Examining the Effectiveness of Metacognitive Therapy on Self-Disclosure and Self-Restraint in Single Women Unwilling to Marry

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Abstract

The present study aimed to examine the effectiveness of metacognitive therapy on self-disclosure and self-restraint in single women unwilling to marry. The research method was quasi-experimental, employing a pre-test–post-test and follow-up design with a control group. The statistical population consisted of all female students at Islamic Azad Universities in Isfahan during the 2022–2023 academic year. Participants were selected based on inclusion and exclusion criteria. A total of 30 individuals were selected through purposive sampling and were randomly assigned to the experimental and control groups (15 participants in each group). Both groups completed the pre-test, after which the experimental group received metacognitive therapy over the course of eight intervention sessions, whereas the control group received no intervention. Data were collected using the 24-item Emotional Self-Disclosure Questionnaire by Snell et al. (1988), the 30-item Self-Restraint Questionnaire by Weinberger and Schwartz (1990), and the Marriage Inclination Scale by Heydari et al. (2004). Data analysis was conducted using repeated measures analysis of variance in SPSS version 23. The findings indicated that metacognitive therapy led to increased self-disclosure and self-restraint in single women unwilling to marry, and the therapeutic effects persisted at the follow-up stage (F = 9.95, p < .01). Based on the present findings, metacognitive therapy can be utilized to enhance self-disclosure and self-restraint in single women unwilling to marry.

Keywords: *unwillingness to marry, metacognitive therapy, self-disclosure, self-restraint, women*

1. Introduction

Marriage has long been regarded as a foundational social institution, shaping not only personal and familial well-being but also the stability and continuity of societies. However, shifting cultural norms, evolving gender roles, and socio-economic changes in recent decades have altered individuals' perceptions, desires, and readiness for marriage (Smith & Johnson, 2022). In Iran, as in many other societies, a gradual increase in the average age at marriage and a growing proportion of individuals who remain single—either by choice or due to external constraints—have prompted considerable attention among scholars and policymakers (Rahmanipour, 2024). The phenomenon of voluntary or involuntary singleness, particularly among women, is influenced by a complex interplay of psychological, socio-cultural, and economic factors, including personal attitudes toward marriage, interpersonal skills, and emotional regulation capacities (Abdi Zarrin et al., 2022; Basharpour & Estiri, 2024; Shaker Khoshroudi & Houshyari, 2021).

The desire or reluctance to marry can be closely linked to individual differences in intimacy, identity development, and optimism, as well as the quality of early familial and romantic experiences (Basharpour & Estiri, 2024; Roshan Chesli et al., 2023). For instance, low inclination toward marriage may emerge from negative expectations about marital life, inadequate relationship skills, or unresolved emotional conflicts (Panahpouri & Johari, 2024; Roshan Chesli et al., 2023). Studies have shown that readiness for marriage is not solely a function of socio-economic preparedness but also depends on psychological resources such as self-control, emotional self-disclosure, and the ability to form healthy attachments (Bagheri et al., 2023; Niknejadi et al., 2023). Self-disclosure—the process of revealing personal and emotional information to others—is a vital element of intimacy and marital satisfaction (Panahpouri & Johari, 2024; Sharif et al., 2021). Insufficient self-disclosure has been associated with emotional distancing, conflict escalation, and a diminished sense of connection in close relationships (Faramarzi Rad et al., 2023; Patel et al., 2023).

Conversely, self-restraint, a form of self-regulation involving the control of impulses, emotions, and behaviors in social contexts, plays a crucial role in relationship maintenance and conflict resolution (Fennis, 2022; Sadeghi et al., 2021). The ability to manage one's emotional expression and behavioral reactions can prevent interpersonal tensions from escalating and facilitate more constructive communication (Ahn & Kim, 2022; Dadjoo & Gharibzadeh, 2022). While self-disclosure fosters openness and trust, self-restraint ensures that such openness is conveyed in a manner that supports, rather than undermines, relational harmony. These two skills, though distinct, are interdependent in fostering healthy interpersonal and marital dynamics (Cindy & Hu, 2022; Sharif et al., 2021).

Psychological interventions targeting these relational competencies have received growing empirical support, with metacognitive therapy (MCT) emerging as a promising approach. Originating from cognitive science and evolving into a structured clinical intervention, MCT focuses on modifying maladaptive metacognitive beliefs that drive unhelpful patterns of thinking such as rumination and worry (Capobianco & Nordahl, 2023; Wells et al., 2022). The approach emphasizes developing flexible attentional control, detached mindfulness, and adaptive coping strategies, thereby reducing the cognitive processes that maintain emotional distress (Hauschildt et al., 2022; Sharma et al., 2022). In the context of marital and interpersonal functioning, MCT can help individuals challenge rigid or negative beliefs about relationships, manage emotional responses more effectively, and engage in more open and balanced communication (Ahangari et al., 2024; Fouladi et al., 2023).

The application of MCT to populations experiencing relational difficulties has shown positive effects on emotional regulation, self-expression, and interpersonal satisfaction (Bagheri et al., 2023; Yari et al., 2023). Research comparing MCT with other therapeutic modalities, such as schema therapy or dialectical behavior therapy, has demonstrated its effectiveness in enhancing adaptive emotional strategies and reducing maladaptive cognitive patterns (Ahangari et al., 2024; Yari et al., 2023). Moreover, MCT's emphasis on altering metacognitive processes rather than the content of thoughts offers a distinct advantage for individuals who struggle with persistent doubts, avoidance tendencies, or low motivation toward intimate engagement (Carter et al., 2022; Patel et al., 2023).

In the specific case of women who are reluctant to marry, underlying factors often include entrenched maladaptive schemas, low perceived intimacy potential, or negative marital role expectations (Dehghan Hesar et al., 2023; Jafarnejad & Khakpour, 2024). Cultural norms and family dynamics may further reinforce avoidance of intimate relationships, either through restrictive gender expectations or through early experiences of conflictual parental

relationships (Noroozi Azam et al., 2022; Smith & Johnson, 2022). MCT's capacity to address such deep-seated patterns by restructuring metacognitive control and reducing maladaptive cognitive–emotional cycles makes it a relevant and potentially transformative intervention (Capobianco & Nordahl, 2023; Wells et al., 2022).

Additionally, empirical evidence suggests that MCT can produce enduring changes, with treatment gains maintained over follow-up periods (Carter et al., 2022; Hauschildt et al., 2022). By equipping individuals with self-regulatory tools to manage intrusive thoughts and emotional responses, MCT enhances both the confidence and competence needed to engage in self-disclosure while maintaining self-restraint (Fennis, 2022; Niknejadi et al., 2023). Such skills are not only essential for potential marital relationships but also contribute to improved psychological well-being and social functioning more broadly (Dadjoo & Gharibzadeh, 2022; Sadeghi et al., 2021).

The interplay between self-disclosure and self-restraint in the context of marriage readiness has also been illuminated by research into the mediating and moderating roles of these constructs in relationship quality (Faramarzi Rad et al., 2023; Panahpouri & Johari, 2024). While self-disclosure enhances relational closeness, excessive or poorly regulated disclosure can strain relationships, underscoring the necessity of balancing openness with discretion (Cindy & Hu, 2022; Sharif et al., 2021). Conversely, self-restraint, when excessive, may lead to emotional suppression and reduced intimacy (Fennis, 2022), whereas insufficient restraint can manifest as impulsivity or conflict escalation (Sadeghi et al., 2021). MCT provides a framework for achieving this balance by improving metacognitive awareness of emotional triggers and enhancing control over behavioral responses (Ahangari et al., 2024; Sharma et al., 2022).

Cultural studies in Iran have highlighted the importance of addressing relational skills and marriage-related cognitions within the socio-cultural context (Rahmanipour, 2024; Roshan Chesli et al., 2023). Social expectations, religious values, and economic considerations intersect with personal attitudes to influence marriage-related decisions (Abdi Zarrin et al., 2022; Shaker Khoshroudi & Houshyari, 2021). In this environment, interventions like MCT must be adapted to align with cultural values while addressing the unique psychological barriers faced by women who are reluctant to marry (Dehghan Hesar et al., 2023; Moghtadai et al., 2023).

The present study builds upon this body of literature by investigating the effectiveness of MCT in enhancing self-disclosure and self-restraint among single women unwilling to marry.

2. Methods and Materials

2.1. Study Design and Participants

This study employed a quasi-experimental method with a pre-test–post-test design, including a follow-up period and a control group. The statistical population consisted of all female students over the age of 35 at Islamic Azad Universities in Isfahan during the 2022–2023 academic year. For data analysis, repeated measures analysis of variance was used. First, the Marriage Inclination Scale was distributed among students, and from among them, 30 individuals who scored low on this scale were selected as the research sample. Considering that intervention studies have shown a sample size of 15 participants per group to be sufficient (Delavar, 2018), these 30 participants were randomly and equally assigned to the experimental group (15 participants) and the control group (15 participants).

Inclusion criteria were: being over 35 years old, obtaining a score below 80 on the Marriage Inclination Scale, which indicates low inclination toward marriage (Heydari et al., 2004), not receiving individual counseling or psychological services during the treatment sessions, and not having any specific physical or psychological illness based on a diagnostic interview. Exclusion criteria included: unwillingness to continue participation in the study and absence from more than three treatment sessions. After the sample selection and group assignment, participants completed the Emotional Self-Disclosure Questionnaire (Snell et al., 1988), the Self-Restraint Questionnaire (Weinberger & Schwartz, 1990), and the Marriage Inclination Scale (Heydari et al., 2004). The experimental group underwent metacognitive therapy intervention in eight 90-minute weekly sessions, while the control group received no intervention. In the post-test and follow-up stages, both groups again completed the questionnaires. Given that the study was conducted on single women unwilling to marry, ethical considerations—including informed consent, confidentiality of information, preservation of privacy, and avoidance of bias—were carefully observed.

2.2. Measures

Emotional Self-Disclosure Questionnaire: This 40-item questionnaire was developed by Snell et al. (1988) with the initial aim of assessing adolescents' interactions with others regarding emotional issues and concerns, essentially evaluating individuals' emotional expression. It assesses emotional disclosure regarding depression, happiness, jealousy, anxiety, anger, calmness, and lack of emotion. Participants are asked to indicate, on a 5-point Likert scale ranging from 1 (never disclosed) to 5 (frequently disclosed), how often they discuss their emotions with parents or friends. The reliability of this questionnaire, using the test–retest method, was reported at 0.73, and the Cronbach's alpha coefficient of 0.88 indicated high internal consistency (Varmaghani, Poursharifi, Soleimani, & Ashtiani, 2020). In the present study, the reliability of this questionnaire using Cronbach's alpha coefficient was 0.823.

Self-Restraint Questionnaire: This questionnaire was developed by Weinberger and Schwartz (1990). The Self-Restraint Scale provides a total score and four subscales. The subscales, which represent related but distinct constructs, include anger suppression, impulse control, consideration of others, and responsibility. In this 30-item self-report tool, respondents indicate their level of agreement or disagreement with each statement on a 5-point Likert scale. Scores for items 1, 5, 7, 11, 6, 19, 21, 26, 27, and 29 are assigned as follows: 1 point for "never," 2 for "rarely," 3 for "sometimes," 4 for "often," and 5 for "always," while the remaining items are reverse scored. The highest possible score on the test is 150, indicating strong emotional restraint, and the lowest possible score is 30, indicating weak emotional restraint. The maximum score for the anger suppression and consideration of others subscales is 35, and for impulse control and responsibility is 40, indicating a high level of that subscale and ability to suppress anger. Conversely, the lowest scores (7 or 8) indicate a low level of the subscale and inability to control one's anger. Weinberger (1991) reported a correlation coefficient of 0.91 for this questionnaire among urban students. Test–retest reliability was 0.89 over a two-week interval and 0.76 over a seven-month interval. In another study, the internal consistency of the total questionnaire was reported between 0.85 and 0.88 (Goldman & Weinberger, 1994). Sadeghi and Liaqati (2014) reported an internal consistency coefficient of 0.85 and a Cronbach's alpha of 0.83 among young people, considering it acceptable. In the present study, the reliability of this questionnaire using Cronbach's alpha coefficient was 0.79.

Marriage Inclination Scale: This scale consists of 23 Likert-type items with five response options, standardized by Heydari et al. (2004). An additional item is included at the end of the questionnaire to assess the "ideal age for marriage" as determined by the scale's developers. The development process of the "Persad" was as follows: initially, general themes and areas indicative of marriage inclination to be included in the scale were identified, consisting of: (a) overall attitude toward marriage, family, spouse, and marital relations; and (b) the individual's feedback regarding their readiness for marriage at both the "practical" and "mental" levels. From an initial pool of 45 proposed items prepared by the researchers, content analysis was applied using the following criteria: (a) the item fits into one of the two main scales described above; (b) it reflects either a positive or negative feedback from the individual; and (c) it reflects the individual's tendency and inclination. Based on these criteria, 23 items were selected and included in the final scale. The validity of the present 23-item questionnaire was tested on 40 participants using the test–retest method with a two-week interval (14 days), yielding a correlation coefficient of 0.89, significant at the $p < .001$ level. Internal consistency was calculated using Cronbach's alpha, which was 0.92 (Heydari et al., 2004). In the present study, the reliability of this questionnaire using Cronbach's alpha coefficient was 0.824.

2.3. Intervention

Session 1: Introducing the model, preparation, identifying periods of rumination, teaching the attention training technique; homework: practice attention training twice daily and keep a daily record.

Session 2: Reviewing homework, addressing beliefs about uncontrollability and rumination, introducing detached mindfulness and postponing rumination; homework assignment.

Session 3: Reviewing homework, identifying triggers, practicing detached mindfulness and coping with avoidance; homework assignment.

Session 4: Reviewing homework, examining and challenging positive beliefs about rumination, attention training, activity planning; homework assignment.

Session 5: Reviewing homework, continuing mindfulness exercises, challenging positive beliefs, increasing activity level; homework assignment.

Session 6: Reviewing homework, challenging negative beliefs about marriage, attention training; homework assignment.

Session 7: Reviewing homework, developing new plans, addressing fear of symptom relapse, attention training; homework assignment.

Session 8: Reviewing homework, relapse prevention, addressing remaining metacognitions, planning reinforcement, and anticipating future triggers.

2.4.   Data Analysis

Data analysis was conducted using repeated measures analysis of variance in SPSS version 23.

Table 1

Descriptive indices of the dependent variable scores by group (n = 15 per group)

Variable	Group	Pre-test Mean	Pre-test SD	Post-test Mean	Post-test SD	Follow-up Mean	Follow-up SD
Self-disclosure	Metacognitive therapy	69.66	16.75	88.80	16.15	86.80	16.66
	Control	73.87	10.18	73.53	10.83	74.73	10.53
Self-restraint	Metacognitive therapy	98.13	11.19	108.26	10.77	107.40	11.41
	Control	93.93	6.96	93.26	7.67	92.46	7.66

As shown in Table 1, the mean scores for self-disclosure in the experimental group increased more than in the control group in the post-test and follow-up stages compared to the pre-test. Similarly, the mean scores for self-restraint in the experimental group increased more than in the control group in the post-test and follow-up stages compared to the pre-test. Specifically, the mean and standard deviation of self-disclosure in the experimental group were 69.66 and 16.75 in the pre-test, respectively, and 88.80 and 16.15 in the post-test, respectively. The mean and standard deviation of self-restraint in the pre-test were 98.13 and 11.19, respectively, and in the post-test were 108.26 and 10.77, respectively.

3.   Findings and Results

The participants in this study consisted of 30 female students aged 35 years and older who were unwilling to marry, with 15 women assigned to each of the experimental and control groups. The following section examines the effect of metacognitive therapy intervention on self-disclosure and self-restraint in single women unwilling to marry. First, the descriptive statistical results are presented in Table 1.

No considerable changes were observed in the control group. Repeated measures analysis of variance was used in the study, which allowed the researcher to compare the intervention group (metacognitive therapy program) and the control group in the research variables both in within-group changes and in between-group changes. Therefore, it was necessary to examine the assumptions required for applying this test, including the normal distribution of scores, the homogeneity of variances, and the equality of covariances.

Before conducting the repeated measures analysis of variance, a one-way analysis of variance was performed to compare the groups in the pre-test stage and ensure that the groups were equivalent. The results are presented in Table 2.

Table 2

One-way analysis of variance to compare groups in the pre-test stage

Stage	Variable	Sum of Squares	df	Mean Square	F	Sig.
Pre-test	Self-disclosure	1468.583	3	489.528	1.93	0.135
	Self-restraint	240.983	3	80.32	0.907	0.444

As shown in Table 2, no statistically significant differences were found in the variables at the pre-test stage. Therefore, no post hoc test was conducted. The results indicate that the groups were homogeneous at the pre-test stage. Based on the above findings, the F-value and significance level for the self-disclosure variable were 1.93 (p = .135), and for the self-restraint variable were 0.907 (p = .444).

The assumption of normality, which posits that the distribution of scores in the population is normal, was examined using the Shapiro–Wilk test, and the results indicated that the null hypothesis of normal distribution for self-disclosure and self-restraint scores in both groups across all three stages was retained, as all significance levels were greater than .05. The assumption of homogeneity of variances, based on Levene's test, was also met, indicating that the variances of the two groups did not significantly differ in self-disclosure and self-restraint scores at any stage of the study (p > .05). However, the Mauchly's test of sphericity showed that the assumption of equality of covariances was violated for the self-disclosure variable (p < .05) but was retained for the self-restraint variable (p > .05); therefore, when necessary, corrections such as the Greenhouse–Geisser adjustment were applied in the repeated measures ANOVA.

Table 3

Results of the analysis of within-subject effects in repeated measures ANOVA for self-disclosure and self-restraint

Source	Test	Sum of Squares	df	Mean Square	F	Sig.	Effect Size	Statistical Power
Time Effect – Self-disclosure	Sphericity assumed	5795.211	2	2897.606	137.203	.001	.710	1.000
	Greenhouse–Geisser	5795.211	1.188	4891.322	137.203	.001	.710	1.000
	Huynh–Feldt	5795.211	1.262	4598.007	137.203	.001	.710	1.000
	Lower-bound	5795.211	1	5795.211	137.203	.001	.710	1.000
Time × Group – Self-disclosure	Sphericity assumed	1966.789	6	327.798	15.520	.001	.454	1.000
	Greenhouse–Geisser	1966.789	3.555	553.340	15.520	.001	.454	1.000
	Huynh–Feldt	1966.789	3.778	520.160	15.520	.001	.454	1.000
	Lower-bound	1966.789	3	655.596	15.520	.001	.454	1.000
Time Effect – Self-restraint	Sphericity assumed	1800.078	2	900.039	47.027	.001	.456	1.000
	Greenhouse–Geisser	1800.078	1.948	923.882	47.027	.001	.456	1.000
	Huynh–Feldt	1800.078	2	900.039	47.027	.001	.456	1.000
	Lower-bound	1800.078	1	1800.078	47.027	.001	.456	1.000
Time × Group – Self-restraint	Sphericity assumed	830.367	6	138.394	7.231	.001	.279	1.000
	Greenhouse–Geisser	830.367	5.845	142.061	7.231	.001	.279	1.000
	Huynh–Feldt	830.367	6	138.394	7.231	.001	.279	1.000
	Lower-bound	830.367	3	276.789	7.231	.001	.279	1.000

The results of Table 3 indicate that there is a statistically significant difference in the mean scores of self-disclosure and self-restraint across the study stages (p < .001). Furthermore, the interaction effect of time and group membership on self-disclosure and self-restraint was also found to be significant (p < .001). In other words, the differences in self-disclosure and self-restraint scores across the three stages—pre-test, post-test, and follow-up—are 71% and 45.6% respectively for the entire sample and are statistically significant. In addition, the differences in these variables across the three stages in all groups were significant, showing that the patterns of change in scores during the pre-test, post-test, and follow-up stages differed significantly between groups. The magnitude of group differences across the study stages was 45.4% for self-disclosure and 27.9% for self-restraint.

Table 4

Results of Bonferroni post hoc test for comparing mean scores of self-disclosure and self-restraint across study stages in each intervention group

Group	Stages	Mean Difference	Sig.	Group	Stages	Mean Difference	Sig.
Metacognitive therapy (Self-disclosure)	Pre-test – Post-test	19.13	.001	Metacognitive therapy (Self-restraint)	Pre-test – Post-test	-10.13	.001
	Pre-test – Follow-up	17.13	.001		Pre-test – Follow-up	-9.27	.002
	Post-test – Follow-up	2.00	.136		Post-test – Follow-up	0.867	.994
Control	Pre-test – Post-test	0.33	.995	Control	Pre-test – Post-test	0.667	.776
	Pre-test – Follow-up	-0.867	.776		Pre-test – Follow-up	1.46	.149
	Post-test – Follow-up	-1.20	.219		Post-test – Follow-up	0.800	.354

The results of the Bonferroni post hoc test for comparing mean scores of self-disclosure and self-restraint across the three stages within the intervention group, as shown in Table 4, indicate that the differences in mean scores between pre-test and post-test, as well as between pre-test and follow-up, in the metacognitive therapy group were statistically significant ($p < .001$). However, the difference between post-test and follow-up mean scores was not statistically significant ($p > .05$). In the control group, none of the differences between the three stages were statistically significant ($p > .05$).

Accordingly, it can be stated that in terms of within-group effects in the metacognitive therapy group, mean scores for self-disclosure and self-restraint increased in both the post-test and follow-up stages compared to the pre-test, and the scores remained stable from post-test to follow-up.

In general, based on the results presented in the above tables, examining the effectiveness of metacognitive therapy on self-disclosure and self-restraint in single women unwilling to marry, it can be concluded that, in between-group comparisons, metacognitive therapy was effective in increasing self-disclosure and self-restraint at the post-test stage, and these effects were maintained at the follow-up stage. Furthermore, within-group analyses indicated that the therapeutic effects remained stable from post-test to follow-up, showing no significant change.

4. Discussion and Conclusion

The present study examined the effectiveness of metacognitive therapy (MCT) in enhancing self-disclosure and self-restraint among single women unwilling to marry.

The results revealed that participants in the experimental group experienced significant increases in both self-disclosure and self-restraint from pre-test to post-test, and these gains were maintained at follow-up. In contrast, the control group did not show significant changes in either variable across the study stages. These findings indicate that MCT was effective in promoting interpersonal openness and emotional regulation skills in a population characterized by low inclination toward marriage.

The improvement in self-disclosure observed in the experimental group aligns with the theoretical foundations of MCT, which emphasize modifying maladaptive metacognitive beliefs and improving attentional control to reduce cognitive–emotional avoidance (Sharma et al., 2022; Wells et al., 2022). By encouraging participants to disengage from unhelpful thinking styles, such as rumination and worry, and to practice detached mindfulness, MCT may have reduced the fear of negative evaluation or rejection that often inhibits emotional openness (Capobianco & Nordahl, 2023; Patel et al., 2023). This is consistent with findings from interventions targeting emotional self-expression in intimate contexts, where enhancing cognitive flexibility and reducing maladaptive schemas led to greater willingness to share personal feelings (Faramarzi Rad et al., 2023; Panahpouri & Johari, 2024). The fact that these effects persisted into the follow-up stage suggests that participants internalized the skills and strategies learned in therapy, allowing them to apply self-disclosure more adaptively in interpersonal situations (Carter et al., 2022; Hauschildt et al., 2022).

The observed increase in self-restraint among participants receiving MCT also resonates with prior evidence linking

metacognitive skills to improved self-control and emotion regulation (Dadjoo & Gharibzadeh, 2022; Fennis, 2022). Self-restraint requires the ability to regulate impulses, manage negative affect, and inhibit maladaptive behavioral responses in social interactions. MCT's focus on enhancing metacognitive awareness likely enabled participants to better monitor and adjust their reactions to emotionally charged situations. This finding mirrors the work of Niknejadi et al. (Niknejadi et al., 2023), who reported that therapy aimed at strengthening emotional competencies improved both intimacy and self-control among women with marital trauma. Similarly, Sadeghi et al. (Sadeghi et al., 2021) found that structured group interventions significantly reduced impulsive behaviors by increasing participants' cognitive and emotional regulation capacities.

The concurrent improvements in self-disclosure and self-restraint are particularly noteworthy, as these two interpersonal competencies are interdependent and must be balanced to sustain healthy relationships (Cindy & Hu, 2022; Sharif et al., 2021). Excessive self-disclosure without adequate self-restraint can overwhelm or alienate others, whereas excessive restraint can result in emotional suppression and relational distance (Faramarzi Rad et al., 2023; Fennis, 2022). By equipping participants with both openness and regulation strategies, MCT addresses the dual challenge of promoting intimacy while maintaining relational harmony (Ahangari et al., 2024; Fouladi et al., 2023). These findings reinforce the notion that psychological interventions aimed at relationship readiness should target both skills simultaneously rather than focusing exclusively on either.

The results also have important implications for understanding reluctance toward marriage in the Iranian cultural context. Prior research indicates that negative attitudes toward marriage may stem from maladaptive cognitive–emotional patterns, low trust in potential partners, and inadequate interpersonal skills (Abdi Zarrin et al., 2022; Rahmanipour, 2024; Roshan Chesli et al., 2023). The present study suggests that by addressing these cognitive–emotional barriers, MCT may indirectly increase openness to intimate relationships, even if marriage inclination itself was not directly measured as an outcome. This is in line with Basharpour and Estiri (Basharpour & Estiri, 2024), who emphasized that intimacy skills, optimism, and identity development are predictive of readiness for marriage, and with Noroozi Azam et al. (Noroozi Azam et al., 2022), who found that interpersonal factors such as attachment quality strongly influence marital stability.

Moreover, the enduring effects of MCT observed in this study reflect its potential for sustainable change in cognitive and emotional functioning. Long-term benefits of MCT have been documented in diverse populations, including individuals with depression (Carter et al., 2022; Hauschildt et al., 2022), anxiety (Wells et al., 2022), and interpersonal difficulties (Bagheri et al., 2023; Yari et al., 2023). By focusing on the process of thinking rather than the content, MCT provides a set of transferrable skills applicable to various contexts, from managing internal distress to navigating complex social relationships (Capobianco & Nordahl, 2023; Sharma et al., 2022).

The present findings are also congruent with previous Iranian studies demonstrating the efficacy of MCT in enhancing emotional regulation and interpersonal functioning. Ahangari et al. (Ahangari et al., 2024) reported that MCT significantly improved emotional expression among women experiencing marital conflict, while Fouladi et al. (Fouladi et al., 2023) found that it enhanced meta-emotional awareness among healthcare professionals. These parallels strengthen the evidence base for MCT's adaptability across both clinical and subclinical populations, as well as its relevance to gender-specific psychosocial challenges.

The role of self-control in relationship functioning further supports the integration of MCT in interventions targeting marriage reluctance. Fennis (Fennis, 2022) highlighted that self-control, as a broader construct encompassing self-restraint, is integral to long-term interpersonal success, while Ahn and Kim (Ahn & Kim, 2022) demonstrated that self-regulation improvements can translate into healthier lifestyle behaviors, indicating a generalizable benefit. In the present study, self-restraint gains may reflect an enhanced capacity for self-regulation that extends beyond relational contexts.

Another point of discussion involves the overlap between emotional non-disclosure patterns and maladaptive metacognitions. As Faramarzi Rad et al. (Faramarzi Rad et al., 2023) argued, early maladaptive schemas can reduce the likelihood of self-disclosure, particularly when coupled with low distress tolerance. MCT directly addresses such maladaptive schemas by reframing metacognitive beliefs about the uncontrollability and danger of certain thoughts or emotions (Sharma et al., 2022; Wells et al., 2022). This may explain why participants in the present study were able to shift toward more open and adaptive forms of emotional communication.

Furthermore, the current findings contribute to the growing understanding that interventions aimed at marriage-

related attitudes and competencies should consider the broader sociocultural narratives influencing individuals' choices. Rahmanipour (Rahmanipour, 2024) emphasized that societal trends in celibacy and mate selection patterns in Iran are intertwined with evolving gender roles, economic pressures, and educational aspirations. Within such a framework, interventions like MCT can act as a counterbalance to the psychosocial stressors that discourage intimate engagement, by fostering personal resilience and relational competence (Jafarnejad & Khakpour, 2024; Moghtadai et al., 2023).

Taken together, the results of this study affirm that MCT can effectively enhance both self-disclosure and self-restraint among women reluctant to marry, with effects sustained over time. These changes suggest that MCT may be a viable approach for improving interpersonal readiness in populations where cultural, psychological, and emotional barriers contribute to low marriage inclination. The alignment of these findings with both international and Iranian research underscores MCT's versatility and relevance in diverse contexts.

Despite its promising findings, this study has several limitations that warrant consideration. The sample size was relatively small, with only 30 participants divided equally between experimental and control groups, which may limit the generalizability of the results to broader populations. The sample was also restricted to female university students over the age of 35 in a specific urban region, potentially reducing the applicability of the findings to women in other age groups, educational backgrounds, or rural settings. Additionally, the reliance on self-report questionnaires introduces the possibility of response bias, including social desirability effects, which may have influenced the accuracy of participants' responses. The study design did not include long-term follow-up beyond the immediate post-intervention and short-term follow-up phases, limiting conclusions about the durability of the observed effects over extended periods. Furthermore, cultural factors unique to the Iranian context may have influenced participants' willingness to engage in self-disclosure, and these cultural influences may not translate directly to other societies. Lastly, the absence of a comparison with other therapeutic approaches prevents direct conclusions about MCT's relative efficacy compared to alternative interventions.

Future research should aim to replicate these findings with larger and more diverse samples, including participants from varying age groups, educational levels, and socio-economic backgrounds. Studies should also consider incorporating male participants or mixed-gender samples to explore potential gender differences in the effectiveness of MCT on self-disclosure and self-restraint. Longitudinal designs with extended follow-up periods would provide valuable insights into the sustainability of treatment gains and the potential for long-term changes in marriage inclination. Comparative studies examining MCT against other therapeutic modalities, such as schema therapy, acceptance and commitment therapy, or interpersonal therapy, could help determine its relative advantages and mechanisms of change. Additionally, future work could explore the role of mediating variables, such as changes in metacognitive beliefs, attachment styles, or emotional regulation strategies, in explaining the observed improvements. Incorporating qualitative methods, such as interviews or focus groups, may also enrich the understanding of participants' lived experiences and perceived changes resulting from the intervention.

In practical settings, MCT can be adapted for use in premarital counseling, relationship education programs, and individual psychotherapy for clients experiencing low intimacy, communication difficulties, or reluctance toward marriage. Therapists working with populations in which cultural norms shape attitudes toward marriage should tailor MCT protocols to reflect culturally relevant values and relational expectations. Incorporating MCT into community-based workshops or university counseling services could increase accessibility for individuals who may be hesitant to seek traditional therapy. Moreover, integrating MCT techniques into broader psychoeducational initiatives focused on emotional intelligence, conflict resolution, and relationship readiness could help equip individuals with the skills necessary to form and sustain healthy, committed partnerships. By addressing both self-disclosure and self-restraint, practitioners can promote a balanced approach to intimacy and emotional regulation, enhancing interpersonal competence across diverse relationship contexts.

Authors' Contributions

Authors contributed equally 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

Data are available for research purposes upon reasonable request to the corresponding author.

Ethical Considerations

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

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