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Effectiveness and Comparison of Compassion-Focused Therapy (CFT) and Mindfulness-Based Cognitive Therapy (MBCT) on Self-Esteem in Female Breadwinner Mothers

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ABSTRACT

The aim of the present study was to examine and compare the effectiveness of Compassion-Focused Therapy (CFT) and Mindfulness-Based Cognitive Therapy (MBCT) on self-esteem in female breadwinner mothers. This applied study employed an experimental method with a pretest–posttest design and a three-month follow-up, including a control group. The statistical population consisted of female breadwinner mothers residing in District 14 of Tehran, from whom 45 individuals were selected through convenience sampling and randomly assigned to three groups of 15 participants (two experimental groups and one control group). The experimental groups received eight weekly 90-minute treatment sessions. Data were collected using the Rosenberg Self-Esteem Scale and analyzed through repeated-measures analysis of variance. The results indicated that both interventions were effective in improving the variables under investigation. Based on the findings, it can be concluded that psychological interventions grounded in compassion and mindfulness can be utilized as effective approaches for enhancing the mental health of female breadwinner mothers. Therefore, employing these approaches in supportive and counseling programs aimed at empowering this segment of society is recommended.

Key words: Mindfulness-Based Cognitive Therapy, Compassion-Focused Therapy, self-esteem, female breadwinner mothers

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Introduction

Female heads of household represent one of the most economically, socially, and psychologically vulnerable populations across societies, as the burden of financial responsibility, caregiving, and emotional labor is disproportionately placed upon them. The stressful life conditions associated with single motherhood—including employment instability, poverty, and chronic role overload—have been widely documented and are shown to increase mental health risks and reduce overall well-being (1, 2). In many cultural contexts, these women not only endure structural disadvantages but also face stigmatization and limited social support, which further undermines their psychological resilience and self-worth. Self-esteem, defined as an individual's global evaluation of personal value and capability, is particularly sensitive to prolonged stress exposure, social comparison, and perceived inadequacy, making it a central psychological

construct among vulnerable caregiving populations (3). Low self-esteem is associated with anxiety, depression, diminished coping, and impaired decision-making, especially among individuals managing chronic interpersonal and economic pressures (4, 5). For female breadwinner mothers, elevating self-esteem is not only a matter of personal psychological health but also directly impacts parenting quality, social functioning, and the capacity to navigate adversities.

Recent theoretical advances underscore the complex mechanisms linking self-esteem with emotion regulation, interpersonal functioning, and cognitive processing. The extended process model of emotion regulation suggests that self-evaluative thoughts and emotional responding dynamically influence one another, shaping how individuals interpret and cope with stressors (6). In caregiving contexts, maladaptive regulation strategies such as rumination, self-criticism, and emotional suppression are found to exacerbate psychological distress and deteriorate self-worth (7). Developmental and relational frameworks also emphasize that emotional competence—including the ability to identify, express, and regulate emotions—plays a crucial role in the maintenance of healthy self-esteem (8). These insights collectively highlight that interventions targeting emotional regulation, cognitive processing, and compassionate self-relating may be particularly beneficial for female heads of household who are disproportionately burdened by stress and self-critical thinking.

In this regard, two psychological approaches—Mindfulness-Based Cognitive Therapy (MBCT) and Compassion-Focused Therapy (CFT)—have gained considerable empirical support for improving emotional regulation, reducing maladaptive cognitive patterns, and strengthening adaptive psychological functioning. MBCT integrates cognitive-behavioral principles with mindfulness practices to help individuals disengage from automatic negative thoughts, increase present-moment awareness, and develop nonjudgmental acceptance of internal experiences (9, 10). Mindfulness practices have been consistently associated with reduced stress reactivity, improved attentional control, and increased emotional regulation capacities (11, 12). Dismantling trials further demonstrate that focused attention and open monitoring—two core components of MBCT—each contribute uniquely to improving affective disturbances and reducing emotional dysregulation (13). Moreover, MBCT has shown significant effectiveness in preventing depressive relapse, improving well-being, and enhancing cognitive flexibility across diverse populations (14, 15). Meta-analyses indicate that MBCT also contributes to reductions in anxiety, rumination, and maladaptive thought patterns, thereby promoting healthier self-evaluative processes (16, 17). These findings suggest that mindfulness-based approaches may effectively strengthen self-esteem by improving cognitive clarity, reducing negative self-referential processing, and fostering a more balanced emotional response to stress.

Beyond its cognitive and emotional benefits, MBCT has demonstrated notable effects in contexts involving female caregivers and women facing health-related stress. For example, MBCT has shown immediate positive effects for women with breast cancer by reducing psychological distress and improving emotional well-being (16). Additional research among pregnant women shows that MBCT reduces psychological distress and promotes better mental health outcomes, reinforcing its applicability for populations experiencing cumulative stress (15). Recent findings also highlight a mediating role of self-esteem in the relationship between mindfulness and academic engagement, suggesting that mindfulness practices directly contribute to strengthening internal self-worth while reducing maladaptive behaviors (18). MBCT's capacity

to decrease stress, anxiety, and emotional reactivity may therefore uniquely benefit female heads of household, who often face chronic stress, high emotional labor, and low societal validation.

Parallel to mindfulness-based interventions, Compassion-Focused Therapy (CFT) offers a complementary framework rooted in evolutionary psychology, affect regulation systems, and self-compassion training. CFT posits that many psychological difficulties stem from heightened threat sensitivity, persistent self-criticism, and deficits in affiliative emotional states (19). By cultivating compassion toward oneself and others, CFT aims to activate the soothing-affiliative system, thereby reducing threat responses, increasing feelings of safeness, and enhancing emotional resilience (20). Meta-analytic evidence indicates that compassion-focused interventions significantly reduce anxiety, depression, shame, and self-criticism, while increasing overall well-being (21). Theoretical models emphasizing the evolution of caring behaviors further support the idea that compassion is essential for psychological survival, emotion regulation, and interpersonal bonding (19, 22). Importantly, self-compassion has direct, well-established links to self-esteem, self-acceptance, and psychological resilience (23, 24). Fear of self-compassion—particularly common among individuals with traumatic histories or chronic self-criticism—has been shown to impede emotional healing and weaken self-esteem, particularly in women with childhood maltreatment experiences (25). These observations highlight the relevance of compassion-based approaches for vulnerable female populations who often internalize societal blame, emotional suppression, and chronic self-criticism.

CFT is also consistently associated with improvements in emotional functioning, reduced avoidance, and enhanced psychological flexibility, making it highly relevant for caregivers under chronic stress (26). In clinical contexts, compassion-based training has demonstrated effectiveness across depression, anxiety, and stress-related disorders, supporting its role in improving emotion regulation and promoting adaptive affective states (11). Recent systematic reviews confirm that CFT is effective across diverse clinical populations and significantly improves emotional functioning, even among individuals with long-standing self-critical tendencies (21). Furthermore, the relational benefits of compassion—including improved empathy, reduced interpersonal conflict, and enhanced social connection—are particularly important for single mothers, who often face social isolation and weakened support networks (22). Together, these findings suggest that CFT's focus on self-kindness, emotional soothing, and compassionate cognitive processing may substantially improve self-esteem among women who experience chronic stressors and accountability pressures.

A growing body of comparative research has directly examined the effectiveness of MBCT and CFT. Studies show that both interventions significantly reduce psychological symptoms, improve mindfulness, increase self-compassion, and reduce rumination (26). Trials comparing MBCT and CFT among clinical populations—including chronic illness groups and individuals with emotional distress—indicate that both approaches produce meaningful gains in resilience, well-being, and adaptive functioning, though their mechanisms differ (27). MBCT primarily enhances cognitive awareness and attentional stability, while CFT more directly targets emotional soothing and self-criticism. Both modalities also contribute to the reduction of problematic technology use, stress, and negative emotional cycles, often through improvements in self-esteem (28). Importantly, compassion-based and mindfulness-based interventions have recently been shown to influence explicit and implicit self-esteem, including contingent self-esteem, highlighting the important role of self-compassion as a regulating mechanism (29). Additional evidence links mindfulness and self-

compassion with improved sexual self-esteem, emotional expression, and psychological confidence in women, reinforcing the broader impact of these approaches on self-worth (30, 31). These convergent findings underscore the potential of MBCT and CFT as effective interventions to strengthen self-esteem among female heads of household.

Self-esteem plays a central role in psychological adjustment, social functioning, and overall quality of life among mothers managing multiple roles. Research confirms that high self-esteem buffers stress, enhances coping strategies, and promotes healthier life trajectories, whereas low self-esteem predicts anxiety, depression, impaired functioning, and vulnerability to external pressures (3). For female heads of household, who often face economic marginalization, parenting strain, and social invisibility, strengthening self-esteem may serve as a powerful protective factor against long-term psychological harm. Studies on work–family conflict and role overload among mothers in demanding economic conditions show that insufficient emotional support and chronic stress weaken psychological well-being and self-evaluative processes (5, 32). These findings highlight an urgent need for evidence-based psychological interventions tailored to the unique pressures experienced by this population.

Despite the extensive literature on MBCT and CFT, very few studies have examined their comparative effectiveness in enhancing self-esteem among female heads of household—an especially vulnerable group facing cumulative disadvantage. No existing studies have directly evaluated the relative impacts of these two interventions on this population, particularly within Middle Eastern sociocultural contexts where gendered expectations and economic challenges intensify self-esteem vulnerabilities. Addressing this gap is crucial to identify interventions that best support mental health promotion and empowerment among women who carry significant caregiving responsibilities under stressful conditions.

Accordingly, the present study aims to compare the effectiveness of Mindfulness-Based Cognitive Therapy and Compassion-Focused Therapy on improving self-esteem in female heads of household.

Methods and Materials

Study Design and Participants

The present study, in terms of its objective, falls within the category of applied research. Regarding data type, the study was conducted quantitatively, and in terms of method, it was an experimental study with a pretest–posttest design, a control group, and a three-month follow-up phase. The statistical population consisted of female breadwinner mothers in District 14 of Tehran who had visited the Tasnim Community Center of the district in 2025. Between February 2025 and May 2025, a total of 231 female breadwinner mothers visited the community centers of District 14, from whom 45 individuals who volunteered to participate and met the inclusion criteria were selected through convenience sampling and randomly assigned to three equal groups (15 participants in each group). This study included two experimental groups and one control group. The first experimental group received the Compassion-Focused Therapy (CFT) intervention, which was conducted over eight weekly 90-minute sessions, and the second experimental group received Mindfulness-Based Cognitive Therapy (MBCT) in eight weekly 90-minute sessions. The control group was placed on a waiting list during this period and did not receive any intervention.

Inclusion Criteria

- Minimum age of 18 years

• Written and informed consent to participate in the study
• Ability to regularly attend weekly intervention sessions (eight 90-minute sessions)
• Absence of severe psychological disorders or medical conditions that would prevent session attendance (self-report or psychologist's assessment in the screening session)
• No concurrent participation in similar psychological or pharmacological treatments

Exclusion Criteria

• Voluntary withdrawal from participation at any stage of the study
• Absence from more than two consecutive intervention sessions
• Emergence of medical or psychological conditions that make participation impossible
• Failure to complete questionnaires or essential data in the pretest, posttest, or follow-up phases

This applied and quantitative study was implemented using an experimental design with a pretest, posttest, and three-month follow-up alongside a control group. The statistical population comprised female breadwinner mothers in District 14 of Tehran, and through convenience sampling, 45 individuals were selected and randomly divided into three groups of 15 participants (two experimental groups and one control group). The first experimental group received Compassion-Focused Therapy, and the second received Mindfulness-Based Cognitive Therapy, each delivered in eight weekly 90-minute sessions. The control group received no intervention and remained on a waiting list. Data were collected using standardized questionnaires, including the Rosenberg Self-Esteem Scale, the Intolerance of Uncertainty Questionnaire, and the Farahijan Scale. Data analysis was performed using descriptive statistics and repeated-measures analysis of variance. A follow-up session was conducted to examine the long-term effects of the interventions. After completion of the research, the control group received the Compassion-Focused Therapy intervention.

Data Collection

The Rosenberg Self-Esteem Scale (RSES), developed by Morris Rosenberg in 1965, is a widely used instrument for assessing self-esteem, particularly in psychological research and clinical practice. The scale consists of ten items through which respondents indicate their level of agreement or disagreement with statements related to self-worth and self-acceptance. Items are scored on a Likert scale ranging from "strongly agree" to "strongly disagree," with higher scores reflecting higher levels of self-esteem. The scale has demonstrated strong reliability and validity across various populations and cultural contexts, making it an appropriate tool for measuring self-esteem. The scale assesses global self-esteem and includes ten general statements rated on a 5-point Likert continuum, evaluating life satisfaction and the extent of positive self-regard. In Iran, Rajabi and Bahlul (2007) reported a Cronbach's alpha of .84 for this scale based on internal consistency. Additionally, Rajabi and Kesmaei (2011) confirmed the scale's construct validity through confirmatory factor analysis, showing a two-factor structure (positive and negative self-esteem). In the present study, reliability was calculated using Cronbach's alpha, yielding .75 for the total scale.

Intervention

The Mindfulness-Based Cognitive Therapy (MBCT) protocol (Segal et al., 2018) consisted of eight structured weekly sessions designed to cultivate mindful awareness, cognitive flexibility, and emotional

regulation. Session 1 introduced participants to the foundational principles of mindfulness, including recognizing thoughts, emotions, and bodily sensations, supported by introductory deep-breathing exercises. Session 2 expanded skills through advanced body-awareness practices, stress-reduction strategies, and cognitive review techniques aimed at identifying and challenging negative thoughts. In Session 3, participants learned to separate thoughts from emotions, observe automatic negative thoughts, and practice nonjudgmental awareness. Session 4 emphasized living in the present moment by strengthening attention to ongoing experiences and reducing preoccupation with past negative events or future worries. Session 5 focused on developing healthier responses to difficult thoughts and emotions, highlighting psychological distancing and viewing emotions as transient states. Session 6 emphasized mindfulness-based methods for stress and anxiety reduction through breathing exercises and relaxation practices. Session 7 shifted toward enhancing quality of life by reinforcing resilience and maintaining effective coping strategies during challenging circumstances. Finally, Session 8 provided an opportunity to review treatment progress, receive feedback, develop maintenance plans, and learn relapse-prevention strategies and guidelines for continuing mindfulness practice independently.

The Compassion-Focused Therapy (CFT) protocol (Gilbert, 2010) consisted of eight therapeutic sessions designed to cultivate self-compassion, reduce self-criticism, and strengthen emotional regulation. Session 1 introduced the core principles of CFT, familiarizing participants with the concept of self-compassion through initial mindfulness and body-awareness exercises. Session 2 focused on identifying patterns of self-criticism, exploring their developmental roots, and comparing self-critical internal dialogue with compassionate alternatives. In Session 3, participants practiced techniques to strengthen self-compassion, including deep-breathing, mindfulness of positive emotions, and supportive approaches for managing negative emotional states. Session 4 emphasized emotion-regulation skills such as relaxation, stress control, and strategies for handling intense emotions to enhance psychological resilience. Session 5 expanded the scope of compassion to others, addressing how compassionate attitudes can improve interpersonal relationships and overall quality of life through mindfulness and group-based exercises. Session 6 focused on stress reduction and heightened self-awareness using mindful attention to thoughts and emotions alongside relaxation practices. Session 7 emphasized identifying and transforming negative thinking and self-critical patterns, supporting the development of self-confidence, self-acceptance, and positive cognitive structures. Finally, Session 8 involved evaluating therapeutic progress, discussing emotional and behavioral changes, and learning strategies for maintaining compassion practices and self-care beyond the intervention period.

Data analysis

Descriptive statistics (mean and standard deviation) and inferential statistics (repeated-measures analysis of variance) were used for data analysis. Data analysis was performed using SPSS version 27.

Findings and Results

The mean (standard deviation) age of participants in the Compassion-Focused Therapy group, the Mindfulness-Based Cognitive Therapy group, and the control group was 36.8 (6.7), 36.67 (6.94), and 35.93 (6.75) years, respectively. One-way ANOVA indicated no significant difference in age across the three groups ($p = .909$). In terms of educational level, the highest frequency belonged to individuals with an associate

degree (33.3%), and the lowest frequency belonged to those with a bachelor's degree or higher (15.55%). The distribution of educational levels across the three groups was relatively similar, and no substantial differences were observed.

Table 1 presents the descriptive statistics, including mean and standard deviation, for self-esteem among female breadwinner mothers.

Table 1. Mean and Standard Deviation of Self-Esteem Scores by Study Groups (Pretest, Posttest, and Follow-Up)

Assessment Stage	Compassion-Focused Therapy M (SD)	Mindfulness-Based Cognitive Therapy M (SD)	Control Group M (SD)	Total M (SD)
Pretest	30.20 (6.67)	29.80 (6.53)	28.07 (6.06)	29.35 (6.34)
Posttest	36.20 (3.93)	36.07 (4.35)	27.87 (5.68)	33.38 (6.06)
Follow-up	36.93 (2.89)	37.33 (5.02)	28.67 (5.27)	34.31 (5.99)

Table 1 shows the mean and standard deviation of self-esteem scores across study groups in the pretest, posttest, and follow-up phases. Differences were observed between the groups, and to evaluate the significance of these differences, the appropriate statistical test (mixed ANOVA) was applied. Before running the parametric tests, their assumptions were checked.

To examine the assumptions of mixed ANOVA for the self-esteem variable, the normality of data distribution was first assessed using the Shapiro–Wilk test. The results indicated that in all three groups—Compassion-Focused Therapy, Mindfulness-Based Cognitive Therapy, and control—the distribution of self-esteem scores was normal in the pretest ($p = .287$, $p = .271$, $p = .390$), posttest ($p = .766$, $p = .125$, $p = .489$), and follow-up ($p = .646$, $p = .095$, $p = .570$). Thus, the assumption of normality was met. Levene's test also showed that variances across groups did not differ significantly in the pretest, posttest, and follow-up phases ($p = .813$, $p = .362$, $p = .267$), confirming the assumption of homogeneity of variances. Mauchly's test of sphericity was used to verify the equality of covariance matrices for repeated measurements. The results indicated that the assumption of sphericity was violated for the self-esteem variable ($\chi^2 = 42.9$, $df = 2$, $p < .001$). Therefore, the Greenhouse–Geisser correction was applied in subsequent analyses.

Given that all assumptions were met, repeated-measures ANOVA was used to test the study hypotheses.

Table 2 presents the results of repeated-measures ANOVA with corrected degrees of freedom for examining the main effects of group, time, and the time × group interaction on the self-esteem of female breadwinner mothers.

Table 2. Results of Repeated-Measures ANOVA for Main and Interaction Effects on Self-Esteem

Source of Variation	SS	df	MS	F	p	Effect Size
Group Effect	1161.53	2	580.76	10.38	< .001	.33
Time Effect	624.1	1.21	514.52	22.3	< .001	.35
Time × Group	278.61	2.43	114.84	4.98	.007	.19

Table 2 reveals that the main effect of time was significant ($p < .001$). The main effect of group was also significant ($p < .001$). Additionally, the interaction effect of time × group was significant ($p = .007$). The significant time effect indicates that differences existed between the pretest, posttest, and follow-up phases. The effect size for the group effect indicates that 33% of the variance in self-esteem among female breadwinner mothers is attributable to group membership. The effect size for time indicates that 35% of

variance in self-esteem is due to time-related changes. The effect size for the time × group interaction indicates that 19% of the variance in self-esteem is related to time-based changes in at least one group.

To examine pairwise differences in mean self-esteem across the three assessment stages, the Bonferroni post hoc test was conducted, as shown in Table 3.

Table 3. Bonferroni Post Hoc Results for Self-Esteem Scores

Reference Stage (Mean)	Comparison Stage (Mean)	Mean Difference	Standard Error	p
Pretest	Posttest	−4.02	0.97	< .001
	Follow-up	−4.96	0.89	< .001
Posttest	Follow-up	−0.93	0.36	.013

As shown in Table 3, the difference between pretest and posttest was significant ($p < .001$). Given the mean differences, scores increased substantially from pretest to posttest. Moreover, a significant difference was observed between posttest and follow-up ($p = .013$), and the mean difference indicates a slight increase in self-esteem at follow-up compared with posttest.

To examine group-specific pairwise comparisons across the three stages, Bonferroni post hoc comparisons were performed. Table 4 presents these differences.

Table 4. Pairwise Comparison of Mean Self-Esteem Scores Between Groups Across Three Assessment Stages

Stage	Group I	Group J	Mean Difference (I–J)	Standard Error	p
Pretest	Compassion-Focused Therapy	Mindfulness-Based Cognitive Therapy	0.4	2.34	1
		Control	2.13	2.34	1
	Mindfulness-Based Cognitive Therapy	Control	1.73	2.34	1
Posttest	Compassion-Focused Therapy	Mindfulness-Based Cognitive Therapy	0.13	1.72	1
		Control	8.33	1.72	< .001
	Mindfulness-Based Cognitive Therapy	Control	8.2	1.72	< .001
Follow-up	Compassion-Focused Therapy	Mindfulness-Based Cognitive Therapy	−0.4	1.65	1
		Control	8.27	1.65	< .001
	Mindfulness-Based Cognitive Therapy	Control	8.67	1.65	< .001

As Table 4 shows, Bonferroni post hoc results demonstrated that in the pretest stage, the study groups (Compassion-Focused Therapy, Mindfulness-Based Cognitive Therapy, and control) did not differ significantly in terms of self-esteem. However, in the posttest and follow-up stages, significant differences emerged between both intervention groups and the control group ($p < .001$). In other words, based on the mean scores, self-esteem among female breadwinner mothers in both intervention groups increased considerably in the posttest and follow-up stages compared with the control group. The results also indicate that there were no significant differences between the two intervention groups across the pretest, posttest, and follow-up stages ($p > .05$).

Therefore, in response to hypothesis 1, the results showed that both intervention groups effectively and sustainably improved the self-esteem of female breadwinner mothers; however, the two interventions did not differ significantly in effectiveness. Thus, hypothesis is rejected.

Discussion and Conclusion

The findings of the present study demonstrated that both Mindfulness-Based Cognitive Therapy (MBCT) and Compassion-Focused Therapy (CFT) significantly improved the self-esteem of female heads of household, with the effects maintained at follow-up. Moreover, although both interventions produced substantial and lasting improvements, no statistically significant difference emerged between them in terms of overall effectiveness. This pattern suggests that while MBCT and CFT operate through different mechanisms—cognitive–attentional modulation versus compassion-based affect regulation—they converge in their capacity to enhance self-worth in vulnerable female populations. The significant increase in posttest and follow-up scores across both intervention groups, compared with the control group, is consistent with an extensive body of literature indicating that mindfulness and compassion-based interventions yield strong psychological benefits across multiple domains of emotional functioning (9, 12, 20).

The significant improvement in self-esteem among participants in the MBCT group is aligned with cognitive and neuropsychological findings that mindfulness reduces maladaptive cognitive patterns, enhances attentional control, and diminishes reactivity to negative self-referential thoughts (12, 13). Core MBCT principles—including decentering, present-moment awareness, and nonjudgmental observation—help participants disengage from harmful patterns of rumination and cognitive fusion, which are strongly associated with low self-esteem and emotional vulnerability. This mechanism is supported by research indicating that MBCT decreases depressive relapse, improves cognitive flexibility, and increases psychological resilience through its capacity to reduce automatic negative thinking (14, 15). The present study's findings further align with meta-analytic evidence showing that mindfulness-based interventions significantly enhance self-esteem, particularly among women facing chronic stress (17). Considering that female heads of household often encounter cumulative stress and heightened role overload (1, 2), the substantial improvement in self-esteem observed in the MBCT group reflects the relevance of mindfulness mechanisms for this population.

Additional support can be drawn from studies specifically investigating the relationship between mindfulness, self-regulation, and self-esteem. For instance, mindfulness has been shown to enhance self-esteem indirectly through improvements in emotion regulation and reductions in suppression and cognitive avoidance (4). Similarly, recent research with university students shows that mindfulness enhances self-esteem through its influence on attentional control and self-regulation, leading to improved engagement and psychological adjustment (18). Together, these findings support the current study's conclusion that MBCT is particularly effective for enhancing self-worth in individuals who experience chronic self-criticism, financial strain, and emotional overload.

The CFT group also demonstrated substantial increases in self-esteem at posttest and follow-up, highlighting the potential of compassion-based interventions for empowering female heads of household. This finding is consistent with theoretical frameworks suggesting that compassion activates affiliative emotional systems necessary for psychological safety, self-acceptance, and emotional soothing (19). By reducing threat-based reactivity and diminishing the influence of self-critical internal narratives, CFT enables participants to cultivate a more compassionate and supportive relationship with themselves. This process is particularly meaningful for women who disproportionately experience social pressure, guilt, and internalized blame as part of their caregiving and economic roles. The observed improvements mirror

findings in the broader literature, where CFT has been shown to reduce anxiety, shame, and self-criticism while increasing resilience and overall well-being (21).

Furthermore, the present findings align with studies demonstrating that self-compassion functions as a powerful predictor of self-esteem. Compassion-based interventions strengthen self-worth not through inflated self-perceptions but through nurturing acceptance, emotional warmth, and a sense of common humanity (23). For populations with trauma histories or chronic stress—conditions often observed among female breadwinners—cultivating self-compassion is crucial for interrupting destructive cycles of shame and self-criticism (25). Research also indicates that fears of compassion can hinder psychological recovery, and that compassion training reduces such fears and facilitates healthier patterns of emotional responding (24). These mechanisms are reflected in the present study, where CFT produced enduring improvements in participants' self-esteem by modifying internal affective and cognitive systems.

Notably, the present results also align with comparative studies indicating that both MBCT and CFT produce meaningful psychological benefits, often through different pathways but yielding similar outcomes in terms of symptom reduction and emotional well-being (26). Research comparing the two approaches indicates that MBCT primarily enhances metacognitive awareness and attentional control, whereas CFT more directly targets emotional soothing and relational repair (27). However, both are shown to decrease rumination, emotional distress, and self-criticism—core processes contributing to low self-esteem (7, 16). The present study's finding that both interventions were equally effective is consistent with this literature, suggesting that both systems—attention–monitoring and compassion–soothing—can independently promote self-esteem growth in structurally stressed populations.

The broader sociocultural context surrounding female heads of household offers further insight into these findings. Research demonstrates that women who become primary earners—often involuntarily—experience significant disruptions in identity, social roles, and psychological well-being (1, 32). These disruptions can lead to chronic guilt, internalized inadequacy, and identity fragmentation, all of which negatively affect self-esteem. Emotion regulation frameworks suggest that chronic exposure to stress and undervaluation activates persistent threat responses, which, if left unregulated, reinforce self-critical cycles (6). Both MBCT and CFT effectively address these maladaptive patterns: MBCT reduces cognitive reactivity and rumination, while CFT replaces threat-based internal narratives with compassionate, affiliative processing (11, 19). This dual relevance likely contributed to the strong outcomes in both intervention groups.

The present findings also resonate with research on mindfulness and compassion interventions for women under severe health and caregiving stress. Studies have shown that MBCT significantly reduces distress in women with breast cancer (16) and enhances psychological resilience during pregnancy (15). Compassion-based approaches similarly improve interpersonal functioning, empathy, and emotional stability in caregiver populations (22). The consistency across these studies and the current findings underscores that women facing chronic stress often benefit from mechanisms that enhance emotional clarity, self-kindness, and psychological grounding.

The enduring changes observed at follow-up further demonstrate the robustness of both therapeutic approaches. Mindfulness training promotes long-term cognitive and attentional changes by strengthening neural networks associated with self-regulation (12). Likewise, compassion training restructures internal emotional systems in durable ways, reinforcing self-soothing and decreasing susceptibility to threat

activation (20). This sustained impact is consistent with evidence showing that both MBCT and CFT produce long-lasting improvements in emotion regulation and psychological adjustment (26). The absence of significant differences between the interventions suggests that both are highly suitable for enhancing self-esteem in populations exposed to chronic socioeconomic and interpersonal stress.

Taken together, the results affirm that both MBCT and CFT are effective, theory-driven psychological interventions capable of promoting self-esteem and emotional resilience among female heads of household. Their complementary mechanisms—metacognitive awareness and compassionate self-relating—offer distinct but equally powerful pathways for improving self-worth in this uniquely vulnerable population.

This study, like all clinical intervention research, is subject to several limitations. First, the sample size was relatively small and drawn through convenience sampling, which limits the generalizability of the results. Second, the study relied on self-report questionnaires, which may be susceptible to social desirability bias, memory limitations, or inaccurate self-assessment. Third, the follow-up period spanned only three months, which may not capture long-term maintenance or potential relapse effects. Fourth, the sample consisted solely of female heads of household in one urban district, which restricts cross-cultural or socioeconomic comparability. Finally, the study did not assess potential mediators—such as emotion regulation, self-compassion, or rumination—that could clarify the mechanisms underlying the observed improvements.

Future studies should employ larger and more diverse samples using randomized sampling methods to enhance external validity. Longitudinal designs with extended follow-up periods of six to twelve months would clarify the durability of treatment effects. Comparative mechanistic studies should examine whether mindfulness or compassion processes mediate improvements in self-esteem. Research should also explore the integration of MBCT and CFT components into hybrid interventions tailored specifically for female heads of household. Additionally, qualitative studies could provide deeper insights into participants' lived experiences, perceived challenges, and the subjective meaning of self-esteem improvements.

The findings indicate that both MBCT and CFT should be considered viable therapeutic options for enhancing psychological well-being among female heads of household. Mental health centers, social welfare organizations, and community programs can integrate these structured group-based interventions into their support services. Training practitioners in mindfulness and compassion-based therapies may help empower vulnerable women, reduce stress-related impairments, and strengthen emotional resilience. Implementing these interventions in accessible, low-cost community settings can contribute to improved mental health outcomes and increased social functioning among women who shoulder significant economic and caregiving responsibilities.

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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. The present research project was conducted in accordance with ethical principles and was approved by the Ethics Committee of Islamic Azad University, Roudehen Branch, under the ethical code IR.IAU.R.REC.1404.020. This approval was issued in accordance with the regulations of the National Ethics System in Biomedical Research.

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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