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Effectiveness of Cognitive Behavioral Therapy on Cognitive Fusion and Social Well-Being of Couples

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ABSTRACT

Objective: This study aimed to determine the effectiveness of Cognitive Behavioral Therapy (CBT) in reducing cognitive fusion and improving social well-being among couples.

Methods: This study employed a quasi-experimental design with a pretest–posttest and a control group. The statistical population consisted of all couples who referred to counseling centers in District 7 of Tehran during the summer and autumn of 2025. From this population, a sample of 30 couples was selected and assigned to experimental and control groups. The experimental group participated in 10 sessions of Cognitive Behavioral Therapy. Data were collected using the Cognitive Fusion Questionnaire (Gillanders et al., 2014) and the Keyes Social Well-Being Questionnaire (1998). Data were analyzed by comparing pretest and posttest scores between the two groups.

Results: The findings indicated a significant difference between the experimental and control groups. The CBT intervention led to a significant reduction in cognitive fusion and a significant increase in the social well-being of couples in the experimental group compared with the control group.

Conclusions: Cognitive Behavioral Therapy can effectively reduce maladaptive cognitive patterns such as cognitive fusion and enhance the social well-being of couples. Therefore, this approach may be considered an effective intervention for improving marital functioning and promoting family well-being in counseling settings.

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Introduction

Social well-being is considered one of the fundamental dimensions of overall health and refers to an individual's ability to interact effectively with others, adapt to social norms, and perform meaningful roles within the family and the broader community (Keyes, 1998, as cited in Gallagher

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et al., 2020). From a psychological perspective, social well-being encompasses several components, including social integration, social acceptance, social contribution, social actualization, and social coherence. Together, these components reflect the extent to which individuals perceive themselves as functioning effectively within their social environment. In the context of marital relationships, social well-being plays a crucial role in shaping the quality of interactions between spouses and their engagement with surrounding social networks such as family members, friends, and community institutions (Fincham & Beach, 2020). Couples who experience higher levels of social well-being tend to demonstrate greater cooperation, mutual understanding, and emotional support, which contribute to the stability and resilience of marital relationships.

Conversely, several psychological barriers may undermine social well-being and the quality of marital relationships. One of the most significant among these is cognitive fusion. Cognitive fusion refers to the excessive entanglement of thoughts with reality, such that individuals perceive their internal thoughts, evaluations, and judgments as absolute and unquestionable truths (Hayes et al., 2021). When individuals are cognitively fused with their thoughts, they become overly influenced by their internal narratives and have difficulty distancing themselves from negative interpretations or rigid beliefs. In marital relationships, high levels of cognitive fusion may lead partners to become trapped in persistent negative thought patterns about their spouse. As a result, couples may lose their ability to engage in constructive problem-solving and instead respond to conflicts with impulsive, defensive, or destructive reactions. This rigid cognitive involvement often reduces individuals' willingness to adapt to marital conflicts and may increase relational withdrawal, emotional distancing, and communication breakdown (Dax & Rogge, 2020; Amanollahi et al., 2022).

In modern urban life, particularly in large metropolitan areas, individuals are exposed to numerous social, economic, and psychological stressors that can intensify marital conflicts and relational dissatisfaction. The increasing complexity of daily life, work-related pressures, and changing social expectations may create additional strains within marital relationships. Consequently, various couple therapy approaches have been developed to reduce relational distress, improve communication patterns, and enhance marital satisfaction. Among these approaches, Cognitive

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Behavioral Therapy (CBT) has emerged as one of the most effective and empirically supported interventions for addressing marital problems.

The central premise of CBT is that individuals' thoughts and perceptions significantly influence their emotional responses and behavioral patterns. Within the context of marital relationships, this approach assumes that dysfunctional interactions between spouses are largely shaped by negative cognitive processes, distorted interpretations, ineffective communication patterns, and irrational beliefs about oneself and one's partner (Epstein & Baucom, 2022). Accordingly, CBT interventions aim to identify and modify maladaptive automatic thoughts and cognitive distortions that contribute to relational conflict. Through cognitive restructuring, couples are encouraged to examine the evidence supporting their beliefs and to challenge distorted interpretations of their partner's behavior. This therapeutic process can directly reduce cognitive fusion by helping individuals recognize that their thoughts are mental events rather than objective realities, thereby enabling them to adopt more flexible and balanced interpretations.

In addition to its cognitive component, the behavioral dimension of CBT emphasizes the development of practical skills such as effective communication, conflict resolution, problem-solving, goal setting, and constructive behavioral exchanges between partners (Wenzel, 2017). Couples learn structured techniques to express their needs, listen empathically, and respond to disagreements in a cooperative manner. Because CBT is largely based on self-help principles and active skill acquisition, it empowers couples to apply these strategies independently in their daily interactions. As a result, CBT not only addresses maladaptive thinking patterns but also strengthens interpersonal competencies that are essential for improving relational functioning and enhancing social well-being. Furthermore, CBT is a structured, goal-oriented, and relatively short-term intervention, which makes it particularly suitable for counseling settings where efficient and evidence-based approaches are required (Fischer et al., 2020).

A growing body of research has examined factors associated with marital quality and relationship functioning. For instance, Amanollahi et al. (2022) conducted a correlational study demonstrating that cognitive fusion is significantly associated with reduced marital relationship quality and increased emotional exhaustion among couples. Their findings highlight the importance of targeting cognitive fusion as a key construct in clinical interventions aimed at improving marital

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functioning. In another intervention-based study, Karimi and Rezaei (2021) investigated the effectiveness of cognitive behavioral couple therapy on communication patterns and marital intimacy. Their results indicated that this therapeutic approach significantly improved constructive communication skills and reduced destructive interaction patterns among couples. These improvements indirectly reflect behavioral aspects of social well-being, as effective communication and cooperative interaction are essential components of healthy social functioning. Similarly, Zarei et al. (2023) reported that Acceptance and Commitment Therapy (ACT), which shares conceptual foundations with cognitive behavioral approaches, significantly reduced cognitive fusion and increased intimacy among couples experiencing relational conflict. These findings further support the role of cognitive flexibility and adaptive cognitive processes in improving relationship outcomes. Despite the growing number of studies in this area, relatively few investigations have simultaneously examined the effectiveness of cognitive behavioral couple therapy on both cognitive fusion and social well-being as multidimensional constructs. Addressing these variables concurrently may provide a more comprehensive understanding of how therapeutic interventions influence both the cognitive and social aspects of marital functioning.

Cognitive fusion can create a form of psychological blindness in marital relationships, preventing individuals from accurately perceiving relational realities and responding adaptively to interpersonal challenges. Reducing cognitive fusion may therefore enhance psychological flexibility, decrease relational tension, and promote more accurate and empathetic understanding between partners (Gillanders et al., 2014; Zarei et al., 2023). At the same time, strengthening social well-being can function as a protective factor against marital stress and contribute to the overall psychological and social welfare of families (Blanchard et al., 2023).

Given that Cognitive Behavioral Therapy simultaneously targets maladaptive cognitive patterns—such as those underlying cognitive fusion—and dysfunctional behavioral and interactional patterns that influence social well-being, examining its effectiveness on these variables is particularly important in challenging urban environments such as Tehran. Therefore, the present study aimed to determine the effectiveness of Cognitive Behavioral Therapy on cognitive fusion and social well-being among couples. Specifically, the study sought to answer the following research question: Does Cognitive Behavioral Therapy significantly reduce cognitive fusion and increase social well-being among couples?

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Material and Methods

This study employed a quasi-experimental design using a pretest–posttest format with a control group. The statistical population consisted of all couples who referred to counseling centers in District 7 of Tehran during the summer and autumn of 2025. From this population, 30 couples were selected using a convenience sampling method. After recruitment, the couples were randomly assigned to either an experimental group or a control group through simple random allocation.

The inclusion criteria were: willingness to participate in the study, having adequate mental health based on counseling and health records, and having at least one year of marital life. The exclusion criteria included incomplete completion of the questionnaires and lack of cooperation or withdrawal during the research process.

In the data analysis stage, descriptive statistics including mean and standard deviation were calculated according to the type of variables. To test the research hypotheses and examine the effect of the intervention while controlling for pretest scores, analysis of covariance (ANCOVA) was conducted using SPSS version 16.

Instruments

Cognitive Fusion Questionnaire (CFQ): The Cognitive Fusion Questionnaire was developed by Gillanders et al. (2014) as an objective self-report measure of cognitive fusion. The questionnaire consists of 7 single-factor items designed to assess the extent to which individuals become entangled with their thoughts. Items are rated on a seven-point Likert scale ranging from 1 (never true) to 7 (always true). The minimum possible score is 7 and the maximum is 49, and the instrument does not contain reverse-scored items. Higher scores indicate greater levels of cognitive fusion, reflecting excessive involvement with one's thoughts.

Gillanders et al. (2014) reported satisfactory construct validity for the scale and a Cronbach's alpha coefficient above 0.80, indicating strong internal consistency. In Iran, Mansouri et al. confirmed the content and convergent validity of the Persian version of the instrument and reported a Cronbach's alpha coefficient above 0.80 for the total scale, suggesting acceptable reliability in Iranian samples.

Social Well-Being Questionnaire: Social well-being was assessed using the Social Well-Being Questionnaire developed by Keyes (1998). This self-report instrument consists of 20 items and

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measures five dimensions of social well-being: social flourishing, social integration, social coherence, social acceptance, and social contribution. Responses are rated on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Total scores range from 20 to 100, with higher scores indicating greater levels of social well-being.

Several items (items 5, 8, 16, 17, 18, and 19) are reverse scored. Keyes (1998) reported satisfactory validity and reliability for this instrument. In Iran, researchers such as Babapour Kheiruddin and Safarinia confirmed the content validity of the questionnaire for Iranian populations and reported acceptable reliability coefficients based on Cronbach's alpha.

Cognitive Behavioral Couple Therapy Intervention Protocol

The intervention implemented in this study consisted of 10 structured sessions of Cognitive Behavioral Couple Therapy. Each session lasted approximately 60 minutes and was conducted twice per week over a period of five weeks for the experimental group. During this time, the control group did not receive any psychological intervention.

The intervention protocol was developed based on standard Cognitive Behavioral Therapy principles for couples and was implemented as follows:

Session 1: Initial assessment, establishment of therapeutic alliance, psychoeducation about the CBT model, and clarification of therapeutic goals.

Session 2: Identification of negative automatic thoughts and examination of dysfunctional interaction cycles within the marital relationship.

Session 3: Introduction to cognitive traps and identification of common cognitive distortions in couple interactions.

Session 4: Training in cognitive restructuring techniques and challenging dysfunctional and irrational thoughts.

Session 5: Behavioral exchange training, shifting focus toward positive interactions, and planning activities to increase constructive marital behaviors.

Session 6: Communication skills training with emphasis on active listening and emotional reflection.

Session 7: Assertiveness training using "I-statements" and instruction in a structured problem-solving model for managing conflicts.

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Session 8: Examination of implicit relationship rules, identification of unrealistic expectations, and modification of core beliefs about the partner and the relationship.

Session 9: Strengthening emotional bonding, education about different dimensions of intimacy, and discussion of forgiveness and acceptance of differences.

Session 10: Review and integration of learned skills, development of a relapse-prevention plan for future high-risk situations, and administration of the posttest.

Ethical Considerations

All ethical principles related to research involving human participants were carefully observed throughout the study. Participation in the research was entirely voluntary, and informed consent was obtained from all participants prior to data collection. Participants were assured that their responses would remain confidential and would be used solely for research purposes. They were also informed that they could withdraw from the study at any stage without any negative consequences. Additionally, after the completion of the research process, the educational materials and intervention content were made available to the control group to ensure fairness and ethical responsibility in the research procedure.

Results

Table 1 presents the descriptive findings of the research variables, including the mean and standard deviation of cognitive fusion and social well-being in the pretest and posttest stages for the experimental and control groups.

Table 1. Descriptive Findings of Research Variables

Variable	Experimental Group (Pretest) Mean (SD)	Experimental Group (Posttest) Mean (SD)	Control Group (Pretest) Mean (SD)	Control Group (Posttest) Mean (SD)
Cognitive Fusion	35.20 (3.62)	19.20 (3.44)	35.07 (3.39)	34.87 (3.77)
Social Well-Being	50.07 (5.29)	76.80 (6.08)	50.00 (5.49)	50.20 (5.65)

As shown in Table 1, during the pretest stage the mean scores of cognitive fusion and social well-being in both groups were relatively similar prior to the intervention. However, after the

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intervention in the experimental group, the mean score of cognitive fusion decreased, while the mean score of social well-being increased.

Considering the present research design and the presence of two dependent variables, multivariate analysis of covariance (MANCOVA) and univariate analysis of covariance (ANCOVA) were used to analyze the main results. First, Levene's test was conducted to examine the homogeneity of variances between the two groups in the posttest stage. The calculated Levene's test was not statistically significant for any of the variables ($p > 0.05$); therefore, the assumption of homogeneity of variances was confirmed.

In addition, the important assumption of ANCOVA, namely the homogeneity of regression slopes, was examined by evaluating the interaction effect between the independent variable and the pretest score of each dependent variable on its posttest score. The results indicated that the F values were not significant at the 0.05 level. Furthermore, the Shapiro–Wilk test was used to assess the normality of the distribution of the dependent variables, and the results confirmed that the variables followed a normal distribution. The assumption of equality of covariance matrices was also examined using Box's M test and was confirmed.

Since the assumptions required for covariance analysis were satisfied, ANCOVA was conducted to examine the effectiveness of cognitive behavioral therapy. The results are presented in Table 2.

Table 2. Results of Univariate ANCOVA for Research Variables in the Two Groups with Pretest Control

Variable	Source of Variation	SS	DF	MS	F	P	Effect Size
Cognitive Fusion	Pretest	21.20	1	21.20	94.41	0.001	0.78
	Group	1935.95	1	1935.95	8620.06	0.001	0.99
	Error	5.83	26	0.22			
Social Well-Being	Pretest	38.10	1	38.10	161.28	0.001	0.86
	Group	5475.47	1	5475.47	23177.22	0.001	0.99
	Error	6.14	26	0.23			

As shown in Table 2, there is a significant difference between the experimental and control groups in terms of cognitive fusion and social well-being. In other words, cognitive behavioral therapy significantly reduced cognitive fusion and increased social well-being among couples in the experimental group.

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Discussion

The aim of the present study was to determine the effectiveness of Cognitive Behavioral Therapy (CBT) in reducing cognitive fusion and improving the social well-being of couples. The findings obtained from the analysis of covariance indicated that the CBT intervention significantly reduced cognitive fusion scores and increased social well-being scores in the experimental group ($p < 0.001$). These results are consistent with the findings of Karimi and Rezaei (2021), who emphasized the improvement of communication patterns through cognitive-behavioral interventions, as well as the study by Zarei et al. (2023), which reported the effectiveness of cognitive-based interventions in reducing cognitive fusion.

To explain the reduction in cognitive fusion, it can be argued that cognitive behavioral therapy, through techniques such as cognitive restructuring and identification of cognitive traps, helps couples distinguish between thoughts and reality. When couples learn to view their negative thoughts not as absolute truths but as temporary mental events, the intensity of emotional entanglement with those thoughts decreases, and cognitive fusion gradually gives way to psychological flexibility. This process enables couples to respond to marital conflicts in a more realistic and flexible manner rather than reacting impulsively based on previously formed mental assumptions (Hayes et al., 2021).

The increase in social well-being can also be explained through the behavioral components of this therapeutic approach. Training in communication skills, active listening, and problem-solving techniques during therapy sessions strengthens the interactive capacities of couples. According to Keyes' model (1998), social well-being depends on effective social integration and participation. When couples practice assertiveness and empathy skills within the safe environment of the family, these abilities extend to their broader social relationships and contribute to improvements in social well-being indicators. In fact, by restructuring cognitive patterns and reducing cognitive fusion, CBT creates a context in which individuals can adopt more constructive social and familial roles.

Overall, the results of this study indicate that cognitive behavioral therapy, due to its structured nature and simultaneous focus on cognition and behavior, is an effective approach for reducing internal tensions among couples and enhancing their social quality of life. Therefore, it is recommended that family counselors and therapists in counseling and treatment centers utilize

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CBT-based intervention protocols to reduce the negative consequences of cognitive distortions and promote the social adjustment of couples.

Limitations and Suggestions

Despite the valuable findings of the present study, several limitations should be considered when interpreting the results. One limitation is the use of convenience sampling, which may restrict the generalizability of the findings to broader populations. Additionally, the sample size was relatively small and limited to couples referring to counseling centers in a specific district of Tehran. Another limitation was the absence of a long-term follow-up phase, which prevented the evaluation of the stability of the intervention effects over time.

Future studies are therefore recommended to use larger and more diverse samples and to employ random sampling methods where possible. Moreover, conducting follow-up assessments at intervals such as six months and one year after the intervention would provide valuable information about the long-term effectiveness and durability of CBT outcomes. It is also suggested that future research compare CBT with other therapeutic approaches, such as Acceptance and Commitment Therapy (ACT) or Emotion-Focused Therapy (EFT), to determine the relative effectiveness of different couple-based interventions in improving psychological and social outcomes.

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Data availability statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

Ethics statement

The studies involving human participants were reviewed and approved by ethics committee of Islamic Azad University.

Author contributions

All authors contributed to the study conception and design, material preparation, data collection and analysis. All authors contributed to the article and approved the submitted version.

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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