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# Effect of Acceptance and Commitment Therapy on Anxiety and Alexithymia of Mothers Having Children with Insecure Attachment

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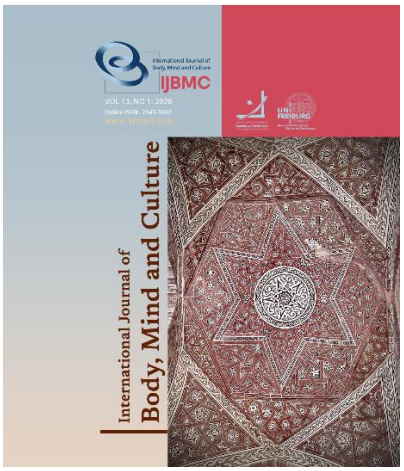


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## ABSTRACT

**Objective:** Psychologically healthy mothers who create a happy and peaceful environment can raise children with a secure attachment style. This research investigates the impact of acceptance and commitment therapy on anxiety and alexithymia in mothers with children exhibiting insecure attachment styles.

**Methods and Materials:** The research employs a semi-experimental design with pre-test/post-test measures and control and experimental groups. The statistical population comprises mothers with children exhibiting insecure attachment styles in health, educational, therapeutic, and preschool centers in Tehran during the spring and summer of 2023. The data collection tools included Kappenberg and Halpern's attachment questionnaire (2006), Beck's anxiety scale (1998), and the Toronto Alexithymia Scale (1994). An intervention program utilizing Hadi Toroghi and Amiri Hashemi's (2021) acceptance and commitment therapy package was administered to the experimental group. This research employed the analysis of covariance method to analyze pre-test and post-test data using SPSS version 23.

**Findings:** The results indicated that the level of anxiety and alexithymia underwent significant changes following the intervention of ACT. Acceptance and commitment therapy was effective in reducing anxiety (F=24.720, P=0.001) and alexithymia (F=0.256, P=0.0358) in mothers with children exhibiting insecure attachment styles.

**Conclusion:** Counseling and psychotherapy centers should consider implementing these methods, particularly acceptance and commitment therapy, more widely and with greater emphasis.

**Keywords:** Acceptance and Commitment Therapy, Alexithymia, Anxiety, Insecure Attachment.

## Introduction

Children with a secure attachment style tend to develop long-term relationships built on trust and emotional connection as adults. Moreover, these individuals typically exhibit high levels of self-esteem, enjoy intimate relationships, seek social support, and feel comfortable sharing their feelings with others. Children who find secure attachment feel comforted, and their needs are met by their parents and caregivers. People with secure attachment may avoid entering into relationships with individuals who have anxious or avoidant attachment because they are self-aware that their needs are not being met in the relationship (Feyzabadi et al., 2025; Zhao et al., 2023). Research has demonstrated that individuals with a secure attachment style often display healthy relationships with their mothers, intimacy, trust, affection for others, and positive social interactions (Moghadam, 2024; Monfaredi et al., 2022). Attachment disorders are measured along two dimensions: avoidance (such as mistrust in others' intentions and excessive self-reliance) and anxiety (such as worrying about the unavailability of others when needed and anxiously searching for support and love) (Akbari & Elmi, 2017; Mikulincer & Shaver, 2012). Insecure attachment styles are associated with emotional dysregulation and trait hyperarousal (Çiçek Gümüş & Öncel, 2023). Individuals with an anxious, insecure attachment style may exhibit physical and cognitive hyperarousal and anxiety. Mothers have harmed the mother-baby relationship and the mother's ability to reduce the maternal role. In contrast, those with an avoidant attachment style may display parasympathetic nervous system activity, anxious attachment, or insecure attachment, which refers to a behavior pattern in relationships in which a person is constantly afraid of abandonment. In simpler terms, a person with anxious attachment is always worried that their emotional partner will leave them and, therefore, tries to control them. This type of attachment exists in both children and adults (Darvishinia, 2023; Marino et al., 2021).

Another variable that has been studied in individuals with generalized anxiety is alexithymia, which refers to the absence of words for feelings. People with alexithymia magnify normal physical stimuli, misinterpret physical signs of emotional arousal, exhibit emotional helplessness through physical complaints, and seek to address physical symptoms in therapy. Emotional dyslexia is a complex phenomenon that involves difficulties identifying and distinguishing emotions from the physical arousal they elicit. It also involves challenges in expressing feelings to others, limited visualization abilities, and a tendency towards a more objective, pragmatic, and realistic thinking style (Askari & Karami, 2024; Wijk et al., 2023). If the negative emotions drain and the person cannot fully express their negative feelings, the psychological component of emotional expression systems and increased psychological distress, including anxiety and depression, are found (Abdi Zarrin & Nikkhah Siruei, 2021). Research has shown that attachment style is associated with alexithymia, with alexithymic characteristics more commonly observed among individuals with insecure attachment styles (Jiang et al., 2024; Zhao et al., 2023). Kraemer and Loader suggest that insecure attachment may hinder emotion learning and contribute to the development of alexithymia. Loas et al. (2015) demonstrated that insecure attachment relationships predict difficulties in identifying and expressing emotions. Consequently, a mother who experiences anxiety and issues such as alexithymia may struggle to maintain a healthy relationship with her child, potentially leading to an insecure attachment style.

Individuals with alexithymia have difficulty recognizing, expressing, processing, and regulating emotions. Alexithymia is considered a deficit in emotional self-regulation (Lumley et al., 2005). It is a multifaceted construct characterized by difficulty identifying feelings, difficulty differentiating between emotions, experiencing bodily arousal in response to emotional stimuli, difficulty describing emotions to others, limited visual imagery, and a practical, realistic cognitive style or objective thinking (Byrne et al., 2021).

Several studies suggest that the insecure relationship between mother and child, which ultimately leads to insecure attachment, may also serve as a foundation for anxiety in adolescence and adulthood. Wiltgen et al. (2015) reported that avoidant and anxious attachment styles are related to anxiety. Research on attachment in adulthood has revealed a negative relationship between secure attachment and indicators of psychological distress, such as anxiety (Gould et al., 2018). Hahs et al. (2019) found that insecure attachment is associated with

anxiety and internalizing problems in childhood. Anxiety is often viewed as a response to future threats.

Over the years, various psychological treatments have been developed to address psychological problems such as anxiety and its related factors, like alexithymia. We are currently witnessing the emergence of the third generation of these treatment approaches, often referred to as acceptance-based models. Examples of these models include mindfulness-based cognitive therapy, dialectical behavior therapy, metacognitive therapy, acceptance and commitment therapy, and even cancer therapy (Eskandari et al., 2024). These treatments emphasize the cognitive process rather than changing the content of cognition, aiming to enhance the individual's psychological connection with their thoughts and feelings.

Acceptance and commitment therapy (ACT) is considered an emerging third-generation treatment approach that is particularly suitable for Iranian patients due to its incorporation of Eastern techniques. ACT is based on a philosophical theory known as "functional contextualism" and is grounded in the "theory of mental interfaces framework," which explores language and cognition. ACT focuses on six central processes that promote psychological flexibility: acceptance, defusion, self-as-context, present moment awareness, values, and committed action (Hayes et al., 2006). Cognitive flexibility is associated with reduced psychological distress in chronic diseases that are disabling (Karimian et al., 2023).

Psychologically healthy mothers who create a peaceful environment can foster a secure attachment style in their children. On the other hand, mothers who experience anxiety and issues such as alexithymia may contribute to the development of an insecure attachment style in their children. This research aims to identify effective ways to address maternal anxiety and alexithymia, with the ultimate goal of promoting healthy relationships between mothers and their children. Therefore, the study seeks to determine whether acceptance and commitment therapy can effectively alleviate anxiety and alexithymia in mothers who have children with an insecure attachment style.

To date, there have been no direct or indirect studies examining the impact of acceptance and commitment therapy on anxiety and alexithymia in mothers who have children with an insecure attachment style. Therefore, this research aims to address this research gap and contribute a new insight into the effectiveness of acceptance and commitment therapy for reducing anxiety and alexithymia in mothers with children exhibiting insecure attachment.

## Methods and Materials

The current research was a semi-experimental study employing a pre-test-post-test design with control and experimental groups. The study's statistical population consists of mothers with children exhibiting insecure attachment who attend health, educational, therapeutic, and preschool centers in Tehran during the spring and summer of 2023. Participants were selected through a screening process using the children's attachment questionnaire during the mid-period. Specifically, mothers who have children with high scores indicating insecure attachment were eligible for the study if they reported experiencing anxiety and alexithymia.

The inclusion criteria for participation in the research require a minimum level of education, specifically secondary education. Mothers who have children with insecure attachment and who attend health, educational, or therapeutic centers or preschools are eligible to participate in the intervention sessions. The exclusion criteria for discontinuing participation in the research include mothers who have a chronic medical or psychiatric condition, use specific medications, fail to complete the research questionnaires, are absent for more than two sessions of the designated intervention, participate in similar treatment sessions concurrently or within the past six months, or lack willingness and consent to participate.

*Sample Size*

Using Cohen's table, the minimum sample size for each group at a permissible error rate of 0.5 is 14. However, to ensure a sufficient number of questionnaires are returned, we have rounded this number up to 15 individuals per group. As a result, the total number of observations is 30. Using random sampling with replacement, the study recruited 30 participants who were assigned to either the control (n=15) or experimental (n=15) group.

*Instruments*

Halpern and Kappenberg's attachment questionnaire: The questionnaire designed by Malik et

al. (2015) assesses children's attachment during middle childhood, specifically between pre-primary and primary school ages (3 to 12 years). The questionnaire consists of 20 items. The initial reliability of the questionnaire was reported as 0.85 based on internal consistency and 0.83 based on the split-half method in the study conducted by the questionnaire's creators. In a test-retest repeatability study involving 23 children, the questionnaire's reliability was 0.79. The creators of the scale have reported Cronbach's alpha coefficients of 0.69, 0.63, 0.65, and 0.56 for positive adaptive developmental components, negative behaviors, emotional reactions, and avoidance of support from the attachment figure/caring person, respectively. The construct validity of the questionnaire was examined using the Randolph Attachment Disorder Questionnaire (RADQ) with favorable results. (Kappenberg & Halpern, 2006) also demonstrated the favorable psychometric properties of this questionnaire. In the present research, the reliability of the attachment scale was 0.695.

Beck Anxiety Inventory (BAI): The Beck Anxiety Inventory, developed by Beck et al. (1988), is a self-report questionnaire designed to measure the severity of clinical anxiety symptoms. This inventory was developed to assess anxiety intensity in both adolescents and adults. It consists of 21 statements, with each statement reflecting a symptom of anxiety. Responses are graded on a 4-point Likert scale ranging from 0 to 3, where 0 is 'never,' 1 is 'mild,' 2 is 'moderate,' and 3 is 'severe.' The internal consistency coefficient of the Beck Anxiety Inventory is reported to be 0.92, indicating good reliability. Test-retest reliability with a one-week interval is reported to be 0.75, and the correlation among its items ranges from 0.30 to 0.76. In this study, the inventory had a Cronbach's alpha of 0.73. The Beck Anxiety Inventory will be administered as both a pre-test and a post-test in this study. The reliability of the anxiety scale used in this research was found to be 0.716."

Toronto Alexithymia Scale Questionnaire (Bagby et al., 1994): "The Toronto Alexithymia Scale is a 20-question test consisting of three subscales: difficulty in identifying feelings, difficulty in describing feelings, and objective thinking. Responses are rated on a 5-point Likert scale ranging from 1 ('I completely disagree') to 5 ('I completely agree'). The psychometric properties of the Toronto-20 alexithymia scale have been examined and confirmed in several studies (Bagby et al., 1994; Marsero et al., 2011). The Farsi version of the Toronto-20 Alexithymia Scale demonstrated good internal consistency, with Cronbach's alpha coefficients of 0.85 for total alexithymia, 0.82 for difficulty in identifying feelings, 0.75 for difficulty in describing feelings, and 0.72 for objective thinking. Retest reliability of the Toronto-20 alexithymia scale was confirmed in a sample of 67 individuals over two occasions with an interval of four weeks, with coefficients ranging from 0.80 to 0.87 for total alexithymia and different subscales (Rostamifar & Sajjadian). In this research, the Toronto Alexithymia test was administered as both a pre-test and post-test."

The independent variable, acceptance and commitment therapy interventions, was implemented for the experimental group over 9 sessions, each lasting 2 hours, and conducted once per week. The research utilized seven therapeutic protocols from the book 'Acceptance and Commitment Therapy for Anxiety Disorders' by George Eifert and John Forsyth, as well as the 'Handbook of Acceptance and Commitment Therapy for Depression and Anxiety' by Mehrabizadeh et al. (2009).

*Analysis*

This research used analysis of covariance to examine pre-test and post-test data. The statistical analysis method used for the anxiety variable was analysis of variance, as there were no sub-components. For the Alexithymia variable, the statistical analysis used was analysis of covariance due to the presence of subcomponents.

*Ethics*

This research received approval from Islamic Azad University in accordance with IR.IAU.QOM.REC.1402.125. Written consent was obtained from the participants to participate in the research.

## Findings and Results

The 38% of respondents are under 25 years old, 40% are between 25-35 years old, 17% are between 35-45 years old, and the remaining 5% are over 45 years old.

According to the results presented in Table 1, however, the mean scores (and standard deviations) of these variables in the control group did not change noticeably from the pre-test to the post-test.

Assumption is confirmed for all dependent variables


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in this study. Hence, the analysis of variance method can be used to test the hypotheses, given the random assignment of participants to the experimental and control groups and the adequate sample size. Moreover, as the F-test is resistant to moderately heterogeneous variances, particularly when sample sizes are equal, it is appropriate to use the analysis of variance test.

**Table 1**

*Descriptive data of dimensions of alexithymia and anxiety by group and measurement stage*

| Dependent variable | Group | Number | Pre-test | Post-test |
|---|---|---|---|---|
| | | | M±SD | M±SD |
| **Anxiety** | Intervention | 15 | 34. 3±11 .60 | 72. 1±65 .42 |
| | Control | 15 | 3/64±25 .60 | 77. 3±13 .60 |
| **Difficulty in identifying feelings,** | Experiment | 15 | 57. 2±14 .23 | 66. 2±54 .17 |
| | Control | 15 | 98. 1±86 .22 | 88. 1±40 .22 |
| **Difficulty in describing feelings** | Experiment | 15 | 66. 2±75 .19 | 17. 2±19 .16 |
| | Control | 15 | 22. 2±18 .19 | 45. 2±38 .19 |
| **Objective thinking** | Experiment | 15 | 79. 2±68 .22 | 56. 2±72 .17 |

The acceptance and commitment intervention had a significant effect on at least one variable of anxiety and alexithymia in the post-test stage (P<0.01, F=513.702). Specifically, the acceptance and commitment therapy was found to improve the anxiety and alexithymia of mothers who participated in this study. Therefore, it can be concluded that the intervention based on acceptance and commitment was effective in reducing mothers' anxiety and alexithymia.

**Table 2**

*Results of the analysis of variance of the measurement of anxiety in two stages of implementation*

| Research variables | Change sources | F | df | P-value | Effect size |
|---|---|---|---|---|---|
| **Anxiety** | Group | 720.24 | 1 | 001.0 | 371.0 |
| | Time | 611.5 | 28 | 007.0 | 211.0 |
| | Group & time | 380.6 | | 001.0 | 371.0 |

According to the results presented in Table 2, the intervention method (acceptance and commitment therapy) had a significant effect on anxiety scores across the three measurement stages (F=24.720; Sig=0.001) in both the experimental and control groups. This indicates that the acceptance and commitment therapy significantly improved participants' anxiety levels. Table 3 presents a two-by-two comparison of adjusted means across the anxiety test stages (pre-test and post-test).

**Table 3**

*Main results of the covariance test of the effect of acceptance and commitment therapy on mothers' alexithymia*

| Source | df | Mean Square | F | Sig | Partial Eta Squared |
|---|---|---|---|---|---|
| Pre-test | 1 | 18. 60 | 0. 895 | 0. 036 | **0. 029** |
| Group | 1 | 4. 08 | 0. 256 | 0. 0358 | **0. 016** |
| Error | 27 | 19. 20 | | | |

Table 3 presents the major results of the covariance test, showing that a p-value less than 0.05 indicates significance. As shown in the group variable row, the number is significant, with a value of 0.0358. This shows a significant difference between the control and experimental groups in alexithymia. The effect size is represented by the eta coefficient, which is visible in the Partial Eta Squared column. Multiplying this number by 100 gives us the percentage of variance in the dependent variable (alexithymia) explained by the same grouping


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variable. In this case, multiplying 0.016 by 100 yields 1.6, indicating that the independent variable accounts for 1.6% of the variance in the dependent variable (alexithymia).

## Discussion and Conclusion

The study in this research aimed to investigate the effect of acceptance and commitment therapy on anxiety and alexithymia in mothers of children with insecure attachment. The results indicated that acceptance and commitment therapy can have an impact on the anxiety levels of mothers with children with insecure attachment. This finding is consistent with previous studies by Oskis et al. (2013) and Pace et al. (2015). The explanation for the effect of acceptance and commitment therapy on anxiety aligns with findings from previous studies, including Bahreini et al. (2024), Perry et al. (2017), Roshani et al. (2017), Babaei et al. (2015), and Snow et al. (2005). It suggests that acceptance and commitment therapy helps individuals create a meaningful life while accepting the inevitable suffering and committing to live with it. When a person prepares themselves to build such a life, they may encounter various obstacles in the form of unwanted internal experiences, including thoughts, imaginations, feelings, bodily sensations, impulses, and memories. Acceptance and commitment therapy teaches practical mindfulness skills to manage these inner experiences. Mindfulness involves consciously accepting and directing our awareness to the present moment. These techniques help us live in the present, fully engage in our tasks instead of getting lost in thoughts, and allow our emotions to be as they are, coming and going, instead of trying to control them. By accepting our inner experiences, even painful memories, emotions, thoughts, and bodily sensations appear less threatening and unbearable. Thus, mindfulness helps us change our relationship with painful thoughts and feelings, reducing their impact on our lives. These interventions focus on two fundamental processes: accepting unwanted inner experiences beyond our control, and committing to live a valuable life and to take action towards it.

The results have indicated that acceptance and commitment therapy can have a positive effect on the alexithymia of mothers with children exhibiting insecure attachment. This finding aligns with the results of previous studies, such as Suslow & Junghanns (2002), Thorberg et al. (2009), and Vanheule et al. (2007). The effect of acceptance and commitment therapy on the alexithymia of the sample individuals can be attributed to the adaptability of its concepts and interventions, which can be applied both individually and in group settings, as well as in counseling and psychotherapy centers. This finding is consistent with results from previous studies, including Vøllestad et al. (2011) and Taylor & Bagby (2004).

Acceptance and commitment therapy aims to reconcile the needs of the mother and the child by bridging gaps in their assessments. When the mother and child share a similar assessment of their life resources and demands, it strengthens family cohesion. It lays the foundation for improving family quality of life and psychological flexibility. By focusing on enhancing intrapersonal skills (such as emotional and thought awareness) and interpersonal skills (communication skills and effective communication), acceptance and commitment therapy helps boost the psychological flexibility of the individuals in the sample.

The reduction of alexithymia through acceptance and commitment therapy is explained by the technique of acceptance, or the willingness to experience difficulty without attempting to suppress it, which leads to a greater capacity to confront the challenges of personal, family, and social life. This approach diminishes avoidance, distress, fear of challenges, and ultimately, alexithymia. The primary objective of acceptance and commitment therapy is to cultivate and enhance flexibility. The ability to choose a more suitable option from among different choices enhances psychological well-being and a sense of relaxation, aiding individuals in coping adaptively with sources of stress. This treatment helps individuals recognize and express their feelings, thereby reducing alexithymia. Acceptance and commitment therapy encourages the client to shift focus from symptom reduction to living a meaningful life.

The results indicated that the levels of anxiety and alexithymia underwent significant changes following the intervention of ACT. ACT promoted a rich and meaningful life by accepting inevitable suffering and committing to living with it. When one is prepared to build such a life, they encounter various obstacles in the form of undesirable internal experiences, including thoughts, imaginations, feelings, bodily sensations,


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impulses, and memories. ACT equipped individuals with effective mindfulness skills to manage these inner experiences. However, caution should be exercised when generalizing the findings of this study to other mothers, given that it was conducted solely on the population of mothers with children exhibiting an insecure attachment style.

The limitations of the present study were the quasi-experimental nature and the lack of easy access to mothers with children with insecure attachment. Counseling and psychotherapy centers should consider implementing these methods, particularly acceptance and commitment therapy, more widely and with greater focus. Future researchers should pay attention to the design and validation of scales that investigate the psychological and behavioral structures of families. Self-help booklets based on the exercises of this treatment method are useful for families. Cultural programs and educational workshops can increase families' awareness of acceptance and commitment, improve parenting, and promote the development of secure attachment styles.

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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. An ethical consideration in this study was that participation was entirely optional.

## 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 contribute to this study.

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