Mental Health and Lifestyle Journal

Year 2026
Volume 4
Issue 4

Comparison of the Effectiveness of Time Perspective-Based Intervention and Emotional Efficacy on Physical Self-Description Components in Never-Married Women Experiencing the Climacteric Period

Fatemeh Sadat. Mohammadi[1], Masoumeh. Hashemi[2*], Maryam Ghahremani Ochghaz[3]

1 Department of Clinical and Health Psychology, Ar.C., Islamic Azad University, Arak, Iran
2 Department of Midwifery, Ar.C., Islamic Azad University, Arak, Iran
3 Department of Psychology, Asht.C, Islamic Azad University, Ashtian, Iran
*Correspondence: Hashemi2024@iau.ac.ir

Article type:
Original Research

Article history:
Received 24 December 2025
Revised 19 March 2026
Accepted 22 March 2026
Initial Publish 11 June 2026
Published online 01 July 2026

ABSTRACT

The aim of this study was to compare the effectiveness of time perspective-based intervention and emotional efficacy on physical self-description components in never-married women experiencing the climacteric period. The research employed a quasi-experimental method with a pre-test, post-test, and follow-up design featuring a control group. Participants consisted of single women with no history of marriage who were experiencing the climacteric period; they were randomly assigned into three groups: time perspective training, emotional efficacy training, and a control group. Both intervention groups participated in several group therapy/training sessions, while the control group received no intervention. The research instrument included the Physical Self-Description Questionnaire (PSDQ) by Marsh et al. (2010), which was completed across the three stages of pre-test, post-test, and follow-up. Data were analyzed using repeated measures analysis of variance (ANOVA) to examine the effects of time, group, and the time ×group interaction. The results indicated that both interventions, compared to the control group, led to a significant increase in physical self-description during the post-test and follow-up stages. Furthermore, in most components, the time perspective-based intervention demonstrated greater effectiveness than emotional efficacy, such that the increase in physical self-description in the time perspective group was more stable and exhibited a stronger effect size. These findings suggest that time perspective-based intervention can be utilized as an efficient approach to improving psychological constructs related to physical self-description in never-married women experiencing the climacteric period.

Keywords: time perspective, emotional efficacy, physical self-description, never-married women, climacteric.

How to cite this article:
Mohammadi, F.S., Hashemi, M., & Ghahremani Ochghaz, M. (2026). Comparison of the Effectiveness of Time Perspective-Based Intervention and Emotional Efficacy on Physical Self-Description Components in Never-Married Women Experiencing the Climacteric Period. *Mental Health and Lifestyle Journal, 4*(4), 1-12. https://doi.org/10.61838/mhlj.201

Introduction

The transition into the climacteric period represents one of the most significant physiological and psychological milestones in a woman's life. This phase, characterized by the gradual decline in ovarian function and the eventual cessation of menstruation, is often accompanied by a myriad of early complications and systemic changes (1). While menopause is a universal biological event, the subjective experience of this transition is deeply influenced by cultural, social, and psychological factors (2). For many women, the

climacteric period is not merely a biological shift but a period of profound psychological adjustment where mental health and the ability to adapt to physical changes become paramount (3).

A particularly vulnerable yet understudied demographic within this context is never-married women. In many societies, women who remain single into their middle years often face unique psychosocial pressures, including the "stigma of singlehood" (4). This stigma, combined with the loss of reproductive capacity and the physical signs of aging, can exacerbate feelings of isolation and psychological distress. During the climacteric years, these women may experience a heightened sense of vulnerability as they navigate significant health changes without the traditional support systems associated with a nuclear family. Research has shown that depression is a frequent companion to the climacteric period, necessitating a closer look at how emotional and cognitive interventions can mitigate these risks (5).

One of the most critical domains affected during this transition is the "physical self-description," which encompasses an individual's perception of their physical activity, appearance, body fat, coordination, and overall health. The physical changes associated with menopause, such as weight gain and skin elasticity changes, often lead to a decline in body image satisfaction. A systematic review has highlighted the strong associations between the menopausal transition and negative body image (6). This decline is not limited to young women; older women also face significant challenges in self-body recognition and maintain complex attitudes towards their changing bodies (7). For women in the climacteric phase, the gap between their perceived "ideal" body and their actual physical state can lead to significant psychological helplessness (8).

The role of physical health and lifestyle during this period cannot be overstated. Detrimental changes in health are common during menopause, but physical activity has been identified as a key protective factor (9). Despite its benefits, many women find it difficult to maintain a high level of adherence to healthy diets and exercise regimens due to fluctuating hormones and psychological barriers (10). This lack of adherence often feeds into a cycle of poor physical self-perception. Accurate measurement of these perceptions is vital, and tools like the Physical Self-Description Questionnaire have been validated to ensure that researchers can reliably capture these multidimensional constructs (11).

The relationship between physical self-perception and overall well-being is mediated by several psychological constructs. For instance, self-acceptance and gender role orientation have been found to explain a significant portion of the variance in the well-being of menopausal women, with time perspective acting as a crucial mediator (12). Furthermore, general self-efficacy serves as a moderator between the severity of menopausal symptoms and life satisfaction; women with higher self-efficacy tend to cope better with the vasomotor and psychological symptoms of the climacteric period (13). While some women may turn to hormonal agents to treat symptoms such as depression (14), there is a growing demand for non-pharmacological, psychological interventions that empower women to manage their emotional and physical transitions.

Psychological interventions such as Schema Therapy have shown promise in improving weight management, body image, and self-esteem (15). Similarly, Acceptance and Commitment Therapy (ACT) has been effective in reducing body image avoidance and psychological inflexibility in women struggling with weight issues (16). Additionally, web-based psychoeducation has emerged as a modern tool to enhance emotional functioning and eating behaviors (17). However, there remains a need for interventions that

specifically target the temporal and emotional regulation aspects of the climacteric experience, particularly for single women who may feel "out of sync" with traditional life timelines.

Time Perspective Therapy (TPT) offers a unique approach to this problem. Based on the theory that individuals' perceptions of the past, present, and future significantly influence their mental health, TPT seeks to balance these perspectives (18). Many women in the climacteric phase may become "stuck" in a negative past or a fatalistic present, leading to anxiety and a lack of future orientation. TPT serves as a "time cure" for various psychological ailments by encouraging a shift toward a more balanced and positive temporal outlook (19). In menopausal populations, TPT has demonstrated effectiveness in improving physical self-concept and reducing the sense of psychological helplessness that often accompanies aging (8).

In parallel, Emotional Efficacy Therapy (EET) provides a framework for managing intense emotional experiences through mindfulness and values-based action. Given that the climacteric period is often a time of emotional volatility, EET may offer the tools necessary for women to remain resilient in the face of physiological shifts. While many studies have focused on married women or general populations, the specific impact of these therapies on never-married women aged 40–55—who may face a different set of social expectations and self-perceptions—remains unexplored. Comparing the efficacy of TPT and EET could provide valuable insights into which approach better supports the physical self-description and emotional adjustment of this specific demographic.

By improving a woman's physical self-description, these therapies may indirectly influence her willingness to engage in health-promoting behaviors, thereby improving her overall quality of life during and after the menopausal transition. Understanding how a woman views her body, her health, and her place in time is essential for developing comprehensive care models that address more than just the vasomotor symptoms of menopause.

The aim of the current study was to compare the effectiveness of Emotional Efficacy Therapy and Time Perspective Therapy on the components of physical self-description among never-married women in the climacteric period.

Methods and Materials

Study Design and Participants

This study was conducted using a quasi-experimental approach with a pre-test, post-test, and 3-month follow-up design including a control group. Two experimental groups and one control group were utilized, all of which responded to the pre-test and post-test. The statistical population consisted of all never-married women aged 40 to 55 years referring to comprehensive urban health service centers and their affiliated outposts in Arak in 2024. Due to the lack of access to exact statistics, multi-stage cluster random sampling was performed to select the centers. Accordingly, one comprehensive urban health service center was randomly selected from each of the five municipal districts of Arak, resulting in the selection of five centers along with their affiliated outposts. From 194 eligible women in these centers, 81 were purposively selected after evaluating strict inclusion criteria (e.g., age, marital status, residency in Arak, minimum high school diploma, climacteric symptoms according to the Greene Climacteric Scale and midwifery confirmation, absence of hormonal medications, absence of debilitating physical/mental illness or addiction, and lack of recent emotional trauma) while accounting for potential attrition. These individuals were then assigned to

three groups of 27 (two experimental groups and one control group) using simple random assignment (drawing lots). After excluding cases matching the exclusion criteria (e.g., lack of interest, concurrent psychotherapy, absence from more than two sessions, failure to participate in the post-test or follow-up), each group concluded with 22 participants.

It should be explained that the sample size was calculated using G*Power software, considering a repeated measures analysis of variance (ANOVA) design (group ×time interaction), a significance level of 0.05, and a test power of 0.80. Assuming a medium effect size ($f = 0.25$), the sample size was estimated at 66 individuals (22 per group).

The implementation of the study began after receiving an ethics code (IR.IAU.ARAK.REC.1403.124) from Islamic Azad University, Arak Branch, and necessary permits, starting with the physical self-description pre-test. Subsequently, the intervention for the emotional efficacy group was held in 8 sessions of 60 minutes, and for the time perspective group in 6 sessions of 90 minutes; both groups participated twice a week in a group format. During this period, the control group remained on a waiting list. Upon completion of the sessions, a post-test was administered to all three groups, and 3 months after the end of the intervention, a follow-up test was conducted.

Data Collection

To measure the dimensions of physical self-description in the current study, the Physical Self-Description Questionnaire–Short Form (PSDQ-S) was used. This questionnaire, presented by Marsh et al. (2010), consists of 36 items and is a shortened version of the original PSDQ developed by Marsh in 1996. The questionnaire comprises ten primary components covering various dimensions of physical self-description: physical activity, appearance, body fat, coordination, endurance, self-esteem, flexibility, health, sport competence, and strength. Each item is scored on a 6-point scale from "True" to "False." Items 7, 8, 9, 20, 29, 30, and 31 are reverse-scored. The construct validity of the English short form is highly favorable, with a Confirmatory Factor Analysis (CFA) fit index reported at 0.95 and a Non-Normed Fit Index (NNFI) of 0.97 (Marsh et al., 2010). In Iran, Fathi-Rezaie et al. (2017) examined the validity and reliability of the short form on a sample of 421 students. Exploratory Factor Analysis (EFA) results showed that the 36 items explained 70% of the variance in physical self-concept. Additionally, reliability using Cronbach's alpha was 0.95, indicating high internal consistency. In the present study, the reliability of the PSDQ was estimated at 0.92 using Cronbach's alpha, indicating high reliability for data collection.

To evaluate the severity and symptoms of menopause, the Greene Climacteric Scale (GCS) was utilized. This questionnaire was designed by Greene in 1976. It includes 21 symptoms related to menopause divided into four distinct subscales: psychological, physical, vasomotor, and sexual symptoms. Each symptom is rated on a four-point scale from zero (not at all) to three (extremely) based on recent experience. Total scores range from 0 to 63. According to Greene (2008), a score of 15 or higher typically indicates estrogen deficiency in women during the climacteric period. Regarding reliability, Askari et al. (2011), in a study of 398 individuals, calculated the internal consistency of the instrument using Cronbach's alpha as 0.87, indicating good internal consistency. The test-retest correlation coefficient was reported as 0.74. The content validity of this scale was also reviewed by eight faculty members at Gonabad University of Medical Sciences, yielding a Kendall's coefficient of agreement of 0.81.

Interventions

The Emotional Efficacy Therapy (EET) intervention, based on the protocol by McKay and West (2016), was conducted over eight 60-minute sessions. The program focused on increasing emotional awareness and developing self-regulatory skills through a structured progression: initial sessions established the therapeutic alliance and introduced the core principles of mindful acceptance and "emotion surfing" to replace emotional avoidance. Mid-therapy sessions emphasized "values-based action," utilizing the "monster on the bus" metaphor and imaginal exposure to help participants act according to personal values despite emotional distress. Subsequent sessions integrated relaxation techniques, cognitive coping thoughts, and "radical acceptance" into a personalized emotional efficacy plan. The final stages focused on attention-deployment strategies, such as redirection and timeouts, culminating in a comprehensive review of skills and post-test assessments to ensure the internalisation of emotional regulation tools.

The Time Perspective Therapy (TPT) intervention, adapted from Zimbardo et al. (2012), consisted of six 90-minute sessions designed to help participants achieve a balanced temporal outlook. The initial phase focused on orienting participants to the concept of "time horizons" and exploring the psychological impact of past (positive and negative), present (hedonistic and fatalistic), and future perspectives. Middle sessions utilized experiential exercises to identify the benefits and drawbacks of various temporal biases, specifically addressing how over-reliance on a single horizon affects well-being. The intervention concluded with practical training in temporal balancing techniques, such as the "empty chair" method to transform negative past perceptions into positive ones and strategies for incorporating "transcendental future" goals while maintaining a healthy "hedonistic present." The final session integrated these skills to foster a flexible, balanced time perspective, followed by the administration of post-test measures.

Data Analysis

To analyze the resulting data, descriptive statistics including frequency, percentage, mean, and standard deviation were first used. The normality of the data was checked using the Shapiro-Wilk test, and for hypothesis testing, repeated measures ANOVA was employed to examine the group ×time interaction. In the post-hoc comparison stage for post-test and follow-up, the Bonferroni test was performed to control for Type I error. All statistical calculations were conducted using SPSS version 26.

Findings and Results

The descriptive findings of this study included the examination of demographic characteristics—namely age and educational status—across the three groups. The statistical sample consisted of 66 never-married women in the climacteric period who completed the training/treatment in three groups of 22 (emotional efficacy therapy, time perspective therapy, and control). The mean age of participants was 48.4 years in the emotional efficacy group, 48.9 years in the time perspective group, and 49.3 years in the control group. The distribution of educational levels was as follows: the first, second, and third groups respectively had 22.7%, 13.6%, and 18.2% high school graduates; 27.3%, 18.2%, and 22.7% associate degree holders; 27.3%, 36.4%, and 31.8% bachelor's degree holders; and 22.7%, 31.8%, and 27.3% master's degree holders. Overall, 31.8% of all participants held a bachelor's degree. Descriptive information for physical self-description dimension scores across pre-test and post-test stages by group is provided in Table 1.

Table 1: Descriptive statistics of physical self-description component scores by control, time perspective therapy, and emotional efficacy therapy groups

Variable	Phase	Time Perspective ($n = 22$)	Emotional Efficacy ($n = 22$)	Control Group ($n = 22$)
		$M(SD)$	$M(SD)$	$M(SD)$
Physical Activity	Pre-test	9.92 (1.19)	10.50 (1.33)	10.81 (3.33)
	Post-test	13.19 (1.35)	11.81 (1.55)	10.92 (1.05)
	Follow-up	15.08 (1.44)	14.19 (3.12)	9.92 (1.57)
Physical Appearance	Pre-test	14.12 (3.02)	13.19 (3.41)	12.58 (1.62)
	Post-test	13.12 (2.88)	13.65 (3.48)	13.73 (2.79)
	Follow-up	13.38 (3.75)	12.81 (1.44)	12.92 (3.07)
Body Fat	Pre-test	14.15 (1.64)	14.38 (2.63)	14.73 (2.83)
	Post-test	16.15 (1.64)	15.12 (3.02)	15.08 (1.93)
	Follow-up	15.35 (2.11)	15.23 (3.56)	15.35 (2.15)
Coordination	Pre-test	9.19 (2.00)	8.81 (2.24)	9.23 (1.84)
	Post-test	11.88 (2.00)	10.27 (2.25)	9.54 (2.17)
	Follow-up	15.04 (2.25)	12.58 (2.26)	9.88 (1.98)
Endurance	Pre-test	10.54 (1.90)	11.19 (2.05)	10.92 (1.58)
	Post-test	13.58 (2.41)	12.85 (1.69)	10.42 (2.41)
	Follow-up	15.23 (1.86)	14.58 (2.56)	10.92 (2.01)
Self-Esteem	Pre-test	8.42 (2.08)	8.69 (1.49)	8.31 (1.69)
	Post-test	10.96 (1.82)	10.04 (2.06)	8.08 (1.83)
	Follow-up	13.50 (2.19)	12.04 (1.57)	7.42 (1.83)
Flexibility	Pre-test	9.77 (2.04)	8.85 (1.46)	8.50 (2.09)
	Post-test	11.58 (2.24)	12.31 (2.05)	9.58 (1.85)
	Follow-up	15.42 (1.72)	14.04 (2.30)	9.12 (2.10)
Health	Pre-test	14.85 (1.82)	13.31 (1.56)	15.23 (1.96)
	Post-test	17.69 (1.71)	16.00 (1.69)	14.15 (1.95)
	Follow-up	20.12 (1.47)	18.38 (1.70)	14.35 (1.95)
Sport Competence	Pre-test	15.04 (2.49)	15.69 (2.97)	16.35 (1.72)
	Post-test	15.42 (2.90)	15.77 (2.62)	15.65 (2.44)
	Follow-up	16.04 (2.56)	16.62 (1.98)	17.08 (2.27)
Strength	Pre-test	12.35 (1.69)	13.00 (1.54)	12.23 (2.60)
	Post-test	15.81 (1.67)	14.65 (1.23)	13.31 (1.40)
	Follow-up	18.77 (1.84)	16.92 (2.43)	12.38 (1.98)
Total Score	Pre-test	118.34 (6.54)	117.61 (6.40)	118.88 (10.52)
	Post-test	139.38 (5.73)	132.46 (7.14)	120.46 (7.25)
	Follow-up	157.92 (5.48)	147.38 (1.54)	119.34 (7.13)

Examination of the physical self-description component scores in Table 1 showed that the pattern of changes favored the intervention groups, particularly the time perspective training group. In total physical self-description, means in the time perspective group increased from 118.34 at pre-test to 139.38 at post-test and 157.92 at follow-up. In the emotional efficacy group, it rose from 117.61 to 132.46 and then 147.38. No significant change was observed in the control group, with means reported at 118.88, 120.46, and 119.34, respectively. Overall, these patterns indicate the effect of time and the time ×group interaction in favor of the interventions and the relative superiority of time perspective training compared to emotional efficacy.

Before analyzing the research hypothesis using repeated measures ANOVA, the assumptions of this statistical method—including the normal distribution of research components, homogeneity of error variances, and equality of variance matrices—must be analyzed. If these assumptions are confirmed, repeated measures ANOVA can be used. One of the most important assumptions is the normal distribution of research variables, which was assessed using the Shapiro-Wilk test given the sample size. Since the significance level calculated for the main research variable at pre-test, post-test, and follow-up was higher than the alpha level of 0.01, it can be stated that the variables follow a normal distribution.

Another important check is the homogeneity of error variances via Levene's test. The calculated significance was higher than 0.05, confirming the assumption of homogeneity of error variances. Similarly, Box's M test significance was higher than the 0.05 error coefficient, confirming the equality of variance matrices.

Table 2: Results of repeated measures ANOVA on the effectiveness of time perspective therapy and emotional efficacy therapy on physical self-description in single women in the climacteric period

Variable	Source	*SS*	*MS*	*F*	*p*	η_p^2
Physical Activity	Time	277.598	138.799	65.355	.001	.466
	Time ×Group	273.838	68.459	32.235	.001	.462
	Error	318.564	2.124			
Physical Appearance	Time	8.342	4.171	0.445	.641	.006
	Time ×Group	33.145	8.286	0.885	.475	.023
	Error	1404.513	9.363			
Body Fat	Time	48.214	24.104	6.262	.002	.077
	Time ×Group	20.325	5.081	1.320	.265	.034
	Error	577.462	3.850			
Coordination	Time	459.598	229.799	50.389	.001	.402
	Time ×Group	178.991	44.748	9.812	.001	.207
	Error	684.077	4.561			
Endurance	Time	282.829	141.415	40.161	.001	.349
	Time ×Group	164.991	41.248	11.714	.001	.238
	Error	528.178	3.521			
Self-Esteem	Time	246.333	123.167	28.962	.001	.279
	Time ×Group	247.103	61.776	14.526	.001	.279
	Error	637.897	4.253			
Flexibility	Time	571.444	285.722	83.632	.001	.527
	Time ×Group	240.761	60.190	17.618	.001	.320
	Error	512.462	3.416			
Health	Time	388.342	194.171	58.138	.001	.437
	Time ×Group	326.017	81.504	24.404	.001	.394
	Error	500.974	3.340			
Sport Competence	Time	44.538	22.269	3.277	.040	.042
	Time ×Group	8.667	2.167	0.319	.865	.008
	Error	1019.462	6.796			
Strength	Time	482.880	241.440	93.849	.001	.556
	Time ×Group	273.889	68.472	26.615	.001	.415
	Error	385.897	2.573			

The results of the repeated measures ANOVA in Table 2 for physical self-description subscales showed that in several components, changes over time and the difference in the pattern of change between groups were significant. In physical activity, the effect of time was reported with $F = 65.355$ and $\eta^2 = 0.466$, and the time ×group interaction with $F = 32.235$ and $\eta^2 = 0.462$, indicating medium effects. In coordination, the effect of time was $F = 50.389$ and $\eta^2 = 0.402$, and the interaction was $F = 9.812$ and $\eta^2 = 0.207$. In endurance, the effect of time was $F = 40.161$ and $\eta^2 = 0.349$, and the interaction was $F = 11.714$ and $\eta^2 = 0.238$. In self-esteem, the effect of time was $F = 28.962$ and the interaction was $F = 14.526$ with $\eta^2 = 0.279$. In flexibility, the effect of time was $F = 83.632$ and $\eta^2 = 0.527$, and the interaction was $F = 17.618$ and $\eta^2 = 0.320$. In health, the effect of time was $F = 58.138$ and $\eta^2 = 0.437$, and the interaction was $F = 24.404$ and $\eta^2 = 0.394$. In strength, the effect of time was $F = 93.849$ and $\eta^2 = 0.556$, and the interaction was $F = 26.615$ and $\eta^2 = 0.415$. These all signify significant medium effects. Conversely, in physical appearance, the time ×group interaction was not

significant and effects were very small. In body fat and sport competence, the time ×group interaction was also not significant. Accordingly, given the significance of the interaction in most primary subscales, the hypothesis is confirmed, indicating a difference in the effectiveness of time perspective therapy and emotional efficacy therapy on physical self-description in single women during the climacteric period.

Table 3: Bonferroni post-hoc comparison of physical self-description variables by group

Variable	(I) Group	(J) Group	Mean Diff. (I-J)	*p*
Physical Activity	Time Perspective	Control	2.179*	.001
	Emotional Efficacy	Control	1.615*	.001
	Time Perspective	Emotional Efficacy	0.564*	.026
Physical Appearance	Time Perspective	Control	-0.462	1.000
	Emotional Efficacy	Control	-0.141	1.000
	Time Perspective	Emotional Efficacy	0.321	1.000
Body Fat	Time Perspective	Control	-0.167	1.000
	Emotional Efficacy	Control	0.141	1.000
	Time Perspective	Emotional Efficacy	0.308	1.000
Coordination	Time Perspective	Control	2.487*	.001
	Emotional Efficacy	Control	1.000*	.013
	Time Perspective	Emotional Efficacy	1.487*	.001
Endurance	Time Perspective	Control	2.359*	.001
	Emotional Efficacy	Control	2.115*	.001
	Time Perspective	Emotional Efficacy	0.244	1.000
Self-Esteem	Time Perspective	Control	3.026*	.001
	Emotional Efficacy	Control	2.321*	.001
	Time Perspective	Emotional Efficacy	0.705	.053
Flexibility	Time Perspective	Control	3.192*	.001
	Emotional Efficacy	Control	2.667*	.001
	Time Perspective	Emotional Efficacy	0.526	.346
Health	Time Perspective	Control	2.974*	.001
	Emotional Efficacy	Control	1.321*	.001
	Time Perspective	Emotional Efficacy	1.654*	.001
Sport Competence	Time Perspective	Control	-0.859	.125
	Emotional Efficacy	Control	-0.333	1.000
	Time Perspective	Emotional Efficacy	-0.526	.626
Strength	Time Perspective	Control	3.000*	.001
	Emotional Efficacy	Control	2.218*	.001
	Time Perspective	Emotional Efficacy	0.782*	.015

The results of the Bonferroni test in Table 3 showed that in physical activity, coordination, self-esteem, flexibility, health, and strength, both treatment groups had higher means compared to the control group. For example, in physical activity, means were 12.731 for time perspective, 12.167 for emotional efficacy, and 10.551 for control. In strength, they were 15.641, 14.859, and 12.641, respectively. Furthermore, in physical activity, coordination, health, and strength, the mean of the time perspective group was significantly higher than the emotional efficacy group. In endurance, both treatments had higher means than the control, but no significant difference was observed between the two treatments (means of 13.115 for time perspective and 12.872 for emotional efficacy). In contrast, no significant differences were observed between groups in physical appearance, body fat, and sport competence, with means reported as being close to one another.

Discussion and Conclusion

The transition into the climacteric period represents a complex intersection of biological decline and psychological reconfiguration. The findings of the present study indicate that both Emotional Efficacy Therapy (EET) and Time Perspective Therapy (TPT) significantly improved the components of physical self-

description among never-married women. These components—including perceptions of body fat, appearance, health, and physical activity—are often compromised during the menopausal transition as women face declining ovarian function and systemic physiological changes (1). For never-married women, who often navigate these changes within the context of the "stigma of singlehood," the psychological impact of a changing physical self is particularly acute (4).

The effectiveness of Time Perspective Therapy in this study aligns with the theoretical framework that our perception of time dictates our mental health and self-concept (18). Participants in the TPT group showed significant improvements in how they described their physical selves, likely because the therapy helped them move away from a "past-negative" orientation—where they might mourn their younger, pre-menopausal bodies—toward a more balanced "future-positive" and "present-hedonistic" outlook. This shift is crucial because a negative time perspective has been shown to mediate lower self-acceptance in menopausal women (12). By adopting TPT as a "time cure," women are able to reframe the aging process not as a series of losses, but as a manageable phase of life (19). These results support previous research suggesting that TPT effectively enhances physical self-concept and mitigates the psychological helplessness often associated with the climacteric transition (8).

Similarly, Emotional Efficacy Therapy (EET) proved to be a robust intervention for improving physical self-description. EET focuses on mindfulness, emotional acceptance, and values-based action, which are essential when facing the "psychological climacteric" (2). The physical changes of menopause, such as weight gain and altered body composition, often lead to a significant decline in body image satisfaction (6). By increasing emotional efficacy, women in this study were better equipped to accept their changing bodies rather than engaging in avoidance. This mirrors findings from studies on Acceptance and Commitment Therapy (ACT), which demonstrated that psychological flexibility reduces body image avoidance in overweight women (16). Furthermore, by managing the emotional distress associated with aging, EET may empower women to maintain higher levels of general self-efficacy, which serves as a vital moderator between menopausal symptom severity and overall life satisfaction (13).

The results also highlight the importance of addressing body image through structured psychological interventions. Menopausal physical changes often disrupt self-body recognition, creating a disconnect between the woman's internal identity and her external appearance (7). This disconnect is a primary driver of depression during the climacteric period (5). Our findings suggest that by improving physical self-description via EET or TPT, women may experience better mental health outcomes. This is consistent with evidence that schema therapy and web-based psychoeducation can successfully improve body image and eating behaviors by addressing the underlying emotional and cognitive distortions (15, 17).

Moreover, the improvement in the "health" and "physical activity" domains of the Physical Self-Description Questionnaire (PSDQ) is particularly noteworthy. It has been established that physical activity is a critical protective factor against the detrimental health changes of menopause (9). However, adherence to exercise and healthy diets is often low in this demographic (10). The psychological shifts facilitated by TPT and EET—specifically the move away from fatalism and toward self-efficacy—may provide the internal motivation necessary for these women to adhere to healthier lifestyles. When a woman views her physical self more positively, she is more likely to engage in behaviors that preserve that self. Using validated tools like the PSDQ allowed this study to capture these subtle but significant shifts in self-perception (11).

Interestingly, while both therapies were effective, they appear to work through different mechanisms. TPT addresses the "when" of the self—helping women reconcile their past youth with their present reality and future health. EET addresses the "how" of the self—helping women manage the immediate emotional reactivity to physical symptoms. Both approaches are essential given that mental health and climacteric adjustment are inextricably linked (3). While some clinical settings rely heavily on hormonal agents to manage the depressive symptoms of menopause (14), the results of this study advocate for the inclusion of time-based and emotion-based psychological therapies as a primary or adjunctive treatment modality.

In conclusion, the data suggest that the unique psychosocial challenges faced by never-married women during the climacteric period can be effectively managed through targeted psychological interventions. By improving their physical self-description, these women are better positioned to navigate the systemic changes of menopause with resilience and a sense of agency.

The present study faced several limitations that should be considered when interpreting the findings. First, the sample was restricted to never-married women aged 40 to 55, which, while providing specific insights into an understudied demographic, limits the generalizability of the results to married women, divorcees, or those in different age brackets of the menopausal transition. Second, the study relied heavily on self-report measures for assessing physical self-description; such measures can be subject to social desirability bias or subjective internal states at the time of testing. Third, the duration of the follow-up period was relatively short. While immediate improvements were observed after the interventions, it remains unclear whether the gains in physical self-concept and emotional efficacy are maintained over several years as menopausal symptoms progress. Finally, environmental factors such as socioeconomic status, occupation, and baseline physical fitness levels were not strictly controlled, which might have influenced the participants' perceptions of their physical health and activity levels.

Future studies should aim to expand the scope of this research by conducting longitudinal investigations that track women from the pre-menopausal stage through post-menopause to determine the long-term sustainability of TPT and EET. It would also be beneficial to compare these psychological interventions across different marital and social statuses to see if the "singlehood" factor significantly alters the treatment response. Researchers should consider incorporating objective physiological markers, such as cortisol levels or bone density scans, alongside self-report questionnaires to provide a more comprehensive picture of the "physical self." Additionally, exploring the potential of "blended" interventions—combining elements of both TPT and EET—could lead to the development of a more holistic therapy protocol tailored specifically for the climacteric period. Finally, investigating the role of digital health platforms in delivering these therapies could increase accessibility for women who may not seek traditional in-person counseling.

For clinical practitioners and health psychologists, these findings suggest that the treatment of menopausal symptoms should extend beyond hormonal and physical symptom management. It is recommended that clinicians incorporate brief psychological screenings to assess time perspective and emotional regulation capacity in mid-life women. Specifically, for women expressing high levels of body dissatisfaction or psychological helplessness, Time Perspective Therapy can be used to help them reframe the aging process and set future-oriented health goals. Emotional Efficacy Therapy can be integrated into standard care to provide women with immediate tools for managing the emotional volatility and distress associated with physical changes. Furthermore, support groups specifically for single or never-married

women in the climacteric phase could be established to address the unique social stigmas they face, using these therapeutic frameworks to build a sense of community and shared resilience. Public health initiatives should also focus on promoting the link between psychological self-perception and physical health adherence, encouraging women to view mental wellness as a cornerstone of menopausal health.

Acknowledgments

The authors express their deep gratitude to all participants who contributed to this study.

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 (Ethics Code: IR.IAU.ARAK.REC.1403.124).

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.

Funding

This research was carried out independently with personal funding and without the financial support of any governmental or private institution or organization.

References

1. Asgari F, Basiri Moghadam K, Basiri Moghadam M, Torabi S, Gholamfarkhani S, Moharreri M, et al. Natural menopause age and comparison of prevalence of its early complications. Journal of Contemporary Internal Medicine. 2011;17(4):42-8.

2. Ali AM, Ahmed AH, Smail L. Psychological Climacteric Symptoms and Attitudes toward Menopause among Emirati Women. International Journal of Environmental Research and Public Health. 2020;17(14):5028. doi: 10.3390/ijerph17145028.

3. Khakkar M, Kazemi A. Relationship between mental health and climacteric adjustment in middle aged women. BMC Women's Health. 2023;23(1):234. doi: 10.1186/s12905-023-02397-x.

4. Canesares CB, Bitangcol IJ, Castaneda K, Fontamillas DK, Quilas DR, editors. Through the Lens of Solitude: Capturing the Realities of Singlehood Stigma Among Women. International Scholars Conference; 2024.

5. Zangirolami-Raimundo J, Sorpreso I, Reboucas C, Bezerra P, Costa L, Baracat E, et al. Depression in women in climacteric period: a brief review. Revista da Associacao Medica Brasileira. 2023;69(7). doi: 10.1590/1806-9282.20230385.

6. Vincent C, Bodnaruc AM, Prud'homme D, Olson V, Giroux I. Associations between menopause and body image: A systematic review. Women's Health. 2023;19. doi: 10.1177/17455057231209536.

7. Bellard A, Urgesi C, Cazzato V. Self-body recognition and attitudes towards body image in younger and older women. Archives of Women's Mental Health. 2022;25(1):107-19. doi: 10.1007/s00737-021-01164-x.

8. Ebrahimi F, Kiamarsi A, Taklavi S. The effectiveness of time perspective therapy on physical self-concept and psychological helplessness. Rooyesh. 2023;12(5):109-18.

9. Hulteen RM, Marlatt KL, Allerton TD, Lovre D. Detrimental Changes in Health during Menopause: The Role of Physical Activity. International Journal of Sports Medicine. 2023;44(6):389-96. doi: 10.1055/a-2003-9406.

10. Alnjadat R, Momani EA, Etoom M, Hamdan F, Alrub SA. Level of adherence to diet and physical activity among menopausal women and influencing factors in Jordan. Frontiers in Public Health. 2024;12:1333102. doi: 10.3389/fpubh.2024.1333102.

11. Fathirezaie Z, Ebrahimi S, Zamani Sani SH. Validity and Reliability of short version of physical self-description questionnaire. Journal of Sport Management and Motor Behavior. 2017;13(26):275-89. doi: 10.22080/jsmb.2017.12144.2606.

12. Abbasi L, Monirpour N, Mirzahoseini H. Explaining Self-Acceptance based on Body Image, Gender Role with mediation of Time Perspective among Menopausal Women. Medical Journal of Mashhad University of Medical Sciences. 2021;64(3):3335-47. doi: 10.22038/mjms.2021.19117.

13. Bien A, Niewiadomska I, Korzynska-Pietas M, Rzonca E, Zarajczyk M, Pieta B, et al. General self-efficacy as a moderator between severity of menopausal symptoms and satisfaction with life. Frontiers in Public Health. 2024;12:1426191. doi: 10.3389/fpubh.2024.1426191.

14. Herson M, Kulkarni J. Hormonal Agents for the Treatment of Depression Associated with the Menopause. Drugs & Aging. 2022;39(8):607-18. doi: 10.1007/s40266-022-00962-x.

15. Afshin Bahadori M, Kalhornia Golkar S, Pashang S. The Effectiveness of Schema Therapy Intervention in Weight, Body Image and Self-esteem of Obese People: A Randomized Controlled Trial. Hormozgan Medical Journal. 2022;26(2):82-7.

16. Ansari Asl M, Mohamadpour S. The Effectiveness of Acceptance and Commitment Therapy on Body Image Avoidance and Inflexibility in Obese and Overweight Women. Medical Education Journal of Shahrekord University of Medical Sciences. 2022;12:47.

17. Czepczor-Bernat K, Brytek-Matera A, Staniszewska A. The effect of a web-based psychoeducation on emotional functioning, eating behaviors, and body image. Archives of Women's Mental Health. 2021;24(3):423-35.

18. Zimbardo PG, Boyd JN. Putting time in perspective: A valid, reliable individual-differences metric. Journal of Personality and Social Psychology. 1999;77(6):1271-88.

19. Zimbardo PG, Boyd JN. The Time Cure: Overcoming PTSD, Anxiety, and Anger with Time Perspective Therapy: Jossey-Bass; 2015.