Conversely, the control group had a pre-test mean rank of 45.76, which increased to 52.46 in the post-test. The post-test analysis comparing the mean rank of bullying behavior in the SEL intervention group with the control group yielded a p-value of 0.011. The results confirmed the existence of significant differences in bullying behavior within the intervention group when compared to the control group. Therefore, it could be concluded that SEL intervention effectively reduced bullying behavior among students.

#### **Conclusion**

This research showed that SEL intervention enhanced the knowledge of students regarding bullying. Then, this study also proved that SEL intervention

**Table 2.** Comparison of Knowledge, Attitude and Bullying Behavior Between the Intervention Group and the Control Group

Variable	Intervention group		Control group		Mann-Whitney U Test	P-value
	Mean Rank	Sum of Ranks	Mean Rank	Sum of Ranks		
<b>Knowledge</b>						
Pre-test	44,66	2009,50	46,34	2085,50	974.500	0,75
Post-test	64,29	2893,00	26,71	1202,00	167.000	0,001*
<b>Attitude</b>						
Pre-test	45,20	2034,00	45,80	2061,00	999.000	0,91
Post-test	38,39	1727,50	52,61	2367,50	692.500	0,010*
<b>Behavior</b>						
Pre-test	45,24	2036,00	45,76	2059,00	1001.000	0,92
Post-test	38,54	1734,50	52,46	2360,50	699.500	0,011*

reduced pro-bullying attitudes and bullying behavior among senior high school students. This observation could be attributed to the integral role of social skills and emotional learning provided during the analysis intervention. Respondents obtained insights into the significance of social relationships and acquired diverse strategies for improving their emotional management skills, including self-awareness, self-management, and responsible decision-making. Bullying was fundamentally related to issues within the context of social interaction (26). Disturbances in social relationships and deficiencies in interaction abilities could cause bullying behavior. Therefore, one pragmatic approach for reducing bullying among students lay in the cultivation of their social interaction proficiencies. Students routinely engage with a spectrum of individuals, including family members, peers, and teachers, necessitating well-honed social skills to foster robust relationships devoid of interference. Social skills, broadly defined, incorporate the aptitude students require to initiate and maintain positive social relationships with family, peers, teachers, and community members. The skills could also be defined as behaviors that enable individuals to effectively engage with others, fostering empathy and capacity to defend personal rights, alongside the ability to solicit support when necessary. Social skills offer significant advantages, aiding individuals in dealing with challenging scenarios and mitigating stress (27). Moreover, the effective use of social skills fostered acceptance among students by their peers and enhanced the social adaptability of respondents. Social adaptability was a crucial attribute, considering the amount of time students spent in peer interaction. Effective social skills promoted the engagement of respondents in positive social relationships and fortified their maintenance. The results were in line with previous research indicating the relationship between social skills and bullying behavior (28). Additionally, other investigations showed the importance of social skills in anti-bullying interventions and underscored their potential to serve as the cornerstone for cross-sectoral initiatives in the healthcare domain. These initiatives aimed to support victims by improving their social interactions and quality of life at schools (29). This research further established that interventions centered on emotional understanding

could serve as a preventive measure against bullying. Emotional understanding included the ability to recognize and comprehend diverse emotions and feelings, along with an understanding of their causes and the transitions between emotional states. This knowledge was particularly invaluable for students navigating the transition to adulthood, a phase characterized by various stressful situations that could have contributed to the onset of psychological disorders such as anxiety and depression. The results were in line with previous investigations showing the correlation between emotional intelligence (EI) and bullying. These analysis outcomes underscored the importance of designing and implementing EI programs within the school context as proactive measures to prevent bullying (30). Emotional learning equipped children to face various stressful situations within their family, school, or community environments. Students skilled at managing their emotions were confident in confronting various challenges and obstacles in life without succumbing to distress. Moreover, these students were less susceptible to the adverse influence of negative behaviors in their surroundings, including destructive behavior, particularly bullying. Based on the previous discussion, it was evident that enhancing the social and emotional competencies of students was crucial. The provision of universal SEL intervention served as an important means of fostering mental health and psychosocial well-being. The intervention not only increased prosocial behavior but also reduced emotional distress while simultaneously elevating academic performance. Furthermore, SEL intervention created inclusive environments that were more conducive to the total well-being of students (31). In conclusion, this research showed the effectiveness of SEL intervention in increasing knowledge regarding bullying and reducing pro-bullying attitudes and behaviors among Senior High School students. Health practitioners, particularly community and family nurses, considered the implementation of SEL intervention as a crucial component of the anti-bullying strategy for students. The strategy not only held the potential to enhance academic achievements but also became a preventive measure against the onset of various psychological disorders resulting from bullying. However, this research has several limitations, one of them related to the data collection technique



that used self-report technique, there is a possibility that respondents did not report the actual condition related to bullying behaviors. Then, the results of this study cannot be broadly generalized to others senior high school students in the other places with have different characteristics of students. Further research is needed to confirm this study findings.

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**Authors Contribution:** SRJ initiated and conducted the research. FF drafted the primary manuscript and performed revisions. Additionally, AA, RA, NN and SA provided oversight on the research design, supervised intervention implementation, and participated in manuscript revisions. All authors reviewed and approved the manuscript.

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