

# The Effectiveness of Dialectical Behavior Therapy on Emotion Dysregulation and Social Cognition in Students With Self-Injurious Behaviors

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## ABSTRACT

**Objective:** The present study aimed to determine the effectiveness of Dialectical Behavior Therapy on emotion dysregulation and social cognition in students with self-injurious behaviors.

**Methods and Materials:** This study employed a quasi-experimental design using a pretest–posttest approach with a control group. The statistical population included all male upper secondary school students in Babol during the 2021–2022 academic year. The sample consisted of 30 students selected through convenience sampling and randomly assigned, using a lottery method, to an experimental group (n = 15) and a control group (n = 15). Participants completed the Deliberate Self-Harm Inventory (Gratz, 2001), the Difficulties in Emotion Regulation Scale (Gratz & Roemer, 2004), and the Social Cognition Questionnaire (Nejati et al., 2018) before and after the intervention. Dialectical Behavior Therapy was administered to the experimental group in twelve 90-minute sessions, twice weekly, while the control group received no intervention during this period. Data were analyzed using descriptive statistics (mean and standard deviation) and analysis of covariance (ANCOVA) with SPSS software, version 24.

**Findings:** The results indicated that Dialectical Behavior Therapy had a significant effect on reducing emotion dysregulation and improving social cognition in students with self-injurious behaviors ( $P < 0.01$ ). The mean  $\pm$  standard deviation of emotion dysregulation decreased from  $78.87 \pm 7.12$  at the pretest stage to  $62.15 \pm 6.04$  at the posttest stage. Additionally, the mean  $\pm$  standard deviation of social cognition increased from  $56.55 \pm 5.74$  at the pretest stage to  $67.82 \pm 6.12$  at the posttest stage.

**Conclusion:** Based on the findings, Dialectical Behavior Therapy was effective in reducing emotion dysregulation and enhancing social cognition among students with self-injurious behaviors. Therefore, Dialectical Behavior Therapy can be recommended as an appropriate intervention for reducing problems in students who engage in self-injury.

**Keywords:** Dialectical Behavior Therapy; emotion dysregulation; social cognition; self-injury; students.

## 1. Introduction

Adolescence is a critical developmental period characterized by profound biological, emotional, cognitive, and social changes, during which individuals face heightened vulnerability to emotional instability, interpersonal stressors, and maladaptive coping behaviors. The convergence of academic pressures, identity formation, peer relationships, and evolving autonomy often places adolescents at increased risk for psychological difficulties, particularly those related to emotion regulation and social functioning. Among these difficulties, self-injurious behaviors have emerged as a significant mental health concern, drawing increasing attention from researchers and clinicians due to their prevalence, persistence, and association with long-term psychological impairment (Muehlenkamp et al., 2023; Taheri et al., 2021). Non-suicidal self-injury is frequently conceptualized as a maladaptive strategy for managing overwhelming emotional states, interpersonal distress, or perceived social rejection, rather than as an expression of suicidal intent. Consequently, understanding the psychological mechanisms underlying self-injury, particularly emotion dysregulation and deficits in social cognition, is essential for developing effective therapeutic interventions.

Emotion dysregulation refers to difficulties in understanding, accepting, modulating, and responding to emotional experiences in a flexible and contextually appropriate manner. Individuals with high levels of emotion dysregulation often experience intense emotional reactions, limited access to adaptive coping strategies, and impaired impulse control, which collectively increase vulnerability to maladaptive behaviors such as self-injury. Empirical evidence consistently demonstrates that emotion dysregulation plays a central role in a wide range of psychopathological outcomes, including internalizing and externalizing problems, interpersonal conflict, and behavioral dyscontrol (Denney et al., 2022; Rezaei et al., 2019). In adolescent populations, limited emotion regulation capacity has been linked to heightened emotional reactivity, difficulty tolerating distress, and reliance on maladaptive coping strategies, particularly under conditions of social or academic stress (Safari & Aftab, 2021; Shamshir saz, 2024). These findings underscore emotion dysregulation as a core transdiagnostic process that warrants targeted therapeutic attention.

In parallel with emotion regulation difficulties, impairments in social cognition represent another critical yet

often underexplored factor contributing to adolescent maladjustment. Social cognition encompasses the mental processes involved in perceiving, interpreting, and responding to social information, including understanding others' emotions, intentions, beliefs, and behaviors, as well as self-awareness within social contexts. Adequate social cognition is fundamental for successful interpersonal functioning, peer acceptance, and adaptive social adjustment. Conversely, deficits in social cognition have been associated with social withdrawal, misinterpretation of social cues, interpersonal conflict, and emotional distress (Cao et al., 2023; Nejati et al., 2018). Adolescents who engage in self-injurious behaviors often exhibit distorted perceptions of social interactions, heightened sensitivity to rejection, and difficulties in interpreting others' intentions, which may exacerbate emotional distress and reinforce maladaptive coping patterns (Pajouhinia et al., 2020; Suveg et al., 2017).

The interaction between emotion dysregulation and social cognition deficits appears to be particularly salient in adolescents with self-injurious behaviors. Poor emotion regulation may impair cognitive processing under emotional arousal, leading to biased interpretations of social cues and increased interpersonal conflict. At the same time, deficits in social cognition may intensify emotional responses by amplifying perceived social threats or misunderstandings, creating a reciprocal cycle of emotional and interpersonal dysfunction. Research grounded in developmental and cognitive-affective models suggests that executive functioning and emotion regulation capacities jointly influence social information processing and behavioral responses in youth (Caparaso et al., 2019; Kells et al., 2020). Thus, interventions that simultaneously target emotional and social-cognitive processes may be particularly effective for adolescents struggling with self-injury.

Dialectical Behavior Therapy (DBT) is a structured, evidence-based psychotherapy originally developed for individuals with severe emotion dysregulation and self-harm behaviors. Rooted in a biosocial model, DBT conceptualizes maladaptive behaviors as arising from the interaction between biological emotional vulnerability and an invalidating social environment. The therapy integrates acceptance-based strategies with cognitive-behavioral techniques, emphasizing skill development in mindfulness, distress tolerance, emotion regulation, and interpersonal effectiveness. Over the past two decades, DBT has been increasingly adapted for diverse clinical populations and developmental stages, including adolescents, with growing

empirical support for its effectiveness across a range of emotional and behavioral outcomes (Kells et al., 2020; Landes et al., 2022).

A substantial body of research has demonstrated the effectiveness of DBT in reducing emotion dysregulation, impulsivity, and maladaptive behaviors across clinical and nonclinical populations. Studies conducted in both individual and group formats indicate that DBT significantly improves emotional awareness, distress tolerance, and adaptive coping strategies (Rezaei et al., 2019; Safari & Aftab, 2021). Moreover, DBT has shown effectiveness in reducing symptoms of depression, anxiety, rumination, and self-criticism, all of which are closely linked to self-injurious behaviors (Amighi et al., 2023; Vardikhan, 2024). Importantly, recent research suggests that DBT is not limited to populations with severe psychopathology but may also be beneficial for emotionally dysregulated individuals who do not engage in suicidal or chronic self-harming behaviors, highlighting its transdiagnostic applicability (Kells et al., 2020).

Beyond its impact on emotion regulation, DBT has demonstrated promising effects on interpersonal functioning and social adjustment. The interpersonal effectiveness module of DBT directly targets skills related to assertive communication, boundary setting, self-respect, and relationship maintenance, which are closely aligned with core components of social cognition. Empirical studies have reported improvements in social adjustment, communication patterns, and relational functioning following DBT interventions, particularly in adolescent and young adult samples (Badanifroz, 2025; Nazarifar et al., 2022). These findings suggest that DBT may indirectly enhance social cognition by fostering more accurate social perception, increased emotional awareness in social contexts, and improved behavioral responses during interpersonal interactions.

Comparative studies further support the relative effectiveness of DBT in addressing complex emotional and interpersonal difficulties. Research comparing DBT with cognitive-behavioral therapy and emotion-focused approaches indicates that DBT may offer unique advantages in populations characterized by high emotional reactivity and maladaptive coping behaviors (Amighi et al., 2023; Amighi et al., 2025). Similarly, group-based DBT interventions have been shown to improve aggression control, social adjustment, and emotion regulation among adolescents from vulnerable family contexts, underscoring the relevance of DBT for school-aged populations (Nazarifar

et al., 2022; Yasfard et al., 2020). These outcomes highlight DBT's potential as a comprehensive intervention that addresses both intrapersonal and interpersonal dimensions of adolescent psychopathology.

Despite the growing evidence base, several gaps remain in the literature. First, while emotion regulation outcomes of DBT have been widely examined, fewer studies have explicitly investigated its effects on social cognition, particularly in adolescent populations with self-injurious behaviors. Second, much of the existing research has focused on clinical samples in specialized treatment settings, limiting the generalizability of findings to school-based or community contexts. Third, there is a relative scarcity of studies conducted within non-Western cultural settings, despite evidence that cultural and contextual factors may influence emotional expression, social cognition, and therapeutic responsiveness (Hassani et al., 2021; Nejati et al., 2018). Addressing these gaps is essential for advancing both theoretical understanding and practical application of DBT in diverse adolescent populations.

In educational contexts, students with self-injurious behaviors often experience academic difficulties, peer problems, and reduced engagement with school environments, which may further exacerbate emotional distress and social withdrawal. Interventions that can be feasibly implemented within or alongside educational systems and that target both emotional and social-cognitive functioning are therefore of particular importance. Previous research on social skills training and cognitive-behavioral interventions in school-aged populations has demonstrated positive effects on social adjustment and emotional well-being, yet these approaches may not sufficiently address the depth of emotion dysregulation observed in adolescents with self-injury (Hassani et al., 2021; Suveg et al., 2017). DBT, with its structured skills-based framework and emphasis on experiential learning, may offer a more comprehensive and developmentally appropriate intervention for this group.

Furthermore, emerging evidence suggests that improvements in emotion regulation may facilitate downstream gains in social cognition by reducing emotional interference during social information processing and enhancing reflective capacity. Conversely, enhanced social cognition may contribute to better emotion regulation by promoting more accurate interpretations of social cues and reducing interpersonal stress. This bidirectional relationship highlights the importance of examining both constructs simultaneously when evaluating therapeutic outcomes. Although prior studies have explored DBT's effects on

emotion regulation and interpersonal outcomes separately, integrated investigations focusing on both emotion dysregulation and social cognition in adolescents with self-injurious behaviors remain limited (Badanfiroz, 2025; Shamshir saz, 2024).

Given the rising prevalence of self-injurious behaviors among adolescents, the central role of emotion dysregulation and social cognition in the maintenance of these behaviors, and the growing empirical support for DBT as an effective intervention, further research is warranted to clarify the specific benefits of DBT in this population. Examining these effects within a controlled, school-based sample can contribute valuable evidence to the field and inform prevention and intervention efforts aimed at improving adolescent mental health and social functioning.

Accordingly, the aim of the present study was to determine the effectiveness of Dialectical Behavior Therapy on emotion dysregulation and social cognition in students with self-injurious behaviors.

## 2. Methods and Materials

### 2.1. Study Design and Participants

The present study was a quasi-experimental investigation employing a pretest–posttest design with a control group. The statistical population comprised all male upper secondary school students in Babol during the 2021–2022 academic year. A total of 30 students were selected through convenience sampling and randomly assigned, using a lottery method, to an experimental group ( $n = 15$ ) and a control group ( $n = 15$ ). Inclusion criteria consisted of being a male student enrolled in upper secondary education and exhibiting self-injurious behavior. Exclusion criteria included unwillingness to continue participation in the study, failure to complete the questionnaires, and absence from more than two sessions.

The research procedure was conducted as follows. After obtaining permission from the Babol Department of Education to carry out the study, 30 students with self-injurious behaviors who had referred to the Babol Education Counseling Center during the 2021–2022 academic year were selected and randomly assigned to an experimental group ( $n = 15$ ) and a control group ( $n = 15$ ). The Emotion Dysregulation Questionnaire, Social Cognition Questionnaire, and Deliberate Self-Harm Inventory were administered to both groups as pretests. Subsequently, the Dialectical Behavior Therapy intervention was implemented for the experimental group in 12 sessions of 90 minutes each,

held twice weekly. At the conclusion of the intervention, the same questionnaires were administered again to both groups as posttests. To ensure ethical considerations and encourage participant cooperation, information regarding the topic and objectives of the study was provided to participants prior to data collection, to the extent that it would not influence the research outcomes. Participants were assured that their information would be analyzed anonymously and not at the individual level, after which the therapeutic sessions commenced.

### 2.2. Measures

**Emotion Dysregulation Questionnaire:** This questionnaire was developed by Gratz and Roemer in 2004. It consists of 36 items measuring six subscales: nonacceptance of emotional responses, difficulties engaging in goal-directed behavior, impulse control difficulties, lack of emotional awareness, limited access to emotion regulation strategies, and lack of emotional clarity. Items are rated on a 5-point Likert scale ranging from “almost never” (1) to “almost always” (5). Gratz and Roemer (2004) reported Cronbach’s alpha coefficients of 0.85, 0.89, 0.86, 0.80, 0.88, and 0.84 for the six subscales, respectively, and a correlation of 0.60 with the Acceptance and Commitment Questionnaire (Gratz & Roemer, 2004). In a study by Rezaei et al. (2019), exploratory factor analysis revealed eight factors for this scale, of which six were consistent with the original subscales, while two factors were removed due to single-item loadings. The concurrent validity of the instrument was supported through correlations between the six subscales and the Beck Depression Inventory, reported as 0.39, 0.28, 0.32, 0.16, 0.51, and 0.31, respectively (Rezaei et al., 2019).

**Social Cognition Questionnaire:** The Social Cognition Questionnaire was developed by Nejati, Kamari, and Jafari in 2018. This questionnaire consists of 19 items and includes the following subscales: self-cognition (Items 4, 9, 13, 14, 18, and 19), mind reading (Items 1, 2, 7, 8, 10, and 11), detection of educational threat (Items 12, 15, 16, and 17), and understanding the educational environment (Items 3, 5, and 6). Items are rated on a 5-point Likert scale ranging from “almost never” (1) to “almost always” (5). Cronbach’s alpha coefficients were reported as 0.73 for self-cognition, 0.72 for mind reading, 0.71 for detection of educational threat, 0.74 for understanding the educational environment, and 0.86 for the total scale. Content and face validity were also reported as satisfactory (Nejati et al., 2018).

Deliberate Self-Harm Inventory: The Deliberate Self-Harm Inventory was used to assess non-suicidal self-injury. This questionnaire was developed by Gratz in 2001 to measure various forms of self-injurious behaviors. It is a self-report instrument consisting of 17 items that assess the extent of self-harm across 16 different methods of non-suicidal self-injury. Items evaluate the frequency, duration, and severity of each method of self-injurious behavior. Participants' scores on the frequency items across the 17 questions are summed to yield an overall index of non-suicidal self-injury. Research indicates that this questionnaire demonstrates good reliability and construct validity. The psychometric properties of this instrument were examined in the Iranian population by Taheri et al. (2021), with results indicating a Cronbach's alpha coefficient of 0.71 and confirmed content validity based on expert evaluation (Taheri et al., 2021).

### 2.3. Intervention

The Dialectical Behavior Therapy (DBT) intervention was implemented in 12 structured sessions based on a standardized protocol {Nazari Far et al., 2022}. The first session focused on introductory explanations, defining the concept of dialectics, core dialectical principles, dialectical ways of thinking and acting, and initial problem conceptualization. The second and third sessions were devoted to mindfulness skills, including the "what" skills (observing, describing, and participating) and the "how" skills (adopting a nonjudgmental stance, acting with full awareness, and behaving effectively). The fourth and fifth sessions addressed the first component of distress tolerance, namely crisis survival strategies, including distraction

techniques, improving the moment, self-soothing, and evaluating pros and cons. The sixth and seventh sessions focused on the second component of distress tolerance, emphasizing reality acceptance skills such as observing the breath, half-smiling, and mindful awareness. The eighth and ninth sessions targeted emotion regulation by explaining the importance of emotions, identifying emotions, reducing emotional vulnerability and emotional suffering, increasing positive emotions, and modifying emotional responses through opposite action. The tenth and eleventh sessions concentrated on interpersonal effectiveness skills, including describing and expressing emotions, assertiveness, self-respect, overt confidence, negotiation skills, and enhancement of self-esteem. The twelfth session was dedicated to summarizing the content of previous sessions and conducting the posttest assessment.

### 2.4. Data Analysis

Data analysis was performed using descriptive statistics, including mean and standard deviation, as well as analysis of covariance (ANCOVA), utilizing SPSS-v24

## 3. Findings and Results

According to the demographic findings of the study, in the experimental group, 6 students were in the tenth grade, 4 students were in the eleventh grade, and 5 students were in the twelfth grade. In the control group, 4 students were in the tenth grade, 5 students were in the eleventh grade, and 6 students were in the twelfth grade. The results of the mean and standard deviation of the study variables for the experimental and control groups at the pretest and posttest stages are presented in Table 1.

**Table 1**

*Means and Standard Deviations of Emotion Dysregulation and Social Cognition Scores in the Experimental and Control Groups at Pretest and Posttest*

Variable	Group	Pretest M (SD)	Posttest M (SD)
Emotion Dysregulation	Experimental	78.87 (7.12)	62.15 (6.04)
	Control	62.12 (6.37)	61.29 (6.61)
Social Cognition	Experimental	56.55 (5.74)	67.82 (6.12)
	Control	57.91 (5.21)	58.11 (4.99)

Based on Table 1, the posttest mean scores of the intervention group, compared with the control group, showed a noticeable difference in the variables of emotion dysregulation and social cognition. To examine the effectiveness of Dialectical Behavior Therapy on emotion

dysregulation and social cognition, univariate analysis of covariance (ANCOVA) was used. In order to meet the assumptions of ANCOVA, these assumptions were examined and confirmed using the Shapiro-Wilk test, Levene's test, and the test of homogeneity of regression



slopes, indicating that this test could be appropriately used for data analysis. The results of the univariate ANCOVA are presented in Table 2.

**Table 2**

*Results of Univariate Analysis of Covariance on Posttest Mean Scores of the Study Variables Controlling for Pretest Scores*

Variable	Source	Sum of Squares	df	Mean Square	F	Significance Level	Effect Size
Emotion dysregulation	Pretest	56.12	1	56.12	2.07	0.17	0.568
Groups	582.43	1	582.43	18.12	0.01	—	
Error	867.75	27	32.14	—	—	—	
Social cognition	Pretest	47.78	1	47.78	1.73	0.14	0.651
Groups	582.43	1	582.43	20.21	0.01	—	
Error	741.72	27	27.47	—	—	—	

Considering the F values and significance levels reported in the above table, which are less than 0.05, there was a significant difference between the mean posttest scores of emotion dysregulation and social cognition in the experimental and control groups ( $P < 0.01$ ). The effect size was 56.8% for emotion dysregulation and 65.1% for social cognition at the posttest stage.

#### 4. Discussion

The present study examined the effectiveness of Dialectical Behavior Therapy (DBT) on emotion dysregulation and social cognition in students with self-injurious behaviors. The findings demonstrated that DBT led to a statistically significant reduction in emotion dysregulation and a significant improvement in social cognition among participants in the experimental group compared with the control group. These results provide empirical support for the central assumption of DBT that maladaptive behaviors such as self-injury are primarily maintained by deficits in emotion regulation and ineffective interpersonal functioning. The magnitude of the observed effects suggests that DBT is not only effective in modifying emotional processes but also capable of improving higher-order social-cognitive functioning in adolescent populations.

The significant reduction in emotion dysregulation observed in the experimental group is consistent with the theoretical foundations of DBT and aligns closely with prior empirical findings. DBT emphasizes the acquisition of emotion regulation skills, distress tolerance, and mindfulness, which collectively enhance individuals' capacity to identify, accept, and modulate emotional experiences. Previous studies have repeatedly shown that DBT significantly improves emotion regulation and reduces emotional vulnerability across diverse clinical populations

(Rezaei et al., 2019; Safari & Aftab, 2021; Vardikhan, 2024).

In adolescents with self-injurious behaviors, heightened emotional reactivity and limited access to adaptive regulation strategies often contribute to the persistence of self-harm as a maladaptive coping mechanism. The present findings suggest that DBT effectively interrupts this cycle by equipping students with skills that reduce emotional intensity and increase tolerance of distressing emotional states.

These results are also in line with research indicating that emotion dysregulation plays a pivotal role in the development and maintenance of self-injurious behaviors. Studies have shown that individuals who engage in non-suicidal self-injury frequently report difficulties in managing negative emotions and rely on self-harm as a means of emotional relief (Muehlenkamp et al., 2023; Taheri et al., 2021). DBT directly targets these mechanisms by promoting emotional awareness, acceptance, and skillful behavioral responses. The substantial effect size observed in the present study supports the view that DBT is particularly well-suited for adolescents whose self-injury is driven by emotional dysregulation rather than by suicidal intent, a conclusion also supported by previous research (Kells et al., 2020; Shamshir saz, 2024).

In addition to its impact on emotion regulation, DBT significantly improved social cognition among students in the experimental group. This finding is noteworthy, as social cognition has received comparatively less attention in DBT outcome research, particularly in adolescent samples with self-injurious behaviors. Social cognition involves the ability to perceive, interpret, and respond appropriately to social information, including understanding others' emotions, intentions, and behaviors, as well as maintaining self-awareness in interpersonal contexts. Deficits in these

processes have been linked to social maladjustment, interpersonal conflict, and emotional distress in adolescents (Cao et al., 2023; Nejati et al., 2018). The observed improvement suggests that DBT may exert indirect but meaningful effects on social-cognitive functioning through its emphasis on mindfulness and interpersonal effectiveness skills.

The enhancement of social cognition may be explained through several mechanisms inherent to DBT. First, mindfulness skills foster nonjudgmental awareness of internal and external experiences, which can improve attention to social cues and reduce biased interpretations driven by emotional arousal. Second, emotion regulation skills may decrease emotional interference during social information processing, allowing for more accurate perception and interpretation of others' behaviors. Third, the interpersonal effectiveness module explicitly teaches skills related to assertive communication, perspective-taking, and relationship management, all of which are closely related to social cognition. Prior studies have reported improvements in social adjustment, communication patterns, and interpersonal functioning following DBT interventions, supporting the present findings (Badanfiroz, 2025; Nazarifar et al., 2022).

The current results are also consistent with research demonstrating a close relationship between emotion regulation and social cognition. Cognitive-affective models suggest that emotional dysregulation can impair executive functioning and social information processing, leading to distorted interpretations of social interactions and increased interpersonal difficulties (Caparaso et al., 2019; Pajouhinia et al., 2020). By improving emotion regulation, DBT may create a cognitive-emotional environment that supports more adaptive social-cognitive processing. This interpretation aligns with findings indicating that improvements in emotional regulation often precede or accompany gains in social functioning (Hassani et al., 2021; Suveg et al., 2017).

Comparative findings from previous studies further support the effectiveness of DBT in addressing both emotional and interpersonal domains. Research comparing DBT with cognitive-behavioral therapy and emotion-focused approaches has shown that DBT may be particularly effective for individuals with high emotional reactivity and maladaptive coping behaviors (Amighi et al., 2023; Amighi et al., 2025). In adolescents, group-based DBT interventions have been associated with reductions in aggression and improvements in social adjustment, suggesting that DBT's

skills-based format is well-suited to developmental needs during this period (Nazarifar et al., 2022; Yasfard et al., 2020). The present findings extend this body of literature by demonstrating DBT's effectiveness specifically in improving social cognition among students with self-injurious behaviors.

The cultural and educational context of the present study further enhances its contribution. Most DBT research has been conducted in Western clinical settings, whereas fewer studies have examined its application within school-based or community contexts in non-Western cultures. Given evidence that cultural factors influence emotional expression, interpersonal norms, and social cognition, the observed effectiveness of DBT in this context supports its cross-cultural applicability (Hassani et al., 2021; Nejati et al., 2018). The group-based format used in the present study may have further facilitated learning through peer interaction, modeling, and shared emotional experiences, which are particularly relevant in adolescent populations.

## 5. Conclusion

Overall, the findings indicate that DBT is a comprehensive and effective intervention for adolescents with self-injurious behaviors, addressing both core emotional vulnerabilities and associated social-cognitive deficits. By targeting the underlying mechanisms that contribute to self-injury, DBT may reduce reliance on maladaptive coping strategies and promote healthier emotional and interpersonal functioning. These results support the integration of DBT-based interventions within educational and mental health services aimed at adolescents and underscore the importance of addressing both emotional and social-cognitive processes in this population.

## 6. Limitations & Suggestions

Despite the strengths of the present study, several limitations should be acknowledged. First, the sample size was relatively small, which may limit the generalizability of the findings. Second, the use of a quasi-experimental design and convenience sampling may introduce selection bias. Third, reliance on self-report measures may be subject to response biases such as social desirability. Fourth, the absence of a follow-up assessment prevents conclusions regarding the long-term sustainability of treatment effects. Finally, the study focused exclusively on male students, which limits the applicability of the findings to female or mixed-gender populations.

Future studies should replicate these findings using larger and more diverse samples, including female students and adolescents from different educational and cultural contexts. Longitudinal designs with follow-up assessments are recommended to evaluate the durability of DBT effects over time. Additionally, future research could examine potential mediators and moderators of treatment outcomes, such as baseline severity of emotion dysregulation or social support. Comparative studies assessing DBT against other evidence-based interventions within school settings would further clarify its relative effectiveness. Qualitative approaches may also provide deeper insight into participants' subjective experiences of DBT skills acquisition.

From a practical perspective, the findings suggest that DBT can be effectively implemented as a structured group intervention within educational and counseling settings for adolescents with self-injurious behaviors. School counselors and mental health practitioners may consider incorporating DBT skills training into preventive and therapeutic programs. Emphasis on emotion regulation and interpersonal effectiveness skills may help students manage emotional distress more adaptively and improve peer relationships. Training educators and school psychologists in DBT-informed approaches could enhance early identification and intervention efforts. Integrating DBT within school-based mental health services may contribute to improved emotional well-being, social functioning, and academic engagement among vulnerable students.

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### Declaration of Interest

The authors of this article declared no conflict of interest.

### Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants. This article is derived from the first author's doctoral dissertation in Educational Psychology conducted at the Faculty of Humanities, Islamic Azad University, Ardabil Branch, and has been approved under the ethics code IR.IAU.ARDABIL.REC.1402.003 issued by Islamic Azad University, Ardabil Branch.

### Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

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### Authors' Contributions

A.K. contributed to the conceptualization of the study, formulation of the research objectives, and selection of the therapeutic framework. A.Ki. was responsible for the study design, participant recruitment, and supervision of the intervention implementation. L.M. conducted the data collection process, coordinated the administration of assessment instruments, and managed data entry. R.K. performed the statistical analyses, interpreted the results, and drafted the findings section. All authors collaboratively contributed to the discussion and conclusion, critically reviewed the manuscript for intellectual content, approved the final version, and accept full responsibility for the accuracy and integrity of the work.

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