



The Effect of Mindfulness-Based Cognitive Therapy on Emotion Regulation to Reduce Aggressive Behavior in Vulnerable Groups of Bullies

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A B S T R A C T

The phenomenon of bullying in schools is frequently triggered by high levels of aggressive behavior and poor emotional regulation among students. Mindfulness-Based Cognitive Therapy (MBCT) is an intervention approach combining mindfulness exercises with cognitive techniques to help individuals respond to negative emotions more adaptively. This study aims to evaluate the effect of Mindfulness-Based Cognitive Therapy (MBCT) on emotion regulation to reduce aggressive behavior in vulnerable groups of bullies among vocational school adolescents. This research utilized a quasi-experimental design with a Pretest-Posttest Control Group Design. The study was conducted on 11th-grade students at SMK YPI Darussalam 2 Cerme, Gresik, during the 2026/2027 academic year, with a sample size of 31 students selected via purposive sampling (16 in the experimental group, 15 in the control group). Instruments included an Aggressive Behavior Scale, emotion regulation questionnaires, and an adapted MBCT intervention module. Data analysis was performed using Paired Sample T-Tests and Wilcoxon Signed Rank Tests scores after administering MBCT intervention in the experimental group ($p < 0.05$). The results showed that the majority of adolescents in the vulnerable group who are perpetrators of bullying have a high tendency to apply expressive suppression strategies and low scores on cognitive reappraisal strategies.

INTRODUCTION

The ability to control emotions and manage emotional aspects is a crucial psychological construct known as emotion regulation (Gross, 2021). Emotions typically manifest as cognitive responses to specific environmental stimuli. A majority of adolescents struggle to process their emotions effectively, rendering them highly vulnerable to stress, depression, and impulsive outbursts. Teenagers who lack constructive outlets for emotions such as anger, frustration, and sadness often resort to externalized behaviors, including physical aggression, interpersonal conflict, and bullying, which inflict harm upon both themselves and others. Consequently, juvenile delinquency and school bullying are frequently rooted in weak emotional regulation capacity (Purwadi, 2021).

Historically, research on emotion regulation and bullying has predominantly focused on the "victims," while very few studies have targeted the "perpetrators" as the primary subjects of psychological intervention.

To effectively break the vicious cycle of school violence, interventions must address the root cause by engaging perpetrators directly in-depth. Prior studies, such as those by Merdekasari et al., demonstrated that MBCT interventions successfully reduce the frequency of students' aggressive behaviors across pre-, during, and post-treatment phases, offering robust mechanisms for sustained emotional control.

The consequences of this bullying behavior are very detrimental to adolescent development, such as the negative impact on psychology with an increased risk of depression, anxiety, and stress, a bad impact on society with difficulties in building and maintaining healthy relationships, difficulty interacting with the environment, academic impacts can occur a decrease in academic achievement, difficulty concentrating on learning, so that the bad effects that occur have legal impacts, high risk of engaging in criminal activities, and high risk of experiencing other legal problems. Interestingly, the long-term impact on mental health and the difficulty of building harmonious relationships are also experienced by the abuser himself (Sukmawati et al., 2021).

According to WHO, specific data on bullying cases in Indonesia According to data from the Indonesian Child Protection Commission (KPAI), from 2023 to 2024, 3,877 bullying cases have been received, consisting of 40% of children who are victims and 60% of children who are perpetrators from the case data. This data is not much different from the data obtained by the Ministry of Social Affairs of the Republic of Indonesia. Until June 2025, the Ministry of Social Affairs received 967 reports of cases; 117 of them were in bullying cases. Specific data from KPAI East Java nationally recorded 241 reported cases. 17% of the data on cases that occurred. Data in Gresik Regency at the high school/vocational school level bullying cases will reach 40% by 2025. Based on the results obtained from a survey at high schools/vocational schools in Cerme District, 20% of bullying perpetrators occurred at school.

Rigby revealed that adolescents who are often involved in bullying at school tend to experience unstable emotions, difficulties in building close relationships with others and peers, lack of empathy for others, as well as irritable, inconsistent, irritable, impulsive, and not feeling guilty or remorse (Rahmadhony, 2020). Jennifer and Cowie revealed that poor emotional regulation or aggressive nature in individuals can be one of the factors that trigger bullying behavior. In this case, individuals with low emotional control abilities often experience behavioral problems and tend to choose to engage in bullying. Bullying behavior in adolescents often arises due to inability to manage emotions and inaccuracies in dealing with emotional problems (Prasetio et al., 2021). Based on the background of this problem, the research conducted aims to evaluate the effect of mindfulness-based cognitive therapy targeted at vulnerable groups of bullies in vocational school adolescents.

METHOD

In this study, a quasi-experimental method was applied with a pre-test post-test design. This study is 11th grade students of SMK YPI Darussalam 2 Cerme Gresik for the 2026/2027 school year, with a sample of 31 students determined using purposive sampling techniques. The instruments used are the scale of aggressive behavior towards vulnerable groups of bullies and the MBCT module that has been adapted. To test the significance of the data, it was carried out using the independent sample T-Test or Paired T-test

technique to measure the difference in aggressive levels before and after the intervention. The results showed that there was a significant decrease in the aggressive behavior score after the administration of MBCT intervention in the experimental group ($p < 0.05$).

RESULT

Univariate analysis

1. Characteristics of Respondents by Age

Table 1. Characteristics of respondents by age at SMK YPI Darrusalam 2 Cerme

Age	Regulation of Emotions for Vulnerable Groups of Bullying Perpetrators			
	Experimental Groups		Control Groups	
	N	%	N	%
16 Years	7	48%	7	39%
17 Years	9	52%	8	61%
Total	16	100%	15	100%

A distribution table of respondents' characteristics by age shows that Most subjects are in the late phase of adolescence. Of the total 31 respondents, in the experimental group, most of them were at the age of 17 years (52%). Meanwhile, in the control group, most of the 17-year-olds were 8 people (61%). In the experimental group with an average age of 16 years, there were 7 people (48%). Meanwhile, in the control group, there were 7 people aged 16 years (39%). The average age of respondents in this study was generally dominated by adolescents aged 17 years.

2. Characteristics of Respondents by Gender

Table 2. Characteristics of respondents by gender at SMK YPI Darrusalam 2 Cerme

Gender	Regulation of Emotions for Vulnerable Groups of Bullying Perpetrators			
	Experimental Groups		Control Groups	
	N	%	N	%
Female	16	51,6%	15	48,4%
Total	16	51,6%	15	48,4%

The table shows the distribution of respondents by gender in the vulnerable group of bullies. Of the total 31 respondents, most of them were female, namely 31 people (100%). This shows that the majority of participants in this study are women.

3. Characteristics of Respondents by Class

Table 3. Characteristics of respondents based on class at SMK YPI Darrusalam 2 Cerme

Classes	Regulation of Emotions for Vulnerable Groups of Bullying Perpetrators			
	Experimental Groups		Control Groups	
	N	%	N	%
11	16	51,6%	15	48,4%
Total	16	51,6%	15	48,4%

The table shows the distribution of respondents by class. Of the total 31 respondents, most of the 11th grade high school students were 31 people (100%).

Bivariate Test

1. Identification of the experimental group of emotional regulation of the vulnerable group of the bully before being given MBCT therapy

Tabel 4. Identification of emotional regulation of vulnerable groups of bullies at SMK YPI Darussalam 2 Cerme on February 20-March 20

Emotion Regulation	Pre-Test		Post-Test	
	n	%	N	%
High	0	-	5	40%
Moderate	10	56%	8	45%
Low	6	44%	3	15%
Total	16	100%	16	100%

The table show it can be seen that the distribution of Pre Post respondents in the experimental group, before the intervention was carried out, was placed (56%) in the medium category, while (44%) students in the low regulatory category. After being given the Pre-Experiment intervention, some students were in the high category (40%), and (45%) respondents in the medium category, in the low category (15%).

2. Identification of the Control Group Before and After Receiving MBCT Therapy

Table 5. Emotion regulation of the control group at SMK YPI Darussalam 2 Cerme from February 3 to March 3, 2026

Emotion Regulation	Pre-Test		Post-Test	
	n	%	N	%
High	0	-	-	-
Moderate	10	75%	12	80%
Low	5	25%	3	20%
Total	15	100%	15	100%

Based on Table 5 above, it shows the distribution of emotion regulation criteria for the control group in the pre-test, where the moderate emotion regulation category was obtained by as many as 10 respondents (75%), and the low category by 5 respondents (25%). In the post-test, respondents in the moderate emotion regulation category were obtained (80%).

3. The Effect of Mindfulness-Based Cognitive Therapy (MBCT) on the Group Vulnerable to Bullying Behavior

Table 6. Statistical Test Results of the Intervention Group Using Paired T-Test

Emotion Regulation	Pre-Test		Post-Test	
	n	%	N	%
High	0	-	5	40%
Moderate	10	56%	8	45%
Low	6	44%	3	15%
Total	16	100%	16	100%
Pre-test Mean: 29.29			Post-test Mean: 43.82	
Paired T-test : p-value = 0.000 (alpha < 0.05)				

Table 6 shows that the Paired T-test yielded a Sig (2-tailed) value in the intervention group of $p = 0.000$ ($\alpha < 0.05$). Based on these results, hypothesis H1 is accepted and H0 is rejected, which indicates that there is an effect of Mindfulness-based cognitive therapy on the experimental group.

Table 7. Statistical Test Results of the Control Group Using the Wilcoxon Test

Emotion Regulation	Pre-Test		Post-Test	
	n	%	N	%
High	0	-	0	-
Moderate	10	75%	12	80%
Low	5	25%	3	20%
Total	15	100%	15	100%
Wilcoxon signed rank test : $p\text{-value} = 0.003$ ($\alpha > 0.05$)				

Table 5.7 for the control group shows the results of the Wilcoxon signed rank test: p value = 0.003 ($\alpha > 0.05$), so H1 is rejected and H0 is accepted, indicating that there is no effect on the control group regarding the emotion regulation of the group vulnerable to bullying behavior

DISCUSSION

1. Identifying the regulation of emotions decreases the aggressive behavior of vulnerable groups of bullies

The level of emotion regulation in the group vulnerable to bullying behavior before the intervention was administered was mostly in the low to moderate categories. In the experimental group before being given the intervention, the majority of respondents were in the moderate category (56%) and the low category (44%). After the intervention was administered, the experimental group experienced a significant increase in the high category (40%), while the moderate category stood at (45%), and the low category at (15%). For respondents in the low category, it can be interpreted that adolescents' emotion regulation ability is multifactorial, but can be chronically influenced by initial emotional stability under family environmental pressure and compliance with independent skills.

The research results show that regarding the age of respondents in the intervention group, almost half of the intervention group respondents were 17 years old, numbering 9 people (52%), and those aged 16 years numbered 7 people (48%). Adolescent emotional capacity is multifactorial, chronically influenced by early emotional stability, family environmental pressures, and adherence to self-regulation skills (Gross, 2021). Age distribution analysis revealed that respondents were primarily 17 years old (52%). According to developmental theorists such as Gross (2021) and Steinberg (2023), ages 16–17 mark a critical developmental window characterized by significant structural brain maturation (particularly prefrontal cortex and limbic system dynamics) and hormonal fluctuations. This neurodevelopmental phase is crucial for impulse suppression, stress mitigation, and social adaptation. Difficulties in managing

emotions during this period directly impair psychological well-being and fuel interpersonal aggression (Casey et al., 2024).

Gender distribution indicated that 100% of participants were female. Recent psychological literature (e.g., Youth & Roberts, 2024) emphasizes that female adolescents aged 16–17 are particularly vulnerable to internalizing distress and emotion regulation difficulties. Young females frequently utilize rumination strategies (brooding and overthinking social stressors), leading to emotional internalisation such as anxiety, which can paradoxically manifest as reactive behavioral outbursts when processing intense emotional triggers (Zeman et al., 2022). Low emotion regulation stems from cognitive developmental lags, emotional intensity, adverse peer experiences, and deficient social support structures (Firdays, 2023). Effective emotion regulation requires cognitive reappraisal and expressive suppression management as outlined by Gross and Thompson (2020), aspects of adolescent emotion regulation include cognitive strategies such as cognitive reappraisal, behavioral strategies such as expressive suppression, emotional acceptance, problem-solving skills, as well as emotion monitoring and evaluation to manage the intensity and duration of emotions, enabling adolescents to adapt and function adaptively in their environment.

2. Identifying Emotion Regulation of the Control Group Before and After Being Administered Mindfulness-Based Cognitive Therapy in the Group Vulnerable to Bullying Behavior

Based on the results of data analysis in the control group, it was found that the majority of respondents were still in the moderate and low regulation categories. This shows that without intervention in the control group, the emotion regulation capacity of adolescents aged 16–17 years tends to remain static or is even vulnerable to worsening due to school environmental pressure and late adolescent emotional fluctuations. This condition reinforces the theory that recovery from emotional dysregulation in groups vulnerable to bullying behavior requires cognitive reconstruction that trains individuals to monitor their emotions.

This stagnation in the control group underscores the theoretical premise that without active cognitive reconstruction, adolescent emotional dysregulation does not resolve spontaneously; rather, it remains vulnerable to worsening under the cumulative pressures of late-adolescent academic stress and social friction. As highlighted by Segal et al. (2022) and Andini et al. (2024), spontaneous maturation alone is insufficient for mitigating severe emotional dysregulation in bullying-vulnerable youth. Recovery requires systematic interventions that train individuals to cultivate meta-awareness and monitor their internal emotional states before behavioral translation occurs.

3. Analyzing the Effect of Mindfulness Therapy on the Group Vulnerable to Bullying Behavior Before and After Being Administered the Intervention

Based on Table 6, it is known that there is a significant change in the experimental group after being administered MBCT therapy. Before the intervention was administered, the majority of respondents were in the low to moderate categories. In the experimental group, it shows that the Paired T-test yielded a Sig (2-tailed) value in the experimental group of $p=0.000$ ($\alpha<0.05$). Based on these results, hypothesis H1 is accepted and H0 is rejected, which indicates that there is an effect of Mindfulness based cognitive therapy on the experimental group. Meanwhile, in the control group, the results of the Wilcoxon signed rank test yielded $p\text{-value}=0.003$ ($\alpha>0.05$), so H1 is rejected and H0 is accepted, indicating that there is no effect on the control group regarding the emotion regulation of the group vulnerable to bullying behavior.

Several researchers have shown that Mindfulness-Based Cognitive Therapy (MBCT) in improving emotional awareness in adolescents can vary depending on each individual. The application of mindfulness has been commonly carried out at the individual level to overcome various mental health problems in adolescents, providing a positive effect not only on cognitive aspects, but also on psychological stress conditions, coping abilities, and individual mental resilience (Firdays 2023). Several studies in America have shown that individuals experiencing mental disorders have low levels of mindfulness. This is proven in the neural differences between individuals experiencing depression and individuals with high levels of mindfulness (Fourianalistyawati et al., 2018 - 117).

The application of Mindfulness-Based Cognitive Therapy (MBCT) in adolescent bullying perpetrators is a highly relevant approach. Bullying perpetrators often have problems with emotion regulation, lack of empathy, and self-defense mechanisms in the form of problem externalization (blaming others). According to 2025, adolescent bullying perpetrators usually act based on.

CONCLUSION

This study found a statistically significant difference in aggressive behavior among adolescents vulnerable to bullying perpetration following mindfulness-based cognitive therapy (MBCT). The findings suggest that MBCT may be a promising non-pharmacological intervention to help adolescents regulate emotions and reduce aggressive behavior. However, further studies are needed to confirm its effectiveness and long-term impact on bullying prevention..

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