






Effectiveness of Cognitive-Analytic Therapy on Improving Personality Organization, Worry, and Experiential Avoidance in Adolescents with Borderline Personality Disorder

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ABSTRACT

Objective: The present study aimed to examine the effectiveness of cognitive-analytic therapy (CAT) in improving personality organization, reducing worry, and decreasing experiential avoidance among adolescents diagnosed with borderline personality disorder (BPD).

Methods and Materials: This quasi-experimental study employed a pretest-posttest control group design. The statistical population included all adolescents with BPD referred to counseling and social work centers in Tehran in 2025. Thirty participants were selected through purposive sampling and randomly assigned to experimental (n = 15) and control (n = 15) groups. The experimental group received eight sessions of group CAT (90 minutes each, twice per week), while the control group was placed on a waiting list for two months. Data collection tools included the Inventory of Personality Organization (IPO), the Penn State Worry Questionnaire (PSWQ), and the Acceptance and Action Questionnaire-II (AAQ-II). Data were analyzed using multivariate analysis of covariance (MANCOVA) in SPSS-26.

Findings: The results demonstrated that, after controlling for pretest effects, there were statistically significant differences between the experimental and control groups in the posttest scores of personality organization ($F = 333.19, p < .049, \eta^2 = .51$), worry ($F = 169.93, p < .006, \eta^2 = .55$), and experiential avoidance ($F = 287.14, p < .007, \eta^2 = .57$). These findings indicate that CAT significantly improved personality organization while reducing worry and experiential avoidance in adolescents with BPD.

Conclusion: The therapy enhances self-awareness, reduces maladaptive avoidance strategies, and improves overall personality functioning, making it a promising option for clinical practice with this population.

Keywords: cognitive-analytic therapy, personality organization, worry, experiential avoidance, borderline personality disorder

1. Introduction

Borderline Personality Disorder (BPD) is widely recognized as one of the most complex and challenging mental health conditions, characterized by pervasive instability in interpersonal relationships, self-image, emotions, and marked impulsivity. The disorder is associated with high rates of comorbidity, suicidal behaviors, and significant impairment in psychosocial functioning (Dabashi et al., 2018; McCutcheon et al., 2019). Adolescents with BPD represent a particularly vulnerable group, as their difficulties with emotional regulation, identity development, and experiential avoidance often exacerbate developmental challenges and increase the risk of long-term dysfunction (Peter et al., 2019; Stumper et al., 2017). This underscores the importance of identifying effective therapeutic approaches that target the multifaceted dimensions of BPD at an early stage.

Cognitive Analytic Therapy (CAT), developed as an integrative psychotherapy combining elements of cognitive-behavioral and psychodynamic approaches, has gained attention for its utility in addressing personality pathology (Clarke et al., 2013; Kellett et al., 2018). CAT emphasizes the exploration of maladaptive sequential patterns and reciprocal roles, aiming to increase patients' self-reflection and capacity for relational understanding (Hayes et al., 2013; McCutcheon et al., 2019). Studies have highlighted its effectiveness in improving symptoms of depression, anxiety, impulsivity, and interpersonal dysfunction in individuals with personality disorders, including BPD (Eini et al., 2018; Farhadi et al., 2015). Moreover, CAT has been found to reduce dropout rates compared with other interventions, which enhances its clinical acceptability (Simmonds-Buckley et al., 2022).

The link between BPD and experiential avoidance, worry, and intolerance of uncertainty is well established. Experiential avoidance, a tendency to evade negative internal experiences, plays a critical role in maintaining emotional dysregulation and maladaptive behaviors (Abdi & Kaboudi, 2016; Yar Allah et al., 2018). Research shows that higher levels of experiential avoidance are predictive of poorer mental health outcomes in both clinical and non-clinical populations (Aftab, 2016; Hershenberg et al., 2017). Similarly, intolerance of uncertainty has been identified as a transdiagnostic risk factor for anxiety and worry, particularly among individuals vulnerable to obsessive-compulsive and anxiety disorders (Chen et al., 2018; Dar et al., 2017; Jensen et al., 2014). Adolescents with BPD often experience a

heightened sensitivity to uncertainty and interpersonal stressors, leading to maladaptive coping strategies and reinforcing pathological schemas (Ross et al., 2017; Soleimani et al., 2017).

Cognitive-analytic interventions are particularly relevant in addressing these processes. By integrating cognitive restructuring with an exploration of reciprocal role procedures, CAT enables patients to identify and challenge patterns of avoidance and maladaptive schemas (Alexander et al., 2017; Kellett et al., 2018). Research in Iran has demonstrated the effectiveness of CAT in reducing impulsivity, dissociation, and maladaptive relational patterns in adolescents with BPD (Dabashi et al., 2018; Yousefi et al., 2013). Similarly, studies have indicated its impact on strengthening ego boundaries and improving object relations, which are critical dimensions of personality organization (Abdolpour et al., 2018; Eini et al., 2018). These findings align with broader evidence that cognitive-analytic and related integrative approaches contribute to improved well-being, frustration tolerance, and internalized shame reduction (Taj Ilayifar et al., 2024; Taj Ilayifar et al., 2025).

The therapeutic landscape for BPD has often been dominated by interventions such as dialectical behavior therapy (DBT) and schema therapy. While DBT focuses on skills for emotion regulation and distress tolerance, schema therapy emphasizes the modification of maladaptive schemas that underlie personality pathology (Taj Ilayifar et al., 2024; Taj Ilayifar et al., 2025). However, recent findings suggest that CAT offers distinct advantages by targeting reciprocal role patterns and providing a relational reformulation framework that is particularly suitable for adolescents, whose identity formation and relational schemas are still developing (Lawrence et al., 2017; Masoudian et al., 2023). Moreover, evidence suggests that CAT not only reduces clinical symptoms such as worry and experiential avoidance but also enhances cognitive emotion regulation capacities (Ghanavati, 2024; Rahmatinia & Gorji, 2023).

Anxiety and worry are central features in adolescents with BPD, often linked to maladaptive metacognitions and poor tolerance of distress (Chen et al., 2018; Dar et al., 2017). Interventions that address worry and experiential avoidance are therefore crucial to reducing the risk of self-destructive behaviors and improving overall functioning (Bardeen & Fergus, 2016; Hershenberg et al., 2017). CAT has shown promise in targeting these mechanisms, with evidence supporting its effectiveness in reducing avoidance

behaviors, enhancing metacognitive awareness, and facilitating healthier interpersonal interactions (Abadi et al., 2024; Pour-Mohammad-Qoochani, 2021). These outcomes highlight the potential of CAT to address both symptomatic relief and structural improvements in personality organization (Abdolpour et al., 2018; Farhadi et al., 2015).

International literature further supports the relevance of CAT in adolescent populations. For example, studies have demonstrated its efficacy in managing impulsivity, improving mental well-being, and addressing comorbid conditions such as anxiety and obsessive-compulsive symptoms (Peter et al., 2019; Stumper et al., 2017; Yousefi et al., 2013). Moreover, CAT has been associated with increased self-awareness, reduction of maladaptive coping patterns, and enhanced emotional regulation capacities (Glass, 2012; Hayes et al., 2013). Such findings are significant given the developmental vulnerabilities and psychosocial demands adolescents face, particularly those with BPD who often struggle with identity diffusion and interpersonal instability (Abdi & Kaboudi, 2016; Karimi & Izadi, 2015).

In recent years, Iranian researchers have contributed substantially to the validation and adaptation of CAT in clinical contexts. Studies confirm its effectiveness in reducing anxiety sensitivity, pain catastrophizing, and worry across different populations, thereby supporting its cross-cultural applicability (Abadi et al., 2024; Sadat Madani, 2023). These efforts emphasize the growing recognition of CAT as a promising intervention for BPD and related psychopathologies in non-Western contexts (Masoudian et al., 2023; Rahmatinia & Gorji, 2023). By addressing the complex interplay between cognitive, behavioral, and relational dimensions, CAT offers a comprehensive approach for fostering psychological resilience and adaptive functioning (Lawrence et al., 2017; Stumper et al., 2017).

Taken together, the existing body of research highlights the effectiveness of cognitive-analytic therapy in improving personality organization, reducing experiential avoidance, and alleviating worry in individuals with BPD (Clarke et al., 2013; Dabashi et al., 2018; Eini et al., 2018). While further investigations are warranted to refine its application in diverse cultural settings and developmental stages, CAT represents a promising therapeutic avenue for adolescents with BPD, offering both symptomatic relief and deeper structural change. The aim of the present study is therefore to examine the effectiveness of cognitive-analytic therapy on improving personality organization, reducing worry, and

decreasing experiential avoidance in adolescents with borderline personality disorder.

2. Methods and Materials

2.1. Study Design and Participants

This study employed a quasi-experimental design with a pretest–posttest control group. The statistical population consisted of all adolescents diagnosed with borderline personality disorder who referred to counseling and social work centers in Tehran in 2025. From this population, 30 individuals were selected through purposive sampling and randomly assigned to experimental and control groups with equal proportions. In this study, after obtaining the necessary permissions, complete information regarding the research was provided to the administrators of the treatment and counseling centers. In order to observe ethical considerations, and in accordance with codes 4-8 and 5-8 of the Ethical Charter of the Iranian Psychological Association, informed consent was obtained from all adolescents to participate in the research project. It was explained that all research data would remain confidential and be used solely for research purposes.

Inclusion criteria were: meeting the diagnostic criteria for borderline personality disorder according to the DSM-5, literacy in reading and writing, and not having any specific physical problems that would prevent participation in the study. Exclusion criteria included: diagnosis of bipolar disorder (by the center's psychologist), addiction to opioids and psychostimulants, and absence from more than two sessions.

2.2. Measures

Penn State Worry Questionnaire (PSWQ): This is a 16-item tool developed by Molina and Borkovec (1994) that measures worry severity on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) across two dimensions: general worry and lack of worry. The score range is 16–64, with a cutoff point of 45. High internal consistency has been reported for this scale (Cronbach's $\alpha = .86-.93$). In an Iranian sample, Cronbach's α and test–retest reliability were reported as .88 and .79, respectively. Significant correlations with trait anxiety and depression scores demonstrated convergent validity ($r = .68, p < .01$) (Dehshiri, Golzari, Borjali, & Sohrabi, 2009). In the present study, the reliability coefficient of the questionnaire was obtained as .79 using Cronbach's α .

Inventory of Personality Organization (IPO): This questionnaire was developed and validated by Kernberg (2002). It includes 37 items rated on a five-point Likert scale and assesses three subscales of personality organization: reality testing, primitive defenses, and identity diffusion. In a study by Lenzenweger et al. (2001), internal consistency coefficients for identity diffusion, reality testing, and primitive defenses were reported as .88, .88, and .81, respectively. Test-retest reliability coefficients were reported as .83, .80, and .81, respectively. In Iran, Al-Behbahani and Mohammadi (2007) reported internal consistency coefficients of .90, .82, and .68 for the three subscales. Correlations between the subscales and the total score were satisfactory, ranging from .45 to .75.

Acceptance and Action Questionnaire-II (AAQ-II): This 10-item scale, developed by Bond et al. (2011), is a revised version of the original AAQ-I created by Hayes et al. (2004). It measures constructs related to flexibility, acceptance, experiential avoidance, and psychological inflexibility. Psychometric analyses across six samples with 2,816 participants demonstrated satisfactory reliability, validity, and construct validity. The mean Cronbach's α was .84 (range .78–.88), and test-retest reliability after 3 and 12 months was .81 and .79, respectively. Findings confirmed that the AAQ-II predicts a wide range of outcomes, from mental health indicators to workplace absenteeism, consistent with its theoretical foundation (Bond et al., 2011). In Iran, Abbasi, Fathi, Moloudi, and Zarrabi (2012) reported psychometric properties for this questionnaire, identifying two factors: avoidance of emotional experiences and control over life. Internal consistency and split-half coefficients were satisfactory (.71–.89). Experiential avoidance showed significant correlations with depressive and anxiety symptoms, difficulties in emotion regulation, and distress indicators on the General Health Questionnaire. Differential validity analysis revealed significant differences in emotional avoidance between clinical and nonclinical groups, whereas the control-over-life factor showed no significant difference. It should be noted that due to the scoring structure of the AAQ-II, higher scores indicate lower experiential avoidance. In the present study, the internal consistency coefficient (Cronbach's α) was calculated as .85.

2.3. Intervention

After administering the pretests, the experimental group participated in cognitive-analytic group therapy consisting of eight sessions, each lasting 90 minutes, while the control

group remained on a waiting list for two months. The intervention protocol followed the treatment manual of Ryle and Kerr (1999) and was structured to progressively enhance therapeutic alliance, self-awareness, and behavioral change. In the first session, rapport was established, group therapy rules were introduced, patients' histories were collected, and participants were provided with an overview of Cognitive Analytic Therapy (CAT), concluding with identifying target problems and compiling a problem list. The second session emphasized reviewing homework, reformulating problems using personal history, and identifying maladaptive sequential patterns and reciprocal roles, with patients practicing self-reflection. The third session focused on intrusive thoughts, particularly suicidal ideation, maladaptive beliefs, and repetitive behavioral cycles, encouraging patients to draft a reformulated letter that highlighted these problematic patterns. The fourth session emphasized metacognitive awareness through the recognition of problematic routines, experiential avoidance, and the review of depressive symptoms, supported by the use of visual mapping to illustrate key traps and dilemmas. In the fifth session, patients revisited and challenged long-standing acquired patterns through interpersonal exploration, learning strategies to revise maladaptive routines and relationships, and preparing diagrams and reflective letters to support change. The sixth session targeted behavioral relearning, with emphasis on the influence of emotions and behaviors on experiential avoidance and the persistence of borderline personality-related schemas, such as abandonment, rejection, impaired functioning, and hypervigilance; patients drew diagrams for re-evaluating avoidant patterns and coping strategies. The seventh session concentrated on creating change through insight and awareness, enabling patients to trace the developmental trajectory of their problems, reduce cognitive preoccupations, and improve the regulation of emotions, thoughts, and behaviors by recording emotionally intelligent thoughts. Finally, the eighth session marked the termination of therapy, during which patients wrote farewell letters summarizing reasons for referral, treatment achievements, ongoing challenges, and future strategies, followed by posttest assessments. Across all sessions, participants were expected to engage in therapeutic homework designed to reinforce awareness, reduce worry and experiential avoidance, and foster improved personality organization.

2.4. Data Analysis

Data were analyzed using multivariate analysis of covariance (MANCOVA) with SPSS version 26.

3. Findings and Results

The data obtained from the two groups were analyzed using descriptive and inferential statistical methods. Table 1 presents the descriptive statistics of the dependent variables in the experimental and control groups. In addition, the assumptions of data normality, including the Kolmogorov–Smirnov and Levene’s tests along with significance levels, are provided.

Table 1

Descriptive indices of research variables for experimental and control groups across pretest and posttest phases with normality test results

Variable/Group	Experimental (Pretest)	Experimental (Posttest)	Control (Pretest)	Control (Posttest)	Kolmogorov–Smirnov	Sig.	Levene’s Test	Sig.
Personality organization	M = 74.21, SD = 8.94	M = 44.32, SD = 6.54	M = 74.23, SD = 9.19	M = 77.08, SD = 10.23	.17	.13	1.53	.16
Worry	M = 49.85, SD = 8.88	M = 32.15, SD = 6.85	M = 50.30, SD = 9.40	M = 52.45, SD = 10.61	.19	.05	.46	.49
Experiential avoidance	M = 37.38, SD = 9.78	M = 47.13, SD = 10.54	M = 37.84, SD = 9.67	M = 35.12, SD = 9.34	.18	.15	.98	.37

Before presenting the results of the covariance analysis, the assumptions of parametric tests were examined. The results of Levene’s test, conducted to evaluate equality of variances between groups in personality organization, worry, and experiential avoidance, indicated that the significance levels of the dependent variables were greater than .05. Therefore, with 95% confidence, it can be concluded that the experimental and control groups were equivalent in terms of score dispersion in the pretest stage. Furthermore, the results of the Kolmogorov–Smirnov test to examine the normal distribution of dependent variables

indicated that the assumption of normality was met in the posttest stage ($p > .05$). Additionally, the results of the regression slope homogeneity test showed that the data supported the hypothesis of regression slope homogeneity at the level of $p > .05$.

To investigate mean score differences between the experimental and control groups, Wilks’ Lambda was used. The results showed that Wilks’ Lambda with a value of .41 and $F = 6.75$, after controlling for covariates, indicated that the treatment intervention had a significant effect on at least one of the dependent variables ($p < .01$).

Table 2

Multivariate analysis of covariance (MANCOVA) to examine the effectiveness of cognitive-analytic therapy on personality organization, worry, and experiential avoidance in adolescents with borderline personality disorder

Variables	Source	SS	df	MS	F	Sig.	η^2	Power
Personality organization	Pretest	81.33	1	81.33	92.89	.001	.23	.45
	Group	4461.36	1	4461.46	334.21	.049	.51	.88
	Error	4567.15	27	4567.15	-	-	-	-
Worry	Pretest	1343.23	1	1343.23	96.06	.021	.27	.49
	Group	1987.73	1	1987.73	169.93	.006	.55	.94
	Error	5762.75	27	5762.75	-	-	-	-
Experiential avoidance	Pretest	5273.12	1	5273.12	95.10	.001	.21	.51
	Group	2134.78	1	2134.78	287.14	.007	.57	.95
	Error	6923.34	27	6923.34	-	-	-	-

Based on the results of the multivariate covariance analysis in Table 2, after controlling for the pretest effect, there were significant differences between the posttest mean scores of the experimental and control groups in personality organization ($\eta^2 = .51$, $p < .049$, $F = 333.19$), worry ($\eta^2 = .55$,

$p < .006$, $F = 169.93$), and experiential avoidance ($\eta^2 = .57$, $p < .007$, $F = 287.14$). In other words, given the posttest mean scores of the experimental group, it can be concluded that cognitive-analytic therapy had a significant effect on enhancing and improving personality organization and

reducing worry and experiential avoidance in adolescents with borderline personality disorder.

4. Discussion and Conclusion

The findings of the present study indicated that cognitive-analytic therapy (CAT) had a significant effect on improving personality organization, reducing worry, and decreasing experiential avoidance in adolescents with borderline personality disorder (BPD). After controlling for pretest effects, the experimental group showed notable improvements in all three dependent variables compared with the control group. These results suggest that CAT can play a critical role not only in alleviating surface-level symptoms such as worry but also in addressing deeper structural issues related to personality organization and maladaptive avoidance strategies. Given the developmental vulnerabilities of adolescents with BPD, who often struggle with identity diffusion, impulsivity, and relational instability, the observed outcomes are clinically meaningful and support the application of CAT in this population (Clarke et al., 2013; Dabashi et al., 2018; McCutcheon et al., 2019).

One of the key findings of this study was the improvement in personality organization among adolescents who underwent CAT. This is consistent with research emphasizing the relevance of CAT in strengthening ego boundaries and improving object relations, both of which are fundamental to personality structure (Abdolpour et al., 2018; Eini et al., 2018). Identity diffusion and primitive defenses are hallmark features of BPD, and the capacity of CAT to target maladaptive relational patterns through reformulation and reciprocal role analysis provides a pathway for adolescents to gain insight into the origins of their dysfunctional behaviors (Kellett et al., 2018; McCutcheon et al., 2019). These findings align with earlier work showing that CAT enhances self-reflection and fosters relational understanding, which are essential for the long-term stabilization of personality traits (Farhadi et al., 2015; Hayes et al., 2013). Moreover, evidence from studies in Iran supports similar results, suggesting that CAT can be adapted across cultural contexts to address personality-related dysfunctions (Abadi et al., 2024; Yousefi et al., 2013).

Another major outcome of this study was the reduction of worry among participants in the experimental group. Worry is a transdiagnostic process associated with intolerance of uncertainty and maladaptive metacognitive beliefs (Chen et al., 2018; Dar et al., 2017). Adolescents with BPD often

exhibit heightened levels of worry due to their difficulties in tolerating distress and uncertainty, which exacerbate interpersonal conflicts and reinforce maladaptive coping strategies (Jensen et al., 2014; Ross et al., 2017). The observed reduction in worry in this study resonates with findings from research demonstrating the role of CAT in modifying maladaptive cognitive patterns and enhancing emotional regulation (Pour-Mohammad-Qoochani, 2021; Rahmatinia & Gorji, 2023). These results further corroborate evidence that CAT improves metacognitive awareness and helps patients disengage from ruminative processes, thereby reducing vulnerability to anxiety and depressive symptoms (Lawrence et al., 2017; Peter et al., 2019).

The decrease in experiential avoidance is another crucial finding of the present study. Experiential avoidance is a maladaptive strategy where individuals attempt to escape or suppress negative internal experiences, often resulting in heightened psychopathology (Abdi & Kaboudi, 2016; Yar Allah et al., 2018). For adolescents with BPD, experiential avoidance perpetuates emotional dysregulation and contributes to impulsive behaviors such as self-harm and substance abuse (Aftab, 2016; Hershenberg et al., 2017). In this study, CAT effectively reduced experiential avoidance, a finding that is consistent with earlier evidence showing that CAT enables patients to identify and reformulate avoidance-based patterns and replace them with adaptive coping mechanisms (Bardeen & Fergus, 2016; Hong et al., 2017). This outcome highlights the capacity of CAT to promote psychological flexibility, a construct central to both contextual behavioral science and integrative approaches (Hayes et al., 2013; Masoudian et al., 2023). The reduction in avoidance also mirrors findings from schema therapy research, which has shown similar benefits in addressing maladaptive coping modes and improving tolerance to distress (Taj Ilayifar et al., 2024; Taj Ilayifar et al., 2025).

The overall results of this study align with a growing body of literature that supports the effectiveness of CAT in managing complex personality disorders, including BPD. CAT's focus on reformulation, recognition of maladaptive patterns, and collaborative therapeutic alliance makes it particularly suitable for adolescents, who benefit from structured yet relationally oriented approaches (Clarke et al., 2013; Kellett et al., 2018). For instance, findings from randomized controlled trials have demonstrated that CAT significantly improves clinical outcomes in individuals with personality disorders by reducing impulsivity, dissociation, and maladaptive schemas (Dabashi et al., 2018; Eini et al., 2018). Similarly, meta-analytic evidence suggests that CAT

has favorable acceptability, with relatively lower dropout rates compared with other therapies, making it an attractive option for adolescents who often struggle with engagement in long-term treatment (Simmonds-Buckley et al., 2022).

Furthermore, the present findings contribute to the broader discussion about the comparative effectiveness of therapeutic approaches for BPD. While dialectical behavior therapy (DBT) and schema therapy remain prominent evidence-based interventions, CAT distinguishes itself through its integrative focus on both cognitive-behavioral and psychodynamic dimensions (Lawrence et al., 2017; Taj Ilayifar et al., 2024). Recent Iranian studies have shown that CAT is comparable to or more effective than other approaches in reducing worry, experiential avoidance, and maladaptive schemas (Masoudian et al., 2023; Rahmatinia & Gorji, 2023; Sadat Madani, 2023). This supports the view that CAT is not only symptom-focused but also capable of producing deeper structural changes in personality organization (Abdolpour et al., 2018; Farhadi et al., 2015).

The mechanisms underlying the observed changes may be explained by CAT's emphasis on reformulation and reciprocal role analysis, which helps patients understand the origins of their difficulties and identify maladaptive coping strategies. This process enables adolescents to gain insight into the cyclical nature of their thoughts, emotions, and behaviors, fostering opportunities for behavioral experimentation and change (Hayes et al., 2013; Kellett et al., 2018). By focusing on self-reflection and relational awareness, CAT enhances patients' ability to manage interpersonal stressors and reduce reliance on avoidance-based coping (Alexander et al., 2017; Stumper et al., 2017). These findings are consistent with prior research showing that improvements in metacognitive awareness and cognitive emotion regulation mediate the effectiveness of CAT (Ghanavati, 2024; Pour-Mohammad-Qoochani, 2021).

Overall, the results of the current study provide robust evidence for the effectiveness of CAT in addressing core features of BPD among adolescents. They confirm previous findings that CAT can facilitate both symptomatic relief and structural improvements, making it a comprehensive and versatile intervention (Abadi et al., 2024; Glass, 2012). Given the high burden of BPD on individuals, families, and healthcare systems, these results underscore the importance of expanding access to CAT as part of standard therapeutic offerings for adolescents with personality disorders.

5. Limitations & Suggestions

This study, despite its significant findings, has several limitations that should be acknowledged. The sample size was relatively small, with only 30 participants, which limits the generalizability of the findings. A larger sample would allow for greater statistical power and more robust conclusions. Additionally, the study relied exclusively on self-report questionnaires, which are subject to biases such as social desirability and limited introspective accuracy. The quasi-experimental design, while useful for establishing preliminary effectiveness, does not provide the same level of control as a randomized controlled trial, leaving room for potential confounding factors. Another limitation is the short follow-up period, as posttest measures were obtained immediately after the intervention, without long-term assessment of treatment durability. Finally, the study was conducted in Tehran, which may limit cultural generalizability to other populations.

Future studies should aim to replicate these findings with larger and more diverse samples, including participants from different cultural and socioeconomic backgrounds. Randomized controlled trials with active comparison groups, such as DBT or schema therapy, would provide stronger evidence for the relative effectiveness of CAT. Longitudinal studies are also needed to examine the sustainability of treatment gains over extended periods, as BPD is a chronic condition requiring long-term management. Incorporating multimethod assessment approaches, including clinician ratings, behavioral observations, and physiological measures, would help overcome the limitations of self-report instruments. Additionally, exploring mediating and moderating variables, such as therapeutic alliance, metacognitive changes, and personality traits, could shed light on the mechanisms of change in CAT. Given the increasing emphasis on personalized interventions, it would also be valuable to identify patient characteristics that predict better response to CAT.

The findings of this study suggest several practical implications for clinical settings. Mental health practitioners working with adolescents diagnosed with BPD should consider integrating CAT into their treatment repertoire, as it addresses both symptomatic and structural aspects of the disorder. Training clinicians in CAT techniques, including reformulation, mapping of reciprocal roles, and narrative techniques, could enhance therapeutic effectiveness and engagement. Incorporating CAT into group therapy formats may also be beneficial, as adolescents can learn from each other's experiences while practicing new relational skills in

a supportive environment. Moreover, CAT's structured yet relationally sensitive framework makes it well-suited for adolescent populations, who often struggle with engagement in more rigid therapeutic modalities. Finally, healthcare systems and policymakers should prioritize the inclusion of CAT in adolescent mental health services, ensuring broader accessibility and reducing the long-term burden of BPD on individuals, families, and communities.

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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.

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

All authors equally contributed to this article.

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