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Comparative Effectiveness of Emotion-Focused and Meta-Diagnostic Therapy Approaches on Automatic Negative Thoughts in Adolescents with Borderline Personality Disorder

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Abstract

Introduction: Adolescents with Borderline Personality Disorder (BPD) often experience a range of complex issues in their psychological and behavioral well-being. This study aims to examine how Emotion-Focused Therapy (EFT) and Meta-Diagnostic Therapy (MDT) differ in their impact on reducing Automatic Negative Thoughts (ANT) in adolescents with BPD.

Method: This study utilized a semi-experimental design involving pre-test-post-test and follow-up assessments conducted three months later, with both control and experimental groups. The research focused on adolescents with BPD seeking treatment at psychological clinics in Tehran between July and October 2023. A total of 45 participants were purposively selected to take part in the study. In the final analysis, the groups included Emotional therapy (n=12), Transdiagnostic treatment (n=13), and Control (n=14). The Automatic Thoughts Questionnaire (ATQ-P) was used as the primary measurement tool in this study. Data collected were analyzed using repeated measure ANCOVA, and Bonferroni's post hoc test utilizing SPSS 27 and JASP software version 18.1.0.

Results: The results showed that there was no significant differences in the individual incompatibility aspect between the groups receiving EFT and MDT compared to the control group after the post-test phase ($p=1.000$). Additionally, there was a substantial contrast between the MDT group and the control group in the follow-up phase ($p<0.001$). Individual incompatibility level in the MDT group was reduced compared to the control group and that the MDT approach was effective but the EFT approach was not effective. Negative self-concepts were observed between the two groups undergoing MDT and the control group. The decrease in negative self-concepts was more noticeable in the MDT group compared to the control group, demonstrating the efficacy of this treatment over EFT.

Conclusion: The current study demonstrated that MDT was effective in decreasing automatic negative thoughts in adolescents with BPD. Conversely, EFT did not yield the same positive outcomes in the study, suggesting that different and more tailored treatment methods may be necessary for such disorders.

Keywords: Emotion-Focused Therapy (EFT), Meta-Diagnostic Therapy, Automatic Negative Thoughts (ANT), Borderline Personality Disorder (BPD)

Introduction

Borderline Personality Disorder (BPD) in adolescents is correlated to complex issues in various psychological and behavioral areas, often resulting in serious problems like self-injury and suicide attempts. This disorder is fairly common among adolescents, affecting 1.6 to 3% of the general population [1]. It is known as Emotionally Unstable Personality

Disorder (EUPD) or Borderline Pattern Personality Disorder, characterized by intense and unstable mood swings, difficulties in relationships, and a distorted self-image, starting in early adulthood and continuing throughout life [2]. BPD is a persistent and disruptive condition marked by severe disturbances in mood, behavior, cognition, and unstable relationships, leading to personal and economic/public health consequences such as psychosocial harm and high rates of unemployment and disability [3]. Studies have shown that individuals with BPD exhibit more neuropsychological deficits compared to those without the disorder [4]. Additionally, research indicates that childhood trauma can play a significant role in predicting the development of BPD [5].

Individuals who meet higher BPD criteria exhibit heightened levels of depression, anxiety, emotional distress, and Negative Affectivity (NA), and may encounter Automatic Negative Thoughts (ANT). These can manifest as core values, mental images, beliefs, or internal cognitive schemas in an individual, and they are typically unconscious, irrational, and distressing thoughts that emerge in response to certain everyday events. These thoughts influence the person's mental well-being and result in unwarranted emotional responses without them realizing it [7]. The emergence of ANT is often correlated to stressful life events and reflects biases in personal information processing. Research indicates that these thoughts play a crucial role in the development of certain psychiatric disorders [8]. Additionally, a study highlighted that recurrent ANT contributes to the emotional fluctuations observed in individuals with BPD and different types of negative thoughts may have varying associations with BPD [9].

Several therapeutic techniques, including dialectical behavior therapy, Mentalization-Based Therapy (MBT), and schema therapy, are commonly used to treat BPD due to its high prevalence. Additionally, Emotion-Focused Therapy (EFT) is a holistic approach that combines empiricism and adult attachment theory to address personality disorders, particularly BPD [10]. This method emphasizes emotional engagement, reprocessing of experiences, and emotional corrective experiences, leading to the development of skills and insights, ultimately helping clients to identify and modify their emotional experiences [11]. A study indicated that EFT therapy enhances hope and improves automatic thoughts [12]. Another study also stated that EFT reduces negative emotions.[13] Research also supports the use of EFT as a beneficial approach for individuals with BPD [2].

Other interventions that have been explored in the realm of mood disorders and addressing issues arising from specific treatments while garnering significant research interest include Integrated Meta-Diagnostic Therapy (MDT) [14]. This approach concentrates on the commonalities in emotional disorder phenomenology, etiology, and therapeutic outcomes across different disorders [15]. The integrated protocol for MDT is a cognitive-behavioral intervention that targets core identity features, such as neuroticism, to enhance coping skills and address emotional disorders [16]. Research has demonstrated that MDT can alleviate symptoms of anxiety and mood disorders, lower the risk of emotional disorders, and boost psychological resilience in adolescents [17]. Studies have also shown the effectiveness of integrated MDT in reducing symptoms of depression and anxiety [14].

BPD symptoms in adolescents can indicate future psychological and behavioral issues in adulthood. Adolescence is a critical time for early intervention as BPD symptoms often appear during this period. Addressing negative thoughts in adolescence can help prevent the disorder from worsening in adulthood, emphasizing the need for early interventions [1]. The comparison between EFT and MDT for adolescents with BPD is a new area of research. This study aims to fill this research gap and offer therapists new insights into which treatment is more effective in reducing ANT. The current research compares the effectiveness of EFT and MDT approaches on ANT in adolescents with BPD.

Method

This study was applied with a semi-experimental in nature, with pre-test, post-test, and follow-up phases three months later. It consisted of one control group and two experimental groups. The intervention methods used were EFT and MDT approaches, with the dependent variable being ANT in the post-test and follow-up phases. The statistical population for the research was adolescents with BPD attending psychological clinics in Tehran between July and October 2023. Psychologists at the research site confirmed the diagnosis of BPD. The initial sample size was 45 individuals (15 in each test group and 15 in the control group) selected through purposive sampling which were randomly assigned. Sample adequacy was determined using G*Power software, with an alpha level of 0.05, effect size of 0.25, and power test of 0.90 for three groups [18]. This calculation resulted in a sample size of 45 individuals.

The requirements for participation in the study included residing in Tehran, giving informed consent, and possessing adequate literacy and comprehension to answer questions and diagnose borderline disorder in individuals. The exclusion criteria for the research were being under 18 years old, having any physical or mental condition that hinders participation, failing to answer more than eight questionnaire items, missing more than two intervention sessions, a delay in four sessions, or expressing unwillingness to continue, leading to withdrawal. The study began by securing the required approvals from the researcher's institution and choosing four psychology and counseling centers in Tehran using a convenient approach. Following visits to the clinics, the researcher communicated with the parents of adolescents with borderline disorder, providing information on the study's objectives and permissions, ensuring confidentiality of personal details, and allowing withdrawal from the research. Due to limited cooperation, the research, including online questionnaires with parental supervision, spanned four months. Participants were randomly assigned to three groups: one receiving

EFT sessions (4 sessions) [19-20], another receiving meta-diagnostic training (4 sessions) [21-22], and a control group on a training waitlist. The program, led by a licensed psychologist, involved group meetings at a clinic two times a week. The reduced session number was tailored to meet the unique needs of adolescents. Tables 1 and 2 outline the topics and content covered in these sessions. At the follow-up stage, 39 out of 45 initial participants completed the research, with stringent adherence to ethical considerations and participants' right to withdraw at any time.

The tool used in this study was as follows:

Automatic Thoughts Questionnaire (ATQ-P): In 1980, Kendall and Hallon created a questionnaire to assess ANT in individuals [23]. The questionnaire comprises 30 questions, each rated on a scale of 1 to 5 (never = 1, sometimes = 2, average = 3, often = 4, always = 5) [24]. It consists of four subscales: individual incompatibility (questions 26-19-22-20-14-10-7, scoring 7 to 35), negative self-concept (questions 28-25-24-23-21-9-3-2, scoring 8 to 40), low self-esteem (questions 17-6-5-4-18-15-16-18, scoring 8 to 40), and helplessness (questions 26-30-27-1-8-11-12-13-29, scoring 9 to 45). A study in Iran reported a Cronbach's alpha coefficient of 0.74 for the entire scale [25]. Additionally, the researcher found Cronbach's alpha coefficients of 0.726 for individual incompatibility, 0.751 for negative self-concept, 0.731 for low self-esteem, and 0.739 for helplessness.

In this study, descriptive statistics such as mean and standard deviation were utilized for descriptive purposes, while covariance analysis with repeated measures was used for inferential statistics. The data collected was analyzed using the Kruskal-Wallis H method, repeated measure ANCOVA, and Bonferroni's post hoc test at a p-value of 0.05. The statistical analysis utilized SPSS version 27 and JASP software version 18.1.0. The Shapiro-Wilk test was utilized to evaluate normal distribution, while Levene's test was employed to analyze the homogeneity of variances.

Table 1. Summary of the Sessions of EFT

Sessions	Subject
First	"Getting acquainted with participants and pinpointing ANT in adolescents. They are introducing counseling and an emotion-focused approach, addressing confidentiality boundaries, securing adolescents' consent to proceed with the program, familiarizing participants with each other, and discussing the impact of ANT on adolescents' lives. Explaining how negative thoughts and emotions result in unfavorable actions. Activity: -jotting down ANTs and their situations, Objectives: -Recognizing and modifying ANT contributing to emotional instability and risky behaviors in adolescents. -Cultivating emotional intelligence to aid adolescents in identifying and managing their complex emotions. -Empowering individuals to combat negative thoughts and emotions by enhancing personal control and self-awareness. -Establishing a secure therapeutic rapport to facilitate emotional processing in a supportive setting."
Second	-Processing emotions associated with negative thoughts Objective: -Recognizing the ANT of adolescents facing tough circumstances. - Assisting adolescents in uncovering the underlying emotions behind their negative thoughts and processing them. - Self-awareness skills training. - Pinpointing the primary emotions (rage, apprehension, irritation) triggered by negative thoughts. - Employing the method of emotional inquiry to explore the physical and emotional sensations experienced by adolescents during episodes of negative thinking. Activity: -Substitution of emotions. - Acknowledging positive emotions and enhancing their influence in challenging situations.
Third	"Managing emotions and coping with negative thought patterns" Objective: -Instill adolescents with the skills to manage their emotions and challenge ANT. -Educating on techniques for emotional regulation, such as deep breathing, muscle relaxation, and mindfulness practices, and reviewing the previous session. Activity: -"Maintaining a diary to track daily emotions and developing strategies to regulate them." -Learning cognitive restructuring methods: questioning negative thoughts we impose on ourselves and substituting them with more positive beliefs.

Fourth	Improving self-awareness and self-esteem, enhancing skills stability, and reducing the likelihood of relapse. Objective: -Increasing self-awareness and boosting self-esteem in adolescents to better handle negative thoughts and reinforce acquired skills to avoid falling back into negative thinking patterns. -Recognizing the core values of adolescents and how they relate to their sense of self. Employing the Self-Compassionate Talk Technique: Engaging in positive self-talk and affirmations to combat self-criticism and negative thoughts. Activity: -Writing letters to yourself documenting accomplishments and positive efforts when faced with negative thoughts and emotional struggles. -Revisiting and honing skills acquired in prior sessions. -Developing a relapse prevention plan that includes strategies for managing stress and combating negative thinking. Implementing post-test measures.

Table 2. Summary of the sessions of MDT

Sessions	Subjects
First	"Monitoring and raising awareness of negative thoughts that arise without prompting." Objectives: -Recognizing ANT and presenting the idea of MDT. - Introducing therapy and a meta-diagnostic approach. - Exploring the boundaries of confidentiality and clarifying that this approach targets common factors across various disorders (anxiety, negative thoughts, borderline personality). - Initial evaluation. - Obtaining adolescents' consent to participate in the educational process. - Familiarity among group members. - ANT training: describing the impact of negative thoughts on feelings and actions. Activity: -Documenting pessimistic thoughts that occur without prompting and the circumstances surrounding them.
Second	"Recognizing and managing feelings associated with negative thinking" Objective: -Recognize adverse feelings associated with negative thoughts and focus on managing emotions effectively. -Educating individuals on the correlation between thoughts, emotions, and actions: explaining how ANT can trigger intense emotions and impulsive actions - Analyzing different scenarios involving thoughts, emotions, and behaviors is part of utilizing the ABC model. Activity: -Recognizing emotions correlated to negative thoughts and documenting them. -The practice of mindfulness: learning to concentrate on the present moment and lessen intense emotional responses.
Third	Development of cognitive flexibility and reconstruction of negative thoughts Objective: -Changing ANT and forming positive beliefs. - Utilizing Cognitive Restructuring to confront ANT and substitute them with more logical thoughts. Activity: -Adolescents address their pessimistic thoughts and generate more optimistic alternatives through their writing. -Introducing adaptable thinking: acquiring the skill of viewing situations from various perspectives. -Adolescents address their pessimistic thoughts and generate more optimistic alternatives through their writing.
Fourth	Emotional regulation, management of emotional fluctuations, development of coping skills, and control of impulsive behaviors Objective: - Instructing on methods for managing emotions and decreasing the impact of negative thoughts on feelings. - Guiding coping mechanisms to avoid acting impulsively or engaging in risky behavior - Introducing Emotion Regulation Strategies, such as deep breathing exercises, muscle relaxation, and advanced mindfulness practices. Practice: -Implementation of emotional regulation technique in stressful situations -Training Stop practice: "Pause and practice mindfulness when experiencing strong emotions instead of reacting impulsively." -Training Effective Coping Strategies: Problem-solving skills, Stress management techniques, and Planning. -Apply coping skills in real-life situations and document their experiences. -Examine impulsive behavior: Analyze the short and long-term outcome -Post-test implementation

Results

The study collected data from adolescents in three stages: pre-test, post-test, and follow-up from three groups – (EFT, MDT, and control groups). Initially, the researcher looked into the demographic characteristics of the participants, dividing them into three age groups - 15 to 16 years, 16 to 17 years, and 17 to 18 years. Additionally, the adolescents were categorized into two groups based on gender - boys and girls. The results of the Kruskal-Wallis H test showed no significant variations among the groups regarding demographic characteristics (P>0.05). The researcher also examined the mean and standard deviation of the research variables in the research groups (Table 3).

According to the findings, the mean scores of the Individual incompatibility variable were similar in the EFT, MDT, and control groups during the Pre-test stage. However, in the Post-test and Follow-up stages, the scores in the MDT group decreased compared to the other groups. Similarly, there were no significant differences in the mean scores of the Negative self-concepts variable among the groups during the Pre-test stage. However, during the Post-test and Follow-up phases, the experimental groups saw a decrease in scores compared to the control group. The average scores for low self-esteem remained relatively consistent among all groups during the Pre-test phase. However, in the follow-up phase, the scores in the EFT group decreased compared to the control group. The variable of helplessness did not show significant differences among the groups in the research stages. The Kurtosis and Skewness indices in all variables were between +2 and -2. As a result, it was in normal efficiency [26]. Similarly, the researcher examined the Levene test in Table 4, and this assumption was confirmed in all cases except for one of the components [27].

In Table 5, the researcher examined the results of the repeated measures analysis of covariance test.

According to the results of the covariance analysis, the P-value for Between-Subjects Effects regarding Individual incompatibility and Negative self-concept variables was found to be significant (p<0.001). There was a noticeable difference between the research groups in how they were affected by the Pre-test stage. Additionally, a P-value of interaction was observed in Within-Subjects Effects for Individual incompatibility, indicating interactive effects between research groups and stages (p<0.001). The analysis of Between-Subjects Effects did not indicate any significance for the Low self-esteem and Helplessness variables, as the P-value exceeded 0.05. In Table 6, the researcher examined the pairwise interaction effects between stages and groups.

Table 3. Description of Research Variables

Variable	TIME	Groups	Mean	SD	Skewness	Kurtosis	Min	Max
Individual incompatibility	Pre-test	EFT	25.58	1.31	0.36	-0.75	24	28
		MDT	25.53	1.33	0.27	-0.90	24	28
		Control	25.57	1.22	0.39	-0.44	24	28
	Post-test	EFT	25.33	1.15	0.48	-1.11	24	27
		MDT	24.69	0.85	-0.24	-0.04	23	26
		Control	25.28	1.20	0.89	0.50	24	28
	Follow-up	EFT	25.00	1.12	0.91	-0.33	24	27
		MDT	23.15	1.06	1.58	3.69	22	26
		Control	25.85	1.51	0.28	-1.39	24	28
Negative self-concepts	Pre-test	EFT	28.91	1.37	0.17	-1.00	27	31
		MDT	28.07	1.97	-0.27	-1.07	25	31
		Control	28.21	2.19	-0.21	-1.56	25	31
	Post-test	EFT	27.75	0.75	0.47	-0.86	27	29
		MDT	26.15	1.51	0.20	-0.62	24	29
		Control	28.71	1.54	-0.61	-0.45	26	31
	Follow-up	EFT	27.50	0.79	1.28	0.15	27	29
		MDT	24.84	1.95	1.20	0.40	23	29
		Control	28.64	1.49	0.07	-0.62	26	31
Low self-esteem	Pre-test	EFT	28.33	2.30	-0.54	-1.27	25	31
		MDT	28.53	1.61	-0.64	0.52	25	31
		Control	27.71	2.16	0.05	-1.14	25	31
	Post-test	EFT	28.16	1.89	-0.47	-0.47	25	31
		MDT	28.53	2.10	-0.47	-0.81	25	31
		Control	28.64	1.90	-0.87	0.16	25	31
	Follow-up	EFT	26.66	1.87	0.48	-1.36	25	30
		MDT	28.38	1.98	-0.48	-0.54	25	31
		Control	28.78	2.00	-0.85	-0.06	25	31
Helplessness	Pre-test	EFT	30.41	3.39	0.25	-1.73	26	35
		MDT	31.00	2.76	-0.25	-0.98	26	35
		Control	29.92	3.38	0.48	-1.45	26	35
	Post-test	EFT	30.25	3.07	-0.39	-1.52	26	34
		MDT	31.38	3.73	-0.49	-1.78	26	35
		Control	30.92	3.07	-0.08	-1.43	26	35
	Follow-up	EFT	29.16	2.85	0.27	-1.64	26	33
		MDT	29.46	3.01	0.29	-1.62	26	34
		Control	31.07	3.43	-0.15	-1.78	26	35

Table 4. Test for Equality of Variances (Levene's)

		F	df1	df2	p
Individual incompatibility	Post-test	0.81	2	36	0.450
	Follow-up	2.39	2	36	0.106
Negative self-concepts	Post-test	2.84	2	36	0.071
	Follow-up	2.22	2	36	0.123
Low self esteem	Post-test	0.31	2	36	0.729
	Follow-up	0.05	2	36	0.946
Helplessness	Post-test	2.19	2	36	0.126
	Follow-up	0.91	2	36	0.408

Table 5. Covariance Analysis Test

Variable		Source	Sum of Squares	Mean Square	F	P	Eta Squared
Individual incompatibility	Within Subjects Effects	TIME	0.02	0.02	0.02	0.865	8.39×10^{-4}
		TIME ✻ Pre-test	0.00	0.002	0.004	0.953	1.00×10^{-4}
		TIME ✻ Group	15.04	7.52	11.13	< .001	0.38
	Between Subjects Effects	Pre-test	0.16	0.16	0.07	0.786	0.002
		Group	39.20	19.60	9.04	< .001	0.34
Negative self-concepts	Within Subjects Effects	TIME	1.20	1.20	0.87	0.355	0.02
		TIME ✻ Pre-test	0.89	0.89	0.65	0.425	0.01
		TIME ✻ Group	5.42	2.71	1.97	0.154	0.10
	Between Subjects Effects	Pre-test	6.83	6.83	2.63	0.114	0.07
		Group	135.97	67.98	26.17	< .001	0.59
Low self esteem	Within Subjects Effects	TIME	4.35	4.35	1.02	0.319	0.02
		TIME ✻ Pre-test	3.75	3.75	0.87	0.355	0.02
		TIME ✻ Group	10.65	5.32	1.24	0.300	0.06
	Between Subjects Effects	Pre-test	0.65	0.65	0.18	0.670	0.005
		Group	23.04	11.52	3.24	0.051	0.15
Helplessness	Within Subjects Effects	TIME	0.98	0.98	0.07	0.785	0.002
		TIME ✻ Pre-test	0.32	0.32	0.02	0.875	7.22×10^{-4}
		TIME ✻ Group	14.93	7.46	0.57	0.569	0.03
	Between Subjects Effects	Pre-test	10.74	10.74	1.34	0.254	0.03
		Group	23.56	11.78	1.47	0.243	0.07

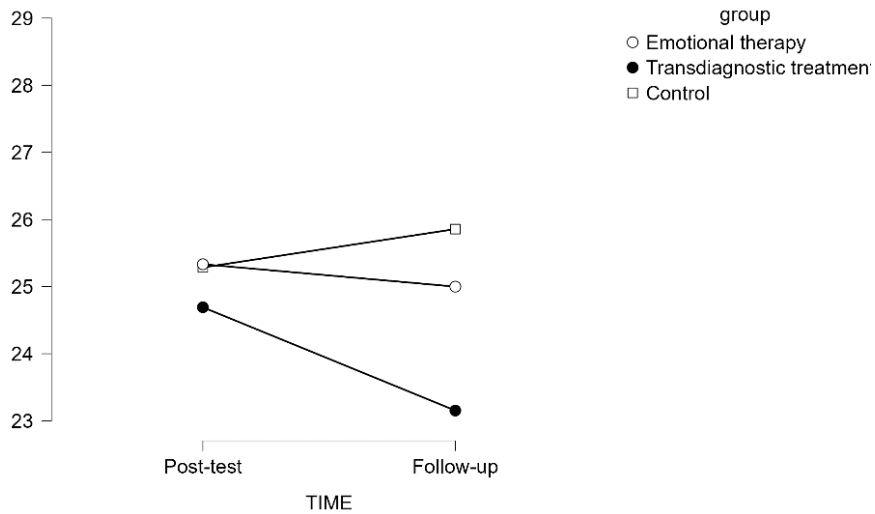

Figure 3. Interaction effects between time and group in the individual incompatibility variable.

Table 6. Post Hoc Comparisons - Group ✻ TIME

Variable			MD	SE	t	P
Individual incompatibility	EFT, Post-test	MDT, Post-test	0.64	0.44	1.46	1.000
		Control, Post-test	0.04	0.43	0.11	1.000
		EFT, Follow-up	0.33	0.33	0.99	1.000
		MDT, Follow-up	2.18	0.47	4.58	< .001
		Control, Follow-up	-0.52	0.46	-1.12	1.000
	Meta-diagnostic therapy, Post-test	Control, Post-test	-0.59	0.42	-1.40	1.000
		EFT, Follow-up	-0.30	0.47	-0.64	1.000
		MDT, Follow-up	1.53	0.32	4.76	< .001
		Control, Follow-up	-1.16	0.45	-2.54	0.232
	Control, Post-test	EFT, Follow-up	0.28	0.47	0.60	1.000
		MDT, Follow-up	2.13	0.46	4.63	< .001
		Control, Follow-up	-0.57	0.31	-1.83	1.000
	EFT, Follow-up	MDT, Follow-up	1.84	0.51	3.60	0.014
		Control, Follow-up	-0.85	0.50	-1.70	1.000
	Meta-diagnostic therapy, Follow-up	Control, Follow-up	-2.70	0.49	-5.48	< .001

Bonferroni's post hoc test to examine differences between groups

Variables	TIME	(I) Group	(J) Group	MD	Std. Error	P-value
Negative self-concepts	Post-test	EFT	MDT	1.50	0.54	0.028
			Control	-1.03	0.53	0.183
		MDT	Control	-2.54	0.51	< .001
	Follow-up	EFT	MDT	2.46	0.59	0.001
			Control	-1.29	0.58	0.099
		MDT	Control	-3.76	0.56	< .001

According to Table 6 and Figure 3, the Individual incompatibility component was not significantly different between the EFT, MDT, and control groups at the post-test (p=1.000). However, a significant difference was found between the MDT group and the control group at the follow-up (p<0.001). Considering the mean difference between the two groups and its negative sign, it can be confirmed that the Individual incompatibility level in the MDT group was reduced compared to the control group and that the MDT approach was effective but the EFT approach was not effective.

Table 6 demonstrates a significant distinction in the negative self-concepts factor between the EFT group and the MDT group post-examination (P=0.028). However, the EFT group did not show any variance from the control group (P=0.183). Similarly, there was a prominent contrast between the MDT group and the control group in the post-test phase (P<0.001). Additionally, there was a clear distinction seen between the EFT group and the MDT group during the follow-up stage (P=0.001). However, the EFT group showed no significant difference compared to the control group (P=0.099). Furthermore, a noteworthy difference was noted between the MDT group and the control group during the follow-up phase (P<0.001). Given these variances, it can be concluded that there is a clear gap in the negative self-concepts between the two groups undergoing MDT and the control group. The decrease in negative self-concepts was more noticeable in the MDT group compared to the control group, demonstrating the efficacy of this treatment over EFT.

Discussion

The main objective of this research was to compare the efficacy of EFT and MDT on ANT in adolescents diagnosed with BPD. According to the findings, MDT contributed to a reduction in personal discord and negative self-concept, while EFT did not show significant effects. The results also indicated that the decrease in individual incompatibility and negative self-concept in the MDT group was maintained over time, whereas EFT did not demonstrate sustained effectiveness.

Although a direct investigation on this topic was not possible due to the novelty of the research title, the results align well with existing theories on MDT and are consistent with previous studies [14,17,23]. The research results demonstrated that MDT can help alleviate symptoms of anxiety and mood disorders, decrease the risk of emotional disorders, and enhance psychological flexibility and resilience in adolescents [17]. Another study confirmed that integrated MDT is successful in reducing depression and anxiety symptoms [14]. Additionally, the research findings suggested that MDT could complement medication and interpersonal therapies for patients dealing with depression, leading to a reduction in symptoms of depression and anxiety [28].

The findings of this study suggest that MDT is an effective approach for enhancing emotion regulation and addressing various emotional disorders. This therapeutic method targets common psychological mechanisms, such as cognitive and emotional regulation, which are shared across multiple disorders [29]. By helping individuals recognize and adjust their emotional habits, MDT effectively reduces negative thought patterns and enhances psychological resilience, ultimately contributing to greater emotional stability and overall well-being [30]. One of the key mechanisms through which MDT exerts its effects is by fostering self-awareness and promoting adaptive emotional responses. Unlike disorder-specific

treatments that focus on symptoms of a particular diagnosis, MDT addresses underlying psychological processes, such as ANT. By targeting these shared mechanisms, MDT offers a more comprehensive and sustainable approach to mental health care [15]. Beyond emotion regulation, MDT plays a crucial role in improving interpersonal compatibility and reducing negative self-concept. This study found that MDT helps adolescents develop social and communication skills, leading to stronger relationships and a reduced sense of loneliness and social exclusion [31]. Furthermore, for individuals with BPD, MDT provides structured emotional support, helping them manage persistent negative thoughts. This can foster a more positive self-concept and facilitate behavioral changes that promote psychological well-being [14]. Given the complexity of emotional dysregulation in adolescents with BPD, EFT alone may not be sufficient. The findings of this study suggest that combining MDT with other evidence-based approaches may yield better outcomes by addressing both the cognitive and emotional dimensions of the disorder [11].

Although this study provides valuable insights, several limitations should be acknowledged. One notable limitation is the potential influence of cultural differences on treatment reception and effectiveness, highlighting the need for further research to adapt and validate these interventions across diverse cultural contexts. Additionally, the complexity of accurately measuring ANT suggests that future studies may benefit from integrating qualitative methodologies alongside quantitative approaches to enhance measurement precision. Another limitation pertains to the reliance on self-reported data, which may introduce biases due to subjective perceptions and social desirability effects. To improve data reliability, future research should incorporate multiple assessment methods, such as clinician evaluations and behavioral observations. Moreover, variations in adolescents' life experiences may differentially influence the presentation of BPD symptoms, underscoring the importance of collecting comprehensive contextual data on family and social environments for a more nuanced analysis. Furthermore, prior treatment experiences among participants may have affected their responses to the intervention, suggesting the necessity of accounting for treatment history in future studies to ensure more accurate evaluations. Lastly, limited parental involvement in the treatment process represents an additional constraint, emphasizing the need for parental training programs to enhance engagement and support in similar research settings.

Conclusion

The findings of the current study indicated that utilizing MDT can be effective in reducing ANT in adolescents diagnosed with BPD. However, contrary to expectations, EFT did not yield similar results, suggesting the necessity for more diverse and tailored treatment approaches for this population. These outcomes may prove advantageous for mental health professionals in developing and executing innovative and successful treatment protocols. By highlighting the significance of MDT, it is feasible to devise suitable frameworks for adolescents with BPD that take into account cognitive and social concerns. Healthcare providers and therapists can leverage this data to enhance their decision-making regarding treatment modalities for adolescents with BPD. Furthermore, educational and societal organizations could offer informative programs to raise awareness among adolescents and families about BPD and appropriate interventions. Adolescents with BPD can also experience improvements in their quality of life and mental well-being through MDT.

Conflict of Interest

There is no competing interest.

Ethical Approval

The details presented in this article are from the author's research carried out following the Ethics Code: IR. IAU. SEMNAN. REC. 1403.123.

Declaration of Generative AI and AI-Assisted Technologies

During the preparation of this work the authors did not use any AI tools.

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References

1. Mirkovic B, Delvenne V, Robin M, Pham-Scottez A, Corcos M, Speranza M. Borderline personality disorder and adolescent suicide attempt: the mediating role of emotional dysregulation. BMC psychiatry. 2021 Dec;21:1-0. https://doi.org/10.1186/s12888-021-03377-x
2. Babapour S, Shafiabadi A, Shamir AS, Andbil AF. The effectiveness of emotion-oriented therapy on the treatment of patients with borderline personality disorder. Journal of Adolescent and Youth Psychological Studies (JAYPS). 2023 Sep 1;4(9):117-27. https://doi.org/10.61838/kman.jayps.4.9.13
3. O'Grady SM, Hinshaw SP. Developmental predictors of young adult borderline personality disorder: a prospective, longitudinal study of females with and without childhood ADHD. BMC psychiatry. 2023 Feb 15;23(1):106. https://doi.org/10.1186/s12888-023-04515-3
4. Parvandi A, Yaghoubi H, Ahmadi E. Comparison of Neuropsychological Deficits in Individuals with Borderline and Narcissistic Personality Disorder Symptoms and Normal Individuals. Neuropsychology. 2022 Feb 20;7(27):47-58. https://doi.org/10.30473/clpsy.2022.61628.1637
5. Shmouli Selah Cheini R, Naseri A. Mediating role of experiential avoidance in predicting borderline personality disorder based on childhood trauma. Shenakht Journal of Psychology and Psychiatry. 2024 Feb 10;10(6):142-56. 10.32598/shenakht.10.6.142
6. Mirkovic B, Delvenne V, Robin M, Pham-Scottez A, Corcos M, Speranza M. Borderline personality disorder and adolescent suicide attempt: the mediating role of emotional dysregulation. BMC psychiatry. 2021 Dec;21:1-0. https://doi.org/10.1186/s12888-021-03377-x
7. YahyazadehJeloudar S, Mousavi SF, Motevaliyan SM. A. The Effectiveness of Cognitive Therapy Based on Mindfulness on Feelings of Loneliness, Self-criticism and Negative Self-generated Thoughts in Mothers with Disabled Children. Quarterly Journal of Women and Society. 2024;15(57):139-54. 10.30495/jzvj.2024.31848.4006
8. Momenpour S, Saffarinia M, Bazzazian S, Vatankhah H. The role of negative spontaneous thoughts and dysfunctional attitudes in psychological well-being mediated by perceived

stress in women with breast cancer. Iranian Journal of Nursing Research. 2022 Apr 10;17(1):19-30. 10.22034/IJNR.17.1.19
9. Mason CK, Kelley K, DeShong HL. Repetitive negative thoughts and thought control strategies within borderline personality disorder: A systematic review. Journal of Affective Disorders Reports. 2023 Dec 3:100693. https://doi.org/10.1016/j.jadr.2023.100693
10. Saeidmanesh M, Demehri F. effectiveness of emotionally focused therapy (eft) on nightmare and emotional instability in people with borderline personality disorder. Rooyesh-e-Ravanshenasi Journal (RRJ). 2022 Dec 10;11(10):119-28. http://frooyesh.ir/article-1-3986-fa.html
11. Afsar M, Hassani F, Farzad V, Golshani F. Comparison of the Effectiveness of Emotionally-Focused Therapy (EFT) and Mindfulness-Based Schema Therapy (MBST) on Emotion Regulation in Women with Borderline Personality Disorder (BPD). Applied Family Therapy Journal (AFTJ). 2021;2(1):262-76. 10.22034/aftj.2022.267229.1052
12. Mahmoudvandi-Baher E, Flasafinejad MR, Khodabakhshi-Koolaee A. The effectiveness of emotion-focused group therapy on hope and negative automatic thoughts among divorced women. Community health. 2018;5(1):67-76. http://journals.sbmu.ac.ir/ch
13. Heidari S, Khalatbari J, Jalali M, Tizdast T. Comparison of the effectiveness of acceptance and commitment therapy and emotion-focused therapy on negative emotions of coronary heart disease. International Journal of Applied Behavioral Sciences. 2019 Jan 1;6(4):17-28. https://doi.org/10.22037/ijabs.v6i6.27969
14. Sharafi M, Jafari D, Bahrami M. Comparison of the Effectiveness of Cognitive Behavioral Therapy and Unified Transdiagnostic Therapy on the Depression and Anxiety Symptoms of Adolescents with Generalized Anxiety Disorder. Journal of Research in Behavioural Sciences. 2023 Apr 10;21(1):138-50. http://rbs.mui.ac.ir/article-1-1461-fa.html
15. Pouladi S, Hasanshahi MM, Rabiei M, Baghery N. The effect of unified transdiagnostic treatment on the improvement of internalizing behavioral problems, emotional regulation, and empathy in children with anxiety disorders. Research in Cognitive and Behavioral Sciences. 2022 Aug 23;12(1):141-64. 10.22108/cbs.2022.133945.1655
16. Zohrabiy S, Abolghasemi A, Kafi Masoole M, Khosrojavid M. Comparing the Effectiveness of Emotion-Oriented Therapy and the Unified Trans-diagnostic Treatment on Fear of Negative & Positive Evaluation of Patients with Social Anxiety disorder. Practice in Clinical Psychology. 2023 Oct 10;11(4):0-. 10.32598/jpcp.11.4.914.1
17. Garcia-Lopez LJ, Jimenez-Vazquez D, Muela-Martinez JA, Piqueras JA, Espinosa-Fernandez L, Canals-Sans J, Vivas-Fernandez M, Morales-Hidalgo P, Diaz-Castela MM, Rivera M, Ehrenreich-May J. Effectiveness of a transdiagnostic indicated preventive intervention for adolescents at high risk for anxiety and depressive disorders. Current Psychology. 2024 May;43(17):15484-98. https://doi.org/10.1007/s12144-023-05421-3
18. Kang H. Sample size determination and power analysis using the G* Power software. Journal of educational evaluation for health professions. 2021 Jul 30;18.10.3352/jeehp.2021.18.17
19. Ardestani SY, Shakib N, Yousefi S. The effectiveness of emotion-focused cognitive therapy on cognitive flexibility and rumination of adolescents with practical obsessive-compulsive disorder. Journal of Adolescent and Youth Psychological Studies (JAYPS). 2021 Sep 14;2(1):160-70. https://journals.kmanpub.com/index.php/jayps/article/view/472
20. Asmaribardezard Y, Khosravi A, Ansari H, Motavalli MM. Effectiveness of Emotion-Focused Therapy on Emotion Regulation and Periods of Overeating in Women with Binge Eating Disorder. Navid No. 2018 Aug 23;21(66):12-23. https://doi.org/10.22038/nnj.2018.31556.1125
21. Akhondi Yazdi Z, Ghazanfari A, Sharifi T. Comparison of the Effectiveness of Transdiagnostic Treatment and Cognitive-Behavioral Therapy on the Anxiety and Depression of Depressed Women. Journal of Research in Behavioural Sciences. 2024 Jan 10;21(4):818-29. URL: http://rbs.mui.ac.ir/article-1-1724-fa.html
22. Kazemi E, Ghazanfari A, Mashhadizadeh S, Ahmadi R. Comparison of the Effectiveness and Stability of Integrated Transdiagnostic Treatment and Dialectical Behavior Therapy on Psychological Well-Being and Pain Perception in Patients with Cancer in Isfahan, Iran. Journal of Health System Research. 2022 Mar 10;18(1):8-16. https://hsr.mui.ac.ir/article-1-1327-en.html
23. Hollon SD, Kendall PC. Cognitive self-statements in depression: Development of an automatic thoughts questionnaire. Cognitive therapy and research. 1980 Dec;4:383-95.https://link.springer.com/article/10.1007/bf01178214
24. Burgess E, Haaga DA. The positive automatic thoughts questionnaire (ATQ-P) and the automatic thoughts questionnaire—Revised (ATQ-RP): Equivalent measures of positive thinking?. Cognitive Therapy and Research. 1994 Feb;18:15-23. https://link.springer.com/article/10.1007/BF02359392
25. MahmoudiTabar M, Alimohammadi A, Borujen K, Pirzadeh F, AhmadiPour F, Jafari M, Salehi F. The spiritual effectiveness of mindfulness-based stress therapy on spontaneous negative thoughts and irritability in people with social anxiety. Islamic Life Journal. 2022.URL: http://islamiclifej.com/article-1-1276-en.html
26. Groeneveld RA, Meeden G. Measuring skewness and kurtosis. Journal of the Royal Statistical Society Series D: The Statistician. 1984 Dec;33(4):391-9. https://doi.org/10.2307/2987742
27. Lim TS, Loh WY. A comparison of tests of equality of variances. Computational Statistics & Data Analysis. 1996 Jul 15;22(3):287-301. https://doi.org/10.1016/0167-9473(95)00054-2
28. Akhondi Yazdi Z, Ghazanfari A, Sharifi T. Comparison of the Effectiveness of Transdiagnostic Treatment and Cognitive-Behavioral Therapy on the Anxiety and Depression of Depressed Women. Journal of Research in Behavioural Sciences. 2024 Jan 10;21(4):818-29. http://rbs.mui.ac.ir/article-1-1724-fa.html
29. Holakouee A, Ghasemzadeh S, Arjmandnia AA. The Effectiveness of unified protocol of trans-diagnostic treatment on Adolescent Anxiety and maternal parenting methods. https://www.sid.ir/paper/1002907/fa#downloadbottom
30. Miri H, Karimi Sani P. The Effectiveness of Transdiagnostic Treatment on Mental Fatigue, Stress Coping Style and Hypochondriasis in Women. Iranian Journal of Educational Research. 2023 Sep 10;2(3):0-. https://doi.org/10.22034/2.3.1
31. Tonarely NA, Kennedy S, Halliday E, Sherman JA, Ehrenreich-May J. Impact of youth transdiagnostic treatment on parents' own emotional responding and socialization behaviors. Journal of Child and Family Studies. 2021 May;30:1141-55. https://doi.org/10.1007/s10826-021-01946-y