

Comparison of the Effectiveness of Mentalization-Based Therapy and Emotion Efficacy-Based Therapy on Cognitive Insight and Distress Tolerance in Adolescents with Generalized Anxiety Symptoms

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ABSTRACT

Objective: The present study aimed to compare the effectiveness of Mentalization-Based Therapy and Emotion Efficacy-Based Therapy on cognitive insight and distress tolerance among adolescents with generalized anxiety symptoms.

Methods and Materials: This study was applied in terms of purpose and quasi-experimental in terms of methodology, utilizing a pretest–posttest design with two experimental groups and one control group. The statistical population consisted of male and female adolescents with generalized anxiety symptoms in Shiraz during 2025. The sample included 45 adolescents selected through convenience sampling and randomly assigned into three groups of 15 participants each. The first experimental group received Mentalization-Based Therapy, the second experimental group received Emotion Efficacy-Based Therapy, and the control group received no intervention. Data collection instruments included the Beck Cognitive Insight Scale, the Distress Tolerance Scale, and the Generalized Anxiety Disorder Questionnaire (GAD-7). The interventions were implemented over eight weekly 90-minute sessions. Data were analyzed using descriptive statistics and multivariate analysis of covariance (MANCOVA) in IBM SPSS Statistics.

Findings: The results indicated significant differences between the experimental and control groups in cognitive insight and distress tolerance (Wilks' Lambda = 0.266, $F_{4,78} = 18.293$, $p < .01$). Univariate covariance analysis demonstrated that both Mentalization-Based Therapy and Emotion Efficacy-Based Therapy significantly improved cognitive insight ($F_{2,40} = 20.593$, $p < .001$, $\eta^2 = 0.507$) and distress tolerance ($F_{2,40} = 17.987$, $p < .001$, $\eta^2 = 0.474$) compared to the control group. Bonferroni post hoc comparisons further revealed that Mentalization-Based Therapy was significantly more effective than Emotion Efficacy-Based Therapy in enhancing cognitive insight ($p < .01$), whereas Emotion Efficacy-Based Therapy demonstrated greater effectiveness in improving distress tolerance ($p < .05$).

Conclusion: These results emphasize the importance of selecting therapeutic interventions based on the primary psychological needs and treatment goals of adolescents with generalized anxiety symptoms.

Keywords: *Mentalization-Based Therapy, Emotion Efficacy-Based Therapy, Cognitive Insight, Distress Tolerance, Generalized Anxiety Symptoms, Adolescents.*

1. Introduction

Generalized anxiety symptoms during adolescence represent one of the most prevalent psychological difficulties associated with emotional dysregulation, excessive worry, cognitive rigidity, and impaired psychosocial functioning. Adolescence is a developmental period characterized by rapid biological, emotional, and cognitive changes that increase vulnerability to anxiety-related disorders. Research has demonstrated that adolescents with generalized anxiety symptoms frequently experience persistent worry, negative anticipatory thinking, impaired emotional regulation, and reduced adaptive coping capacities (Freeston et al., 1994; Shipp et al., 2025). Persistent anxiety during adolescence can adversely affect academic functioning, interpersonal relationships, emotional development, and long-term psychological well-being. Consequently, identifying effective therapeutic interventions for adolescents with generalized anxiety symptoms has become a major concern in contemporary clinical psychology and adolescent mental health research (Jeong, 2025; Ye et al., 2024).

One of the central psychological mechanisms involved in generalized anxiety is intolerance of uncertainty. Individuals with high intolerance of uncertainty tend to interpret ambiguous situations as threatening and experience heightened emotional distress when confronted with unpredictability. Studies have shown that intolerance of uncertainty is strongly associated with worry, rumination, anxiety sensitivity, and emotional dysregulation among adolescents and young adults (Li et al., 2025; Molaei Yasavoli et al., 2022; Shipp et al., 2025). Adolescents with generalized anxiety symptoms often engage in repetitive cognitive processes such as rumination and catastrophic thinking in an attempt to reduce uncertainty, although these processes paradoxically intensify emotional distress and anxiety symptoms (Freeston et al., 1994; Leigh et al., 2025). Furthermore, intolerance of uncertainty has been identified as an important mediator between stressful life events and psychological maladjustment in adolescents (Ye et al., 2024).

Recent evidence has also emphasized the role of maladaptive cognitive styles in the maintenance of anxiety symptoms during adolescence. Cognitive distortions, excessive self-focused attention, and negative automatic thoughts contribute to the persistence of emotional distress and interfere with adaptive emotional processing. Cognitive insight, which refers to an individual's ability to evaluate and

revise dysfunctional beliefs and cognitive interpretations, has therefore emerged as an important psychological construct in anxiety-related disorders (Beck et al., 2004; Sharifi et al., 2017). Adolescents with poor cognitive insight often demonstrate rigid thinking patterns, low openness to corrective feedback, and impaired metacognitive awareness, which may intensify anxiety symptoms and maladaptive coping behaviors. Conversely, higher cognitive insight may facilitate emotional regulation, cognitive flexibility, and adaptive reinterpretation of stressful experiences (Beck et al., 2004).

Another important construct associated with generalized anxiety symptoms is distress tolerance. Distress tolerance refers to an individual's capacity to withstand negative emotional states and maintain adaptive functioning during periods of emotional discomfort (Simons & Gaher, 2005). Adolescents with low distress tolerance tend to react impulsively to emotional distress, avoid emotionally challenging situations, and exhibit heightened vulnerability to anxiety and mood disorders. Previous research has demonstrated that low distress tolerance is significantly associated with generalized anxiety, emotional dysregulation, rumination, perfectionism, and maladaptive coping behaviors among adolescents and young adults (Mohammadi et al., 2019; Simons & Gaher, 2005). Individuals who cannot tolerate emotional distress often rely on cognitive avoidance and safety behaviors that temporarily reduce anxiety but ultimately maintain chronic worry and emotional instability (Shipp et al., 2025).

In recent years, researchers have increasingly focused on transdiagnostic emotional processes underlying adolescent psychopathology. Emotional dysregulation, perfectionism, fear of failure, and repetitive negative thinking have all been identified as common mechanisms contributing to anxiety disorders in adolescents (Barabadi et al., 2024; Karimi et al., 2024; Kraus et al., 2025). For example, maladaptive perfectionism has been associated with social anxiety symptoms and increased rumination in adolescents, indicating that rigid cognitive standards and emotional inflexibility can exacerbate anxiety-related symptoms (Barabadi et al., 2024; Karimi et al., 2024). Similarly, psychological inflexibility has been identified as a significant predictor of emotional maladjustment and chronic anxiety among youth populations (Kraus et al., 2025). These findings highlight the importance of therapeutic approaches that target emotional regulation, cognitive flexibility, and metacognitive awareness.

Another factor that has attracted considerable attention in adolescent mental health research is fear of missing out (FoMO), particularly in relation to social media use and emotional insecurity. Fear of missing out refers to a pervasive apprehension that others may be having rewarding experiences in one's absence (Przybylski et al., 2013). Studies have shown that FoMO is associated with anxiety symptoms, emotional dysregulation, excessive social media engagement, and repetitive negative thinking among adolescents and university students (Bayrami et al., 2019; Perrone, 2016; Toni, 2023). Adolescents with generalized anxiety symptoms may be especially vulnerable to FoMO because of their heightened sensitivity to uncertainty, rejection, and social evaluation. Moreover, anxiety and rumination have been shown to mediate the relationship between intolerance of uncertainty and problematic smartphone dependence (Jeong, 2025). These findings further support the notion that maladaptive emotional processing and impaired distress tolerance play central roles in adolescent anxiety disorders.

Mentalization-Based Therapy has emerged as one of the contemporary therapeutic approaches aimed at improving emotional understanding, interpersonal functioning, and reflective capacity. Mentalization refers to the ability to understand one's own and others' mental states, including emotions, intentions, desires, and beliefs (Allen & Fonagy, 2006; Bateman & Fonagy, 2018). Adolescents with anxiety disorders often demonstrate impairments in mentalization, especially under conditions of emotional stress or interpersonal conflict. These impairments may contribute to emotional dysregulation, cognitive rigidity, and heightened interpersonal sensitivity. Mentalization-Based Therapy seeks to strengthen reflective functioning, increase awareness of emotional experiences, and improve the individual's ability to interpret internal and external experiences more adaptively (Bateman & Fonagy, 2018).

Theoretical models suggest that enhancing mentalization can improve cognitive insight by increasing self-reflectiveness and reducing maladaptive certainty regarding distorted beliefs and interpretations (Allen & Fonagy, 2006; Beck et al., 2004). Through greater awareness of emotional experiences and interpersonal processes, adolescents may become more capable of tolerating ambiguity and uncertainty without resorting to excessive worry or cognitive avoidance. Previous studies have demonstrated that Mentalization-Based Therapy is effective in improving emotional regulation, interpersonal functioning, and psychological flexibility among individuals with emotional

disorders (Bateman & Fonagy, 2018). However, research specifically examining its effects on cognitive insight and distress tolerance in adolescents with generalized anxiety symptoms remains limited.

Emotion Efficacy-Based Therapy represents another contemporary intervention designed to improve emotional regulation and adaptive coping through exposure-based and mindfulness-oriented techniques. This therapeutic approach integrates principles from Acceptance and Commitment Therapy and Dialectical Behavior Therapy to enhance emotional awareness, emotional acceptance, and behavioral flexibility (McKay & West, 2016). Emotion Efficacy-Based Therapy emphasizes helping individuals approach rather than avoid distressing emotions, thereby increasing emotional tolerance and reducing maladaptive coping responses. Adolescents with generalized anxiety symptoms often attempt to suppress or avoid emotional experiences, which paradoxically intensifies emotional distress and anxiety symptoms over time (McKay & West, 2016).

Research has indicated that interventions focusing on emotional acceptance and exposure can significantly improve distress tolerance and reduce anxiety-related symptoms among adolescents (Cripps & Hudson, 2018). By teaching adolescents to observe and tolerate emotional experiences without avoidance or impulsive reactions, Emotion Efficacy-Based Therapy may facilitate adaptive emotional processing and increase resilience against stress and uncertainty. Moreover, this approach may reduce repetitive negative thinking patterns, including rumination and catastrophic worry, by promoting mindful awareness and values-based action (McKay & West, 2016). Because emotional avoidance and intolerance of uncertainty are central features of generalized anxiety, Emotion Efficacy-Based Therapy may be particularly beneficial for adolescents struggling with chronic anxiety symptoms.

Although both Mentalization-Based Therapy and Emotion Efficacy-Based Therapy appear theoretically relevant for treating generalized anxiety symptoms in adolescents, limited research has directly compared their effectiveness on cognitive insight and distress tolerance. Most previous studies have focused separately on emotional regulation, anxiety reduction, or interpersonal functioning, while fewer investigations have examined how these therapeutic approaches influence metacognitive processes and emotional endurance simultaneously (Bateman & Fonagy, 2018; Cripps & Hudson, 2018). Furthermore, existing evidence suggests that adolescents may respond differently to interventions emphasizing cognitive reflection

versus emotional exposure, highlighting the importance of comparative research in this field.

In addition, psychometric research conducted in Iran has confirmed the validity and reliability of several assessment instruments related to the present study, including the Beck Cognitive Insight Scale, the Distress Tolerance Scale, and the Generalized Anxiety Disorder Questionnaire (Mohammadi et al., 2019; Naderi et al., 2018; Sharifi et al., 2017). Iranian studies have also emphasized the significance of rumination, maladaptive perfectionism, intolerance of uncertainty, and emotional dysregulation in adolescent psychological functioning (Azadbakht et al., 2024; Karimi et al., 2024; Moradi et al., 2018). These findings indicate the need for culturally relevant therapeutic interventions capable of addressing both cognitive and emotional vulnerabilities among Iranian adolescents with anxiety symptoms.

From a methodological perspective, quasi-experimental designs with pretest–posttest structures remain common and appropriate in behavioral science research where complete experimental control may not be feasible (Delavar, 2011; Sarmad et al., 2019). Such designs enable researchers to evaluate therapeutic effectiveness while maintaining ecological validity in clinical settings. Given the increasing prevalence of anxiety-related symptoms among adolescents and the growing recognition of emotional and cognitive mechanisms underlying generalized anxiety, comparative investigations of contemporary therapeutic approaches may provide valuable implications for clinical practice, school counseling, and adolescent mental health interventions.

Therefore, the present study was conducted with the aim of comparing the effectiveness of Mentalization-Based Therapy and Emotion Efficacy-Based Therapy on cognitive insight and distress tolerance among adolescents with generalized anxiety symptoms.

2. Methods and Materials

2.1. Study Design and Participants

The present study was applied in terms of purpose and quasi-experimental in terms of methodology, employing a pretest–posttest design with two experimental groups and one control group. The statistical population consisted of all male and female adolescents with generalized anxiety symptoms in the city of Shiraz during 2025. The study sample included 45 adolescents (15 participants in the first experimental group, 15 participants in the second experimental group, and 15 participants in the control group), who were selected through convenience sampling

from adolescents referred to counseling centers and schools in Shiraz. According to Ali Delavar (2011), convenience sampling is considered permissible and common in clinical research contexts where access to the target population is limited. Furthermore, the sample size of 15 participants per group was determined based on Cohen's table (as cited in Delavar, 2011), considering a statistical power of 0.80, a significance level of 0.05, and a medium effect size in multivariate analysis of variance. After selection, participants were randomly assigned to three groups of 15 individuals each. The diagnosis of generalized anxiety symptoms was established through a structured clinical interview and the judgment of a clinical psychologist.

The inclusion criteria consisted of complete consent from both adolescents and their parents to participate in the study, obtaining a score above the cutoff point on the Generalized Anxiety Disorder Screening Questionnaire, being between 13 and 18 years of age, and not using psychiatric medications or maintaining medication stability for at least two months. The exclusion criteria included absence from more than two treatment sessions, unwillingness to continue participation in the sessions, and simultaneous initiation of other therapeutic interventions.

The research procedure was conducted as follows: after obtaining the necessary permissions and coordinating with counseling centers and schools in Shiraz selected through a multistage procedure, the researcher initially distributed the Generalized Anxiety Disorder Screening Questionnaire among adolescents displaying preliminary anxiety symptoms. After identifying eligible participants and obtaining informed consent, the pretest phase, including both the Cognitive Insight Questionnaire and the Distress Tolerance Scale, was administered to all three groups. Subsequently, therapeutic interventions were implemented over eight 90-minute sessions (one session per week) for the first experimental group (Mentalization-Based Therapy) and the second experimental group (Emotion Efficacy-Based Therapy), while the control group received no intervention. After completion of the intervention sessions, the posttest was administered again to all three groups, and the data were collected. The Mentalization-Based Therapy protocol was based on the approach proposed by Anthony Bateman and Peter Fonagy (2018), whereas the Emotion Efficacy-Based Therapy protocol was based on the approach proposed by Matthew McKay and West (2016).

2.2. Measures

The Cognitive Insight Questionnaire was developed by Aaron T. Beck and colleagues (2004) to measure an individual's capacity to re-evaluate cognitive judgments and decisions as well as openness to external feedback. In Iran, the questionnaire was translated and standardized by Sharifi et al. (2017). The questionnaire consists of 15 items scored on a 4-point Likert scale ranging from 0 (strongly disagree), 1 (slightly disagree), 2 (slightly agree), to 3 (strongly agree). The instrument includes two subscales: self-reflectiveness (9 items) and self-certainty (6 items). The final cognitive insight score is obtained by subtracting the self-certainty score from the self-reflectiveness score. The minimum possible score is -18 and the maximum possible score is 27, with higher scores indicating greater levels of cognitive insight. Beck et al. (2004) reported the reliability of the questionnaire as 0.86 using Cronbach's alpha and 0.79 using the test-retest method. In Iran, Sharifi et al. (2017) reported Cronbach's alpha coefficients of 0.82 for the total questionnaire and 0.79 and 0.76 for the self-reflectiveness and self-certainty subscales, respectively. In the present study, the reliability of the instrument was calculated using Cronbach's alpha coefficient and obtained as 0.84.

The Distress Tolerance Scale was developed by Simons and Gaher (2005) to assess an individual's ability to tolerate negative emotional states and was translated and standardized in Iran by Mohammadi et al. (2019). The scale consists of 15 items scored on a 5-point Likert scale ranging from 1 (strongly disagree), 2 (disagree), 3 (no opinion), 4 (agree), to 5 (strongly agree). The scale includes four subscales: tolerance of distress, absorption by negative emotions, subjective appraisal of distress, and regulation of efforts to alleviate distress. The minimum possible score is 15 and the maximum possible score is 75, with higher scores indicating greater distress tolerance. Simons and Gaher (2005) reported reliability coefficients of 0.89 using Cronbach's alpha and 0.81 using the test-retest method. In Iran, Mohammadi et al. (2019) reported a Cronbach's alpha coefficient of 0.87 for the total scale and coefficients ranging from 0.76 to 0.84 for the subscales. In the present study, the reliability of the instrument was calculated using Cronbach's alpha coefficient and was found to be 0.86.

The Generalized Anxiety Disorder Screening Questionnaire was developed by Robert L. Spitzer and colleagues (2006) to assess generalized anxiety symptoms experienced during the previous two weeks and was translated and standardized in Iran by Naderi et al. (2018).

The questionnaire consists of 7 items scored on a 4-point Likert scale ranging from 0 (never), 1 (several days), 2 (more than half the days), to 3 (nearly every day). The minimum possible score is 0 and the maximum possible score is 21, with a score of 10 or higher indicating generalized anxiety disorder. Spitzer et al. (2006) reported a Cronbach's alpha coefficient of 0.83 for the questionnaire. In Iran, Naderi et al. (2018) reported a Cronbach's alpha coefficient of 0.81 and identified the diagnostic validity of the questionnaire at a cutoff score of 10 with 87% sensitivity and 82% specificity. In the present study, the reliability of the instrument was calculated using Cronbach's alpha coefficient and was found to be 0.83.

2.3. Intervention

The content of the Emotion Efficacy-Based Therapy protocol was as follows: Session 1 focused on establishing rapport and introducing the educational program, teaching the "psychological observing" technique regarding emotions (emotional awareness), and practicing observation of one's own and others' emotions. Session 2 included psychoeducation regarding the brain's emotional functioning, identification of dysfunctional thoughts, practice of "thought surfing" over dysfunctional cognitions, and psychoeducation regarding emotional surfing and exposure. Session 3 focused on mindful acceptance and emotional surfing through the "monster on the bus" metaphor, teaching identification of the moment of choice (the interval between emotional arousal and behavioral response), and practicing emotional surfing and mindful emotional acceptance. Session 4 included practice of mindful acceptance and introduction to values-based action, mindful coping through relaxation techniques (diaphragmatic breathing, tension-free relaxation, symptom-controlled breathing, five-senses exercises, and self-soothing), as well as clarification of personal values. Session 5 focused on practicing mindful acceptance and choosing values-based actions, emotional exposure, and emotional exposure exercises. Session 6 involved training in radical acceptance through emotional exposure and replacing maladaptive coping thoughts with adaptive coping thoughts. Session 7 included mindful coping through attentional shifting and imaginal exposure to real-life situations, redirecting attention from distressing stimuli or emotions toward behaviors consistent with personal values, such as intimacy, which contributes to relationship improvement and positive emotional regulation. Session 8 consisted of

receiving feedback, resolving remaining issues, summarizing and evaluating the sessions, expressing appreciation for participation, and administering the posttest.

2.4. Data Analysis

The data were analyzed using descriptive and inferential statistics in IBM SPSS Statistics through multivariate analysis of covariance (MANCOVA).

3. Findings and Results

In the present study, data analysis was conducted using IBM SPSS Statistics. Data analysis was performed at both

descriptive and inferential levels. At the descriptive level, indices such as mean and standard deviation were reported. At the inferential level, the assumption of normality was first examined using the Shapiro–Wilk test. Subsequently, in order to compare the effectiveness of the two treatments (Mentalization-Based Therapy and Emotion Efficacy-Based Therapy) with the control group on cognitive insight and distress tolerance scores, multivariate analysis of covariance (MANCOVA) was employed while controlling for pretest scores.

The means and standard deviations of the pretest and posttest scores for the variables of cognitive insight and distress tolerance in the control and experimental groups are presented in Table 1.

Table 1

Descriptive Statistics of Pretest and Posttest Scores of Cognitive Insight and Distress Tolerance by Group

Group	Variable	Pretest Mean	Pretest SD	Posttest Mean	Posttest SD
Control	Cognitive Insight	12.13	3.021	12.44	2.960
	Distress Tolerance	22.80	3.840	23.07	3.990
Mentalization-Based Therapy	Cognitive Insight	12.80	2.541	17.27	2.815
	Distress Tolerance	23.40	4.102	27.33	4.566
Emotion Efficacy-Based Therapy	Cognitive Insight	12.93	2.374	15.11	2.635
	Distress Tolerance	22.87	3.681	30.73	4.728

To compare the effectiveness of Mentalization-Based Therapy and Emotion Efficacy-Based Therapy on cognitive insight and distress tolerance among adolescents with generalized anxiety symptoms, multivariate analysis of covariance was conducted. The Shapiro–Wilk test was used to assess the normality of score distributions, and because the obtained values were non-significant, the assumption of normality was confirmed. The results of the test examining the homogeneity of regression slopes between pretest and posttest scores in the experimental and control groups indicated that the regression slopes were equal across groups ($F_{6,72} = 1.853, p > .05$). The results of Levene’s test for homogeneity of variances demonstrated that the variances of cognitive insight ($F_{2,42} = 2.272, p > .05$) and distress tolerance ($F_{2,42} = 1.280, p > .05$) were equal across groups.

The results of Box’s M test for equality of covariance matrices of the dependent variables also indicated that the covariance matrices were equal between the experimental and control groups (Box’s $M = 5.901, F = 0.916, p > .05$). Furthermore, the results of Bartlett’s chi-square test for sphericity and the significance of relationships among variables indicated that the relationship between the variables was statistically significant ($\chi^2 = 15.669, df = 2, p < .01$). After confirming the assumptions of multivariate analysis of covariance, the results revealed a significant difference among the groups in terms of cognitive insight and distress tolerance (Wilks’ Lambda = 0.266, $F_{4,78} = 18.293, p < .01$). To compare group differences on each variable separately, univariate analysis of covariance was conducted, and the results are reported in Table 2.

Table 2

Results of Univariate Analysis of Covariance for Group Differences in Cognitive Insight and Distress Tolerance

Variable	Source	Sum of Squares	df	Mean Square	F	Significance Level	Effect Size
Cognitive Insight	Between Groups	136.755	2	68.377	20.593	0.001	0.507
	Error	132.818	40	3.320			
Distress Tolerance	Between Groups	436.672	2	218.336	17.987	0.001	0.474
	Error	485.547	40	12.139			

According to Table 2, the F statistics for cognitive insight ($F_{2,40} = 20.593, p < .01$) and distress tolerance ($F_{2,40} = 17.987, p < .01$) were statistically significant. These findings indicate that there were significant differences between the control and experimental groups in cognitive insight and

distress tolerance. In order to conduct pairwise comparisons among the means of the three groups, the Bonferroni post hoc test was applied, and the results are presented in Table 3.

Table 3

Bonferroni Post Hoc Test for Pairwise Comparisons of the Control and Experimental Groups

Dependent Variable	Group 1	Group 2	Mean Difference	Standard Error	Significance Level
Cognitive Insight	Control	Mentalization-Based Therapy	-4.295	0.670	0.001
		Emotion Efficacy-Based Therapy	-2.011	0.671	0.014
	Mentalization-Based Therapy	Emotion Efficacy-Based Therapy	2.284	0.667	0.004
Distress Tolerance	Control	Mentalization-Based Therapy	-3.883	1.281	0.013
		Emotion Efficacy-Based Therapy	-7.693	1.283	0.001
	Mentalization-Based Therapy	Emotion Efficacy-Based Therapy	-3.810	1.275	0.014

Based on the results presented in Table 3, the mean scores of cognitive insight and distress tolerance in both the Mentalization-Based Therapy group and the Emotion Efficacy-Based Therapy group were significantly higher than those of the control group ($p < .05$), indicating the effectiveness of both treatments in improving cognitive insight and distress tolerance among adolescents with generalized anxiety symptoms. Furthermore, the mean cognitive insight score in the Mentalization-Based Therapy

group was significantly higher than that of the Emotion Efficacy-Based Therapy group ($p < .05$), suggesting that Mentalization-Based Therapy was more effective in enhancing cognitive insight. In contrast, the mean distress tolerance score in the Emotion Efficacy-Based Therapy group was significantly higher than that of the Mentalization-Based Therapy group ($p < .05$), indicating that Emotion Efficacy-Based Therapy was more effective in increasing distress tolerance.

4. Discussion

The present study aimed to compare the effectiveness of Mentalization-Based Therapy and Emotion Efficacy-Based Therapy on cognitive insight and distress tolerance among adolescents with generalized anxiety symptoms. The findings demonstrated that both therapeutic approaches significantly improved cognitive insight and distress tolerance compared to the control group. Furthermore, the results indicated that Mentalization-Based Therapy was more effective in enhancing cognitive insight, whereas Emotion Efficacy-Based Therapy showed greater effectiveness in improving distress tolerance. These findings highlight the importance of interventions targeting both cognitive and emotional processes in adolescents with generalized anxiety symptoms and provide empirical support for the role of reflective functioning and emotional regulation in reducing anxiety-related vulnerabilities.

mentalization in promoting reflective functioning, metacognitive awareness, and adaptive interpretation of emotional experiences (Allen & Fonagy, 2006; Bateman & Fonagy, 2018). Adolescents with generalized anxiety symptoms often experience excessive worry, cognitive rigidity, and maladaptive interpretations of uncertainty, which interfere with their ability to evaluate their thoughts objectively (Freeston et al., 1994; Shipp et al., 2025). Mentalization-Based Therapy helps individuals understand the relationship between emotions, thoughts, and interpersonal experiences, thereby increasing their capacity for self-reflection and cognitive flexibility. Through repeated practice in recognizing emotional states and evaluating interpersonal meanings, adolescents become less dominated by automatic anxious cognitions and more capable of reconsidering dysfunctional beliefs.

One of the major findings of the present study was that Mentalization-Based Therapy significantly increased cognitive insight among adolescents with generalized anxiety symptoms. This finding is consistent with theoretical and empirical perspectives emphasizing the role of

The improvement in cognitive insight observed in the Mentalization-Based Therapy group can also be explained through the enhancement of metacognitive capacities. According to Beck et al. (2004), cognitive insight involves openness to feedback, self-reflectiveness, and reduced certainty in distorted beliefs (Beck et al., 2004). Adolescents with generalized anxiety symptoms frequently engage in repetitive cognitive patterns such as rumination and

catastrophic thinking, which reduce cognitive flexibility and reinforce emotional distress (Karimi et al., 2024; Leigh et al., 2025). Mentalization-Based Therapy encourages adolescents to examine their own mental states and those of others more adaptively, thereby interrupting rigid cycles of worry and cognitive avoidance. The current findings are also consistent with previous studies showing that interventions emphasizing reflective functioning and emotional awareness can reduce maladaptive cognitive processing and improve psychological adjustment (Allen & Fonagy, 2006; Bateman & Fonagy, 2018).

Another important finding was that Emotion Efficacy-Based Therapy significantly improved distress tolerance among adolescents with generalized anxiety symptoms. This result is theoretically consistent with the principles of Emotion Efficacy-Based Therapy, which emphasize emotional exposure, mindful acceptance, and behavioral flexibility (McKay & West, 2016). Adolescents with generalized anxiety often attempt to suppress or avoid distressing emotional experiences, leading to greater emotional sensitivity and lower tolerance for uncertainty and discomfort (Li et al., 2025; Ye et al., 2024). Emotion Efficacy-Based Therapy directly targets these maladaptive avoidance patterns by encouraging individuals to experience emotions without impulsive reactions or experiential avoidance. As adolescents gradually learn to tolerate emotional discomfort, they become more capable of coping with anxiety-provoking situations in adaptive ways.

The findings related to distress tolerance are also supported by the conceptualization proposed by Simons and Gaher (2005), who described distress tolerance as an individual's ability to endure negative emotional states while maintaining adaptive functioning (Simons & Gaher, 2005). Adolescents with low distress tolerance tend to respond to emotional discomfort with avoidance, impulsive behaviors, and repetitive negative thinking. Emotion Efficacy-Based Therapy incorporates mindfulness-based coping, emotional exposure, and acceptance strategies that reduce emotional reactivity and increase resilience in the face of distress. Previous research has similarly demonstrated that interventions integrating acceptance-based and exposure-oriented components can significantly improve emotional regulation and reduce anxiety symptoms among adolescents (Cripps & Hudson, 2018; McKay & West, 2016). Therefore, the superior effectiveness of Emotion Efficacy-Based Therapy in increasing distress tolerance appears theoretically and clinically plausible.

The present findings also demonstrated that although both interventions improved cognitive insight and distress tolerance, Mentalization-Based Therapy was more effective in improving cognitive insight, whereas Emotion Efficacy-Based Therapy was more effective in enhancing distress tolerance. This differential effectiveness may be explained by the distinct mechanisms underlying each intervention. Mentalization-Based Therapy primarily focuses on reflective functioning, understanding mental states, and developing awareness of cognitive-emotional processes (Bateman & Fonagy, 2018). Consequently, it may exert stronger effects on metacognitive capacities such as cognitive insight. In contrast, Emotion Efficacy-Based Therapy emphasizes emotional acceptance, behavioral exposure, and direct tolerance of distressing experiences, making it more effective for increasing distress tolerance and emotional endurance (McKay & West, 2016).

The superiority of Mentalization-Based Therapy in improving cognitive insight may also be linked to its emphasis on interpersonal understanding and self-reflection. Adolescents with generalized anxiety symptoms frequently misinterpret social interactions and internal experiences in threatening ways, leading to heightened worry and cognitive rigidity (Shipp et al., 2025). By strengthening the capacity to mentalize, adolescents may become more capable of recognizing distortions in their interpretations and responding more flexibly to emotional situations. This interpretation aligns with findings suggesting that poor reflective functioning contributes to emotional dysregulation and chronic anxiety (Allen & Fonagy, 2006). Moreover, adolescents with increased cognitive insight may become more open to corrective feedback and better able to challenge catastrophic assumptions, thereby reducing the persistence of anxious thinking patterns.

Similarly, the greater effectiveness of Emotion Efficacy-Based Therapy in enhancing distress tolerance may be associated with its experiential and exposure-oriented nature. Adolescents with generalized anxiety symptoms often fear emotional discomfort and uncertainty, leading to emotional avoidance and increased anxiety sensitivity (Freeston et al., 1994). Emotion Efficacy-Based Therapy teaches adolescents to remain psychologically present during distressing experiences rather than attempting to escape or suppress them. Through repeated exposure and mindful acceptance, adolescents gradually learn that emotional discomfort is manageable and temporary. This process likely contributes to increased tolerance of negative emotional states and reduced emotional avoidance. Previous

studies examining emotional exposure and mindfulness-based interventions have similarly reported improvements in emotional regulation and resilience among adolescents and young adults (Cripps & Hudson, 2018; Jeong, 2025).

Another important aspect of the current findings involves the relationship between generalized anxiety symptoms and intolerance of uncertainty. Research has consistently shown that adolescents with high intolerance of uncertainty are more vulnerable to anxiety, rumination, sleep disturbances, and emotional dysregulation (Li et al., 2025; Ye et al., 2024). Both Mentalization-Based Therapy and Emotion Efficacy-Based Therapy appear to reduce the maladaptive impact of uncertainty through different therapeutic pathways. Mentalization-Based Therapy may reduce uncertainty-related anxiety by improving understanding of emotional experiences and interpersonal situations, whereas Emotion Efficacy-Based Therapy may reduce anxiety by increasing tolerance for emotional discomfort associated with uncertainty. Therefore, both interventions may indirectly decrease anxiety-related symptoms through improved emotional processing and cognitive flexibility.

The findings of the present study also correspond with research emphasizing the role of repetitive negative thinking and rumination in adolescent anxiety disorders. Leigh et al. (2025) demonstrated that abstract rumination contributes to the maintenance of anxiety symptoms by reinforcing maladaptive cognitive processing (Leigh et al., 2025). Similarly, Karimi et al. (2024) identified rumination as a mediating factor between maladaptive perfectionism and social anxiety symptoms among adolescents (Karimi et al., 2024). Mentalization-Based Therapy may reduce rumination by increasing reflective awareness and reducing automatic cognitive responses, whereas Emotion Efficacy-Based Therapy may weaken rumination by encouraging emotional acceptance and present-focused attention. Both mechanisms likely contribute to reduced cognitive vulnerability and enhanced emotional adjustment among adolescents with generalized anxiety symptoms.

Furthermore, the current findings can be interpreted within broader developmental and social contexts affecting adolescent mental health. Contemporary adolescents experience increased psychological pressure associated with academic expectations, social comparison, uncertainty about the future, and social media engagement. Research on fear of missing out has shown that adolescents who experience higher levels of emotional insecurity and uncertainty are more likely to engage in maladaptive social comparison and excessive digital engagement (Bayrami et al., 2019;

Przybylski et al., 2013; Toni, 2023). These experiences may intensify anxiety symptoms, emotional instability, and cognitive preoccupation. Therapeutic approaches that strengthen emotional awareness, cognitive flexibility, and distress tolerance may therefore provide adolescents with more adaptive coping resources in modern social environments.

Additionally, perfectionism and psychological inflexibility have been identified as significant contributors to adolescent emotional distress and anxiety symptoms (Barabadi et al., 2024; Kraus et al., 2025). Adolescents with rigid standards and fear of mistakes often struggle to tolerate emotional discomfort and uncertainty, which increases vulnerability to generalized anxiety symptoms. The interventions examined in the present study may help reduce these vulnerabilities by promoting adaptive emotional processing, self-reflection, and acceptance of internal experiences. In particular, Mentalization-Based Therapy may reduce rigid self-evaluative thinking through reflective understanding, while Emotion Efficacy-Based Therapy may reduce emotional avoidance through experiential acceptance and values-based action.

5. Conclusion

The findings suggest that both Mentalization-Based Therapy and Emotion Efficacy-Based Therapy are effective interventions for adolescents with generalized anxiety symptoms. However, Mentalization-Based Therapy appears to be more beneficial for improving reflective and metacognitive capacities, whereas Emotion Efficacy-Based Therapy is more effective in strengthening adolescents' ability to tolerate emotional distress. These results emphasize the importance of selecting therapeutic interventions based on the primary psychological needs and treatment goals of adolescents with generalized anxiety symptoms.

6. Limitations & Suggestions

One limitation of the present study was the relatively small sample size and the use of convenience sampling, which may limit the generalizability of the findings to broader adolescent populations. In addition, the study was conducted only among adolescents in Shiraz, and cultural or contextual differences in other regions may influence the effectiveness of the interventions. Another limitation was the reliance on self-report questionnaires, which may be affected by response biases and subjective interpretation.

Furthermore, the absence of a long-term follow-up period prevented evaluation of the durability and stability of treatment effects over time.

Future studies are recommended to examine the long-term effectiveness of Mentalization-Based Therapy and Emotion Efficacy-Based Therapy through follow-up assessments across several months or years. Researchers may also compare these interventions with other evidence-based approaches such as cognitive behavioral therapy, acceptance and commitment therapy, or dialectical behavior therapy. Investigating the mediating roles of emotional regulation, psychological flexibility, attachment style, and intolerance of uncertainty in treatment outcomes may provide a more comprehensive understanding of therapeutic mechanisms. Additionally, future research should include larger and more diverse adolescent populations from different cultural and socioeconomic backgrounds.

From a practical perspective, the findings of the present study suggest that both Mentalization-Based Therapy and Emotion Efficacy-Based Therapy can be effectively incorporated into adolescent counseling and mental health programs. School counselors, clinical psychologists, and adolescent therapists may use Mentalization-Based Therapy to improve reflective functioning and cognitive flexibility among adolescents with chronic worry and maladaptive thinking patterns. Emotion Efficacy-Based Therapy may be especially beneficial for adolescents who experience intense emotional avoidance and low distress tolerance. Integrating emotional awareness training, mindfulness practices, and reflective dialogue into school-based mental health services may help reduce anxiety symptoms and improve psychological resilience among adolescents.

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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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