

## The effect of couple therapy based on the schema on improving psychological flexibility, cognitive emotion regulation, and communication patterns of couples in Shiraz

Najmeh Abdollahi,<sup>1</sup> Naser Amini,<sup>\*2</sup> Nazanin Honarparvaran<sup>3</sup>

### Abstract

**Introduction:** The challenges of married life are significant and endless. This research aimed to examine the impact of schema-based couple therapy on enhancing psychological flexibility, cognitive regulation of emotions, and communication patterns of couples in Shiraz.

**Research Method:** The research method used in this study was semi-experimental with a design. First, a pre-test was conducted using research tools on both groups. Then, a therapeutic intervention was carried out on the two experimental groups. Finally, a post-test was completed by both groups and three months later, the test results were compared. The statistical population consisted of couples in Shiraz city during the spring quarter of 1400. The statistical sample for the research included 30 individuals who were selected using the available sampling method and randomly assigned to two experimental groups and one control group. The research tools used in this study included a questionnaire on the cognitive regulation of emotion, cognitive flexibility, and communication patterns of couples. The obtained data were analyzed using covariance analysis and SPSS22 software.

**Results:** The results showed that couple therapy based on schema affected the couple's psychological flexibility and its components, positive emotion regulation (a further increase of positive emotion regulation scores), negative emotion regulation (further decrease of negative emotion regulation scores), and psychological flexibility in the post-test and follow-up test. ( $P < 0.01$ ).

**Conclusion:** According to the findings, it can be concluded that schema-based couple therapy is effective in improving psychological flexibility, cognitive regulation of emotions, and communication patterns of couples in Shiraz.

**Keywords:** cognitive emotion regulation, couples' communication patterns, psychological flexibility, Schema-based couple therapy

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<sup>1</sup> - PhD student in general psychology, Department of Psychology, Bushehr Branch, Islamic Azad University, Bushehr, Iran

<sup>2</sup> - (**Corresponding** author), Assistant Professor of General Psychology, Department of Psychology, Bushehr Branch, Islamic Azad University, Bushehr, Iran, [abdelahi.az@gmail.com](mailto:abdelahi.az@gmail.com), tell: 09307204199

<sup>3</sup> - Assistant Professor of Counseling, Department of Counseling, Marvdasht Branch, Islamic Azad University, Marvdasht, Iran

**Introduction:**

The discussion about the family and ways to consolidate it is a common topic in scientific societies, and related sciences, especially psychology, are trying to implement measures that increase the stability of the family day by day. Paying attention to couples' relationships and issues related to them has gradually gained a special place in studies related to married life. On the other hand, the capacity to embed, change methods and perspectives, and adapt to new situations and conditions is conceptualized as psychological flexibility. Therefore, the ability to change cognitive cues to adapt to changing environmental stimuli is one of the important definitions of cognitive flexibility. Therefore, cognitive flexibility is defined as a person's way of thinking in challenging life situations. It means that a person should be able to keep up with the changes and challenges of life, be flexible in their way of thinking, and be able to change their thinking to adapt to new challenges and situations. Based on this, when people face stressful events, the ability to regulate emotions (emotion regulation) enables them to have appropriate emotional reactions to that event. Emotional regulation leads to cognitive changes in a person and changes in thinking. It also involves altering or delaying dynamic emotions and prolonging emotional responses, as well as achieving balance in behavioral and physiological responses. Therefore, utilizing a cognitive approach in emotion regulation offers a suitable framework for managing, evaluating, and recognizing emotions, ultimately enhancing compatibility and adaptability. Cognitive regulation of emotions helps a person better manage the adversities and challenges of married life. On the other hand, understanding issues related to married life requires a deeper level of relationship based on the couple's communication patterns. These patterns can act as a source for successful or unsuccessful performance in married life and can affect the quality of relationships. Patterns play a vital role in a marriage as they determine the boundaries, the amount of investment, and the level of control in couples' communication patterns. It seems that in the communication cycle of couples, their communication patterns, the way and ability to regulate emotions, and cognitive flexibility are important keys to a successful marriage. Sometimes, the lack of these abilities and false beliefs can be problematic, and psychological treatments for this category of couples become necessary. Among the treatments that affect people's psychological and social aspects, schema-based couple therapy is a new and integrated treatment that focuses more on the evolutionary roots of psychological problems. Many schemas are formed early in life, continue to persist and impose themselves on later life experiences. Schemas can be the core of disorders, behavioral problems, and chronic disorders. Schema therapy is a form of cognitive behavioral therapy that emphasizes the roots of psychological problems in childhood and adolescence. It uses motivational techniques and introduces the concept of coping styles. The main goal of schema therapy is to understand the underlying causes of a person's psychological problems in childhood, as well as the therapist's relationship with the individual. The problem is then placed within the context of a broader personal history. During treatment, incompatible schemas are identified and corrected. Schema-based couple therapy aims to identify these incompatible schemas and mitigate their detrimental impact on couples' relationships. Van Denzel et al. have suggested that schema therapy enhances emotional regulation and adaptability among couples. Van Marchwid et al. have concluded that

schema therapy can influence communication beliefs and assist individuals in managing their emotions. The findings have demonstrated that schema therapy can enhance communication patterns and foster greater intimacy among couples. Karbalai Mohammad Migouni and colleagues have emphasized the effectiveness of schema therapy in improving couples' communication patterns. Therefore, schema therapy improves positive emotional regulation and reduces negative emotional regulation. Elba and Bozen concluded that with the development of maladaptive schemas, cognitive flexibility decreases and maladaptive communication patterns develop. Schema therapy can improve emotion management and increase flexibility in individuals, as well as foster the development of more positive schemas. Van Marchwid et al. concluded that schema therapy can also impact communication patterns and emotional management in individuals. Therefore, the main focus of this research is to determine whether schema-based couple therapy affects enhancing psychological flexibility, cognitive regulation of emotions, and communication patterns among couples in Shiraz City.

### **Research Method:**

The method of the current research was semi-experimental with a pre-test, post-test, and follow-up design with a control group. First, the pre-test was conducted using the research tools on all three groups. Then, the therapeutic intervention was performed on the experimental group (schema-based couple therapy), and at the end, the post-test was completed again by both groups. After 3 months in the follow-up phase, all three questionnaires were completed by both groups. Finally, the pre-test, post-test, and follow-up results were compared. The statistical population of the research included all couples who were referred to counseling centers in Shiraz in the spring quarter of 1400. The statistical sample of the research was based on the minimum number of people required for the experimental designs, which was 30 people (15 people in the experimental group and 15 people in the control group). These participants were selected using the available sampling method and randomly assigned to two experimental groups and the control group. The experimental groups participated in the treatment sessions, while the control group did not receive the treatment and was placed on the waiting list. The criteria for entering the research included being married, having a minimum education level of a diploma, having been married for more than one year, not having an open psychological disorder, being willing to participate in the research project in writing, participating in all three stages of assessment, and answering the questions of the questionnaires completely. Exclusion criteria included not meeting any of the above criteria and withdrawing from the research project due to unforeseen reasons. The research tools included the following:

**Cognitive emotion regulation questionnaire:** The Garnevsy and Kraij Emotion Cognitive Regulation Questionnaire is an 18-item instrument that measures the cognitive regulation strategies of emotions in response to life-threatening and stressful events. It consists of 9 subscales. The cognitive strategies of emotion regulation in this questionnaire are divided into two general categories: adaptive strategies (compromised) and non-adaptive strategies (non-compromised). The scoring of this questionnaire is done using a Likert scale with five options ranging from never

(1) to always (5). The Persian version of the Cognitive Regulation of Emotion Questionnaire has been validated in Iran. Cronbach's alpha of 9 subscales of the Persian version of the cognitive regulation of emotion questionnaire was reported between 0.76 and 0.92. In Besharat's study (2010), the psychometric properties of this form, including internal consistency and retest reliability, were reported to be favorable. It also reported Cronbach's alpha coefficients for subscales ranging from 0.67 to 0.89. In a comprehensive study, all components confirmed the 2-factor structure of the questionnaire. Additionally, the reliability results using Cronbach's alpha method showed that the coefficient value for the entire questionnaire (18 items) is 0.86, 0.85 for compatible strategies, and 0.81 for incompatible strategies, indicating good questionnaire reliability. In the present study, the reliability coefficient of the questionnaire was obtained using Cronbach's alpha method in the pre-test as 0.91 and in the post-test as 0.89 for all items (18 items).

**Cognitive flexibility questionnaire:** The questionnaire was created by Dennis and Vanderwaal. It is a brief self-report tool consisting of 20 questions, designed to measure a type of cognitive flexibility that enables an individual to challenge and replace unproductive thoughts with more effective ones. The scoring method is based on a 5-point Likert scale, ranging from 1 to 5.

The cognitive flexibility questionnaire has three factors: perception of controllability, perception of different options, and perception of behavior justification. The concurrent validity of this questionnaire with the Beck depression questionnaire was equal to -0.39, and its convergent validity with the cognitive flexibility scale of Martin and Robin (1995) was 0.75. Cronbach's alpha coefficient of the whole scale is 0.90, and for the subscales, they have reported 0.87, 0.89, and 0.55 respectively. In Soltani et al.'s research (2012), confirmatory factor analysis was used to check validity. The results showed that the questionnaire has three components: controllability, perception of different options, and perception of behavior justification. These components together explain 0.58 of the total variance. In the present study, the reliability coefficient of the questionnaire, using Cronbach's alpha method, was 0.85 in the pre-test and 0.86 in the post-test for all 20 items.

**Questionnaire of communication patterns of Christensen and Salawi:** Christensen and Salawi's Communication Patterns Questionnaire is a tool used to measure the communication patterns of couples. The questionnaire consists of 35 questions, and couples are asked to rate their responses on a five-point Likert scale, ranging from 1 (not possible at all) to 5 (very possible). This self-assessment tool is designed to evaluate the marital relationship of couples and estimate marital conflict in three stages. These stages include:

- 1) When a problem arises between the couple,
- 2) During the discussion about the communication problem,
- 3) After the discussion about the communication problem.

Noler and White (1990) divided their subjects into three groups of couples with high, medium, and low degrees of marital satisfaction to estimate the validity of this questionnaire. They concluded that 27 out of 35 questions of this questionnaire were able to distinguish between couples with

high and low levels of marital satisfaction in a meaningful way. Huey et al. (1996) evaluated the criterion and construct validity of the subscale in the seven-item constructivist relationship model. To estimate the criterion validity, they calculated the correlation between the scores of this subscale and the scores obtained from observing couples in the laboratory while discussing the communication problem. The obtained correlation coefficient was 0.72, which was significant at the alpha level of 0.01.

**Schema-based couple's therapy package:**

After the pre-test, schema-based couple therapy was presented to the experimental group in a group setting during nine sessions, each lasting one hour. The summary of the schema-based couple therapy sessions is as follows:

**Session 1:** introducing the members of a group to each other and introducing and stating the rules governing

**Session 2:** recognition of moods, physiological states, and emotions.

**Session 3:** Understanding your issues and the five main aspects of life.

**Session 4:** Focus on the present and your behavior with an emphasis on regular meditation and desensitization methods.

**Session 5:** Recognizing goals, values, and personal beliefs and reconstructing mental schemas.

**Session 6:** teaching the technique of reducing and eliminating incompatible schemas.

**Session 7:** taking responsibility for the results of previous false beliefs through the training of the previous sessions and acquiring a new successful identity.

**Session 8:** How to distinguish between incompatible marital schemas and compatible marital schemas through coping behaviors.

**Session 9:** Evaluation of the impact of removing inconsistent schemas to reach efficient schemas.

### **Findings:**

Examining the descriptive findings of the sample group showed that fifteen people (50%) were in the experimental group and fifteen people (50%) were in the control group. The age status of the respondents in the experimental group was as follows: four people (26.66%) in the age group of 20-30 years, five people (33.3%) in the age group of 31-40, and six people (40%) in the age group over 40 years old. Also, in the control group, six people (40%) were in the age group of 20-30 years, four people (26.66%) were in the age group of 31-40, and five people (33.33%) were in the age group of more than 40 years. In terms of education, seven (46.66%) and eight (53.34%) people in the experimental group were at the diploma and bachelor's level, respectively, and eight (53.34%) and seven (46.66%) people in the certificate group were at the diploma and bachelor's degree levels, respectively. Table 1 shows the mean and standard deviation of the variables.

Table 1- Mean and standard deviation of the research variables

Variables	groups	witness		Schema therapy	
		Standard deviation	average	Standard deviation	average
<b>Psychological flexibility (total score)</b>	Pre-test	4.16	50.46	7.93	<b>50.4</b>
	Post-test	6.77	49.6	9.75	<b>62.93</b>
	Follow up	7.86	49.66	8.11	<b>59.48</b>
<b>Perception of controllability</b>	Pre-test	2.86	28.73	2.54	<b>28.266</b>
	Post-test	3.09	27.46	5.44	<b>35.53</b>
	Follow up	4.11	29.13	6.69	<b>34.13</b>
<b>Perception of different options</b>	Pre-test	3.75	18.13	4.86	<b>17.73</b>
	Post-test	4.09	18.06	5.33	<b>21.73</b>
	Follow up	5.12	17.81	4.09	<b>20.49</b>
<b>Understanding the justification of behavior</b>	Pre-test	1.5	3.13	1.88	<b>3.4</b>
	Post-test	1.33	3.06	1.75	<b>5.66</b>
	Follow up	1.53	3.89	1.84	<b>5.53</b>
<b>positive emotion regulation (adaptive)</b>	Pre-test	3.64	26.13	3.78	<b>27.78</b>
	Post-test	2.17	26.46	3.84	<b>33.26</b>
	Follow up	2.33	25.45	6.14	<b>32.54</b>
<b>negative emotion regulation (incompatible)</b>	Pre-test	4.13	34.93	4.13	<b>35.2</b>
	Post-test	3.92	33.13	4.96	<b>27.06</b>
	Follow up	5.11	35.08	3.64	<b>26.12</b>
<b>Communication patterns of couples</b>	Pre-test	21.26	167.53	18.02	<b>165.13</b>
	Post-test	20.03	164.80	17.5	<b>150.06</b>
	Follow up	19.43	166.12	16.56	<b>147.12</b>

Covariance analysis was used to check the research hypotheses. Before performing the analysis, the assumption of equality of variance was checked using Levine's test. The results showed that the assumption of equality of variances for all three variables of cognitive flexibility [ $P = 0.18$ ,  $F = (2-27) 1.81$ ] and positive emotion regulation [ $P = 0.06$ ,  $F = 2.63 (27 F-2)$ ] and negative [ $P = 0.23$ ,  $F = (2-27) 1.49$ ] and couples' communication patterns [ $P = 0.62$ ,  $F = (2-27) 0.47$ ] are maintained. To test the homogeneity of the regression slope, we examined the interaction between the groups and the post-test. Our findings indicated that this interaction was statistically significant

for three variables: cognitive flexibility ( $P = 0.53$ ,  $F = 0.63$ ), positive emotion regulation ( $P = 0.07$ ,  $F = 3.44$ ), and negative emotion ( $P = 0.42$ ,  $F = 0.95$ ). On the other hand, the communication patterns of couples ( $P = 0.09$ ,  $F = 2.5$ ) were not significant, and therefore, the hypothesis of homogeneity of the regression slope was upheld. In addition, the assumption of equal variances and homogeneity of regression was also confirmed in the follow-up phase. Before entering the hypothesis testing phase, it was necessary to determine the normality of the data. The results of the Smirnov Kolmogorov test to check the normality of data distribution are provided in the following tables.

**Table 2-** The results of checking the normality of the distribution of variable scores

variable	Implementation stage	K-S	P	Implementation stage	P	K-S	Implementation stage	K-S	P
Psychological flexibility	pretest	0.99	0.27	Post test	0.33	0.94	Follow up	1.25	0.16
Positive emotion regulation		1.06	0.21		0.39	0.89		1.12	0.19
Negative emotion regulation		0.58	0.88		0.83	0.62		0.84	0.69
Communication patterns of couples		0.78	0.56		0.60	0.76		1.75	0.14

The results of the table above show that the significance level of the distribution of variable scores in all three stages of pre-test, post-test, and follow-up is greater than the critical value of 0.05. Therefore, the assumption of the normality of the distribution of the variables is confirmed, and parametric tests can be utilized. Moving forward, Table 5 presents the outcomes of a multivariate analysis of variance on the average of the research variables in the post-test and follow-up stages.

**Table 3-** The results of multivariate analysis of variance on the mean of the research variables

test	amount	F	df hypothesis	df error	P	$\eta^2$
Pillai's trace	0.94	45.58	12	11	0.001	0.94
Wilks' Lambda	0.056	15.58	12	11	0.001	0.94
Hotelling's Trace	17	15.58	12	11	0.001	0.94
Roy's Largest Root	17	15.58	12	11	0.001	0.94

The results of the table above show that the significance level of the distribution of variable scores in all three stages of pre-test, post-test, and follow-up is greater than the critical value of 0.05. Therefore, the assumption of the normality of the distribution of the variables is confirmed, and parametric tests can be utilized. Moving forward, Table 5 presents the outcomes of a multivariate analysis of variance on the average of the research variables in the post-test and follow-up stages. In the following, a multivariate analysis of covariance test was used to determine which variable treatment was effective, so that the effect of the pre-test could be controlled. The results are shown in the table below.

Table 4- The results of covariance analysis to investigate the effect of schema-based couple therapy on psychological flexibility, cognitive emotion regulation, and communication patterns of couples

Variable	Implementation stage	SS	df	MS	F	P	$\eta^2$
<b>Psychological flexibility (total score)</b>	Post-test	939.42	1	939.42	50.32	0.001	0.69
	Follow up	644.14	1	644.14	39.43	0.001	0.64
<b>Perception of controllability</b>	Post-test	303.03	1	303.03	33.57	0.001	0.60
	Follow up	195.86	1	195.86	20.01	0.001	0.47
<b>Perception of different options</b>	Post-test	54.48	1	54.48	5.13	0.03	0.18
	Follow up	40.14	1	40.14	4.31	0.05	0.16
<b>Understanding the justification of behavior</b>	Post-test	34.35	1	34.35	31.19	0.001	0.58
	Follow up	25.94	1	25.49	19.14	0.001	0.46
<b>positive emotion regulation (adaptive)</b>	Post-test	279.96	1	279.96	34.22	0.001	0.60
	Follow up	273.17	1	273.17	33.97	0.001	0.61
<b>negative emotion regulation (incompatible)</b>	Post-test	403.89	1	403.89	43.93	0.001	0.23
	Follow up	414.62	1	414.62	37.02	0.001	0.21
<b>Communication patterns of couples</b>	Post-test	660.53	1	660.53	4.38	0.04	0.17
	Follow up	646.31	1	646.31	4.31	0.05	0.16

The results of the covariance analysis in Table 8 show that there is a significant difference between the average scores of the compared groups in cognitive flexibility [ $P = 0.001$ ,  $F = 50.32$  (2-22)] and positive emotion regulation [ $P = 0.001$ ,  $F = (2-22) = 34.22$ ] and negative emotion regulation [ $P = 0.001$ ,  $F = (2-22) = 43.93$ ] and couples' communication patterns [ $P = 0.001$ ,  $F = (22 = 4.39)$  2)  $F$ ] exists in the post-test phase. Also, there is a significant difference in cognitive flexibility [ $P = 0.001$ ,  $F = (2-22) = 39.43$ ], positive emotion regulation [ $P = 0.001$ ,  $F = (2-22) = 33.97$ ], and negative emotion regulation [ $P = 0.001$ ,  $F = (2-22) = 37.03$ ] and couples' communication patterns

[ $P = 0.001$ ,  $F = (2-22) = 4.31$ ] in the post-test stage. The analysis of the divisive chi-square (effect size) indicates that schema-based couple therapy has a total of 64-69% variance in psychological flexibility, 60-61% variance in positive emotion regulation, 21-23% variance in negative emotion regulation, and finally, it explains 16-17% of the variance of couples' communication patterns. Other results can be seen in the above table.

### **Discussion and conclusion:**

The purpose of this research was to investigate the effect of schema-based couple therapy on improving psychological flexibility, cognitive regulation of emotion, and communication patterns of couples in Shiraz. The results of the research showed that schema-based couple therapy is effective in improving psychological flexibility, cognitive regulation of emotion, and communication patterns of couples in Shiraz City. These results are in line with the studies of Van Denzel et al., Butt et al., and Raner et al. regarding the effectiveness of schema therapy in improving interpersonal relationships and increasing cognitive flexibility. In explaining this finding, it can be said that schema-based couple therapy helps couples design and implement a better model for their interpersonal relationships by identifying incompatible marital schemas. This suggests that increasing knowledge in the field of schemas can lead to a reduction in restrictions on behavior in general, and individuals will have a better ability to adapt.

Schema-based couple therapy provides the ability to change cognitive cues to adapt to changing environmental stimuli. Therefore, by changing one's way of thinking in challenging life situations, adaptation to new challenges and situations becomes possible. The obtained results are consistent with the studies conducted by Shafiei et al., Bidari and Haji Alizadeh, and Nast et al. regarding the impact of schema therapy on self-regulation and the enhancement of positive emotion regulation strategies while reducing the use of negative emotion regulation strategies. It can be argued that a significant portion of schema-based treatments involves the alteration of emotional strategies, which can explain this finding. In this sense, schema-based couple therapy is also a form of empowerment in the field of emotion management. By identifying the couple's incompatible schemas, a person gains better knowledge about the negative impact of these schemas and how they are related to behaviors and emotions. Therefore, schema therapy simultaneously corrects emotionally incompatible strategies. The results obtained are consistent with the studies of Hirat and Vatan Pekin, as well as Van Marchwid et al. in the field of schema therapy. These studies suggest that schema therapy has a positive impact on improving communication patterns between couples, increasing their intimacy, and correcting their communication beliefs. This finding can be explained by the fact that couples' communication patterns can be directly influenced by their schemas. These schemas determine the patterns, and schema-based couple therapy, by identifying and correcting these incompatible schemas, provides the basis for improving communication patterns between individuals. In general, schema-based couple therapy increases flexibility and improves communication patterns for couples, creating positive emotion regulation strategies and reducing the use of incompatible and ineffective emotion regulation strategies.

This research has some limitations that need to be acknowledged. Firstly, it is cross-sectional. Secondly, the sample selection process has some inherent problems. Thirdly, the research solely relies on a questionnaire, which may not provide a complete picture of the situation. Lastly, the gender factor has not been considered as a possible moderating variable. Therefore, to improve the quality of future studies, it is suggested that more diverse measurement methods should be used to evaluate changes. Additionally, the design of treatment plans that can cater to the needs of the entire family should be considered.

**Ethical considerations:** In this study, informed consent forms were completed by all subjects.

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**Contribution of authors:**

Design and ideation: Najmeh Abdollahi, Naser Amini, Nazanin Honarparvaran

Methodology and data analysis: Najmeh Abdollahi, Naser Amini, Nazanin Honarparvaran

Supervision and final writing: Najmeh Abdollahi, Naser Amini, Nazanin Honarparvaran

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