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Research Article

A Comparison of the Effectiveness of Compassion-Focused Therapy and Mindfulness-Based Cognitive Therapy on Self-Criticism and Intolerance of Uncertainty in Women with Generalized Anxiety Disorder

Masoumeh Ostad[1], Fariba Hafezi[2], Amal Sharififard[3], Marzieh Talebzadeh Shoushtari[4]

1. Ph.D. Student, Department of Psychology, Ahv.c., Islamic Azad University, Ahvaz, Iran.
2. Associate Professor, Department of Psychology, Ahv.c., Islamic Azad University, Ahvaz, Iran.
3. Assistant Professor, Department of Psychology, Ramh.c., Islamic Azad University, Ramhormoz, Iran.
4. Assistant Professor, Department of Psychology, Ahv.c., Islamic Azad University, Ahvaz, Iran.

Article Info

Corresponding Author:
Fariba Hafezi

Email:
dr.fariba.hafezi@iau.ac.ir

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Abstract

Aim: In women with Generalized Anxiety Disorder (GAD) the combination of high levels of self-criticism and intolerance of uncertainty are factors that impede treatment effectiveness. Both Compassion Focused Therapy and Mindfulness Based Cognitive Therapy have been established as effective methods for treating anxiety disorders and yet limited evidence comparing their relative effects on these two main components-particularly in women with GAD- exist.Most existing studies have assessed only one construct, despite their combined role to maintain anxiety. Therefore, this study aims to compare the effectiveness of Compassion-Focused Therapy and Mindfulness-Based Cognitive Therapy in reducing self-criticism and intolerance of uncertainty among women with Generalized Anxiety Disorder in Ahvaz.

Methods: The research method was quasi-experimental with a pretest–posttest design with a control group. The statistical population comprised all women with GAD who sought services at Ahvaz psychological clinics in 2025. Forty-five women were selected by the purposive sampling and randomly assigned to two experimental groups and one control group (15 participants per group). The research instruments included the Levels of Self-Criticism Scale (Thompson & Zuroff, 2004), and the Intolerance of Uncertainty Scale (Freeston et al., 1994). The experimental groups underwent 10 ninety-minute sessions following the protocols of compassion-focused therapy (Gilbert, 2009) and mindfulness-based cognitive therapy (Segal et al., 2018), while the control group received no intervention.

Results: Repeated measures ANOVA results indicated that mean scores of self-criticism components and intolerance of uncertainty in the compassion therapy group and the mindfulness-based cognitive therapy group decreased significantly at posttest and follow-up. Bonferroni follow-up tests also indicated that the effects of the therapies persisted through the follow-up stage (P<.05). For the intolerance of ambiguity, mindfulness-based cognitive therapy was more effective than compassion therapy at posttest and follow-up (P<.05), but no significant difference between the two therapies was observed for self-criticism (P>.05).

Conclusion: The results revealed that both treatments yielded persistent improvements in both self-criticism and intolerance of uncertainty; mindfulness based cognitive therapy proved to be more successful at increasing tolerance of uncertainty.Therefore, MBCT may be considered a more efficient approach to reduce the chronic worry and enhancing tolerance of ambiguity in women with GAD.

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1. Introduction

Generalized Anxiety Disorder (GAD) is one of the most common anxiety disorders, characterized by excessive, pervasive, and often irrational worries about everyday events or issues (Probst et al., 2025). The central feature of this disorder is severe anxiety and apprehension without a specific trigger or reason. In such cases, individuals have exaggerated concerns about ordinary events and typically expect disaster in various aspects of life, while they have lost the ability to control these worries (Hayes-Skelton & Lee, 2020). The prevalence of GAD over a 12-month period is typically reported to be around 0.9% to 2.9% of the adult population. This means that in any given year, approximately 1 to 3 out of every 100 people are experiencing GAD (Chen et al., 2025). In the majority of studies, rates of GAD are approximately twice as high in women than men. This difference in gender is attributed to differences in emotional response to stress, differing social roles, greater concern of women in relations, their concerns about their health, and hormonal differences which regulate mood.Lifetime prevalence statistics for women are usually reported between 4% and 7.5%. Annual prevalence in women is around 1.2% to 3.6% (Ma et al., 2025).

Women with GAD are often preoccupied with potential worries about the future, leading them to face significant difficulties and challenges that disrupt their individual functioning, parenting, relationships with partners, and work performance. Moreover, these women's worries prevent them from living in the present and enjoying positive and pleasant life events, as they are constantly anxious about negative occurrences related to the future (Salartash et al., 2022). On the other hand, the symptoms, such as sympathetic arousal, muscle tension, restlessness, and the chronic stress that women with GAD experience have significant negative impacts on their psychological vulnerability to other disorders, lifestyle issues including sleep, nutrition, and physical activity, as well as their energy levels for managing daily life (Li et al., 2021).

One consequence of Generalized Anxiety Disorder is increased self-criticism in affected individuals (Cui et al., 2022). Self-criticism, a type of negative cognitive style is observed in women with GAD to be chronic and relatively stable, typically stemming from experiences in childhood, maladaptive schemas, and family patterns in which worth is contingent on perfect performance and the individual believes they must satisfy others. (Canjuga et al., 2025). Self-criticism, defined as a persistent tendency to evaluate oneself negatively and blame oneself for real or imagined mistakes, is often accompanied by feelings of embarrassment, worthlessness, and shame. This pattern can reinforce negative biases in information processing and perpetuate cycles of worry and anxiety (Linardon et al., 2025).

Self-critical individuals experience a pervasive internal sense of threat, despite perceiving themselves as constantly monitored and controlled. These methods aim at hindering the experience of the full nature and attributions of emotions, by resorting to excessive self-control, an excessive sternness of self-regulation which hinders the acknowledgment of negative emotions. Self-criticism is composed of two dimensions, which are comparative and internalised.The comparative dimension is rooted in feelings of inferiority, which form the core of self-criticism and are often expressed through hostility and persistent criticism of others. This interpersonal hostility reinforces a cycle of chronic self-criticism, excessive control, and ongoing concerns about personal competence and self-worth. Such individuals frequently set unrealistically high and unattainable standards for

themselves, and failure to meet these standards results in intense self-blame and self-punitive cognitive processes (Asadzadeh et al., 2019).

Self-criticism also closely overlaps with anxiety reactivity patterns observed in Generalized Anxiety Disorder (GAD). Elevated levels of self-criticism lead to frequent activation of the threat system, thereby sustaining the worry cycle that characterizes GAD. Individuals with GAD are often trapped in a continuous stream of worry-laden and self-blaming thoughts, accompanied by persistent negative self-evaluation. Minor setbacks are interpreted as evidence of fundamental personal flaws, reinforcing maladaptive cognitive distortions such as "should statements," catastrophizing, and overgeneralization. These distorted thinking patterns contribute to a vicious cycle in which anxiety is continuously exacerbated and maintained (Ventriglio et al., 2025).

Cultural and social factors further intensify this process, particularly among women. Societal expectations, rigid social roles, and heightened performance demands increase the severity of self-criticism and disrupt emotional self-regulation mechanisms. The repeated effects of these pressures gradually solidify the patterns of anxiety and further hinder attempts to control intrusive and repetitive thoughts. Enduring shame and prominent lack of self-kindness is commonly cited in association with chronic self-criticism in individuals suffering from GAD.Rather than engaging in self-soothing responses when confronted with mistakes or uncertainty, these individuals tend to punish themselves mentally, perpetuating emotional distress.

Behaviorally, individuals with GAD may avoid novel or challenging situations due to fears of judgment or failure, or they may engage in excessive control strategies in an attempt to silence internal criticism. However, such control efforts paradoxically intensify anxiety, as no level of performance is ever perceived as sufficient. Furthermore, chronic self-criticism fosters a strong dependence on external validation; individuals experience relief only when receiving positive feedback from others, reflecting the absence of a stable and compassionate internal supportive voice (Schaffer et al., 2025).

On the other hand, intolerance of uncertainty is considered a central feature of GAD (Dugas et al., 2022). Intolerance of uncertainty refers to an individual's tendency to experience intense negative emotions in the face of ambiguous situations or an uncertain future. Simply put, a person with high intolerance of uncertainty cannot cope with the reality that the future is unpredictable (Short et al., 2025; Hasanzadeh & Tabatabaii, 2019). At this state, the person views uncertainty as threat and in an attempt to regain control, either seeks to gain further information through overthinking, or avoid making decisions at all. Intolerance to uncertainty means that one cannot tolerate uncertainty; that any ambiguity or not knowing beforehand is seen as dangerous and harmful.This construct encompasses two dimensions: one being emotional reactions such as anxiety and distress in uncertain situations, and the other being cognitive-behavioral responses such as worry, excessive control, and efforts for reassurance to escape uncertainty (Ryan et al., 2025).

Intolerance of uncertainty, which refers to an individual's difficulty in tolerating ambiguous or uncertain situations, has been proposed as one of the central constructs in cognitive models of GAD (Sun et al., 2025). Individuals with high intolerance of uncertainty tend to manage their worries through continuous reassurance-seeking or avoidance of decision-making, but these strategies ultimately lead to increased anxiety (Riley et al., 2025). From a cognitive developmental perspective, intolerance of uncertainty often arises from a combination of family factors (such as an overprotective parenting style), fear-based

learning patterns, and social pressures, feeding the cycle of GAD by reinforcing future-oriented worries (Wilson et al., 2023).

Recent empirical studies also suggest that self-criticism and intolerance of uncertainty are some of the central constructs implicated in the pathogenesis of GAD. Self-criticism helps to maintain chronic anxiety by perpetually activating the threat system, reinforcing negative self-attentional bias and exacerbating worry.A wide body of research demonstrated that the individuals with GAD exhibit higher levels of self-criticism, negative self-evaluation, and internalized shame, and that this construct plays a significant role in the severity and chronicity of their symptoms (e.g., Gilbert, 2014; Werner et al., 2019). Intolerance of uncertainty has also been shown to be one of the most powerful predictors of both problem worry and problematic avoidant behaviors. There is now considerable evidence that increased IU, leads to an increase in the frequency and severity of worry, threat perception under uncertainty, and an inability to accept the unpredictable, leading to the core cycle of GAD (Dugas et al., 2004; Carleton, 2016).Furthermore, the selection of these two variables as the primary outcomes of present study is grounded in robust empirical evidence and their established theoretical status within cognitive models of GAD.

Over the past two decades, novel therapeutic approaches beyond standard cognitive-behavioral therapy were developed to more effectively target these fundamental components of GAD. Among the most prominent of these approaches are Mindfulness-Based Cognitive Therapy (MBCT) and Compassion-Focused Therapy (CFT). MBCT combines mindfulness strategies with a cognitive-behavioral framework, offering patients ways to observe thoughts and emotions non-judgmentally, identify maladaptive automatic cognitive processes and lessen emotional reactivity (Tang et al., 2025). Moreover, preliminary research now indicates that MBCT, besides decreasing global anxiety, decreases intolerance of uncertainty through increased noticing and tolerating ambiguity.CFT,on the other hand, works by diminishing shame, countering hostile self-evaluative themes, and activating the soothing system. This therapeutic approach was identified as particularly effective to reduce self-criticism and improving emotional regulation among individuals with GAD (Parlar Yazici, 2024). Collectively, these findings highlighted the necessity of examining both constructs simultaneously and evaluating the comparative effectiveness of contemporary therapeutic approaches in targeting them.

In contrast, Compassion-Focused Therapy (CFT) is designed due to the evolutionary theory of human emotion and the role of three emotional systems (threat, drive, soothing), aiming to enhance self-compassion while reducing shame and self-criticism. This method apply interventions around imagery, reframing and compassion practicing exercises that help to change self-attack hostile ways. Scientifically, Compassion-Focused Therapy involves a suite of cognitive, behavioral, and mindfulness-based techniques which provide individuals with the capacity to generate compassionate, nurturing, and non-judgmental attitudes to themselves and others (Hocken &Taylor, 2021).The foundation of this approach is the concept of a “compassionate mind,” which has the capacity to understand and alleviate suffering (in oneself or others) along with the motivation to help and cultivate kindness. Compassion-Focused Therapy aims at alleviating self-hatred and shame, promoting emotion regulation and feelings of inner safety, promoting motivation to support oneself and others, reconstructing the schemas of security and attachment, and reinforcing the sense of self-worth and self-acceptance (De Herrera & Turk, 2025). Studies have identified that Compassion-Focused Therapy has proved effective in alleviating severe self-

criticism along with anxiety and depressive symptoms (Wakelin et al., 2022).In reviewing the literature on the effectiveness of Compassion-Focused Therapy and mindfulness-based cognitive therapy in reducing self-criticism and intolerance of uncertainty in individuals with Generalized Anxiety Disorder (GAD), and other clinical groups, the following findings can be highlighted: Jafarpoor et al. (2025) found that cognitive-behavioral therapy and Compassion-Focused Therapy were effective to reduce anxiety, depression, and self-criticism in the women with GAD, although cognitive-behavioral therapy demonstrated higher efficacy. Tabesh Mofrad and Mansouriyeh (2023) indicated that compassion-focused therapy had a significant effect on the emotion regulation, self-criticism and anger among male high school students. Fatolaahzadeh et al. (2017) showed that compassion-focused therapy could cause significant reduction in internalized shame and self-criticism among women with emotionally abusive past. Ghafari et al. (2025) observed that compassionfocused therapy resulted in a significant positive change in forgiveness, and a significant decrease in self-criticism and repetitive negative thoughts among women with spousal betrayal. Brown and Ashcroft (2025), conducted a systematic review of 21 psychological researches between 2000 to 2024 and achieved that Compassion-Focused Therapy showed significant result in from of increased self-compassion, decreased self-criticism and shame.Borgdorf et al. (2025) found that short-term online self-compassion training and general stress reduction training were effective to improve self-compassion, self-criticism, perfectionism, social anxiety, and mental health in a sample of 200 normal individuals. Krieger, et al (2019) have shown that an internet-based self- compassion intervention decreased self-criticism and increased levels of self-compassion and emotional acceptance among very self-critical individuals. Onderjakova et al (2022) have demonstrated that a compassion-focused mindfulness-based presence program for twenty-six individuals with anxiety problems led to significant improvements in levels of self-criticism and self-compassion, which persisted at follow-up. Alimehdi & Khosravi (2022) have shown that self-compassion training among individuals with social anxiety disorder decreased fear of physical concern, fear of cognitive loss of control, and fear of displaying anxiety; improved self-reflexivity behaviors and decreased undesirable and unfair behaviors (aspects of intolerance of uncertainty); and decreased psychological distress.Keyvan Tabar and Alimehdi (2025) found that self-compassion training effectively reduced symptom severity, and increased distress tolerance in the women with dermatillomania and trichotillomania. Taghipour et al. (2023) found that mindful self-compassion training had a significant effect on increasing distress tolerance and reducing emotional inhibition in students with Generalized Anxiety Disorder. Akbari Klor et al. (2019) observed that compassion-focused therapy is effective in reducing intolerance of uncertainty and worry in female students with Generalized Anxiety Disorder. Baharvandi et al. (2020) concluded that compassion-focused therapy is effective in increasing ambiguity tolerance and decreasing death anxiety among seniors. Halamova et al. (2018) observed in an online take on mindfulness-based cognitive therapy that it is effective in raising self-compassion levels, increasing one's feeling of inner inner calm and decreasing self-criticism in a sample of 146 with Anxiety and depressive 10 symptoms. Schanche et al.,(2021) showed that mindful Subject for cognitive therapy in an 68 sample of repeatedly depressed people led to significantly increases in the ability to self-soothe and significant decreases in inadequacy and self-criticism. Papenfuss et al. (2022) reported that Mindfulness-based cognitive take on in 117 students successfully reduced symptoms of social anxiety,

intolerance of ambiguity and worry. Lee et al., (2022) found that Mindfulness-based stress diminution among women surviving cancer significantly reduced internal to extend, fear of cancer returning and improved quality of life.Thus, the present study aims to determine the differences among the effectiveness of Compassion-Focused Therapy and mindfulness-based cognitive therapy on self-criticism and intolerance of uncertainty in the women with Generalized Anxiety Disorder in Ahvaz. Kim et al. (2016) found that mindfulness-based cognitive therapy significantly reduced intolerance of uncertainty in 69 patients with panic disorder. The study by Jiang et al. (2025) that used a mindfulness-based intervention for 33 high school graduates transitioning into university found significant increases in mindfulness and decreases in intolerance of uncertainty, emotional dysregulation, and social anxiety. Jafari et al. (2023) employed mindfulness-based cognitive therapy with 20 substance-dependent individuals, and discovered reduced self-criticism and increased motivation for treatment. Peyambari et al. (2021) utilized mindfulness-based cognitive therapy with 30 students experiencing failure in school and observed reductions in automatic negative thoughts, self-criticism, and rumination.Zarastvand et al. (2020) found that mindfulness-based cognitive therapy in 30 infertile women improved marital self-regulation, reduced marital boredom, and decreased self-criticism. Ghanizadeh Balderloo et al. (2025) found that mindfulness-based cognitive therapy in 30 individuals with Generalized Anxiety Disorder improved cognitive emotion regulation, reduced intolerance of uncertainty, and increased cognitive flexibility. Alimehdi et al. (2016) showed that the application of mindfulness-based stress reduction on 30 students diagnosed with Generalized Anxiety Disorder had reduced the symptoms of Generalized Anxiety Disorder and intolerance of uncertainty. Nasiri et al. (2022) reported that mindfulness based cognitive therapy on 30 infertile women reduced the ambiguity intolerance significantly.Limited comparative studies have examined the differences between mindfulness-based cognitive therapy and compassion-focused therapy in the context of anxiety disorders. Both interventions are effective to reduce anxiety and improving psychological functioning. However, the existing evidence is still insufficient and sometimes contradictory. Furthermore, fewer studies have specifically addressed the population of the women with Generalized Anxiety Disorder (GAD), who have unique characteristics regarding social patterns, gender roles, and emotional vulnerabilities. However, both methods also share the foundation of emotional regulation and self-awareness, and research to date has not addressed these individual interventions effectiveness in reducing anxiety or increasing self-compassion to a great extent, comparing the two of them directly in samples of women with GAD.Most previous studies have either been conducted on non-clinical samples or have examined only one of the constructs of self-criticism or intolerance of uncertainty, rather than the combination of the two, which plays a decisive role in the persistence of generalized anxiety. Therefore, it remains unclear which approach has a deeper effect on modifying self-critical internal styles and increasing intolerance of uncertainty in this specific population.

Since these approaches use different but connected methods of emotion regulation, self-awareness, and threat system modification, it is possible to contrast them to establish the size and shape of each intervention's effect on Generalized Anxiety Disorder core factors. Compassion-Focused Therapy is primarily effective in lowering shame, altering the critical self and activating the soothe system, while Mindfulness-Based Cognitive Therapy effect the worry cycle and uncertainty intolerance through raising nonjudgmental awareness,

improving flexibility in attention, and establishing cognitive distance from worry.Despite these theoretical and practical differences, few studies simultaneously compared the effects of these two approaches on self-criticism and intolerance of uncertainty, particularly among women with GAD. Thus, a comparison between two such therapies may shed light on an area where research is lacking and will assist the design of more specifically tailored interventions.Moreover, despite the theoretical overlap between the two models, particularly in the areas of self-acceptance, recognizing threatening thoughts, and regulating emotional motivational systems, few comparative studies have assessed the relative effectiveness of these approaches on the cognitive and emotional foundations of generalized anxiety. For example, compassion-focused therapy specifically targets reducing the "inner critic" and activating the soothing system, while mindfulness-based cognitive therapy (MBCT) works on changing the relationship with thoughts through non-judgmental presence and cognitive differentiation (Frostadottir & Dorjee, 2019). The current knowledge gap lies in the absence of empirical data demonstrating whether either one or the other of these treatment avenues is capable of generating a more lasting emotional and cognitive convergence for women with GAD in light of their sensitivity to negative appraisal and intolerance of uncertainty. The gap is theoretically important, and it is pragmatically important for women's GAD in designing its treatment.The necessity of current research arises from this knowledge gap; as generalized anxiety disorder in women is associated with a persistent pattern of severe self-criticism and intolerance of uncertainty, conventional cognitive-oriented interventions have not fully succeeded in modifying these two cognitive-affective components. In this context, compassion-focused therapy may lead to more profound transformations in the individual's self-perception through reconstructing the self-evaluation system, activating the soothing system, and reducing internal shame, while mindfulness-based cognitive therapy helps with accepting uncertainty and anxiety-provoking thoughts through a focus on “mindful and non-judgmental presence.” The empirical necessity of this research is to test the relative effect of these two methods on constructs that play a key role to stabilize generalized anxiety but have been less examined simultaneously.

From a practical perspective, this research could assist in designing specific therapeutic protocols for Iranian women with GAD; protocols that benefit from a combination of compassion elements, mindful focus, and modulation of beliefs related to control and certainty. Findings from studies, such as these have direct implications for psychotherapists, counseling centers and policy-makers in mental health, who can move beyond one- dimensional purely cognitive therapeutic approaches to ones that are integrative and emotionally-informed. It is also crucial for culturally speaking to report native data on the emotional reactions of Iranian women towards newer therapeutic methods such as CFT and MBCT to ground the scientific foundation for general anxiety-specific educational and therapeutic programs.This research is thus necessary as it establishes a bridge between theories of emotional regulation, mindfulness, and compassion with the empirical reality of the lives of Iranian women suffering from GAD.

2. Objectives

Therefore, the present study was designed to compare the effectiveness of mindfulness-based cognitive therapy and compassion-focused therapy on self-criticism and intolerance

of uncertainty in women with generalized anxiety disorder. This research will also advance understanding of change mechanisms in these therapies, build the body of gender-based evidence in psychotherapy, and inform practitioners when choosing or adapting treatments for various groups.

3. Methods

3.1. Sample and Procedure

The method of the present research is of applied type, using interval data and based on a quasi-experimental design with pre-test and post-test with a control group. The statistical population of this study consisted of all women with Generalized Anxiety Disorder visiting clinics in the city of Ahvaz during the first four months (from Farvardin to Tir) of the year 1404. Ultimately, based on the inclusion criteria, 45 women with Generalized Anxiety Disorder were randomly assigned to two experimental groups of 15 (compassion-focused therapy and mindfulness-based cognitive therapy) and one control group of 15. For participants to be included in the study, they had to be 20-45 years old and have been diagnosed with Generalized Anxiety Disorder (GAD), as determined through clinical interviews using the DSM-5 set of diagnostic criteria. Additionally, they had to score above the GAD-7 cutoff of 10 for Generalized Anxiety Disorder (Spitzer et al., 2006). The participants must only have been diagnosed with GAD and used only compassion-focused therapy as their initial treatment for GAD.The exclusion criteria included receiving other psychological treatments concurrently with compassion-focused therapy and missing more than two sessions of compassion-focused therapy. This study adhered to all ethical considerations and was approved by the Ethics Committee of the Islamic Azad University, Ahvaz Branch, under the ethical code **IR.IAU.AHVAZ.REC.1403.434**. All participants provided informed consent prior to participation and were fully informed about the study objectives, procedures, confidentiality of their information, and their right to withdraw at any stage of the research.

3.2. Research Tools

3.2.1. GAD-7 Scale: The GAD-7 scale is one of the tools used to measure the severity and monitor changes in Generalized Anxiety Disorder (GAD). This tool was developed and validated by Spitzer et al. (2006) and is now widely used in clinical studies, epidemiology, and psychotherapy. The GAD-7 scale consists of 7 items that assess the experience of anxiety symptoms over the past two weeks. The items are based on the main criteria of the DSM-IV for GAD and focus on the following areas: excessive and uncontrollable worry, difficulty concentrating (mind wandering), irritability, muscle tension, restlessness, fatigue due to tension, and sleep disturbances due to anxiety. Each question is answered based on the frequency of experiencing symptoms in the last two weeks using a four-point Likert scale (0 = not at all, 1 = several days, 2 = more than half the days, 3 = nearly every day). The minimum score is 0, and the maximum score is 21, with a cutoff score of above 10 indicating a diagnosis of generalized anxiety disorder (Spitzer et al., 2006). Cronbach's alpha and split-half coefficients for the GAD questionnaire reliability was reported as 0.92 and 0.83 respectively (Spitzer et al, 2006). The convergent validity of the GAD questionnaire was tested with the Beck Anxiety Inventory, the 90-item Symptom Checklist and the Health Survey Questionnaire in this study. The correlation coefficients were 0.72,

0.74 and 0.75, and all values are significant to $p < 0.001$, demonstrating a strong convergent validity (Spitzer et al, 2006).In the study by Naeiniyan et al., the reliability of the GAD questionnaire was calculated with a Cronbach's alpha of 0.85. They assessed the convergent validity of the GAD-7 scale against the State-Trait Anxiety Inventory, finding correlation coefficients of 0.71 with state anxiety and 0.52 with trait anxiety, significant at the 0.001 level, indicating appropriate convergent validity for the GAD-7 scale (Naeinian et al., 2011). In the current study, the reliability of the GAD questionnaire was calculated with a Cronbach's alpha of 0.86.

3.2.2. Self-Criticism Scale: The Self-Criticism Scale was developed by Thompson and Zuroff in 2004 and consists of 22 items measuring two subscales: internal self-criticism (items 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, and 21) and comparative self-criticism (items 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, and 22). Responses to each item are rated on a seven-point Likert scale from not at all descriptive of me (0) to very descriptive of me (Li et al., 2021). Items 6, 8, 11, 12, 16, 21, and 22 are scored in reverse. The minimum and maximum possible scores are 0 and 132, with a mean score of 66; scores above 66 indicate high levels of overall self-criticism (Thompson & Zuroff, 2011). Cronbach's alpha for the Self-Criticism Scale in the Thompson and Zuroff study was 0.81 for the total scale, 0.81 for internal self-criticism, and 0.89 for comparative self-criticism. The validity of the Self-Criticism Scale was determined using correlations between the Self-Criticism Scale and the Multidimensional Perfectionism Scale, with coefficients ranging from 0.39 to 0.58 for the total scale, internal self-criticism and comparative self-criticism, all significant at the 0.001 level (Thompson & Zuroff, 2011).In Iran, in the study by Mousavi and Ghobani, the reliability of Self-Criticism Scale was calculated with Cronbach's alpha values of 0.83 for the total scale, 0.87 for internal self-criticism, and 0.55 for comparative self-criticism. The validity of the Self-Criticism Scale was evaluated based on the correlation of its subscales with the Interpersonal Problems Questionnaire, with correlation coefficients for internal self-criticism and comparative self-criticism ranging from 0.20 to 0.52, all significant at the 0.001 level (Mousavi et al., 2006). The reliability of Self-Criticism Scale was found to be 0.88 for the total scale, 0.81 for internal self-criticism, and 0.74 for external self-criticism based on Cronbach's alpha.

3.2.3. Intolerance of Uncertainty Scale: The Intolerance of Uncertainty Scale was developed in 1994 by Freeston et al. to measure individuals' tolerance of uncertain situations and reflects intolerance of ambiguity. It consists of 27 items related to the unacceptability of uncertainty and ambiguity, which often leads to frustration, stress, and an inability to take action. The Intolerance of Uncertainty Scale comprises four subscales: inability to act (items 1, 9, 12, 13, 15, 20, 22, and 25), stressfulness of uncertainty (items 2, 3, 4, 5, 6, 7, 24, and 26), negativity of unexpected events and avoidance of them (items 8, 10, 11, 19, and 21), and uncertainty about the future (items 16, 18, 23, and 27). Responses are given on a five-point Likert scale: never, rarely, sometimes, often, and always, with scores of 1, 2, 3, 4, and 5 assigned to each option, respectively. The score range for the Intolerance of Uncertainty Scale is from 27 to 135, with higher scores indicating higher intolerance of uncertainty (Freeston et al., 1994). Cronbach's alpha for the reliability of the Intolerance of Uncertainty Scale was 0.91 for the total scale and 0.84, 0.78, 0.83, and 0.85 for the subscales unable to act, worry as a stressful experience, and negativesness of unexpected events and future-directed future, respectively (Freeston et al, 1994). The Intolerance of Uncertainty

Scale was validated by its correlations with the Pennsylvania Worry Questionnaire, Beck Depression Inventory and Beck Anxiety Inventory in Bahar and Dugas's study with correlation coefficients of 0.60, 0.59 and 0.55, respectively, all at the significance level of 0.001 (Buhr & Dugas, 2002).In Iran, in the study by Asadi et al., the reliability of Intolerance of Uncertainty Scale was calculated with a Cronbach's alpha of 0.69 for the total scale. The validity of the Intolerance of Uncertainty Scale and its subscales was assessed based on correlations with the Pennsylvania Worry Questionnaire and the Rumination Scale, with correlation coefficients for the Pennsylvania Worry Questionnaire ranging from 0.34 to 0.46 and for the Rumination Scale ranging from 0.25 to 0.45, all significant at the 0.001 level (Asadi et al., 2017). The reliability of the Intolerance of Uncertainty Scale was found to be 0.87 for the total scale and 0.86, 0.88, 0.90, and 0.85 for the subscales of inability to act, stressfulness of uncertainty, negativity of unexpected events, and uncertainty about the future, respectively.

Compassion-Focused Therapy and Mindfulness-Based Cognitive Therapy Protocols

The experimental groups underwent 10 sessions of 90 minutes each under the protocols of Compassion- Focused Therapy (Gilbert, 2009) and Mindfulness-Based Cognitive Therapy (Segal et al., 2018), while the control group received no intervention. A description of the sessions for Compassion-Focused Therapy and Mindfulness-Based Cognitive Therapy is provided in Tables 1 and 2.

Table 1. Compassion- Focused Therapy Protocol

Assignment	Content	Goal	Session
Session 1:	Introduction and Psychoeducation	Emotional systems, anxiety, self-criticism, therapy goals, self-compassion.	Writing and reflecting on the situations where participants have been self-critical; practicing observing bodily emotions, conducting a pre-test
Session 2:	Recognizing the Critical Mind	Critical voice, constructive vs. destructive criticism, threat system, inner parent, vulnerable self.	Recording the instances of self-criticism throughout the week along with the context, feelings, and associated thoughts
Session 3:	Introducing the Soothing System and Care	Calming breath, compassionate posture, physiology, parasympathetic system.	Daily practice of calming breathing along with visualizing a calm and accepting face
Session 4:	Compassionate Imagery	Compassionate imagery, wisdom, strength, warmth, emotional presence.	Daily practice of imagery in stressful situations, recording feelings before and after the exercise
Session 5:	Understanding the Nature of Shame and Accepting Vulnerability	Evolutionary shame model, healthy vs. unhealthy shame, vulnerability acceptance, compassion for humiliation reduction.	Writing a compassionate letter to the vulnerable self; practicing acceptance of small mistakes
Session 6:	Training the Compassionate Inner Voice	Compassionate tone and language, acceptance exercises, inner safety.	Recording and listening to self-compassionate statements; reconstructing anxiety-provoking situations with the new voice
Session 7:	Working with Painful Memories and Severe Self-Criticism	Scene reconstruction, self-compassion, emotion regulation, non-judgmental acceptance.	Recording a painful memory in a journal and practicing its compassionate reconstruction with a compassionate image or voice
Session 8:	Expanding Compassion to Others and Interpersonal Relationships	Shame-based relationships, empathy vs. compassion, kind wishes practice.	Practicing mindful compassion towards others, writing a kind statement for three people in their surroundings
Session 9:	Integrating and Stabilizing Therapeutic Changes	Three systems review, coping with future self-criticism, continuation plan.	Designing a personal daily compassion program for three minutes, reminding signs of the need for calmness
Session 10:	Evaluation and Conclusion of Therapy	Anxiety reduction, increased acceptance/kindness, consolidating change.	Writing a termination letter to oneself along with reviewing personal goals and achievements, conducting a post-test

Table 2. Mindfulness-Based Cognitive Therapy Protocol

Assignment	Content	Goal	Session
Session 1	Program orientation, introduction to mindfulness, present-moment experiential awareness.	Pre-test administration, group introduction and norms, body-scan practice, brief breath focus, introduction to "being present."	Daily body scanning practice (6 days until the next session), recording experiences and awareness of daily moments
Session 2	Raising the awareness of mind's automatic patterns and differentiating thoughts from reality.	Reviewing previous exercises, seated meditation on breath and body, observing thoughts and emotions, mindful walking practice.	Daily: body scanning, mindful breathing practice, recording pleasant events and daily activities with awareness
Session 3	Recognizing reactive patterns and practicing acceptance of unpleasant experiences	Mindful seeing/listening, 30–40-min seated meditation, 3-minute breathing space, body-release practice.	Practicing the 3-minute breathing space (3 times a day), mindful lying down, yoga practice on even days
Session 4	Expanding awareness to sound, thoughts, feelings, and body; practicing acceptance	Breath-awareness meditation; body, sound, and thought awareness; reviewing experiences and emotions; distinguishing reaction from response.	Six-day seated meditation, regular and situational 3-minute breathing space (during difficult moments)
Session 5	Understanding the connection between thoughts, emotions, and the body; practicing kindness towards oneself	40-minute seated meditation, self-criticism review, compassion-themed readings, using the breathing-space for intentional responses.	Daily seated meditation, regular and situational 3-minute breathing space, recording self-critical thoughts
Session 6	Recognizing habitual cognitive patterns and choosing a mindful response	Reviewing assignments, discussing the cycle of thoughts, emotions, and behaviors, practicing non-judgmental observation, meditating on substitute thoughts	3-minute breathing space (3 times a day), practicing recognizing automatic thoughts, focusing on breath during reactions
Session 7	Bringing mindfulness back to daily activities and regulating enjoyable activities	Reviewing the experiences, activity–anxiety links, planning positive activities, mindful walking.	Choosing and engaging in pleasurable activities, practicing the breathing space in stressful situations
Session 8	Integrating practices and transferring skills to real life	Course review, body-scan practice, seated meditation, maintaining practice strategies.	Continuing daily meditation practice and recording situations where mindfulness is used
Session 9	Reviewing the entire program, deepening insights into change, and preventing relapse	Reviewing practices, response-to-thought strategies, future cognitive traps.	Designing a "maintenance practice plan" for next three months, recording difficult situations
Session 10	Summarizing, self-reflection, and concluding the treatment course	Group review, shared learnings, post-test, feedback, continued practice.	Continuing home practices (self-scheduling), reviewing the mindfulness log, practicing mindful gratitude, conducting a post-test

The way the research was conducted was as follows after obtaining the necessary legal permissions and determining the experimental and control groups, a pre-test was administered due to Self-Criticism Scale (Thompson & Zuroff, 2011) and the Intolerance of Uncertainty Scale (Freeston et al., 1994) to both groups. Then, Experimental Group 1 underwent the Compassion-Focused Therapy protocol (Gilbert, 2009) in the form of 10 weekly 90-minute sessions, while Experimental Group 2 underwent the Mindfulness-Based Cognitive Therapy protocol (Segal et al., 2018). Subsequently, a post-test (re-administration of the research questionnaires) was conducted for both groups, and the data obtained from the pre-test and post-test were analyzed.

3.3. Ethical Considerations

Before initiating the study, the researchers obtained informed consent from the women

diagnosed with generalized anxiety disorder who were referred to psychological clinics in Ahvaz and respected their willingness or unwillingness to participate in the research. The participants were fully informed about the procedure for completing the questionnaires, the objectives of study, and the research methodology. They were also assured that all personal and private information would be kept strictly confidential and that the research findings would be explained to them upon request. Finally, it was emphasized that participation in the study would involve no financial cost or burden for the participants.

4. Results

The age range for the Compassion-Focused Therapy group was 28.39 years (with a standard deviation of 2.17), for the Mindfulness-Based Cognitive Therapy group it was 26.74 years (with a standard deviation of 1.65), and for the control group, it was 27.76 years (with a standard deviation of 2.24). The results of the comparison of mean ages using one-way ANOVA showed that this difference was not statistically significant ($p = 0.09$ and $F = 2.51$). Regarding marital status, in the Compassion-Focused Therapy group, 6 participants were single and 9 were married; in the Mindfulness-Based Cognitive Therapy group, 4 participants were single and 11 were married, and in the control group, 8 participants were single and 7 were married. The Fisher exact test indicated that there was no significant difference between the groups in terms of marital status ($p = 0.33$ and $OR = 0.55$).

Table 3 shows the mean and standard deviation of self-criticism and intolerance of uncertainty in the Compassion-Focused Therapy (1), Mindfulness-Based Cognitive Therapy (2), and control (3) groups at the pre-test, post-test, and follow-up stages for the sample of women with Generalized Anxiety Disorder.

Table 3. Mean and Standard Deviation of Self-Criticism and Intolerance of Uncertainty in the Compassion-Focused Therapy (1), Mindfulness-Based Cognitive Therapy (2), and Control (3) Groups at Pre-Test, Post-Test, and Follow-Up (Sample of Women with Generalized Anxiety Disorder)

Variable	Stage	Experiment 1		Experiment 2		Control	
		Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
Self-Criticism	Pre-Test	87.53	5.31	88.06	5.75	89.26	5.58
	Post-Test	64.88	6.8	68.8	6.66	88.2	6.02
	Follow-Up	65.2	6.43	69.86	6.25	88.33	6.13
Intolerance of Uncertainty	Pre-Test	85.2	2.74	84.73	4.44	84.87	5.15
	Post-Test	67.47	3.68	59.27	5.86	83.93	4.2
	Follow-Up	69.73	3.67	60.87	5.86	84.73	4.68

Before analyzing the data related to the questions, an assessment was conducted to ensure that the data met the assumptions of the mixed ANOVA method with repeated measures. A key assumption of this method is normality, and all variables should have normal distributions. Normality of all variables was checked with the use of the Kolomogorov-Smirnov Z test.Thus, before analyzing the data to check for homogeneity of variances, Levene's test for equality of variances was used. The variance of dependent variable values among groups must remain constant and equal at each level of the factor variable or groups. This assumption in repeated measures ANOVA is known as the sphericity assumption. One technique for detecting sphericity is the Mauchly's test statistic.

The significance level of Kolmogorov–Smirnov test for both variables—self-criticism (Z = 0.129, p = 0.059), and intolerance of uncertainty (Z = 0.081, p = 0.20)—is greater than 0.05; therefore, the assumption of normal distribution of data is satisfied. Moreover, the results of Levene's test reveal that the pre-test samples had equal variances. The statistic for self-criticism (Levene = 0.079, p = 0.92) and intolerance of uncertainty (Levene = 2.68, p = 0.08) were both non-significant (p > 0.05). Therefore, the assumption of equal variance has been met and can be used in a mixed ANOVA with repeated measures. This indicates that there were no differences between the experimental and control groups with respect to variance before the intervention.However, the results of Mauchly's test show that the assumption of sphericity is violated for both dependent variables, as W value for self-criticism (Mauchly's W = 0.557, p = 0.001) and for intolerance of uncertainty (Mauchly's W = 0.670, p = 0.001) is statistically significant. Therefore, the Greenhouse–Geisser correction was applied for both variables in the subsequent analyses. To compare the experimental and control groups at the pre-test, post-test, and follow-up stages to determine the impact of Compassion-Focused Therapy and Mindfulness-Based Cognitive Therapy on self-criticism and intolerance of uncertainty, a mixed ANOVA was first conducted on the data.

The results of multivariate tests show that there is a significant difference among the groups in at least one of the dependent variables. Specifically, for between-groups effect, all four multivariate statistics reached significance: Pillai's Trace = 1.00, F = 21.15, p = 0.005, Wilks' Lambda = 0.18, F= 27.32, p = 0.004, Hotelling's Trace = 3.4, F= 34, p = 0.003, and Largest Root = 3.06, F= 64.42, p = 0.001. These results confirm that the experimental and control groups significantly differ in at least one of the dependent variables.

Similarly, the within-group multivariate comparisons across three time points (pre-test, post-test, and follow-up) showed significant differences. The values indicate: Pillai's Trace = 0.98, F= 695.43, p = 0.001, Wilks' Lambda = 0.014, F= 695.43, p = 0.001, Hotelling's Trace = 71.32, F= 695.43, p = 0.001, and Largest Root = 71.32, F= 695.43, p = 0.001. These findings indicate that the three measurement stages differ significantly in at least one dependent variable.

The evidence presented from these results can be interpreted to indicate a rejection of the null hypothesis, which states that there are no differences in means between groups. Each of the calculated significance levels is below the customary Type I error rate of 0.05. Results from the mixed ANOVA repeated measures analysis for each dependent variable (self-criticism and intolerance of uncertainty) are presented in Table 4 for three levels of independent variable group and at three measurement intervals.

Table 4. Results of the Mixed ANOVA with repeated measures across three groups at three stages for the dependent variables (self-criticism and intolerance of uncertainty)

Variable	Source of Variation	Sum of Squares	df	Mean Square	F	Significance Level	Effect Size	Power test
Self-Criticism	Stages	5951.39	1.38	4294.62	866.51	0.001	0.95	1
	Stages * Group	2639.98	2.77	952.53	196.62	0.001	0.90	1
	Between Groups	6554.77	2	3277.38	30.83	0.001	0.59	0.97
Intolerance of Uncertainty	Stages	5787.57	1.5	3908.14	847.74	0.001	0.95	1
	Stages * Group	3026.84	3	1006.14	218.34	0.001	0.91	1
	Between Groups	6075.24	2	3037.62	52.09	0.001	0.71	0.99

As seen in Table 4, significant differences (p = 0.001) were found in the pre-test, post-test, and follow-up stages for self-criticism and intolerance of uncertainty. These findings indicate that there are significant differences in the dependent variables (self-criticism and intolerance of uncertainty) across the pre-test, post-test, and follow-up stages. Additionally, significant interactions between group and measurement stages for self-criticism and intolerance of uncertainty (p=0.001) were found. These results suggest that the interaction between group and measurement stages for the dependent variables (self-criticism and intolerance of uncertainty) is significant. In addition, Compassion-Focused Therapy and Mindfulness-Based Cognitive Therapy groups showed important differences (p=0.001) on the measures of self-criticism and intolerance of uncertainty. The obtained result show that self-criticism and intolerance of uncertainty are significantly different for Compassion-Focused Therapy and Mindfulness-Based Cognitive Therapy groups compared to control group.To compare the experimental and control groups in the dependent variables across three measurement stages (pre-test, post-test, and follow-up), the Bonferroni post hoc test was used. Table 5 presents the results of the comparison of three stages in the Compassion-Focused Therapy and Mindfulness-Based Cognitive Therapy groups and the control group for self-criticism and intolerance of uncertainty.

Table 5. Bonferroni Post Hoc Test Results for Comparing Three Stages (Pre-Test, Post-Test, and Follow-Up) by Groups in Self-Criticism and Intolerance of Uncertainty

Variable	Stage comparison		Experiment 1		Experiment 2		Control	
			Difference of Means	Significance Level	Difference of Means	Significance Level	Difference of Means	Significance Level
Self-Criticism	Post-Test	Pre-Test	22.66	0.001	19.26	0.001	1.06	0.42
	Follow-Up	Pre-Test	22.23	0.001	18.2	0.001	0.93	0.78
	Follow-Up	Post-Test	0.33	1	1.06	0.36	0.13	1
Intolerance of Uncertainty	Post-Test	Pre-Test	17.73	0.001	25.46	0.001	0.93	0.62
	Follow-Up	Pre-Test	15.46	0.001	23.86	0.001	0.13	1
	Follow-Up	Post-Test	2.26	0.11	1.6	0.30	0.80	0.25

As seen in Table 5, for both self-criticism and intolerance of uncertainty, significant differences were found in the post-test and follow-up stages compared to the pre-test in the Compassion-Focused Therapy and Mindfulness-Based Cognitive Therapy groups at $p < 0.05$, while these differences were not significant in the control group ($p > 0.05$). Finally, the follow up stage did not show a significant difference to the post test in all the groups (Compassion Focused Therapy, Mindfulness based Cognitive therapy and the control group) ($p>0.05$). Bonferroni post hoc test for comparing means among Compassion Focused Therapy and Mindfulness Based Cognitive Therapy groups and the control group for self-criticism and intolerance of uncertainty are shown in Table 6.

As shown in Table 6, for both self-criticism and intolerance of uncertainty, there were no significant differences between Compassion-Focused Therapy and Mindfulness-Based Cognitive Therapy groups compared to the control group at the pre-test stage ($p < 0.05$). However, at the post-test and follow-up stages, the differences between the Compassion-Focused Therapy and Mindfulness-Based Cognitive Therapy groups compared to the control group were significant ($p > 0.05$). There was no significant difference between Compassion-Focused Therapy and Mindfulness-Based Cognitive Therapy groups on the variable self criticism (post and follow-up) ($p<0.05$). There was a significant difference between

Compassion-Focused Therapy and Mindfulness-Based Cognitive Therapy groups on the variable intolerance of uncertainty (and significantly higher on the Mindfulness-Based Cognitive Therapy group at follow and post) (p>0.05).

Table 6. Bonferroni Post Hoc Test Results for Comparing Three Groups (Experiment 1, Experiment 2, and Control) by Stages in Self-Criticism and Intolerance of Uncertainty

Variable	Group Comparison		Pre-Test		Post-Test		Follow-Up	
			Difference of Means	Significance Level	Difference of Means	Significance Level	Difference of Means	Significance Level
Self-Criticism	Experiment 1	Experiment 2	0.53	1	3.93	0.32	4.66	0.14
	Experiment 1	Control	1.73	1	23.33	0.001	23.13	0.001
	Experiment 2	Control	1.2	1	19.4	0.001	18.46	0.001
Intolerance of Uncertainty	Experiment 1	Experiment 2	0.46	1	8.2	0.001	8.86	0.001
	Experiment 1	Control	0.33	1	16.46	0.001	15	0.001
	Experiment 2	Control	0.13	1	24.66	0.001	23.86	0.001

5. Discussion

This study aimed to compare the effectiveness of Compassion-Focused Therapy (CFT) and Mindfulness-Based Cognitive Therapy (MBCT) on self-criticism and intolerance of uncertainty in women with Generalized Anxiety Disorder (GAD) in Ahvaz. The results indicated significant differences in the mean scores of self-criticisms and its dimensions among women with GAD across the three stages of pre-test, post-test, and follow-up. This suggests that Compassion-Focused Therapy significantly reduced self-criticism and its dimensions in women with GAD, with lasting effects observed at the follow-up stage. These findings align with the results of previous studies by Jafarpour et al. (2025), Tabesh Mofrad and Mansouriyeh (2023), Fatolaahzadeh et al. (2017), Ghafari et al. (2025), Brown and Ashcroft (2025), Borgdorff et al. (2025), and Krieger et al. (2019) and Ondrejková et al. (2022), who found that Compassion-Focused Therapy is effective in reducing self-criticism. The effectiveness of Compassion-Focused Therapy in reducing self-criticism among women with GAD can be explained by its activation of the soothing and caregiving system and reconstruction of the individual's relationship with their "vulnerable self," thereby decreasing the intensity of self-criticism. This approach makes use of the three-systems model of emotions and reduces the influence of the threat system on our evaluations of ourselves and on catastrophic evaluations. Some techniques that can be used to respond to mistakes or failures with warmth, understanding and empathy rather than with ridicule or defensively evaluated threats include: vivid imagery, mindfulness techniques to promote self-compassion and changing our inner voice to be more forgiving for our past mistakes.Consequently, both internal self-criticism and comparative self-criticism are reduced, and individuals regain their emotional regulation and self-acceptance. Given the role of self-criticism in perpetuating worries related to GAD, increasing compassionate sensitivity and neutralizing comparative mechanisms not only reduces shame and anxiety but also facilitates cognitive restructuring regarding oneself. Ultimately, Compassion-Focused Therapy fosters a compassionate inner dialogue and creates a calming emotional experience, paving the way for more sustainable self-acceptance and psychological improvement. Moreover, when comparing the mechanisms of change between two interventions, it appears that Compassion-Focused Therapy reduces self-criticism primarily through *affective and motivational pathways*. CFT changes the way

women with GAD feel about themselves by directly activating the calming system and reducing their sense of threat. This is a fundamentally different way to make these changes than the cognitive/attentional pathway that is used in MBCT. In other words, CFT creates a new *emotional meaning* for self-assessments or evaluations through increasing the positive emotions such as warmth, safety, and compassion that support attachments to oneself. This distinction may help explain why participants in the CFT condition often reported deeper emotional shifts related to shame reduction and self-reassurance. These emotional mechanism pathways highlight the complementary but non-identical processes through which CFT and MBCT exert their effects on self-criticism. Additionally, findings from this study revealed that mean self-criticism scores and dimensions are significantly different between women with GAD at three different stages: pre-test, post-test, and follow-up. This suggests that Mindfulness-Based Cognitive Therapy was effective in reducing self-criticism and its dimensions and this reduction was sustained after follow-up.This finding is consistent with the results of studies by Halamova et al. (2018), Shanche et al. (2021), Jafari et al. (2023), Peyambari et al. (2021), and Zarastvand et al. (2020), which found that mindfulness-based cognitive therapy is effective in reducing self-criticism.

The effectiveness of Mindfulness-Based Cognitive Therapy in reducing self-criticism among women with GAD can be attributed to its combination of cognitive therapy principles and present-moment exercises, helping women with GAD change their relationship with critical thoughts. This method encourages people to objectively observe their thoughts rather than identify with them, which will help make self-criticism just a temporary mental experience. Body scanning, three-minute breathing exercises, and mindfulness meditation also help separate "thought" from "reality," thus minimising ruminating and self-blaming responses.Furthermore, by fostering acceptance and self-kindness, sensitivity to mistakes decreases while self-worth and inner calm are enhanced. As a result, this approach reduces self-criticism by retraining attention and emotional regulation, thereby increasing cognitive flexibility in women with GAD. Beyond its general effects on cognitive reappraisal and emotional regulation, MBCT appears to reduce self-criticism in women with GAD through a distinct *meta-cognitive and decentering mechanism*. Whereas CFT intervenes with the emotional tone associated with the self-evaluation, MBCT changes the individual's relation to thinking per se. This enables individual to view self-critical thoughts as simply events, rather than true statements about themselves, making them less believable and less disturbing. Non-judgmental awareness helps to prevent the automatic collapsing between "I am thinking this thought" and " this thought is me" which can lead to the chronic worry and self-blame. Through repeated experiential practices, participants develop attentional stability and a broadened awareness that weakens the cognitive rigidity characteristic of GAD. These differences highlighted that MBCT and CFT, although both effective, operate through non-overlapping pathways: one primarily *meta-cognitive* (MBCT) and the other primarily *affiliative-emotional* (CFT).

Moreover, significant differences were found in the mean scores of intolerances of uncertainty and its dimensions among women with GAD across the three stages of pre-test, post-test, and follow-up, indicating that Compassion-Focused Therapy significantly reduced intolerance of uncertainty and its dimensions, with lasting effects observed at the follow-up stage. This finding aligns with the results of studies by Alimehdi & Khosravi (2022), Keyvan Tabar & Alimehdi (2025), Baharvandi et al. (2020), Akbari Klor et al. (2019), and Taghipour et al. (2023), which showed that Compassion-Focused Therapy is effective in reducing

intolerance of uncertainty. The effectiveness of Compassion-Focused Therapy in reducing intolerance of uncertainty among women with GAD can be explained by its activation of the soothing and caregiving system and reconstruction of the individual's relationship with threatening emotions, helping to reduce intolerance of uncertainty. Through teaching the three-system emotional model, calming breathing exercises, and mindful compassion, individuals better recognize tension arising from ambiguity and replace threat-driven reactions with calming responses. Imagery and the compassionate inner voice also shift the meaning of uncertainty from "danger" to "a natural part of human experience," thereby reducing avoidance and catastrophic evaluations. Emphasizing the acceptance of vulnerability, reconstructing anxious memories with compassion, and final therapeutic exercises enhance feelings of safety against uncertainty. Consequently, Compassion-Focused Therapy reduces various components of intolerance of uncertainty from the inability to act to the stress induced by ambiguity and avoidance thereby alleviating chronic worry. A deeper analysis of mechanisms suggests that Compassion-Focused Therapy reduces intolerance of uncertainty through *emotion-regulation and motivational-safeness pathways* rather than through cognitive restructuring alone. In GAD, a severe intolerance of uncertainty is grounded on over-activity of the threat system and CFT attempts to re-orient the threat system by reinforcing the experience of affiliative emotions and producing an experience of internal safety. Through these effects the emotional significance of ambiguity is reframed from threat-signaling to an experience the patient can tolerate without immediate escape. The exercises, like compassionate imagery and self soothing breathing seem to enhance an individual's ability to tolerate internal tension and sit with uncertainty long enough for habituation and affective re-calibration to occur.These mechanisms are notably different from those of MBCT, which reduces the intolerance of uncertainty primarily by enhancing present-moment awareness and disengaging automatic worry cycles. Moreover, these distinctions clarify why CFT may exert a stronger effect on the emotional components of uncertainty, whereas MBCT influences the cognitive-attentional components.

Furthermore, significant differences were found in the mean scores of intolerance of uncertainty, and its dimensions among women with GAD across the three stages of pre-test, post-test, and follow-up, indicating that Mindfulness-Based Cognitive Therapy significantly reduced intolerance of uncertainty and its dimensions, with lasting effects observed at the follow-up stage. This finding is also consistent with the results of studies by Papenfuss et al. (2022), Lee et al. (2022), Kim et al. (2016), Ghanizadeh Balderloo et al. (2025), Alimehdi et al. (2016), and Nasiri et al. (2022), which found that mindfulness-based cognitive therapy is effective in reducing intolerance of uncertainty.

The effectiveness of Mindfulness-Based Cognitive Therapy in helping women who suffer from Generalized Anxiety Disorder reduce their intolerance for uncertainty is due to its use of training in the area of non-judgmental observation of future oriented thoughts, and constructing cognitive distance between thinking about anxiety provoking situations, and showing less response to uncertain outcomes when there is ambiguity in an event.Exercises such as body scanning, the three-minute breathing space, and meditation calm the anxiety network and increase tolerance for uncertain situations. Moreover, by enhancing acceptance, self-kindness, and awareness of the connection among thoughts, emotions, and the body, individuals' evaluations of uncertainty change, and their sensitivity to ambiguous cues decreases. Ultimately, mindfulness fosters greater internal control, reduces rumination, and

enhances emotional regulation, creating a cognitive and emotional foundation for increased tolerance of uncertainty and reduced chronic worry.

Moreover, the mechanisms through which MBCT reduces intolerance of uncertainty appear to be grounded in *meta-cognitive reappraisal and attentional retraining*. Uncertainty intolerance in GAD is upheld through the prediction of negative future outcomes driven by rigid worry; MBCT addresses this cycle by directing individuals into a detached observational stance where thoughts are separated from the here-and-now. This diminishes the immediacy of ambiguity and breaks the cognitive fusion that leads to avoidance and excessive reassurance-seeking behaviors. Additionally, MBCT increases uncertainty tolerance by building present-focused processes to avoid the "what-if" chain of GAD. From a mechanistic perspective, these pathways differentiate MBCT from CFT: while CFT regulates the emotional threat system to cultivate safeness, MBCT primarily modifies the *process of future-oriented thinking* itself. This distinction helps clarify why MBCT demonstrated stronger effects on intolerance of uncertainty in this study.

This study aimed to compare the effectiveness of Compassion-Focused Therapy (CFT) and Mindfulness-Based Cognitive Therapy (MBCT) on self-criticism and intolerance of uncertainty in women with Generalized Anxiety Disorder (GAD) in Ahvaz. The results indicated that there were no significant differences in self-criticism and its dimensions between the Compassion-Focused Therapy and Mindfulness-Based Cognitive Therapy groups at the post-test and follow-up stages. This means that both therapies had similar effects on reducing self-criticism and its dimensions in women with GAD.

The primary goal of both CFT and MBCT is to foster a new and healthier relationship with critical inner thoughts and emotions. CFT achieves this by activating the soothing system, cultivating a kind inner voice, and reducing the threat system, while MBCT creates this transformation through non-judgmental observation, cognitive distancing, and momentary acceptance. Women who suffer from generalised anxiety disorder commonly display self-judgment and an ongoing sense of unease. Their two approaches focus on creating a new connection to themselves rather than altering thought content. The mechanisms they have in common (e.g., increased acceptance, emotional awareness) have resulted in similar levels of decrease in self-judgment.Furthermore, the practical overlap between two therapies—including exercises in self-kindness, mindful responses to critical thoughts, breathing, body regulation, and momentary focus—has led both to similarly modulate threat and self-blame circuits, enhancing feelings of calmness and inner adequacy. Despite conceptual differences (with MBCT emphasizing awareness and CFT emphasizing compassion), the ultimate point of impact for both therapies on reducing self-judgment is the same. Furthermore, the similarity in the temporal structure of the sessions has reinforced the uniformity of the therapeutic effects.

In the variable of intolerance of uncertainty, significant differences were found between the Compassion-Focused Therapy and Mindfulness-Based Cognitive Therapy groups at both the post-test and follow-up stages. Findings show that MBCT is more effective than therapy focused on compassion in terms of reducing intolerance of uncertainty and its associated dimensions among females with GAD. Being that MBCT focuses directly on the future-focused thoughts and worries related to uncertainty, it therefore has a greater impact by providing coping skills for dealing with a variety of different future-oriented scenarios through training received during the intermediate sessions of MBCT. Intermediate sessions also provide tools to enable clients to view their threatening thoughts and experiences of uncertainty as passing

mental events and accept them without acting-out violently toward them.The focus on present-moment awareness, cognitive flexibility, and shifting processing styles from judgmental to observational increases tolerance for uncertainty. In contrast, CFT primarily modulates threat and shame-related emotions and pays less attention to the cognitive core of uncertainty and predictive style; thus, its impact in this area is more limited.

6. Limitation and Recommendation

Despite the significant effectiveness of Compassion-Focused Therapy on self-criticism and intolerance of uncertainty in women with GAD, this study had several limitations. First, the relatively small sample size (30 participants) and the exclusive focus on women with GAD in Ahvaz limit the generalizability of the results to other populations (including men with GAD or different cultural regions). Second, the use of self-report measures may have influenced the accuracy of reporting emotions and thoughts related to self-criticism and intolerance of uncertainty due to response bias. Also, particular social, economical, and family circumstances concerning women of Ahvaz could have influence over the dynamics and process of change during therapy sessions; this effect could not be controlled. Long-term longitudinal studies with 6-month or one-year follow-ups may have clearer evidence regarding the persistence of treatment effects in both interventions.The results of this study emphasize the importance of integrating Mindfulness-Based Cognitive Therapy and Compassion-Focused Therapy into the intervention programs of mental health centers. Therapists can utilize short-term protocols of Mindfulness-Based Cognitive Therapy and Compassion-Focused Therapy for managing GAD in women and enhance adaptive emotional regulation pathways by combining mindfulness and compassion- Focused exercises. Additionally, employing Mindfulness-Based Cognitive Therapy in clinical settings with high levels of worry and ambiguity (such as infertility, chronic illnesses, or experiences of loss) will be particularly effective for Iranian women. It is suggested that training for psychotherapists should incorporate both therapeutic languages—“mindful acceptance” and “compassionate kindness”—to develop a more comprehensive intervention model for reducing self-criticism, anxiety, and intolerance of uncertainty in clinical environments.

7. Conclusion

Overall, the present study demonstrated that both Compassion-Focused Therapy and Mindfulness-Based Cognitive Therapy are significantly effective in reducing self-criticism and its dimensions, with effects lasting until the follow-up stage. In the context of decreasing intolerance of uncertainty, Mindfulness-Based Cognitive Therapy was found to be substantially more effective than Compassion-Focused Therapy. It is concluded that because mindfulness deals with the core components of generalized anxiety directly through modifying cognitive processing styles, increasing attentional flexibility and enhancing emotional acceptance, and Compassion-Focused Therapy has its primary mechanism more geared towards emotional regulation of shame and threat.In summary, the findings indicate that both approaches can be complementary in reconstructing the individual’s relationship with themselves, reducing anxiety, and enhancing inner kindness, but Mindfulness-Based Cognitive Therapy operates more adaptively for reducing chronic worries and tolerating uncertainty.

8. Author Contributions

The first author contributed to the design of the overall framework, content development, data analysis, and manuscript submission and revisions. The second author was responsible for designing the overall framework, selecting the methodological approaches, and conducting the final review. The third and fourth authors contributed to the comparison of approaches and the formulation of the conclusions. All authors reviewed and approved the final version of the manuscript.

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10. Conflicts of Interest

There are no conflicts of interest.

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