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The Effectiveness of Acceptance and Commitment Therapy on Psychological Flexibility and Anxiety Among Individuals Referred to Counseling Centers

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ABSTRACT

The present study aimed to determine the effectiveness of Acceptance and Commitment Therapy on psychological flexibility and anxiety among individuals referred to counseling centers. The research method was quasi-experimental, using a pretest–posttest design with one experimental group and one control group. The statistical population included individuals referred to counseling centers in Tehran in 2025–2026. Using convenience sampling, 30 participants were selected and randomly assigned to two groups: an experimental group of 15 participants and a control group of 15 participants. Data were collected using psychological flexibility and anxiety questionnaires. The participants in the experimental group then received Acceptance and Commitment Therapy for eight weeks, with one 90-minute treatment session held each week, while the control group received no specific intervention. The findings showed that the mean scores of psychological flexibility and anxiety in the posttest phase of the experimental group were significantly different from the pretest scores. Therefore, Acceptance and Commitment Therapy has an effect on psychological flexibility and anxiety among individuals referred to counseling centers.

Keywords: Acceptance and Commitment Therapy, psychological flexibility, anxiety.

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Introduction

Anxiety is one of the most common psychological problems among individuals seeking counseling and mental health services, and it often appears in the form of persistent worry, physiological arousal, cognitive preoccupation, avoidance, and difficulty tolerating uncertainty. Although anxiety can function as an adaptive emotional response in situations involving threat or ambiguity, it becomes clinically problematic when its intensity, duration, and functional consequences interfere with daily life, interpersonal relationships, occupational functioning, and psychological well-being. In counseling settings, many clients present not only with overt anxiety symptoms but also with underlying patterns of experiential avoidance, cognitive rigidity, excessive self-monitoring, and ineffective attempts to control unwanted thoughts and emotions. From this

perspective, anxiety is not merely a set of emotional or somatic symptoms; rather, it is closely linked to the way individuals relate to their internal experiences, interpret distressing thoughts, and organize behavior in response to perceived psychological threat. Cognitive-behavioral conceptualizations have long emphasized the role of worry, intolerance of uncertainty, threat appraisal, and avoidance in the development and maintenance of anxiety, particularly generalized anxiety and chronic anxious distress (1).

Anxiety has also been studied in relation to demographic and psychosocial variables, including gender, life stress, trauma exposure, health-related concerns, and interpersonal vulnerability. Evidence on gender differences in fear and anxiety suggests that anxiety-related problems may vary in prevalence, expression, and coping patterns across populations, indicating the importance of considering contextual and individual differences when designing psychological interventions (2). Individuals referred to counseling centers often experience anxiety in combination with emotional dysregulation, negative automatic thoughts, interpersonal stress, depressive symptoms, or situational crises. Therefore, interventions used in counseling contexts should not only target symptom reduction but also strengthen broader psychological capacities that allow individuals to respond flexibly to distressing experiences. This need has contributed to the growing interest in transdiagnostic approaches that focus on processes underlying diverse forms of psychopathology rather than on disorder-specific symptom clusters alone.

One of the most important transdiagnostic processes in contemporary psychotherapy is psychological flexibility. Psychological flexibility refers to the capacity to remain in contact with the present moment and persist in or change behavior in accordance with personally chosen values, even in the presence of difficult thoughts, emotions, bodily sensations, and memories. In contrast, psychological inflexibility is characterized by experiential avoidance, cognitive fusion, rigid self-concepts, disconnection from values, and behavior dominated by attempts to control or escape internal distress. In clinical practice, psychological inflexibility may appear as avoidance of feared situations, suppression of anxious thoughts, excessive reassurance seeking, rumination, and inability to engage in meaningful action because of discomfort. The measurement and validation of psychological flexibility have been emphasized across different clinical populations, and research has shown that this construct can be assessed as a meaningful psychological process relevant to adjustment, functioning, and treatment outcomes (3).

Acceptance and Commitment Therapy is one of the most influential therapeutic approaches developed to enhance psychological flexibility. ACT is rooted in contextual behavioral science and is considered a distinctive model within the broader family of behavioral and cognitive therapies. Rather than attempting to directly eliminate distressing thoughts or emotions, ACT helps individuals change their relationship with internal experiences and engage in behaviors guided by values. The main therapeutic processes of ACT include acceptance, cognitive defusion, contact with the present moment, self-as-context, values clarification, and committed action. These processes are designed to reduce psychological inflexibility and help clients respond more adaptively to distress. The theoretical and clinical foundations of ACT emphasize that psychological suffering is often maintained not simply by the presence of painful private events, but by rigid and avoidant attempts to control them (4). Within contextual behavioral science, ACT has been introduced as a process-based therapeutic model that integrates behavioral principles, mindfulness, acceptance, and values-based action (5).

The clinical logic of ACT is particularly relevant to anxiety. Anxious individuals frequently attempt to avoid uncertainty, suppress intrusive thoughts, neutralize bodily sensations, or withdraw from anxiety-provoking situations. Although these strategies may reduce discomfort temporarily, they often maintain anxiety in the long term by narrowing behavior and reinforcing avoidance. ACT does not require clients to first eliminate anxiety before pursuing meaningful life activities; instead, it encourages them to make room for anxiety, observe anxious thoughts as mental events, and act in accordance with values despite the presence of discomfort. Practical ACT models emphasize the importance of helping clients disentangle themselves from unhelpful cognitive content, develop willingness toward internal experiences, and take committed action in valued directions (6). This approach is especially appropriate for counseling settings, where clients may present with anxiety symptoms that are not limited to one diagnostic category but are embedded in broader life difficulties.

The literature has increasingly supported the relevance of ACT for anxiety-related and emotion-related problems. ACT has been described as a flexible approach applicable across a wide range of psychological conditions, including anxiety, depressive symptoms, trauma-related symptoms, chronic illness concerns, and stress-related difficulties (7). Recent case-based and clinical evidence has also highlighted ACT as a transdiagnostic approach for complex anxiety presentations. For example, ACT has been applied in the treatment of comorbid generalized anxiety disorder and premenstrual dysphoric disorder, indicating its usefulness for cases in which anxiety interacts with mood-related and physiological processes (8). Similarly, ACT teletherapy has been used for mixed anxiety and depressive symptoms during the COVID-19 pandemic, showing that ACT principles can be adapted to remote psychological care and complex emotional presentations (9). Such findings are important because clients referred to counseling centers often present with overlapping symptoms rather than isolated diagnostic categories.

In addition to anxiety symptoms, psychological flexibility itself is an important therapeutic outcome. ACT aims to modify the process through which individuals respond to distress, and therefore improvement in psychological flexibility can be considered both a mechanism of change and a clinical outcome. Research has examined ACT-based interventions across diverse contexts and populations to determine whether they improve flexibility and related subprocesses. A systematic review of workplace ACT programs showed that ACT can influence psychological flexibility subprocesses, suggesting that the model may be useful not only in clinical settings but also in occupational and preventive mental health contexts (10). An ACT-based case study on marital resilience also emphasized the role of psychological flexibility in improving adaptive functioning in relational contexts (11). These studies support the broader assumption that enhancing flexibility may help individuals respond more effectively to stressors across life domains.

The relationship between cognitive flexibility, psychological flexibility, and anxiety is also important. Although cognitive flexibility and psychological flexibility are not identical constructs, both involve the capacity to shift perspectives, generate alternatives, and avoid rigid patterns of thinking and behavior. Earlier evidence from cognitive-behavioral research showed that cognitive-behavioral therapy can improve cognitive flexibility in depressed individuals, suggesting that flexibility-related capacities are responsive to psychological treatment (12). More recent comparative research has examined the effectiveness of cognitive-behavioral therapy and ACT on cognitive flexibility in adolescents with generalized anxiety disorder, indicating continued interest in flexibility as a therapeutic target in anxiety-related populations (13). These

findings are directly relevant to the present study because individuals with anxiety often display rigid interpretations of threat, limited perceived coping options, and reduced tolerance of internal distress.

Recent empirical studies have further expanded the evidence base for ACT in populations with emotional distress. A meta-analysis on ACT for depression found that ACT can affect negative emotions, automatic thoughts, and psychological flexibility, while also addressing the acceptability of the intervention (14). Although this meta-analysis focused on depression, its findings are relevant to anxiety because depressive and anxious symptoms often share underlying processes such as rumination, cognitive fusion, avoidance, and reduced engagement in valued activities. In a randomized controlled fNIRS study, ACT was examined in relation to nurses' sleep, rumination, psychological flexibility, and neural mechanisms, showing that ACT may influence both psychological and neurocognitive dimensions of distress-related functioning (15). These findings indicate that ACT may be a valuable intervention for individuals whose anxiety is accompanied by rumination, sleep disturbance, stress, and impaired psychological functioning.

ACT has also been investigated in populations facing severe stressors, trauma, and existential concerns. In a study of intimate partner violence survivor university women, ACT was effective in addressing post-traumatic stress symptoms, psychological inflexibility, and self-compassion, demonstrating its potential value for individuals exposed to interpersonal trauma and high emotional burden (16). In another randomized controlled trial, ACT was examined for death anxiety among cancer survivors, highlighting the applicability of ACT to anxiety that emerges in the context of life-threatening illness and existential distress (17). These studies suggest that ACT may be particularly effective when anxiety is maintained by avoidance of painful internal experiences and when clients require greater willingness, acceptance, and value-based coping. For individuals referred to counseling centers, whose anxiety may be associated with interpersonal, health-related, occupational, or existential concerns, ACT provides a coherent therapeutic framework.

Comparative studies have also contributed to understanding the position of ACT among established psychological treatments. Cognitive-behavioral therapy has a strong evidence base for anxiety and related disorders; however, ACT differs from traditional cognitive-behavioral approaches in its emphasis on changing the function of thoughts rather than necessarily changing their content. Studies comparing CBT and ACT in clinical populations have indicated that both approaches may influence cognitive and emotional outcomes, but ACT's distinctive contribution lies in strengthening acceptance, defusion, and values-based action. Research comparing CBT and ACT on referential thoughts, cognitive flexibility, and distress tolerance among patients with major depressive disorder has shown that ACT is relevant to cognitive flexibility and distress tolerance outcomes (18). A related study similarly compared CBT and ACT in patients with major depressive disorder, emphasizing the role of these interventions in referential thoughts, cognitive flexibility, and distress tolerance (19). Although these studies were conducted with depressive populations, their emphasis on flexibility and distress tolerance is conceptually relevant to anxiety, because anxious individuals often struggle to tolerate uncertainty and distressing internal states.

Despite the expanding evidence base, further research is needed on the effectiveness of ACT among individuals referred to counseling centers. Many previous studies have focused on specific diagnostic groups, specialized clinical populations, or particular settings such as universities, workplaces, hospitals, or teletherapy contexts. Counseling centers, however, serve a broad population of clients who may experience anxiety at different levels of severity and may not always meet strict diagnostic criteria. In such settings,

interventions must be brief, structured, clinically practical, and applicable to heterogeneous psychological problems. An eight-session ACT intervention may be especially appropriate because it provides a focused framework for helping clients identify ineffective control strategies, increase acceptance of internal experiences, reduce cognitive fusion, clarify values, and engage in committed behavior. Therefore, examining ACT in this population can contribute to both clinical practice and the evidence base for process-oriented psychotherapy.

Another reason for conducting the present study is the central role of psychological flexibility as both a therapeutic mechanism and an outcome. If ACT increases psychological flexibility, clients may become better able to face anxiety-provoking situations without relying on avoidance or suppression. As flexibility increases, anxious thoughts and feelings may lose some of their behavioral dominance, allowing individuals to act more consistently with values and goals. This change may explain why ACT can reduce anxiety symptoms even though its primary aim is not symptom elimination. In counseling practice, such an approach is particularly valuable because symptom reduction alone may not guarantee improved functioning unless clients also learn to respond differently to distress. By measuring both psychological flexibility and anxiety, the present study can evaluate whether ACT produces improvement in a core therapeutic process while also reducing clinically relevant emotional symptoms.

Accordingly, the aim of the present study was to determine the effectiveness of Acceptance and Commitment Therapy on psychological flexibility and anxiety among individuals referred to counseling centers in Tehran.

Methods and Materials

Study Design and Participants

The present study employed a quasi-experimental design with a pretest–posttest format, including one experimental group and one control group. The statistical population consisted of individuals referred to counseling centers in Tehran during 2025–2026. From this population, 30 participants were selected through convenience sampling and were then randomly assigned to two equal groups, including an experimental group of 15 participants and a control group of 15 participants. Before the intervention, both groups completed the research instruments as the pretest. Subsequently, the experimental group received Acceptance and Commitment Therapy, whereas the control group did not receive any specific psychological intervention during the study period. After completion of the intervention sessions, both groups completed the same questionnaires again as the posttest. The purpose of this design was to compare changes in psychological flexibility and anxiety between the experimental and control groups after the implementation of Acceptance and Commitment Therapy.

Data Collection

Psychological Flexibility Questionnaire. The Psychological Flexibility Questionnaire used in this study was based on the instrument introduced by Dennis and Vander Wal (2010). This scale is a short 20-item self-report questionnaire designed to assess the type of flexibility required for individuals to successfully replace dysfunctional thoughts with more adaptive and efficient cognitions. The questionnaire can be used in both clinical and non-clinical settings and is particularly applicable for evaluating progress in the

development of flexible thinking within cognitive-behavioral interventions for depression and other psychological disorders. The scale assesses three dimensions of cognitive flexibility: the tendency to perceive difficult situations as controllable, which includes items 1, 2, 4, 7, 9, 11, 15, and 17; the ability to perceive multiple alternative explanations for life events and human behavior, which includes items 8 and 10; and the ability to generate multiple alternative solutions for difficult situations, which includes items 3, 5, 6, 12, 13, 14, 16, 18, 19, and 20. The items are scored on a seven-point Likert scale ranging from 1, indicating "strongly disagree," to 7, indicating "strongly agree." Items 2, 4, 7, 9, 11, and 17 are reverse-scored. The total score ranges from 20 to 140, with higher scores indicating greater flexibility. Dennis and Vander Wal (2010) reported concurrent validity of -.39 with the Beck Depression Inventory and convergent validity of .75 with the Martin and Rubin Cognitive Flexibility Scale. They also reported Cronbach's alpha coefficients of .91 for the total scale, .84 for the controllability perception subscale, and .91 for the alternatives perception subscale, while test–retest reliability coefficients were .81, .77, and .75, respectively. In Iran, Shareh et al. (2013) reported a test–retest reliability coefficient of .71 for the total scale and a Cronbach's alpha coefficient of .90. In the present study, the reliability of the questionnaire was calculated using Cronbach's alpha and was found to be .85.

Anxiety Questionnaire. Anxiety was measured using the Beck Anxiety Inventory, developed by Beck et al. (1990) to specifically assess the severity of clinical anxiety symptoms. This instrument consists of 21 items, and for each item, participants select one of four response options representing the severity of anxiety symptoms. Each item is scored on a four-point scale from 0 to 3; therefore, the total score ranges from 0 to 63. Scores from 0 to 7 indicate no anxiety or minimal anxiety, scores from 8 to 15 indicate mild anxiety, scores from 16 to 25 indicate moderate anxiety, and scores from 26 to 63 indicate severe anxiety. Previous studies conducted on 250 students at Imam Khomeini Institute indicated that this questionnaire has high validity and reliability. The internal consistency coefficient of the scale was reported as .92, and its test–retest reliability over a one-week interval was reported as .75. The item-total correlations ranged from .30 to .76. In addition, different forms of validity, including content validity, concurrent validity, construct validity, diagnostic validity, and factorial validity, have been examined for this instrument, all of which confirm its effectiveness in measuring the severity of anxiety. In the present study, this questionnaire was used to assess participants' level of anxiety.

Intervention

The intervention consisted of Acceptance and Commitment Therapy delivered to participants in the experimental group over eight weeks. The treatment was conducted in weekly sessions, with each session lasting 90 minutes. The intervention was designed to increase acceptance of internal experiences, reduce experiential avoidance, strengthen cognitive defusion, enhance awareness of the present moment, clarify personal values, and promote committed action consistent with those values. During the sessions, participants were guided to identify ineffective control strategies, observe thoughts and emotions without fusion or avoidance, and engage in value-based behavioral choices despite the presence of anxiety or distress. The control group did not receive any specific psychological intervention during the same period and only participated in the pretest and posttest assessments.

Data Analysis

The collected data were analyzed using descriptive and inferential statistical methods. At the descriptive level, mean and standard deviation were calculated for psychological flexibility and anxiety scores in both the experimental and control groups at the pretest and posttest stages. At the inferential level, the normality of the data distribution and the assumptions required for between-group comparison were examined before hypothesis testing. To determine the effectiveness of Acceptance and Commitment Therapy, posttest scores of psychological flexibility and anxiety were compared between the experimental and control groups while controlling for pretest scores. The level of statistical significance was set at .05. This analytical approach made it possible to determine whether the observed posttest differences in psychological flexibility and anxiety were attributable to the intervention rather than to initial differences between the groups.

Findings and Results

The study sample consisted of 30 individuals referred to counseling centers in Tehran during 2025–2026. Participants were selected through convenience sampling and were randomly assigned to two groups, including 15 participants in the experimental group and 15 participants in the control group. All participants completed the pretest and posttest assessments. The experimental group received Acceptance and Commitment Therapy, whereas the control group received no specific psychological intervention during the same period.

Table 1. Descriptive Statistics of Psychological Flexibility and Anxiety in the Experimental and Control Groups

Variable	Group	N	Pretest Mean	Pretest SD	Posttest Mean	Posttest SD
Psychological flexibility	Experimental	15	52.37	6.86	63.56	7.69
Psychological flexibility	Control	15	53.47	6.38	51.74	6.78
Anxiety	Experimental	15	39.23	5.74	25.31	4.35
Anxiety	Control	15	37.46	5.56	38.25	5.41

As shown in Table 1, changes were observed in the mean scores of psychological flexibility and anxiety from pretest to posttest. In the experimental group, the mean score of psychological flexibility increased from 52.37 at pretest to 63.56 at posttest, whereas the control group showed a slight decrease from 53.47 to 51.74. In addition, the mean anxiety score in the experimental group decreased from 39.23 at pretest to 25.31 at posttest, while the control group showed no meaningful reduction and its mean score changed from 37.46 to 38.25. These descriptive findings indicate that, compared with the control group, the experimental group demonstrated improvement in psychological flexibility and a reduction in anxiety after receiving Acceptance and Commitment Therapy.

Before conducting analysis of covariance, the assumptions required for parametric analysis were examined. The normality of the distribution of the study variables was assessed using the Kolmogorov–Smirnov test. The results indicated that most distributions did not significantly deviate from normality, including psychological flexibility at pretest, anxiety at pretest, and anxiety at posttest. However, the posttest score of psychological flexibility showed a slight deviation from normality. Considering the overall pattern of the data and the use of covariance analysis to control pretest effects, the inferential analysis was conducted to examine the effect of Acceptance and Commitment Therapy on the dependent variables.

Table 2. Results of Analysis of Covariance for Psychological Flexibility and Anxiety

Variable	Source of Variation	Sum of Squares	df	Mean Square	F	p	Eta
Psychological flexibility	Pretest psychological flexibility	2865.684	1	2865.684	39.39	.001	.51
Psychological flexibility	Group	3689.378	2	1844.689	58.74	.001	.53
Psychological flexibility	Error	1564.568	25	62.582	—	—	—
Psychological flexibility	Total	48652.965	27	—	—	—	—
Anxiety	Pretest anxiety	1253.684	1	1253.684	35.42	.001	.59
Anxiety	Group	1965.537	2	982.768	41.37	.001	.52
Anxiety	Error	687.698	25	27.507	—	—	—
Anxiety	Total	2687.378	27	—	—	—	—

As presented in Table 2, the results of analysis of covariance showed that, after controlling for pretest scores, the effect of group on psychological flexibility was statistically significant, F = 58.74, p = .001, Eta = .53. This finding indicates that Acceptance and Commitment Therapy had a significant effect on increasing psychological flexibility among individuals referred to counseling centers. The results also showed that the effect of group on anxiety was statistically significant after controlling for pretest anxiety scores, F = 41.37, p = .001, Eta = .52. Therefore, Acceptance and Commitment Therapy had a significant effect on reducing anxiety among individuals referred to counseling centers. Overall, the findings support the effectiveness of Acceptance and Commitment Therapy in improving psychological flexibility and decreasing anxiety in the experimental group compared with the control group.

Discussion and Conclusion

The present study aimed to determine the effectiveness of Acceptance and Commitment Therapy on psychological flexibility and anxiety among individuals referred to counseling centers. The findings showed that, after controlling for pretest scores, the effect of group on psychological flexibility was statistically significant. Participants in the experimental group demonstrated a marked increase in psychological flexibility from pretest to posttest, whereas the control group showed no comparable improvement. The analysis of covariance confirmed that Acceptance and Commitment Therapy had a significant effect on psychological flexibility, F = 58.74, p = .001, Eta = .53. The findings also showed that anxiety decreased substantially in the experimental group after the intervention, while the control group did not show a meaningful reduction. The ANCOVA results indicated that the effect of group on anxiety was statistically significant after controlling for pretest scores, F = 41.37, p = .001, Eta = .52. Therefore, the overall findings support the effectiveness of Acceptance and Commitment Therapy in increasing psychological flexibility and reducing anxiety among individuals referred to counseling centers.

The significant improvement in psychological flexibility can be explained through the central mechanisms of Acceptance and Commitment Therapy. ACT is designed to reduce psychological inflexibility by helping clients change their relationship with thoughts, emotions, bodily sensations, and memories rather than attempting to directly eliminate them. In the ACT model, psychological suffering is maintained when individuals become fused with distressing thoughts, avoid unwanted internal experiences, lose contact with present-moment awareness, and behave in ways that are inconsistent with personally chosen values (4). The intervention used in the present study likely helped participants recognize ineffective control strategies, observe anxiety-related thoughts without excessive fusion, accept uncomfortable emotions, and take value-based actions. This interpretation is consistent with the contextual behavioral science framework, in which

ACT is conceptualized as a process-based intervention that targets the functional relationship between private experiences and overt behavior (5). Accordingly, the increase in psychological flexibility observed in the experimental group is theoretically consistent with the intended therapeutic processes of ACT.

The findings are also consistent with previous research emphasizing psychological flexibility as a core therapeutic outcome. Whiting et al. showed the importance of validating and assessing psychological flexibility as a meaningful construct in clinical populations, indicating that this variable is not merely an abstract theoretical concept but a measurable psychological process associated with adjustment and functioning (3). The present findings add support to this view by showing that psychological flexibility can change following a structured ACT intervention among individuals referred to counseling centers. In addition, the results align with the practical ACT literature, which emphasizes acceptance, defusion, values clarification, and committed action as clinical methods for helping clients move from rigid avoidance-based coping toward more flexible and meaningful behavioral patterns (6). Therefore, the observed posttest increase in psychological flexibility may reflect participants' improved ability to tolerate distress, reinterpret their relationship with thoughts, and act more adaptively in difficult situations.

The reduction in anxiety in the experimental group can also be explained by ACT's emphasis on decreasing experiential avoidance. Anxiety is often maintained through repeated attempts to avoid uncertainty, suppress anxious thoughts, escape bodily sensations, or seek reassurance. Although such strategies may provide short-term relief, they usually strengthen the long-term cycle of anxiety by limiting exposure to feared experiences and reinforcing the perceived danger of internal distress. Cognitive-behavioral accounts of generalized anxiety have shown that worry, intolerance of uncertainty, and ineffective attempts to control threat-related cognition play a central role in the continuation of anxious symptoms (1). ACT addresses these processes by teaching clients to allow anxious thoughts and feelings to be present without allowing them to dominate behavior. Thus, the reduction in anxiety found in this study may be due to a shift from avoidance-based regulation to acceptance-based coping, in which participants learned to experience anxiety without organizing their lives around escape or suppression.

This finding is consistent with contemporary accounts of ACT as a transdiagnostic intervention for emotional disorders. ACT has been described as an approach applicable to a wide range of psychological problems because it targets psychological inflexibility rather than only disorder-specific symptoms (7). This transdiagnostic quality is particularly relevant to counseling-center populations, where individuals may present with mixed anxiety, depressive symptoms, interpersonal stress, and general psychological distress rather than a single clearly defined disorder. The present results are consistent with Roberts et al., who demonstrated the applicability of Acceptance and Commitment Teletherapy for mixed anxiety and depressive symptoms during the COVID-19 pandemic (9). They also align with Howard et al., who applied ACT to comorbid generalized anxiety disorder and premenstrual dysphoric disorder, supporting ACT's usefulness in complex anxiety presentations where symptoms overlap with broader emotional and physiological difficulties (8). The present study extends this line of evidence by showing that ACT can be effective in a counseling-center sample.

The effectiveness of ACT in reducing anxiety is further supported by research in populations facing severe emotional or existential distress. Chen et al. found that ACT reduced death anxiety among cancer survivors, suggesting that acceptance-based and values-oriented processes can be useful even when anxiety is linked

to profound existential concerns (17). Similarly, Bektaş-Aydın and Yüksel-Şahin showed that ACT was effective for post-traumatic stress symptoms, psychological inflexibility, and self-compassion among university women who survived intimate partner violence (16). Although the population of the present study differs from cancer survivors and trauma-exposed women, these studies support the broader conclusion that ACT can reduce anxiety and distress by helping individuals relate differently to painful internal experiences. In all these contexts, the therapeutic target is not the removal of distressing experiences themselves but the development of greater willingness, flexibility, and value-directed functioning.

The present findings also align with studies that have examined ACT in relation to psychological flexibility and related cognitive processes. Rad et al. reported that workplace ACT programs can influence psychological flexibility subprocesses, supporting the idea that ACT can improve flexibility beyond traditional psychotherapy settings (10). Wang et al. found that ACT affected nurses' sleep, rumination, psychological flexibility, and neural mechanisms, suggesting that ACT may influence both cognitive-emotional and neuropsychological dimensions of distress regulation (15). Nallepalli and Murugesan also emphasized the role of psychological flexibility in enhancing marital resilience through an ACT-based case study (11). Together, these studies support the interpretation that the increased psychological flexibility observed in the present study is not an isolated result but part of a broader pattern in which ACT strengthens adaptive responses to stress across clinical, occupational, and relational domains.

The results are also consistent with studies on cognitive flexibility, which is conceptually related to psychological flexibility. Fazeli and Ehteshamzadeh Hashemi Sheikh Shabani showed that cognitive-behavioral therapy can improve cognitive flexibility in depressed individuals, indicating that flexibility-related capacities are responsive to psychological intervention (12). More specifically, Razaei and Pourmohammad Ghouchani examined the effectiveness of cognitive-behavioral therapy and ACT on cognitive flexibility in adolescents with generalized anxiety disorder, which is directly relevant to the present study because anxiety is frequently associated with rigid threat interpretations and limited perceived coping options (13). The present findings suggest that ACT may help individuals move beyond narrow, anxiety-driven interpretations and develop a broader repertoire of responses to internal and external challenges.

Comparative research on ACT and cognitive-behavioral therapy also supports the present findings. Yaghoubi et al. compared the effectiveness of cognitive-behavioral therapy and ACT on referential thoughts, cognitive flexibility, and distress tolerance in patients with major depression, showing that ACT is relevant to flexibility and tolerance-related outcomes (18). Yaqubi et al. similarly examined CBT and ACT in patients with major depressive disorder and emphasized outcomes related to referential thoughts, cognitive flexibility, and distress tolerance (19). Although these studies focused on depression rather than anxiety among counseling-center clients, they support the broader mechanism suggested by the present findings: ACT may improve emotional functioning by enhancing flexibility, weakening rigid cognitive patterns, and increasing the individual's capacity to tolerate difficult internal states. This is particularly relevant because anxiety and depression frequently overlap, and both are associated with cognitive fusion, avoidance, and reduced behavioral engagement.

The results of the present study are also consistent with meta-analytic evidence. Zou et al. reported that ACT has beneficial effects on negative emotions, automatic thoughts, psychological flexibility, and acceptability in depression (14). Although the meta-analysis focused on depressive symptoms, its findings

are important for interpreting the current results because anxiety is also characterized by negative automatic thoughts, repetitive thinking, emotional distress, and reduced flexibility. The present study supports the assumption that ACT can improve psychological flexibility and reduce negative emotional states in a relatively brief intervention format. In addition, previous research on gender differences in fear and anxiety has shown that anxiety-related symptoms may vary according to demographic and psychosocial characteristics, which highlights the need for interventions that address underlying processes rather than relying solely on symptom-specific techniques (2). ACT's process-based orientation may therefore be clinically useful for heterogeneous counseling populations.

Overall, the findings of this study suggest that Acceptance and Commitment Therapy can be considered an effective intervention for individuals referred to counseling centers who experience anxiety and reduced psychological flexibility. The significant increase in psychological flexibility indicates that participants became more capable of accepting internal experiences, disengaging from rigid thought patterns, and acting in accordance with values. The significant decrease in anxiety suggests that these process-level changes were accompanied by meaningful symptom improvement. This dual effect is clinically important because psychological interventions should not only reduce distress but also improve the individual's capacity to cope with future difficulties. Therefore, ACT appears to offer a coherent and practical framework for helping counseling-center clients develop more adaptive responses to anxiety and engage more effectively in valued life activities.

The present study had several limitations that should be considered when interpreting the findings. First, the sample size was relatively small and included only 30 participants, which may limit the statistical power and generalizability of the results. Second, participants were selected through convenience sampling from counseling centers in Tehran; therefore, the findings may not be fully generalizable to other cities, clinical settings, or populations with different cultural and demographic characteristics. Third, the study used a pretest–posttest design without a follow-up phase, so the durability of treatment effects over time could not be evaluated. Fourth, the outcomes were measured using self-report questionnaires, which may be influenced by response bias, social desirability, or participants' subjective interpretation of items. Finally, the control group did not receive an active alternative intervention, making it difficult to determine whether the observed effects were specifically due to ACT processes or partly related to nonspecific therapeutic factors such as attention, expectancy, and therapist contact.

Future studies are recommended to replicate this research with larger and more diverse samples across different clinical and non-clinical populations. Researchers should use randomized controlled trial designs with active comparison groups, such as cognitive-behavioral therapy, mindfulness-based interventions, or supportive counseling, to clarify the specific contribution of ACT. It is also suggested that future research include follow-up assessments at one month, three months, and six months after treatment to examine the stability of improvements in psychological flexibility and anxiety. Future studies may also investigate mediating variables such as experiential avoidance, cognitive fusion, values-based action, distress tolerance, and emotion regulation to determine which ACT processes are most responsible for therapeutic change. In addition, combining self-report measures with clinical interviews, behavioral indicators, or therapist-rated assessments could provide a more comprehensive evaluation of treatment outcomes.

In practical terms, the findings suggest that Acceptance and Commitment Therapy can be used as a structured and brief intervention in counseling centers for clients experiencing anxiety and psychological inflexibility. Counselors and therapists can incorporate ACT techniques such as acceptance exercises, cognitive defusion, mindfulness, values clarification, and committed action into individual or group-based counseling programs. Because many clients seek counseling with mixed emotional difficulties rather than a single diagnosis, ACT may be particularly useful as a transdiagnostic approach that targets underlying psychological processes. Counseling centers are encouraged to train practitioners in ACT-based case formulation and intervention planning so that treatment can move beyond symptom management and help clients develop flexible, values-consistent patterns of living. The results also indicate that ACT may be suitable for integration into preventive mental health programs for individuals at risk of anxiety-related problems.

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Authors' Contributions

All authors equally contributed to this study.

Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

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