



Original Article

# Comparing the effectiveness of Cognitive Behavioral Therapy (CBT) and Acceptance and Commitment Therapy (ACT) on the characteristics of Sternberg's love model in couples

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## Abstract

**Introduction:** Regarding the importance of the love model in the maintenance of marital relationships, the present study aimed to compare the effectiveness of Cognitive Behavioral Therapy (CBT) and Acceptance and Commitment Therapy (ACT) on the characteristics of Sternberg's love model in couples who referred to counseling centers due to marital problems.

**Materials and Methods:** In the present study, the statistical population included all the couples referred to the welfare counseling and social emergency centers of Torbat-e-Jam city, Iran, in 2021-2022. Using the purposeful and convenient sampling method and based on the score of Sternberg's Love Scale (1986) in the pre-test, 24 couples were selected and randomly replaced into three equal groups of A, B, and C. Group A received CBT, group B received ACT, and group C was the control group. The data were analyzed using descriptive statistics, multivariate covariance analysis, Tukey post hoc test, and SPSS-22 software.

**Results:** The results showed that both CBT and ACT were effective on scores of Sternberg's Love Scale ( $P < 0.01$ ), but the effect of ACT was more than CBT in passion and intimacy components ( $P < 0.05$ ).

**Conclusion:** The results showed that CBT and ACT improved the characteristics of Sternberg's love model, especially ACT was more effective. It is suggested that therapists and couple therapy specialists consider these treatment methods to improve marital relationships.

**Keywords:** Acceptance and commitment-based therapy, Cognitive behavioral therapy, Couples, Love

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## Introduction

Love plays an important role in marriage stability and quality of marital life (1). The same characteristics in marital relationships increase marriage satisfaction and sustainability (2-4). To assess love in marital life, we should define the

meaning of love and its components. In this line, Sternberg's triangular theory of love proposed three components: intimacy, desire or pleasure, and commitment to love. Therefore, love as a psychological phenomenon has three behavioral (intimacy), emotional (desire or pleasure), and

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cognitive (commitment) components. In different styles of love, these components are combined in different ways, or their levels are changed in the length of marriage (5,6). Based on the studies conducted in Iranian and foreign cultures, love in marital relationships improves marital satisfaction (7-10). Having love in marital relationships needs to be a proper relationship. One of the effective approaches to intimacy and reforming the style of making love between couples is cognitive behavioral therapy. This intervention changes maladaptive behaviors, ineffective schemas, negative self-concepts, negative self-talk, and false and irrational beliefs. It also trains social skills such as self-expression, problem-solving, and interpersonal skills (11-13). In addition, acceptance and commitment therapy, derived from the influence of the third wave of behaviorism, has expanded the traditional cognitive-behavioral therapy method, especially by using mindfulness and emphasizing values. It joins acceptance and mindfulness strategies with commitment and behavior change strategies in different ways and helps people solve psychological problems and make effective behavioral changes (14).

Based on this approach, maintaining and expanding distress and emotional distance between couples results from the combination of control and avoidance strategies in the marital relationship. Taking thoughts as reality, negative evaluations, and acting according to them will maintain the couple's negative communication cycle (15). The couple therapists used CBT and ACT to solve marital dissatisfaction and problematic relationships in couples (16-18).

Regarding the role of proper marital relationships in marriage and the lack of studies, especially in our country, which assess the characteristics of the love model in couples, the present study aimed to compare the effectiveness of CBT and ACT on the characteristics of Sternberg's love model in couples with marital problems.

### **Materials and Methods**

The statistical population of the research included all the couples referred to the welfare counseling and social emergency centers of Torbat-e-Jam city, Iran, in 2021-2022. Twenty-four couples were selected through the purposeful and convenient sampling method based on Sternberg's Love Questionnaire (1986) score in the pre-test. We used the formula and

Shahbazfar et al. study (17) to calculate the sample size. They were divided into equal groups of A, B, and C. Group A received cognitive behavioral therapy (eight 60-minute sessions), group B received acceptance and commitment therapy (eight 60-minute sessions), and group C as the control group did not receive treatment. We considered ethical issues such as voluntary participation and confidentiality of personal information. The present study was approved by the ethical committee of Islamic Azad University, Torbat-e-Jam branch with the ethical code of IR.IAU.MSHD.REC.1400.077.

The inclusion criteria included being a couple together, having no record of divorce, not being addicted to substances or alcohol, not having a major psychiatric disorder or severe and physically debilitating illness, not having a traumatic event in the last three months, and the scores of components of Sternberg's Love Scale lower than medium level (< 45) in the pre-test stage. The exclusion criteria included unwillingness to continue and absence of more than two sessions.

### *Research instrument*

*A) Sternberg Love Scale:* This scale was developed by Robert Sternberg in 1986 and it has 45 questions that measure three love styles: intimacy, passion, and commitment in the 9-degree Likert system (1: not at all to 9: extremely). Cronbach's alpha of 0.90 has been reported, and the cross-correlation analysis method has been used to calculate its validity. The results were reported as 0.73 for intimacy and 0.71 for commitment and passion (19). In an Iranian population, Askarpour and Mohammadipour reported Cronbach's alpha of 0.86 for intimacy subscale, 0.87 for passion, 0.91 for commitment, and 0.93 for the total scale (20). The summarized contents of CBT based on the book of Frey's cognitive-behavioral therapy group (12) and ACT based on the ACT book in simple language, acceptance, and commitment-based therapy by Harris (21) are presented in Table 1. The data were analyzed using SPSS-22 statistical software, descriptive statistics, multivariate covariance analysis, and post hoc Tukey tests.

### **Results**

Table 2 presents the participants' demographic variables. Based on the results, most participants are 31-40 years old and have a diploma or postgraduate education degree.

**Table 1.** Summary of Acceptance and Commitment Therapy (ACT) and Cognitive Behavioral Therapy (CBT)

Session	ACT	CBT
First	Clarifying the rules of the group, goals and expectations (familiarity and communication between members)	Introduction and review of effective factors and history of treatment, communicating and stating goals
Second	Defining the problem from the perspective of the couple and the counselor (problem formulation)	Relaxation skills and performing many exercises on relaxation
Third	Choosing a healthy relationship (motivation, desire and passion), rosary metaphor, continuing or ending the relationship	Negative thoughts, the rate of success in identifying and trapping thoughts
Fourth	Getting to know the workings of the mind and how to get rid of destructive thoughts, weakening expectations (not removing them), and teaching conflict resolution methods	Recognizing and classifying beliefs
Fifth	Identifying common values and committed action, identifying the strengths of couples	Analyzing the usefulness and similarity of beliefs
Sixth	Introduction and diagnosis of relationship obstacles: disconnection, reaction, avoidance, inside your mind, neglected values (recognition and diagnosis of relationship obstacles)	Logical analysis of the definition of the word itself
Seventh	Introducing layers of fog (familiarity with psychological fog)	Teaching the characteristics of opposing beliefs
Eighth	Choosing effective action according to values despite the presence of unpleasant thoughts and feelings, setting up a ceremony of forgiveness and an oath (implementing what has been learned)	Simulating real situations

**Table 2.** The demographic variables of the participants in CBT group, ACT group, and control group

Variable		CBT	ACT	Control
		Prevalence (%)	Prevalence (%)	Prevalence (%)
Age (Year)	20-30	3 (18.8)	2 (12.5)	2 (12.5)
	31-40	10 (62.5)	8 (50.0)	9 (56.2)
	Over 40	3 (18.8)	6 (37.5)	5 (31.2)
Education level	Under diploma	3 (18.8)	2 (12.5)	2 (12.5)
	Diploma and postgraduate	6 (37.5)	8 (50.0)	7 (43.8)
	Bachelor	5 (31.2)	4 (25.0)	4 (25.0)
	Master and higher	2 (12.5)	2 (12.5)	3 (18.8)

Table 3 shows the descriptive statistics of love scores. The results showed that the scores of the 3 groups were much lower than the medium level. After intervention, ACT and CBT groups had a higher mean score than the control group in the post-test and follow-up stages.

Comparing the means showed that the mean scores increased from pre-test to post-test and follow-up in both ACT and CBT groups. However, scores were not significantly changed from the post-test to the follow-up.

**Table 3.** The descriptive statistics related to the scores of love components in CBT group, ACT group, and control group

Love component	Group	Pre-test (Mean ± SD)	Post-test (Mean ± SD)	Follow-up (Mean ± SD)
Intimacy	CBT	24.62 ± 1.35	35.50 ± 1.51	35.38 ± 1.53
	ACT	30.38 ± 2.44	44.88 ± 1.23	44.81 ± 1.22
	Control	25.00 ± 0.796	24.38 ± 0.735	24.38 ± 0.769
Passion	CBT	25.12 ± 0.795	38.38 ± 0.935	38.25 ± 0.929
	ACT	25.12 ± 1.14	43.50 ± 1.18	43.38 ± 1.20
	Control	24.00 ± 0.742	23.75 ± 0.750	23.69 ± 0.740
Commitment	CBT	22.12 ± 1.35	37.38 ± 0.966	37.25 ± 1.01
	ACT	22.00 ± 1.23	39.81 ± 1.22	39.69 ± 1.23
	Control	20.62 ± 0.758	20.12 ± 0.657	20.06 ± 0.661

The Shapiro and Wilk test was used to check the normality of the distribution, and the normality was met ( $P > 0.05$ ). The Box' M test also showed that the homogeneity of the variance-covariance matrix was achieved ( $P > 0.05$ ,  $F = 2.68$ , Box' M = 180.03). The results of Bartlett's sphericity test also showed a moderate and significant correlation between the dimensions of the Sternberg's love model

( $P < 0.01$ ,  $X^2 = 1095.74$ ). The assumption of sphericity regarding the variables has not been fulfilled ( $P < 0.05$ ), and Greenhouse Geisser epsilon correction should be used to estimate the differences in these variables. Table 4 shows the repeated measures variance analysis results for the Sternberg's love model in ACT and CBT groups.

**Table 4.** The results of repeated measures variance analysis for the Sternberg love model in ACT and CBT groups

Variable	Source of changes	Sum of squares	Freedom degree	Mean of squares	F	P	Eta square	
Intimacy	Intragroup	Time	552.781	1	552.781	161.932	0.0001	0.78
		Time * Group	336.438	2	168.219	49.278	0.0001	0.68
		Error	153.615	45	3.414			
	Intergroup	Group	5726.625	2	2863.313	36.419	0.0001	0.61
		Error	3537.979	45	78.622			
Passion	Intragroup	Time	892.531	1	892.531	970.973	0.0001	0.95
		Time * Group	497.271	2	248.635	270.487	0.0001	0.92
		Error	41.365	45	0.919			
	Intergroup	Group	4745.292	2	2372.646	58.891	0.0001	0.72
		Error	1812.979	45	40.288			
Commitment	Intragroup	Time	960.681	1	960.681	944.502	0.0001	0.95
		Time * Group	528.215	2	264.108	259.660	0.0001	0.92
		Error	45.771	45	1.017			
	Intergroup	Group	5279.181	2	2639.590	54.979	0.0001	0.71
		Error	2160.499	45	480.011			

Based on the above table, there was a significant difference between the two groups in the components of the love model according to the test and the interaction effect of the test, group membership, and intergroup membership ( $P < 0.01$ ). The results of repeated measures variance analysis showed that for the variables of intimacy, passion, and commitment, the time factor of the group is significant ( $P < 0.05$ ); these results indicate that between the experimental groups (two treatment groups)

and the control group has a difference in the intimacy, passion, and commitment. The eta square for the investigated variables is more than 0.10, which shows that the difference between the groups is significant. The results show that interventions are effective in improving love components.

Table 5 presents the results of Bonferroni's post hoc test to compare the love scores according to test stages in ACT and CBT groups.

**Table 5.** The results of Bonferroni's post hoc test to compare the mean scores of love components according to test stages in ACT and CBT groups

Variable	Based group and comparison group	Mean differences	P
Intimacy	CBT and ACT	-8.189	0.0001
	CBT and control	7.250	0.001
	ACT and control	15.438	0.0001
Passion	CBT and ACT	-3.417	0.034
	CBT and control	10.104	0.0001
	ACT and control	13.521	0.0001
Commitment	CBT and ACT	-1.583	0.807
	CBT and control	11.979	0.0001
	ACT and control	13.562	0.0001

The results showed that the mean difference between the two interventions and the control group is significant for intimacy, passion, and commitment components ( $P < 0.05$ ). Also, we observed a significant difference between the two experimental groups in intimacy and passion components. According to the difference between the mean scores, ACT is more effective than CBT in love components in couples.

### Discussion

The present study was conducted on 24 couples divided into three groups (ACT group, CBT group, and control group) to compare the effectiveness of Cognitive Behavioral Therapy (CBT) and Acceptance and Commitment Therapy (ACT) on the characteristics of the Sternberg's love model in couples with marital problems. The results showed that both CBT and ACT were effective on the components of Sternberg's love model, but the effect of ACT was more than CBT in the passion and intimacy components. Some studies assess the effectiveness of ACT and CBT on marital relationships. However, there was no study with the same variables as the present study. In this line, Rahimi et al. compared the effectiveness of CBT and ACT in marital satisfaction and sexual intimacy on 60 couples who were referred to counseling centers in Khorramabad city, Iran in 2018 due to marital problems. The couples were divided randomly into an ACT group, a CBT group, and a control group, like in our study. The experimental groups received eight 2-hour sessions of intervention. The participants fulfilled the ENRICH marital satisfaction inventory and Battalion sexual intimacy scale in the pre-test and post-test stages. The findings showed that both treatments significantly improved marital satisfaction and sexual intimacy in couples, while the CBT was more effective than the ACT in both variables (16).

In our study, the sample size was smaller, and we had a follow-up stage to assess the sustainability of the interventions. The results of our study are the same as this study, and both interventions led to significant improvement in love components, but ACT has more effects on intimacy and passion components than CBT. This difference may be related to different research tools and studied variables in Rahimi et al.'s study. Also, Shahbazfar et al. compared the cognitive-behavioral couple therapy and

acceptance and commitment therapy on affective sexual needs in 24 nonclinical couples in Bandar Abbas city, Iran.

The couples were recruited into CBT, ACT, and control groups. The couples responded to the Affective-Sexual Needs of Iranian Couples scale. They revealed that both treatments were effective, but ACT enhanced affective-sexual needs more than CBT (17). This finding is consistent with our results about the greater effect of ACT on improving passion, intimacy, and love components in couples.

In this line, Heidari et al. studied the effectiveness of ACT in 30 married women referred to a counseling center in Isfahan, Iran, in 2015. They found that eight sessions of ACT led to significant differences in physical and psychological marital intimacy in these women (22). This finding supports our results related to the effectiveness of ACT in intimacy and the passion component of love in couples. Although the mentioned study only assessed married women instead of couples. Although some studies focus on effectiveness of CBT in marital relationships (23-25). For example, Farabi et al. compared cognitive-behavioral and integrative behavioral couple therapy in communication patterns in 39 couples with extramarital relationships. The results revealed that cognitive-behavioral couple therapy had a greater effect on the constructive patterns in couples' relationships than integrative behavioral couple therapy (23). So, more studies should be conducted to assess the effectiveness of CBT or ACT on marital relationships and especially love styles in couples. Among the limitations of this research is that the research population is limited to the couples of Torbat-e-Jam city, and the sampling method is convenient. In addition, some variables, such as duration of marriage and having a child or number of children, can impact love styles in couples. It is suggested that researchers conduct studies in other cities and other cultures.

Finally, considering the effect of both treatments on love styles and improving marital relations in couples, therapists and counselors in the field of marriage also use the results of research in premarital counseling and marital conflicts.

### Conclusion

The results revealed that cognitive behavioral therapy and acceptance and commitment

therapy improved the characteristics of the Sternberg's love model, especially the treatment based on acceptance and commitment. It is suggested that therapists and couple therapy specialists consider these treatment methods, as effective approaches in marital problems.

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