

Comparison of the Effectiveness of Time Perspective and Emotional Efficacy-Based Interventions on Social-Emotional Loneliness and Self-Concealment in Single Women in the Climacteric Period

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ABSTRACT

Objective: This study aimed to compare the effectiveness of Time Perspective Therapy (TPT) and Emotional Efficacy Therapy (EET) on social-emotional loneliness and self-concealment among single women in the climacteric period.

Methods and Materials: This study employed a quasi-experimental, pre-test, post-test, and follow-up design with a control group. The statistical population consisted of single women navigating the climacteric phase. Participants were selected through purposive sampling and randomly assigned to one of three groups: Time Perspective Therapy, Emotional Efficacy Therapy, or a waitlist Control group. Data were collected using standardized self-report inventories measuring social-emotional loneliness (including romantic, family, and social subscales) and self-concealment. Data analysis was conducted using repeated measures ANOVA and Bonferroni post-hoc tests to evaluate the main effects and interactions across the three assessment phases.

Findings: The repeated measures ANOVA demonstrated significant main effects of time and time × group interactions for total social-emotional loneliness, romantic loneliness, family loneliness, social loneliness, and total self-concealment (all $p < .001$). Bonferroni post-hoc analyses revealed that both TPT and EET significantly improved all measured outcomes across the post-test and follow-up phases compared to the control group. Crucially, the comparative analysis showed that TPT was significantly more effective than EET in reducing total social-emotional loneliness, romantic loneliness, social loneliness, and total self-concealment (all $p < .05$). The only exception was family loneliness, where no statistically significant difference was observed between the TPT and EET groups ($p > .05$).

Conclusion: While both therapeutic modalities successfully alleviate psychological distress, Time Perspective Therapy is generally superior to Emotional Efficacy Therapy in reducing loneliness and self-concealment among single women in the climacteric period.

Keywords: Time perspective, emotional efficacy, loneliness, self-concealment, single women, climacteric.

1. Introduction

The demographic landscape of modern societies has undergone significant transformations in recent decades, marked notably by an increasing prevalence of singlehood among adults. For women, entering the climacteric period—a transitional phase characterized by the gradual decline in ovarian function leading to menopause—while navigating the psychosocial complexities of being single presents a unique set of developmental and psychological challenges (De Santiago Nogueira et al., 2022). Sociological and psychological studies indicate that single women in this developmental stage often grapple with profound shifts in identity, social roles, and physical health, alongside changing family dynamics (Akbari et al., 2021; Kalate Sadati et al., 2023). The intersection of hormonal fluctuations inherent to the climacteric period and the sociocultural pressures associated with prolonged singlehood can exacerbate psychological vulnerabilities, significantly impacting their overall quality of life and subjective well-being (Sepidnameh & Parvizi, 2024; Ziyaasghari et al., 2024). Consequently, identifying specific psychological burdens and effective therapeutic interventions tailored to this demographic has emerged as a critical imperative in contemporary clinical psychology and women's health.

Prominent among the psychological challenges faced by single women in the climacteric period is social-emotional loneliness. Loneliness is a multidimensional construct, distinctly conceptualized into emotional and social domains (Amorim et al., 2019). Emotional loneliness stems from the absence of a close, intimate attachment figure, such as a romantic partner, whereas social loneliness arises from a lack of an engaging social network or a broader sense of community belonging (Wolters et al., 2023). For single women transitioning through midlife, the absence of a romantic partner, combined with potential shifts in peer relationships or feelings of isolation regarding their life path, can intensely trigger both facets of loneliness (Eisma & Buyukcan-Tetik, 2025). Chronic social-emotional loneliness is not merely a transient state of sadness; it functions as a pervasive stressor linked to immune dysregulation, cognitive decline, and an elevated risk for mood disorders, making its targeted mitigation highly essential in therapeutic settings (Duffner et al., 2024; Petrenko et al., 2024).

Intimately connected to the experience of loneliness is the construct of self-concealment, defined as the conscious predisposition to actively conceal personal, distressful, or

negatively evaluated information from others (Larson et al., 2015). For single women in the climacteric phase, societal stigmas surrounding aging, menopause, and prolonged singlehood may foster a deep-seated reluctance to share personal vulnerabilities. While initially utilized as a defensive coping mechanism to avoid judgment, social appearance anxiety, or interpersonal friction (Akpinar et al., 2024; Jin et al., 2024), chronic self-concealment creates a psychological burden that severely obstructs authentic social connections. This active suppression demands continuous cognitive effort and prevents individuals from receiving crucial social support, thereby reinforcing feelings of alienation and exacerbating existing psychological distress and social-emotional loneliness (Li et al., 2023; Lin et al., 2024; Park, 2025). The cyclical relationship between self-concealment and loneliness highlights the necessity for psychotherapeutic interventions that foster cognitive restructuring, emotional expression, and acceptance.

To address these complex psychological variables, distinct psychotherapeutic modalities have been developed, with Time Perspective Therapy (TPT) and Emotional Efficacy Therapy (EET) demonstrating considerable promise. Time Perspective Therapy, grounded in the theoretical framework of Zimbardo and colleagues, posits that individuals' psychological well-being is heavily influenced by their temporal orientation—how they unconsciously partition the flow of human experience into past, present, and future time frames (Zimbardo et al., 2012). Individuals experiencing distress often exhibit biased time perspectives, such as being anchored in a negative past or a fatalistic present, while lacking a positive future orientation (Nowakowska, 2020). TPT aims to recalibrate these temporal biases, guiding individuals toward a balanced time perspective (Dąbrowska et al., 2022). For single women in the climacteric period, who may ruminate on past life choices regarding relationships or feel apprehension regarding their future aging process, TPT offers a structured approach to integrate their life narrative constructively, thereby reducing existential isolation and fostering a hopeful future outlook.

Conversely, Emotional Efficacy Therapy (EET) offers an integrative, transdiagnostic approach that synthesizes principles from Acceptance and Commitment Therapy (ACT) and Dialectical Behavior Therapy (DBT) (MaKay & West, 2016). EET is specifically designed to enhance emotion regulation by teaching clients to experience intense emotions without relying on maladaptive, avoidant coping strategies. The protocol emphasizes core components such

as emotion awareness, mindful acceptance, values-based action, and mindful coping (Mazloom et al., 2023; Najafi et al., 2024). By training individuals to observe and accept their emotional states without judgment and to align their actions with personal values, EET empowers them to navigate interpersonal distress and internal psychological turbulence more effectively. Recent empirical evidence suggests that fostering emotional efficacy can significantly reduce behavioral avoidance—such as self-concealment—and enhance the capacity for meaningful social engagement (Shahrokh Afshari et al., 2025).

Despite the robust theoretical foundations and proven efficacy of both TPT and EET across various populations, a significant research gap exists concerning their comparative effectiveness within the specific, vulnerable demographic of single women navigating the climacteric period. It remains unclear whether an intervention focusing on temporal cognitive restructuring (TPT) or one emphasizing present-moment emotional regulation and acceptance (EET) yields superior and more stable outcomes in alleviating multidimensional loneliness and the burden of self-concealment. Therefore, the present quasi-experimental study aimed to compare the effectiveness and stability of Time Perspective Therapy and Emotional Efficacy Therapy on social-emotional loneliness and self-concealment among single women in the climacteric period.

2. Methods and Materials

2.1. Study design and Participant

In terms of purpose, this study was applied, and methodologically, it was a quasi-experimental study with a pretest-posttest design along with a control group and a three-month follow-up stage. The statistical population of this study consisted of all single women in the climacteric period referring to urban comprehensive health service centers in Arak during 2024. Given that the exact number of individuals was uncountable due to the dispersion of the statistical population and the lack of statistical data collection by the centers, the target statistical sample was initially selected using multi-stage cluster random sampling. Specifically, out of 5 zoned districts by the Arak municipality, one urban comprehensive health service center was randomly selected from each district. Consequently, among the 16 urban comprehensive health service centers in Arak, each having affiliated bases, 5 centers along with their affiliated bases in the five regions of Arak were selected. Then, aiming to collect data among 194 single women aged

40 to 55 referring to the selected centers and bases during 2024, based on inclusion criteria (such as age, single status, residing in Arak, having at least a high school diploma, experiencing climacteric symptoms according to the Greene Climacteric Scale and confirmed by a midwifery expert, non-use of hormonal medications, no history of debilitating physical/psychological illness or addiction, and no recent emotional breakup) and considering the sample size calculated using G*Power software, assuming a repeated measures analysis of variance design (group \times time interaction), a significance level of 0.05, and a test power of 0.80. Assuming a medium effect size ($f = 0.25$), 81 of these women who were willing to cooperate were purposively selected (considering the probability of attrition and exclusion of individuals based on exclusion criteria such as reluctance, concurrent psychotherapy, absence for more than two sessions, and failure to participate in the posttest and follow-up tests). Subsequently, these individuals were randomly assigned to 3 groups of 27 using a simple random lottery method. It should be noted that according to the exclusion criteria, some individuals were removed, and finally, 3 groups with 22 individuals in each group remained. At the end of the intervention period, a posttest was administered, followed by a follow-up stage to evaluate the stability of the treatment effects.

The procedure commenced after obtaining the ethics code (IR.IAU.ARAK.REC.1403.124), by administering pretests of social-emotional loneliness and self-concealment across all three groups. Subsequently, the time perspective therapy intervention was implemented in six 90-minute group sessions twice a week, and the emotional efficacy therapy intervention was conducted in eight 60-minute group sessions twice a week, based on standard protocols. The control group received no intervention during this period and was placed on a waiting list. In the final stage, following the completion of the intervention sessions, a posttest was administered to all groups (experimental and control). To assess the stability of the intervention effects, a follow-up test was also administered to the participants of each group three months after the end of the intervention.

2.2. Measures

Social and Emotional Loneliness Scale: To measure this variable, the Social and Emotional Loneliness Scale for Adults – Short Form (SELSA-S) was used. This questionnaire was designed and developed by DiTommaso et al. (2004) based on Weiss's (1987) categorization. The

international short form of this questionnaire consists of 15 items; however, it has been reduced to 14 items in the Iranian version (Jokar & Salimi, 2011). Each item is scored on a five-point Likert scale ranging from one (strongly disagree) to five (strongly agree), where a higher score indicates greater loneliness. The reliability of this scale was reported by its authors with a Cronbach's alpha coefficient between 0.87 and 0.90, indicating its appropriate internal consistency. They also reported a significant correlation between this questionnaire and the total score of the UCLA-3 Loneliness Scale and the components of the Attachment Perception Questionnaire. These significant correlations confirm the adequate concurrent, divergent, and convergent validity of this scale (DiTommaso et al., 2004). In another study conducted by DiTommaso et al. (2003), Cronbach's alpha coefficients were reported in the acceptable range of 0.81 to 0.91. Amorim et al. (2019) also reported a good fit and a reliability of 0.93 for this questionnaire. In Iran, Jokar and Salimi (2011) validated this questionnaire and obtained alpha coefficients ranging from 0.78 to 0.92. Additionally, in the study by Mansourinejad et al. (2021), the reliability of this questionnaire for overall loneliness was obtained at 0.86 using Cronbach's alpha method. In the current study, the reliability of the loneliness variable was calculated to be 0.89 using Cronbach's alpha.

Self-Concealment Scale: The Self-Concealment Scale (SCS) is a self-report instrument designed by Larson and Chastain (1990). The main purpose of this scale is to measure individuals' tendency to conceal personal information that might be distressing to them or lead to negative evaluation. This questionnaire consists of 10 items, and responses are provided on a five-point Likert scale ranging from one (strongly disagree) to five (strongly agree). The range of scores obtained on this scale is between 10 and 50. Regarding the validity of the SCS, Costa et al. (2016), in their study, confirmed the divergent validity of this scale with physical health (-0.20) and psychological health (-0.32). Furthermore, they reported its convergent validity with self-oriented and socially prescribed perfectionism scales at a moderate level of 0.25. In Iran, the study by Mansourinejad et al. (2021) demonstrated the reliability of this instrument using a Cronbach's alpha of 0.86. The results of the confirmatory factor analysis in this study also supported the appropriate fit of the instrument. Moreover, Aboutorabi Anari et al. (2016) reported a questionnaire reliability of 0.81, and a single-factor confirmatory factor analysis showed that the factor loadings of all items were above 0.4, and the model was at a significance level of 0.95.

In the present study, the reliability of the Self-Concealment Scale was determined to be 0.82 using Cronbach's alpha method.

Climacteric Scale: To evaluate the symptoms and severity of menopause, the 21-item Greene Climacteric Scale (GCS), designed by Greene (1976), was utilized. This questionnaire covers four categories of symptoms: psychological, physical, vasomotor, and sexual. Each symptom is scored on a 4-point scale from zero (never) to three (severe), and the total score varies between 0 and 63. According to studies by Greene (2008), a score of 15 or higher on this scale is often considered an indicator of estrogen deficiency during the climacteric period. This questionnaire possesses adequate reliability and validity. Askari et al. (2011) reported the internal consistency of the GCS with a Cronbach's alpha of 0.87 and a test-retest reliability of 0.74. Additionally, its content validity was confirmed by experts with a Kendall's coefficient of concordance of 0.81.

2.3. Interventions

The Time Perspective Therapy intervention, based on the protocol by Zimbardo et al. (2012), was conducted over six sessions. The initial session focused on group orientation, establishing therapeutic rapport, and introducing the fundamental concepts of time horizons while outlining group rules and objectives. In the second session, participants explored the "Past" time perspective, distinguishing between its positive and negative dimensions and examining how these views influence current well-being. The third session addressed the "Present" perspective, categorizing behaviors into hedonistic, fatalistic, or holistic orientations and discussing their respective advantages and disadvantages. The fourth session shifted focus to the "Future" perspective, examining both transcendental and personal future orientations and their impact on motivation and goal-setting. During the fifth session, the emphasis moved toward balancing these time horizons, specifically employing techniques such as the "Empty Chair" and cognitive reframing to transform a negative past into a positive one. The final session concluded the intervention by promoting a healthy level of fatalistic acceptance and moderate hedonism, fostering a proactive future-oriented mindset, and integrating all learned concepts to achieve a balanced time perspective, followed by the administration of post-test assessments.

The Emotional Efficacy Therapy intervention, based on the framework developed by McKay and West (2016, 2018), consisted of eight structured sessions. The program began with an introduction to EET principles, emphasizing emotional awareness and the practice of “emotion surfing” to observe internal states without immediate reaction. The second session introduced mindful acceptance and the concept of emotional avoidance, teaching participants how to “ride the wave” of intense emotions through exposure exercises. In sessions three and four, the focus transitioned to values-based action, where participants learned to identify their core values despite emotional barriers, utilizing the “Monsters on the Bus” metaphor and imaginal exposure to practice choosing values-consistent behaviors over impulsive reactions. The fifth session introduced mindful coping strategies, including progressive muscle relaxation and self-soothing techniques paired with emotional exposure. The sixth session addressed cognitive coping through the development of “coping thoughts” and the practice of radical acceptance. In the seventh session, participants were taught distraction techniques and “time-outs” as regulatory tools, alongside the creation of a personalized emotional efficacy plan. The final session was dedicated to consolidating these skills, troubleshooting challenges through imaginal exposure, and evaluating the overall improvement in emotional efficacy before completing the post-test evaluations.

2.4. Data Analysis

To analyze the collected data, descriptive statistics were initially utilized. The normal distribution of the data was evaluated using the Shapiro-Wilk test. To test the research hypotheses, repeated measures analysis of variance was employed to examine the interaction between group and time. In case of a significant difference, pairwise comparisons were performed using the Bonferroni test to control for Type I error. All statistical computations were carried out using SPSS software version 26.

3. Findings and Results

The descriptive findings of this study included the examination of the demographic characteristics of the sample, namely age and educational status, across the three groups. The statistical sample consisted of 66 single women in the climacteric period who completed the treatment/training in three groups of 22 individuals (emotional efficacy therapy group, time perspective therapy group, and control group). The mean age of the participants in the emotional efficacy therapy group was 48.4 years, in the time perspective therapy group was 48.9 years, and in the control group was 49.3 years. The distribution of educational levels, ranging from a high school diploma to a master’s degree, indicated that the majority of participants (31.8% of all participants) held a bachelor’s degree.

Table 1

Descriptive Statistics of Main Research Variables by Group and Time

Variable	Group	Pre-test <i>M(SD)</i>	Post-test <i>M(SD)</i>	Follow-up <i>M(SD)</i>
Romantic Loneliness	Time Perspective	17.77 (1.39)	13.92 (1.57)	10.96 (1.42)
	Emotional Efficacy	17.38 (1.32)	15.96 (1.48)	14.42 (3.04)
	Control	17.81 (1.22)	18.69 (1.15)	17.81 (1.29)
Family Loneliness	Time Perspective	21.46 (2.23)	19.27 (2.60)	16.19 (2.40)
	Emotional Efficacy	20.88 (1.98)	19.73 (2.34)	18.38 (1.17)
	Control	20.65 (1.29)	20.88 (1.88)	21.19 (2.57)
Social Loneliness	Time Perspective	22.38 (2.09)	18.27 (1.86)	16.38 (2.19)
	Emotional Efficacy	22.27 (2.03)	19.92 (1.62)	18.58 (2.68)
	Control	22.23 (1.95)	21.27 (1.48)	21.38 (2.68)
Total Social-Emotional Loneliness	Time Perspective	61.62 (3.39)	51.46 (3.91)	43.54 (3.96)
	Emotional Efficacy	60.54 (2.84)	55.62 (3.39)	51.38 (1.67)
	Control	60.69 (2.17)	60.85 (2.76)	60.38 (3.68)
Total Self-Concealment	Time Perspective	39.88 (2.80)	36.00 (3.07)	32.38 (3.07)
	Emotional Efficacy	38.65 (3.01)	37.92 (3.04)	36.04 (3.28)
	Control	39.81 (2.68)	40.27 (3.01)	39.73 (3.41)

The examination of the scores of the variables in Table 1 and 6 showed that the pattern of changes is in favor of the intervention groups, particularly the time perspective training group. In total social-emotional loneliness, the mean

of the time perspective group decreased from 61.62 in the pre-test to 51.46 in the post-test and 43.54 in the follow-up, and in the emotional efficacy group, it went from 60.54 to 55.62 and then reached 51.38, while the control

group remained almost unchanged with values of 60.69 in the pre-test, 60.85 in the post-test, and 60.38 in the follow-up. Also, in total self-concealment, the mean of the time perspective group decreased from 39.88 in the pre-test to 36.00 in the post-test and 32.38 in the follow-up, whereas in the emotional efficacy group, the changes were more limited, and the means went from 38.65 to 37.92 and then reached 36.04, and in the control group, it remained almost constant, yielding values of 39.81, 40.27, and 39.73. Overall, these patterns indicate the effect of time and the interaction of time and group in favor of the interventions and the relative superiority of time perspective training compared to emotional efficacy.

Prior to analyzing and examining the research hypothesis using the repeated measures analysis of variance method, the assumptions of this statistical method, which include checking the normal distribution of the research variables, the homogeneity of error variances, and the equality of covariance matrices, must first be analyzed. If these assumptions are confirmed, repeated measures analysis of variance can be used to examine the research hypothesis.

One of the most important assumptions for conducting repeated measures analysis of variance is the issue of the

normal distribution of the research variables. Considering the sample size of the study, the Shapiro-Wilk test is used in this research.

The calculated significance level for the main variables of the research across the three times of pre-test, post-test, and follow-up is higher than the alpha level of 0.01. Consequently, it can be stated that the variables have a normal distribution in terms of inferential statistics.

Another important evaluation in performing repeated measures analysis of variance is examining the homogeneity of error variances using Levene's test, which is conducted in this study.

The calculated significance level for all variables is higher than the 0.05 significance level. As a result, it can be stated that the assumption of homogeneity of error variances for the variables is confirmed in terms of inferential statistics.

The examination of the equality of covariance matrices shows that, as is evident, the significance level of all variables is higher than the alpha level of 0.05, indicating that the assumption of the equality of covariance matrices is also confirmed as one of the most important assumptions of repeated measures analysis of variance.

Table 2

Results of Repeated Measures Analysis of Variance (ANOVA) for the Effectiveness of Time Perspective and Emotional Efficacy Therapy on Social-Emotional Loneliness and Self-Concealment

Variable	Source	Sum of Squares (SS)	Mean Square (MS)	F	Significance (p)	Partial Eta Squared (η_p^2)
Total Social-Emotional Loneliness	Time Effect	3293.949	1646.974	170.836	0.001	0.695
	Time × Group Interaction	2069.949	517.487	53.677	0.001	0.589
	Error	1146.103	9.641	—	—	—
Romantic Loneliness	Time Effect	415.009	207.504	113.949	0.001	0.603
	Time × Group Interaction	318.504	79.626	43.726	0.001	0.538
	Error	273.154	1.821	—	—	—
Family Loneliness	Time Effect	228.009	114.004	21.417	0.001	0.222
	Time × Group Interaction	221.530	55.382	10.404	0.001	0.217
	Error	798.462	5.323	—	—	—
Social Loneliness	Time Effect	508.060	254.030	78.103	0.001	0.510
	Time × Group Interaction	177.402	44.350	13.636	0.001	0.267
	Error	487.872	3.252	—	—	—
Total Self-Concealment	Time Effect	411.932	205.966	24.314	0.001	0.245
	Time × Group Interaction	418.735	104.684	12.358	0.001	0.248
	Error	1270.667	8.471	—	—	—

The results of the repeated measures analysis of variance (ANOVA) indicated a significant main effect of time for all primary variables and subscales, including total social-emotional loneliness ($F = 170.83, p < .001, \eta_p^2 = .69$), romantic loneliness ($F = 113.94, p < .001, \eta_p^2 = .60$), family loneliness ($F = 21.41, p < .001, \eta_p^2 = .22$), social loneliness ($F = 78.10, p < .001, \eta_p^2 = .51$), and total self-concealment ($F = 24.31, p < .001, \eta_p^2 = .24$). Furthermore, the interaction effect between time and group was statistically significant across all measures: total social-emotional loneliness ($F = 53.67, p < .001, \eta_p^2 = .58$),

romantic loneliness ($F = 43.72, p < .001, \eta_p^2 = .53$), family loneliness ($F = 10.40, p < .001, \eta_p^2 = .21$), social loneliness ($F = 13.63, p < .001, \eta_p^2 = .26$), and total self-concealment ($F = 12.35, p < .001, \eta_p^2 = .24$). These findings demonstrate that both time perspective and emotional efficacy interventions significantly reduced the levels of loneliness and self-concealment compared to the control group, and the patterns of change over the three assessment stages differed significantly depending on the group membership.

Table 3

Bonferroni Post-Hoc Test Results Comparing the Means of Social-Emotional Loneliness and Self-Concealment by Group

Variable	Group	Mean	Comparison Pair	Mean Difference	Significance (<i>p</i>)
Total Social-Emotional Loneliness	Time Perspective	52.205	Control vs. Time Perspective	8.436*	0.001
	Emotional Efficacy	55.846	Control vs. Emotional Efficacy	4.795*	0.001
	Control	60.641	Time Perspective vs. Emotional Efficacy	-3.641*	0.001
Romantic Loneliness	Time Perspective	14.218	Control vs. Time Perspective	3.885*	0.001
	Emotional Efficacy	15.923	Control vs. Emotional Efficacy	2.179*	0.001
	Control	18.103	Time Perspective vs. Emotional Efficacy	-1.705*	0.001
Family Loneliness	Time Perspective	18.974	Control vs. Time Perspective	1.936*	0.001
	Emotional Efficacy	19.667	Control vs. Emotional Efficacy	1.244*	0.004
	Control	20.910	Time Perspective vs. Emotional Efficacy	-0.692	0.201
Social Loneliness	Time Perspective	19.013	Control vs. Time Perspective	2.615*	0.001
	Emotional Efficacy	20.256	Control vs. Emotional Efficacy	1.372*	0.002
	Control	21.628	Time Perspective vs. Emotional Efficacy	-1.244*	0.005
Total Self-Concealment	Time Perspective	36.090	Control vs. Time Perspective	3.846*	0.001
	Emotional Efficacy	37.538	Control vs. Emotional Efficacy	2.397*	0.001
	Control	39.936	Time Perspective vs. Emotional Efficacy	-1.449*	0.024

The results of the Bonferroni post-hoc comparisons indicated that both intervention groups achieved significantly lower scores compared to the control group across all measured variables. Specifically, the time perspective and emotional efficacy groups demonstrated significantly lower means than the control group in total social-emotional loneliness, romantic loneliness, family loneliness, social loneliness, and total self-concealment (all $p < .01$). Furthermore, when comparing the two active interventions, the time perspective therapy group exhibited significantly lower means (indicating greater improvement) than the emotional efficacy therapy group in total social-emotional loneliness ($MD = -3.641, p = .001$), romantic loneliness ($MD = -1.705, p = .001$), social loneliness ($MD = -1.244, p = .005$), and total self-concealment ($MD = -1.449, p = .024$). The only exception was the family loneliness subscale, where the difference between the time perspective and emotional efficacy groups was not statistically significant ($MD = -0.692, p = .201$). These

findings suggest that while both treatments are effective, time perspective therapy demonstrates an overall superior efficacy compared to emotional efficacy therapy in reducing loneliness and self-concealment among the participants.

4. Discussion

The primary objective of the present quasi-experimental study was to compare the effectiveness and stability of Time Perspective Therapy (TPT) and Emotional Efficacy Therapy (EET) on social-emotional loneliness and self-concealment among single women in the climacteric period. The findings derived from the repeated measures ANOVA and Bonferroni post-hoc tests revealed several critical insights. First, both TPT and EET significantly reduced total social-emotional loneliness, romantic loneliness, family loneliness, social loneliness, and self-concealment across the post-test and follow-up phases compared to the control group, which showed no significant changes. Second, and crucially, the comparative analysis demonstrated that TPT was

significantly more effective than EET in reducing total social-emotional loneliness, romantic loneliness, social loneliness, and total self-concealment. The singular exception to this pattern was family loneliness, where both therapeutic interventions exhibited equal efficacy, with no statistically significant difference between the TPT and EET groups. These findings underscore the profound impact of tailored psychotherapeutic interventions on the psychological well-being of this specific demographic, while highlighting the unique advantages of temporal cognitive restructuring.

The significant reduction in social-emotional loneliness and self-concealment following Time Perspective Therapy aligns with the foundational principles of this modality and corroborates previous research (Dąbrowska et al., 2022; Zimbardo et al., 2012). Single women navigating the climacteric period often grapple with a complex interplay of past regrets, present dissatisfaction, and future anxieties (De Santiago Nogueira et al., 2022). Many individuals in this demographic may fixate on “Past Negative” time perspectives, ruminating on past relationship failures, delayed marriage, or missed opportunities for starting a traditional family (Akbari et al., 2021; Bagi, 2023). Concurrently, they might experience a “Present Fatalistic” viewpoint, feeling helpless regarding their current single status and the biological realities of the climacteric phase (Hulteen et al., 2023; Marlatt et al., 2022). TPT effectively intervenes by guiding clients to reframe these temporal narratives. By shifting focus away from a deterministic past and cultivating a “Future Positive” orientation alongside a healthy “Present Hedonistic” appreciation for current life, TPT empowers women to construct a more balanced and hopeful life narrative (Nowakowska, 2020; Sword et al., 2014). This temporal recalibration directly mitigates feelings of existential isolation and romantic loneliness, as individuals no longer define their worth solely by past relationship outcomes or perceived biological ticking clocks (Zimbardo & Boyd, 2015). Furthermore, as individuals develop a more integrated and positive self-narrative, the shame and stigma associated with singlehood diminish, directly reducing the cognitive burden and defensive necessity of self-concealment (Larson et al., 2015; Lin et al., 2024).

Similarly, the effectiveness of Emotional Efficacy Therapy in alleviating loneliness and self-concealment is strongly supported by the literature emphasizing emotion regulation, acceptance, and dialectical behavioral strategies (MaKay & West, 2016; Najafi et al., 2024). EET synthesizes

core mechanisms from Acceptance and Commitment Therapy (ACT) and Dialectical Behavior Therapy (DBT), focusing on emotion awareness, mindful acceptance, and values-based action (Abdollahi et al., 2023; Mazloom et al., 2023). For single women in the climacteric period, the distress associated with societal expectations, physical changes, and the absence of a romantic partner often triggers intense negative emotional states, such as shame, anxiety, and profound sadness (Kaak et al., 2025; Ziyaasghari et al., 2024). Instead of utilizing maladaptive coping mechanisms like experiential avoidance or self-concealment—which ultimately exacerbate psychological distress and social appearance anxiety (Akpınar et al., 2024; Jin et al., 2024)—EET trains individuals to sit with these uncomfortable emotions without judgment. Through mindful acceptance, women learn that their emotional responses to singlehood and aging are valid, but do not have to dictate their behaviors (Karimpour Natanzi et al., 2024; Shahrokh Afshari et al., 2025). As clients commit to values-based actions—such as actively seeking out friendships or engaging in community activities despite the fear of judgment—they naturally dismantle the barriers of self-concealment. This behavioral activation and increased emotional resilience subsequently foster genuine interpersonal connections, thereby reducing social and emotional loneliness (Eisma & Buyukcan-Tetik, 2025; Rezaei et al., 2025; Wolters et al., 2023).

The most compelling finding of the present study is the general superiority of TPT over EET in addressing total loneliness, romantic loneliness, social loneliness, and self-concealment. This differential efficacy can be attributed to the specific existential and narrative crises faced by definitively single women in the climacteric phase (Mirhosseini & Hosseinzadeh, 2023; Sepidnameh & Parvizi, 2024). While EET provides excellent tools for managing distress in the present moment, TPT addresses the longitudinal narrative of the individual’s life. Romantic loneliness and prolonged singlehood in later life are intrinsically tied to one’s biographical timeline—involving mourning a perceived lost future or grappling with societal timelines for marriage and reproduction (Aracı İyiyaydın & Ergun, 2025; Kalate Sadati et al., 2023). Because TPT directly targets these biographical and temporal constructs, it offers a more profound cognitive restructuring for issues rooted in life-span development. By helping clients reconcile their past choices and consciously design a meaningful future independent of societal marital expectations, TPT provides a more robust buffer against romantic and social loneliness compared to the present-focused acceptance

strategies of EET (Dąbrowska et al., 2022; Mostowik & Cyranka, 2018). Similarly, self-concealment in this demographic often stems from a deeply ingrained, historical sense of shame regarding one's life trajectory (Li et al., 2023; Park, 2025). By rewriting the temporal narrative, TPT eradicates the root cause of this shame more effectively than merely regulating the emotional response to it.

Interestingly, the study found no significant difference between TPT and EET concerning the reduction of family loneliness ($p > .05$). This nuanced finding suggests that family dynamics operate differently than romantic or broader social relationships. Family relationships are typically characterized by ongoing, present-day interactions, entrenched communication patterns, and immediate emotional triggers (Akbari Balootbangan et al., 2023; Mansoori Nezhad et al., 2021). Consequently, navigating family loneliness requires high levels of present-moment emotional regulation, distress tolerance, and interpersonal effectiveness—skills that are directly cultivated through the DBT and ACT components of EET (MaKay & West, 2016; Najafi et al., 2024). Simultaneously, family loneliness is also influenced by one's historical role within the family unit and future expectations of familial support, domains addressed by TPT (Zimbardo et al., 2012).

5. Conclusion

In conclusion, it appears that the present-focused emotional equipping of EET and the longitudinal cognitive restructuring of TPT are equally vital and effective in helping single climacteric women navigate complex family ecosystems and mitigate feelings of isolation within their kinship networks.

6. Limitations and Suggestions

Despite the significant findings and robust methodology, this study is not without limitations. First, the sample was restricted to single women in the climacteric period residing in a specific geographic and cultural context. Sociocultural norms regarding marriage, aging, and singlehood vary drastically across different societies; thus, the findings may not be entirely generalizable to women in different cultural settings or to individuals in different developmental stages. Second, the reliance on self-report questionnaires for assessing social-emotional loneliness and self-concealment introduces the possibility of social desirability bias, particularly given the sensitive nature of these constructs. Participants may have underreported their levels of

loneliness or concealment, despite assurances of confidentiality. Third, while the study included a follow-up phase to measure the stability of the interventions, the duration of this follow-up was relatively short. It remains unclear whether the superior effects of Time Perspective Therapy over Emotional Efficacy Therapy are maintained over a much longer period, such as several years, as individuals progress further into post-menopause and older age. Finally, the study did not control for all potential confounding variables, such as detailed socioeconomic status, physical health comorbidities, or the specific reasons for singlehood (e.g., choice versus circumstance), which could influence therapeutic outcomes.

To build upon the findings of the present study, future research should consider several methodological and thematic expansions. Subsequent studies should replicate this comparative design using more diverse and larger samples, encompassing different cultural backgrounds, socioeconomic strata, and varying degrees of urbanization, to test the cross-cultural validity of these therapeutic interventions. Furthermore, incorporating qualitative or mixed-methods approaches could provide profound insights into the subjective, lived experiences of the participants, illuminating exactly how shifting time perspectives or enhancing emotional efficacy changes their daily interactions and internal dialogues. Future researchers are also encouraged to employ longitudinal designs with extended follow-up periods (e.g., one to five years) to ascertain the long-term durability of TPT and EET. Additionally, it would be highly beneficial to investigate potential moderating variables—such as the presence of physical climacteric symptoms, baseline levels of social support, or distinct personality traits—to determine if certain subgroups of single women benefit more from one therapy over the other. Lastly, exploring the efficacy of a hybrid therapeutic protocol that systematically integrates the temporal restructuring of TPT with the distress tolerance and mindful acceptance skills of EET could yield even more comprehensive clinical outcomes.

The results of this study offer vital implications for clinical psychologists, counselors, and healthcare providers working with middle-aged, single women. Clinicians should recognize that social-emotional loneliness and self-concealment in this demographic are deeply intertwined with temporal narratives and existential concerns regarding life trajectory. Therefore, incorporating Time Perspective Therapy techniques—specifically helping clients to reframe past regrets, overcome present fatalism, and actively

construct a hopeful, independent future—should be considered a primary strategy in therapeutic settings. Practitioners should utilize temporal mapping exercises to help these women disconnect their self-worth from societal timelines regarding marriage and family. However, clinicians must not disregard the utility of Emotional Efficacy Therapy, particularly when addressing immediate family conflicts or acute emotional dysregulation. Teaching mindful acceptance and values-based action remains crucial for managing the day-to-day emotional volatility that can accompany the climacteric phase. Ultimately, healthcare centers and psychological clinics are advised to develop specialized, group-based intervention programs tailored to single women in midlife, combining temporal restructuring with emotional regulation skills, to provide a holistic support system that empowers them to navigate this transitional period with resilience, authenticity, and a renewed sense of connection.

Authors' Contributions

Authors equally contributed to this article.

Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

Transparency Statement

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Declaration of Interest

The authors report no conflict of interest.

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Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for

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