KMAN PUBLISHING INSTITUTE
Journal Website

Article history:
Received 26 July 2025
Revised 08 November 2025
Accepted 15 November 2025
Published Online 10 December 2025

Journal of Adolescent and Youth Psychological Studies

Volume 6, Issue 12, pp 1-11

E-ISSN: 2981-2526

Comparison of the Effectiveness of Group Therapies "Emotional Freedom Techniques (EFT), Adolescent-Centered Mindfulness Therapy (ACMT) and Dialectical Behavior Therapy (DBT)" on the Emotion Regulation in Girl Adolescents with Disruptive Mood Dysregulation Disorder (DMDD)

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A r t i c l e I n f o

Article type:
Original Research

How to cite this article:
Ghaheri, P., Bahramipour Isfahani, M., & Torkan, H. (2025). Comparison of the Effectiveness of Group Therapies "Emotional Freedom Techniques (EFT), Adolescent-Centered Mindfulness Therapy (ACMT) and Dialectical Behavior Therapy (DBT)" on the Emotion Regulation in Girl Adolescents with Disruptive Mood Dysregulation Disorder (DMDD). *Journal of Adolescent and Youth Psychological Studies, 6*(12), 1-11.
http://dx.doi.org/10.61838/kman.jayps.4277

A B S T R A C T

Objective: The present study was conducted with the aim of comparison of the effectiveness of group therapies "emotional freedom techniques (EFT), adolescent-centered mindfulness therapy (ACMT) and dialectical behavior therapy (DBT)" on the emotion regulation in girl adolescents with disruptive mood dysregulation disorder (DMDD).

Methods and Materials: The research was semi-experimental in three stages: pre-test, post-test and two-month follow-up with the control group. The statistical population of all girl adolescents aged 15 to 18 years had symptoms of DMDD in the high schools of NajafAbad province in the academic years of 2023 and 2024. For this aim, using multi-stage cluster random sampling method, 600 students were screened from among the high schools of the 2nd education district by implementing the DMDD Questionnaire of Laporte et al. were randomly assigned to three experimental groups (20 each) and a control group (20). The people of the experimental groups participated in parallel and simultaneous group therapies of EFT, ACMT and DBT; But for the control group, there was no intervention. The measurement tool was Gratz and Roemer (2004) emotion regulation difficulty questionnaire. To analyze the data, the statistical method of analysis of variance with repeated measures and Bonferroni's post-hoc test was used in SPSS-26 software.

Findings: In the intergroup comparison, all three therapy methods were effective in reducing the difficulty in emotions regulating of girls with symptoms of DMDD in the post-test stage ($p<0.001$) and their effectiveness remained in the follow-up stage ($p<0.001$). There was no significant difference between the three therapy methods ($p>0.01$).

Conclusion: The results of the research showed that group therapies of EFT, ACMT and DBT have the same effectiveness in reducing the difficulty in

emotions regulation of girl adolescents with DMDD. Therefore, considering the lasting effect of all three group therapies, it is recommended to use them in medical and educational service centers for girls with symptoms of DMDD.
Keywords: *EFT, ACMT, DBT, Emotion regulation, DMDD*

1. Introduction

Adolescence is a critical developmental period characterized by intense emotional fluctuations, as noted by most theorists (Fombouchet et al., 2023). While emotional turmoil and challenges in navigating interpersonal and environmental demands are normative to some extent during this stage, in certain cases these difficulties exceed normative levels and become clinically concerning, requiring assessment and intervention by psychologists (Bruno et al., 2019). In 2013, the American Psychiatric Association (APA) introduced a new diagnostic category titled Disruptive Mood Dysregulation Disorder (DMDD) in the mood disorders section of the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5), to better capture this clinical phenomenon (Diagnostic, 2013). The hallmark features of DMDD include chronic irritability, recurrent temper outbursts—both verbal and physical—triggered by perceived frustration, and persistent mood dysregulation (Hatchett, 2022). While mood disturbances are a common reason for referrals to mental health services, what differentiates DMDD from other disorders is the high frequency of temper outbursts (at least three times per week) and the pervasive impairment across multiple domains throughout the day (Herbein et al., 2024).

Diagnostic criteria for DMDD require that symptoms persist for at least one year and manifest in at least two of the three settings (home, school, peer relationships), and are inconsistent with developmental level (Treier et al., 2024). Epidemiological studies estimate the prevalence of DMDD to range between 2% and 5% (Mohammadi et al., 2019). Adolescents with this disorder typically exhibit severe emotional outbursts, difficulties in emotion regulation, and anxiety-related symptoms (Gupta & Gupta, 2022). Emotion regulation refers to conscious and unconscious strategies employed by individuals to enhance, maintain, or reduce emotional responses in accordance with environmental demands (Vogl et al., 2025). From a clinical perspective, emotion regulation plays a pivotal role in mental health, and the importance of emotion-focused psychological interventions aimed at enhancing self-regulation has been emphasized in numerous studies (Urben et al., 2025). Prior research has confirmed a significant positive association between difficulties in emotion regulation and the presence of DMDD symptoms (Lin et al., 2021). Consequently, difficulties in emotion regulation appear to be a core clinical feature in adolescents with DMDD and warrant focused attention (Goldstein et al., 2025b).

Research has shown that targeting emotional processes in the treatment of DMDD and its comorbidities can yield beneficial outcomes (Homayoon et al., 2024). In addition to pharmacological interventions, a variety of psychotherapeutic approaches have been proposed to address these difficulties. Among them, three approaches—Emotion-Focused Therapy (EFT), Adolescent-Centered Mindfulness Therapy (ACMT), and Dialectical Behavior Therapy (DBT)—have attracted particular interest because each address different but complementary aspects of emotion regulation challenges in adolescents with DMDD.

EFT relies on reducing maladaptive behavioral cycles and deepening emotional experiences, particularly attachment-related fears, by helping adolescents process emotional schemas (Quill, 2024). This approach is especially relevant for adolescents with DMDD, who often become caught in repetitive cycles of negative interactions and struggle to articulate their inner experiences (Tircuit, 2021). Empirical studies have supported the effectiveness of EFT in improving emotion regulation, impulsivity, risky behaviors, depression, trauma symptoms, interpersonal functioning, behavioral addictions, sleep quality, and anxiety in adolescents (Choi et al., 2024; Karbalaie et al., 2024; Karimi et al., 2023; Smith et al., 2023). Prior studies have also recommended group-based EFT in clinical settings to address mood disorders (Marashi et al., 2023).

ACMT, on the other hand, draws on mindfulness principles defined as purposeful and nonjudgmental attention to the present moment (Shayegh Borojeni et al., 2019). By using playful, sensory-based exercises (touching, smelling, listening, seeing), ACMT is designed to match adolescents' developmental needs while enhancing their capacity for focus, stress management, and emotional regulation (Joseph, 2022). Given that adolescents with DMDD frequently experience heightened reactivity and difficulty calming themselves, mindfulness strategies may provide a practical tool for fostering self-awareness and inner balance (Goldstein et al., 2025a). Findings have indicated that mindfulness training enhances vitality (Wei et al., 2023), reduces anger outbursts, and improves emotional

JAYPS Adolescent and Youth Psychological Studies E-ISSN: 2981-2526

regulation (Van Berkel, 2023), while also contributing to decreased risky behaviors, depressive symptoms, and cognitive-emotional disturbances (Hershkovich-Elgavi, 2025).

DBT, in contrast, is rooted in the biosocial theory, which posits that emotion dysregulation arises from the interaction between biological vulnerability and invalidating environments (Goldstein et al., 2024). This framework directly resonates with the experience of adolescents with DMDD, who often display heightened emotional sensitivity alongside inadequate environmental support (Shogren et al., 2025). DBT teaches core therapeutic skills—mindfulness, distress tolerance, interpersonal effectiveness, and emotion regulation—that can address both the biological and environmental contributors to mood dysregulation. Empirical findings support the efficacy of DBT in improving emotional problem-solving (Kothgassner et al., 2021), managing stress, reducing aggression (Behan & Kelly, 2025), decreasing suicidal behavior in adolescents with bipolar disorder (Ahmadian et al., 2024), and enhancing emotion regulation in those with borderline personality traits (Bud et al., 2023).

Considering the distinct yet complementary perspectives of EFT, ACMT, and DBT on emotional regulation in adolescents, this study aimed to compare their effectiveness in reducing emotional regulation difficulties in girl adolescents with DMDD. Given the relatively high prevalence of DMDD and its detrimental effects on adolescents' well-being, social relationships, and future educational and occupational outcomes, evidence-based, preventive, and therapeutic interventions are imperative. Notably, there is a paucity of comparative studies exploring these three interventions simultaneously in domestic research. Therefore, the present study seeks to fill this gap by evaluating the comparative efficacy of group-based EFT, ACMT, and DBT interventions for emotion regulation among girl adolescents with DMDD.

2. Methods and Materials

2.1. Study Design and Participants

This study employed a quasi-experimental design comprising four groups: three experimental groups—Emotion-Focused Therapy (EFT), Adolescent-Centered Mindfulness Therapy (ACMT), and Dialectical Behavior Therapy (DBT)—and one control group. The study was conducted in three phases: pre-test, post-test, and a two-month follow-up. The target population included all girls' adolescents aged 15 to 18 years exhibiting symptoms of Disruptive Mood Dysregulation Disorder (DMDD) in the city of Najafabad during the academic years 2023–2024.

A multistage cluster random sampling method was employed. From four secondary schools in the second educational district, a total of 600 students were screened using the Disruptive Mood Dysregulation Disorder Questionnaire developed by Laporte et al., alongside a clinical interview based on DSM-IV criteria (Laporte et al., 2021). Based on the screening, 80 adolescents diagnosed with DMDD were randomly assigned to three intervention groups and one control group, with 20 participants in each group. The sample size was determined based on a 95% confidence level and an estimated dropout rate.

Inclusion criteria consisted of: Willingness and informed consent to participate in the study; Obtaining a score above the mean on the DMDD questionnaire and clinical interview; Current enrollment in upper-secondary education. Exclusion criteria included: Voluntary withdrawal from the study; Absence in more than two sessions; Failure to complete assigned exercises or homework.

Ethical considerations were fully observed. All participants voluntarily joined the study and were assured of confidentiality and the right to withdraw at any time. They were informed that their identities and research-related information would remain strictly confidential.

2.2. Measures

2.2.1. Disruptive Mood Dysregulation Disorder Questionnaire (DMDDQ)

This questionnaire assesses the diagnostic criteria of DMDD among adolescents. It contains two levels of assessment. In the first level, participants rate their responses on a three-point Likert scale: 0 (not at all), 1 (sometimes), and 3 (often). The scale includes three subscales: irritability, frequent temper outbursts, and impairments caused by the disorder—each assessed with three items. The second level provides a more detailed assessment: irritability (8 items), temper outbursts (14 items), and contexts of occurrence (with peers, in the classroom, and at home). Higher scores indicate greater severity. The internal consistency (Cronbach's alpha) for the full scale ranged from 0.76 to 0.84 in the original study (Laporte et al., 2021). In Iran, Pashangian et al. (Pashangian F et al., 2022). standardized the questionnaire and reported internal consistency coefficients of 0.85 for the overall scale, and 0.77, 0.80, and 0.74 for the respective subscales.

JAYPS Adolescent and Youth Psychological Studies E-ISSN: 2981-2526

2.2.2. *Clinical Interview*

A semi-structured diagnostic interview based on DSM-IV criteria was used for accurate selection of participants. The interview comprised two main sections: personal history and mental status examination.

2.2.3. *Difficulties in Emotion Regulation Scale (DERS)*

To assess emotion regulation, the Difficulties in Emotion Regulation Scale (DERS) developed by Gratz and Roemer was employed (Gratz & Roemer, 2004). This 36-item self-report instrument evaluates deficits in emotion regulation across six subscales:1. non-acceptance of emotional responses, 2. Difficulties engaging in goal-directed behavior, 3. Impulse control difficulties, 4. Limited access to effective emotion regulation strategies, 5. Lack of emotional awareness, and 6. Lack of emotional clarity. Each item is rated on a 5-point Likert scale ranging from 1 (almost never) to 5 (almost always), with total scores ranging from 36 to 180. Higher scores on the overall scale and its subscales indicate greater difficulties in emotion regulation. The original version reported excellent internal consistency, with a Cronbach's alpha of 0.96 for the total scale and above 0.80 for each subscale individually. The scale also demonstrated satisfactory convergent validity with the Acceptance and Action Questionnaire, with a correlation of r = 0.69, indicating appropriate construct validity. Furthermore, it demonstrated high internal consistency reliability, with a coefficient of 0.93 (Mancinelli et al., 2024). Previous research in Iran has also supported the validity and reliability of the Persian version of the scale (Pourjafari et al., 2025). In the current study, the internal consistency reliability of the DERS, as calculated by Cronbach's alpha, was found to be 0.88, confirming its strong psychometric properties in the target population.

2.3. *Interventions*

After selecting the sample based on inclusion criteria and random assignment to the four study groups, all participants completed the pre-test using the Difficulties in Emotion Regulation Scale. The first experimental group participated in group-based Emotion-Focused Therapy (EFT), the second group received Adolescent-Centered Mindfulness Therapy (ACMT), and the third group underwent Dialectical Behavior Therapy (DBT). Each intervention included 10 weekly sessions of 60 minutes. The control group received no intervention. All therapeutic protocols were implemented by the researcher in collaboration with a clinical psychologist.

The EFT sessions were conducted based on Greenberg et al.'s protocol (Greenberg, 2017), which has been validated in prior Iranian studies (Homayoon et al., 2024; Karbalaie et al., 2024). (Table 1).

In the first EFT session, the primary goal was to establish therapeutic rapport and identify negative interaction cycles. Adolescents were taught to express their emotions in a non-judgmental environment and to use techniques for recognizing and labeling their feelings. In subsequent sessions, the focus shifted to processing negative emotions and reconstructing emotional experiences with the support of the group and therapist feedback. This process included role-playing exercises and group discussions to explore the sources of negative emotions and practice adaptive responses to stressful situations.

Table 1

Summary of Emotion-Focused Therapy (EFT) Sessions

Session	Topics Covered
1	Establishing therapeutic rapport, introducing general treatment rules, assessing the nature of the problem and relational patterns, clarifying clients' goals and expectations.
2	Identifying negative interaction cycles and encouraging their expression; evaluating attachment bonds and introducing the principles of EFT; reconstructing interactions and increasing clients' flexibility.
3	Reframing the problem in terms of underlying emotions and attachment needs; encouraging clients to express emotions such as irritability and anger; raising awareness about the role of fear and defense mechanisms in cognitive-emotional processes; introducing the receiving cycle and attachment contexts.
4	Identifying rejected needs and denied aspects of the self; increasing awareness of interaction patterns and reflecting them with empathy; discussing the consequences of maladaptive emotional responses such as anger; exploring denied needs and enhancing acceptance.
5	Facilitating emotional awareness and clarifying relational dynamics; promoting acceptance of others' experiences and new interaction patterns; emphasizing the legitimacy and normalcy of attachment needs.
6	Encouraging expression of needs and emotional engagement; developing core emotional experiences related to attachment; fostering secure emotional bonds among participants.
7	Creating new interactive experiences and resolving rigid patterns; clarifying interaction models; revisiting attachment needs.

JAYPS Adolescent and Youth Psychological Studies E-ISSN: 2981-2526

8	Highlighting changes between current and past interactions; establishing secure emotional bonds that allow safe discussion and problem-solving.
9	Reviewing therapeutic gains and applying them in daily life.
10	Evaluating changes, reinforcing therapeutic outcomes, and administering the post-test.

The ACMT sessions followed the Burdic mindfulness protocol adapted and validated for Iranian adolescents (Shayegh Borojeni et al., 2019). (Table 2). ACMT sessions began with training in mindfulness skills and exercises to focus on present-moment experiences. Adolescents practiced observing negative thoughts and emotions without judgment and paid attention to bodily and respiratory relaxation. In later sessions, self-compassion techniques, acceptance of difficult experiences, and practical exercises for coping with everyday stress were introduced. Guided group activities enabled adolescents to apply mindfulness in real-life situations and regulate their emotional reactions effectively.

Table 2

Summary of Adolescent-Centered Mindfulness Therapy (ACMT) Sessions

Session	Topics Covered
1	Building rapport, involving parents, and introducing mindfulness Introduction to mindfulness and explanation of the course purpose, planning daily mindfulness practice, engaging parents through daily logs, teaching mindfulness postures (e.g., seated, lying down, lotus position), and assigning homework.
2	Gaining awareness of mindful breathing Sharing participants' experiences, teaching abdominal breathing, using the glitter jar exercise to contrast a busy vs. calm mind, and assigning homework.
3	Teaching body scan technique Reviewing previous practices, teaching mindful breathing, and introducing the body scan technique with follow-up homework.
4	Awareness of the present moment Reinforcing breathing exercises, introducing present-moment awareness through the water cup activity, and practicing mindful movements; homework assigned.
5	Awareness of the five senses Teaching mindful eating, listening, touching, smelling, and seeing; reinforcing mindful breathing; assigning sensory-based mindfulness homework.
6	Emotional awareness Introducing mindful breathing for relaxation, practicing emotion-focused mindfulness, journaling about emotional experiences, and applying the "Helpful vs. Unhelpful Inner Inspector" scenario; homework assigned.
7	Review of breathing techniques Reviewing breathing and body scan practices, practicing the "Flowing River Meditation" for thoughts; homework assigned.
8	Awareness of muscle tension Reviewing relaxation breathing and teaching progressive muscle relaxation; playing the "Change the Channel" game; assigning homework.
9	Awareness of body movements Practicing foundational breathing, mindful body movements, and revisiting the "Helpful vs. Unhelpful Inner Inspector" scenario; assigning homework.
10	Applying mindfulness in daily life Reviewing previous practices and teaching mindfulness in everyday activities, ending with the "Loving-Kindness Meditation"; final homework assigned.

The DBT sessions were based on Linehan's therapeutic manual, which has been adapted in previous national studies (Debra Burdick, 2014). (Table 3). DBT sessions included training in emotion regulation, distress tolerance, and interpersonal effectiveness skills. In the initial sessions, the focus was on recognizing emotions and identifying situations that trigger strong emotional responses. Later, practical skills such as impulse control, cognitive appraisal of situations, and cognitive restructuring techniques were taught. In the final sessions, adolescents practiced applying these skills through role-play and simulated scenarios to manage emotional reactions adaptively in everyday life and social interactions.

Table 3

Summary of Dialectical Behavior Therapy (DBT) Sessions

JAYPS Adolescent and Youth Psychological Studies E-ISSN: 2981-2526

Session	Skill Focus	Techniques	Description
1	Mindfulness	Core strategies	Introduction to the program, importance of mindfulness, training in observing, describing, and participating skills.
2	Mindfulness	Advanced strategies	Enhancing the "wise mind," fundamental acceptance, practicing mindfulness in daily life, and overcoming obstacles.
3	Distress Tolerance	Acceptance strategies	Basic acceptance techniques, breathing observation, awareness training, and gentle smiling exercise.
4	Distress Tolerance	Change strategies	Techniques for distraction, self-soothing, and positive imagery.
5	Distress Tolerance	Change strategies	Teaching relaxation techniques, present-moment awareness, cost-benefit analysis, and coping strategies.
6	Emotion Regulation	Understanding emotions Teaching	Components of emotions, emotion classification, functions of emotions, and emotional analysis.
7	Emotion Regulation	Core strategies	Identifying emotions in the moment, reducing physical and cognitive vulnerability, and increasing positive emotional experiences.
8	Emotion Regulation	Advanced strategies	Training in nonjudgmental emotional awareness, emotional exposure, acting opposite to emotional urges, and problem-solving.
9	Interpersonal Effectiveness	Core strategies	Identifying behavior styles, recognizing unhealthy emotional habits, difficulty identifying needs, dysfunctional relationships, and false beliefs.
10	Interpersonal Effectiveness	Advanced strategies	Teaching assertive communication skills: describing, requesting, listening, saying no, negotiating, resolving conflicts; final review and post-test administration.

2.4. Data Analysis

In the descriptive phase, statistical indices such as mean and standard deviation were used. In the inferential phase, prior to conducting the main analysis, the statistical assumptions for repeated measures ANOVA were tested: Normality of distribution was examined using the Shapiro–Wilk test; Homogeneity of error variances was evaluated through Levene's test; Equality of covariance matrices was assessed via Box's M test; Homogeneity of regression slopes was checked through the interaction between group membership and the pre-test variable.

Following the confirmation of statistical assumptions, the main analysis was performed using repeated measures ANOVA, followed by Bonferroni post hoc tests for pairwise group comparisons. All analyses were conducted using SPSS version 26. The level of statistical significance was set at $p<0.05$, with a more stringent threshold of $p<0.001$ applied for highly significant results.

3. Findings and Results

he results of the demographic analysis indicated no significant differences between the four groups in terms of age, parental education and occupation, or number of siblings (χ^2, $p > 0.05$), thereby confirming demographic equivalence. Table 4 presents the means and standard deviations of emotion regulation scores across the four groups during the pre-test, post-test, and follow-up phases.

Table 4

Mean and Standard Deviation of Emotion Regulation Scores Across Groups

Group	Pre-Test (M ± SD)	Post-Test (M ± SD)	Follow-Up (M ± SD)
Emotion-Focused Therapy (EFT)	85.40 ± 14.08	69.00 ± 14.03	71.90 ± 12.76
Adolescent-Centered Mindfulness (ACM)	83.00 ± 10.10	71.45 ± 12.60	71.60 ± 11.55
Dialectical Behavior Therapy (DBT)	83.60 ± 12.55	62.95 ± 11.50	65.20 ± 10.93
Control	86.90 ± 12.25	86.75 ± 12.83	87.20 ± 13.11

The results show that the three experimental groups experienced greater improvements in emotion regulation scores compared to the control group at both post-test and follow-up phases. Before performing repeated measures ANOVA, the necessary statistical assumptions were evaluated and met: Shapiro–Wilk test confirmed normality of the data ($p\geq0.05$); Levene's test supported homogeneity of variances ($p\geq0.05$); Box's M test indicated equality of covariance matrices ($p\geq0.05$); The interaction between group membership and pre-test values confirmed homogeneity of regression slopes ($p\geq0.05$).

JAYPS Adolescent and Youth Psychological Studies
E-ISSN: 2981-2526

Table 5

Results of Repeated Measures ANOVA for Emotion Regulation

Source	SS	df	MS	F	p	η^2	Power
Time	7097.71	1.33	5351.48	98.88	< 0.001	0.565	1.000
Time × Group	2858.06	3.98	718.30	13.27	< 0.001	0.344	1.000
Group	8719.68	3	2906.56	7.44	< 0.001	0.227	0.982
Error	29678.48	76	390.51				

A repeated measures ANOVA revealed a significant main effect of time on emotion regulation scores, $F(1.33, 76)=98.88$, $p<0.001$, $\eta^2=0.565$, with strong statistical power (1.000). A significant interaction between time and group was also found, $F(3.98, 76)=13.27$, $p<0.001$, $\eta^2=0.344$, indicating that the interventions had different impacts over time. Additionally, a significant between-groups effect emerged, $F(3, 76)=7.44$, $p<0.001$, $\eta^2=0.227$. These findings suggest that emotion regulation improved significantly in the experimental groups compared to the control group across the study phases.

Table 6

Bonferroni Post Hoc Comparison of Emotion Regulation Scores

Groups Compared	Mean Diff	SE	p	Effect Size	Phase
Control vs. DBT	-23.80	4.04	< 0.001	0.314	Post-Test
Control vs. ACMT	-15.30	4.04	< 0.001	0.159	Post-Test
Control vs. EFT	-17.75	4.04	< 0.001	0.203	Post-Test
DBT vs. ACMT	8.50	4.04	0.039	0.055	Post-Test
DBT vs. EFT	6.05	4.04	0.138	0.029	Post-Test
ACMT vs. EFT	-2.45	4.04	0.546	0.005	Post-Test
Control vs. DBT	-22.00	3.83	< 0.001	0.302	Follow-Up
Control vs. ACMT	-15.60	3.83	< 0.001	0.179	Follow-Up
Control vs. EFT	-15.30	3.83	< 0.001	0.173	Follow-Up

As shown in Table 6, there were statistically significant differences between the control group and all three experimental groups (DBT, ACMT, and EFT) in both post-test and follow-up phases ($p<0.001$). Bonferroni post hoc comparisons showed that, at post-test, the DBT group ($M=62.95$, $SD=11.50$) differed significantly from the control group ($M=86.75$, $SD=12.83$), $p<0.001$, Cohen's $d=0.314$. Similarly, the ACMT group ($M=71.45$, $SD=12.60$) and the EFT group ($M=69.00$, $SD=14.03$) both differed significantly from the control group, $p< 0.001$, with effect sizes of 0.159 and 0.203, respectively. Pairwise comparisons between the experimental groups indicated no significant differences between DBT and EFT ($p=0.138$) or between ACMT and EFT ($p=0.546$), although DBT was marginally more effective than ACMT ($p=0.039$).

At follow-up, the improvements remained stable. The DBT group ($M=65.20$, $SD=10.93$) continued to differ significantly from the control group ($M=87.20$, $SD=13.11$), $p<0.001$, $d=0.302$. Both the ACMT group ($M=71.60$, $SD=11.55$) and the EFT group ($M=71.90$, $SD=12.76$) also differed significantly from the control group ($p<0.001$), with effect sizes of 0.179 and 0.173, respectively. However, no significant pairwise differences were observed among the three experimental groups in the follow-up phase ($p>0.05$).

Taken together, these findings confirm that all three interventions—DBT, ACMT, and EFT—were effective in improving emotion regulation compared to no intervention. While DBT demonstrated slightly greater short- and long-term improvements (31.4% at post-test and 30.2% at follow-up) relative to EFT (20.3% and 17.3%) and ACMT (15.9% and 17.9%), the differences between the therapeutic approaches were not statistically significant in the follow-up phase.

4. Discussion

The present study aimed to compare the effectiveness of Emotion-Focused Therapy (EFT), Adolescent-Centered Mindfulness Therapy (ACMT), and Dialectical Behavior Therapy (DBT) in improving emotion regulation among adolescents with symptoms of Disruptive Mood

JAYPS Adolescent and Youth Psychological Studies
E-ISSN: 2981-2526

Dysregulation Disorder (DMDD). The findings demonstrated that all three group-based therapeutic approaches significantly reduced emotion regulation difficulties compared to the control group. While DBT yielded the highest overall improvement, the differences between the three experimental groups were not statistically significant. These results highlight the versatility and applicability of evidence-based therapeutic strategies for adolescents with DMDD, emphasizing that multiple interventions can be effectively tailored to meet individual needs, therapist expertise, and available resources.

The results regarding the effectiveness of EFT in reducing emotional dysregulation among adolescents with DMDD are consistent with previous studies (Choi et al., 2024; Homayoon et al., 2024). EFT focuses on enhancing emotional awareness, acceptance, and constructive engagement with emotions, which allows adolescents to recognize and articulate internal experiences without judgment (Greenberg, 2017). This is particularly important for adolescents with DMDD, who often misinterpret social cues, exhibit heightened sensitivity to perceived threats, and respond with irritability or aggression (Karbalaie et al., 2024).

Practically, EFT provides a structured group environment where adolescents can safely explore and express emotions. The intervention fosters skills such as emotion labeling, reflective listening, and problem-solving in emotionally charged contexts. Through repeated practice, adolescents learn to identify triggers, understand emotional patterns, and develop adaptive coping strategies that can generalize to school, home, and peer interactions (Quill, 2024). Furthermore, the non-judgmental nature of EFT sessions promotes self-compassion, which may reduce the risk of comorbid anxiety or depressive symptoms and enhance overall psychological resilience. Clinically, these findings suggest that EFT can be implemented in outpatient clinics, schools, or community mental health programs, offering flexible options for adolescents who struggle with dysregulated emotions. The structured yet supportive nature of EFT group sessions may also facilitate peer modeling and social reinforcement, strengthening the acquisition and maintenance of adaptive emotional skills.

The findings for ACMT align with prior research demonstrating its efficacy in promoting emotional regulation, self-compassion, and adaptive coping (Behan & Kelly, 2025; Debra Burdick, 2014; Karimi et al., 2023; Shayegh Borojeni et al., 2019). Mindfulness practices help adolescents observe their thoughts and emotions without judgment, reducing cognitive distortions and maladaptive reactions. For adolescents with DMDD, who often react impulsively or catastrophize minor stressors, mindfulness-based interventions provide tools to pause, assess, and respond constructively rather than reactively (Smith et al., 2023).

ACMT not only improves immediate emotional regulation but also supports long-term resilience. Adolescents learn to identify internal cues of distress, practice acceptance, and choose adaptive behavioral responses (Shayegh Borojeni et al., 2019). The group format allows participants to witness peer modeling, normalize emotional experiences, and reinforce mindfulness skills through social interaction. These skills can enhance social competence, reduce interpersonal conflict, and promote adaptive engagement in academic and extracurricular activities. From a practical standpoint, integrating ACMT into school-based programs or community mental health interventions can provide adolescents with accessible tools for managing emotional dysregulation. The transferable nature of mindfulness skills suggests that benefits extend beyond therapy sessions, equipping adolescents with lifelong strategies for coping with stress, preventing escalation into behavioral problems, and fostering social-emotional development.

DBT demonstrated strong efficacy in improving emotion regulation among adolescents with DMDD, consistent with previous studies (Ahmadian et al., 2024; Goldstein et al., 2024; Kothgassner et al., 2021). DBT combines cognitive-behavioral strategies, mindfulness, and emotion regulation skills training, specifically targeting the intensity and volatility of emotions. By teaching adolescents to validate their emotions, tolerate distress, and employ adaptive coping strategies, DBT reduces impulsivity, aggression, and emotional overload. Sessions focused on problem-solving, cognitive reframing, and emotional validation were particularly impactful (Hershkovich-Elgavi, 2025).

Clinically, DBT provides a structured framework for adolescents to practice skills in both therapy and daily life. The emphasis on repeated practice, reinforcement, and feedback helps adolescents internalize emotion regulation strategies and apply them in social, academic, and family contexts. DBT not only addresses immediate emotional dysregulation but also fosters long-term resilience, enhancing interpersonal effectiveness, goal-directed behavior, and self-efficacy (Van Berkel, 2023). In applied settings, DBT may serve as a central component of treatment for adolescents with severe emotional dysregulation.

JAYPS Adolescent and Youth Psychological Studies
E-ISSN: 2981-2526

Integrating DBT modules into school or community mental health programs can expand accessibility and provide ongoing support, promoting consistent use of adaptive strategies and reducing the likelihood of relapse or emotional crises.

5. Conclusion

An additional contribution of this study is the simultaneous evaluation and comparison of three group-based interventions. While statistical differences between therapies were minimal, understanding the distinct mechanisms and contextual benefits of each approach can guide clinical decision-making. This comparative perspective supports informed selection of interventions based on specific adolescent profiles, therapeutic goals, and resource availability. Future research might explore hybrid interventions that integrate components of EFT, ACMT, and DBT to maximize emotional regulation outcomes and further tailor treatment to individual needs.

6. Limitations & Suggestions

Like all scientific research, this study had some limitations. The sample included only girl adolescents with DMDD, and thus generalization to other age and gender groups or clinical populations must be made with caution. Additionally, data were collected through self-report questionnaires, which may be susceptible to social desirability bias or limited insight. Future studies should include male adolescents, broader age ranges, and multi-method assessment approaches (e.g., parent and teacher reports, behavioral observations) to enhance generalizability and reduce bias. Longitudinal research examining the sustainability of treatment effects over extended periods would provide stronger evidence for long-term efficacy and inform recommendations for integrating these interventions into routine clinical and educational settings.

In practical terms, the findings suggest that clinicians can select or combine these interventions based on adolescent needs, emotional profiles, and treatment settings. Schools, community mental health centers, and outpatient clinics can implement group-based EFT, ACMT, or DBT programs to support emotional regulation, resilience, and social functioning among adolescents with DMDD. Additionally, training practitioners in multiple approaches may enhance flexibility and allow for more individualized treatment planning.

For future research, it is recommended to investigate the effects of combined or sequential interventions, examine mediators and moderators of treatment response (e.g., baseline emotional awareness, family involvement), and explore the cost-effectiveness and feasibility of implementing these therapies in real-world settings. Such studies would provide more comprehensive guidance for clinicians, educators, and policymakers aiming to support adolescents struggling with emotional dysregulation.

Acknowledgments

We would like to express our appreciation and gratitude to all those who cooperated in carrying out this study.

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.

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.

Funding

This research was carried out independently with personal funding and without the financial support of any governmental or private institution or organization.

Authors' Contributions

This article is derived from the first author's doctoral dissertation. All authors equally contributed to this article.

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