



Original Article

The effectiveness of cognitive-behavioral stress inoculation on coping skills and quality of life among incompatible couples

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Abstract

Introduction: The present study aimed to determine the effectiveness of cognitive-behavioral stress inoculation on coping skills and quality of life among incompatible couples.

Materials and Methods: In this study, among the incompatible couples referred to a counseling center in Kazerun city, Iran, twenty-four couples were selected and they were randomly divided into two experimental and control groups. The experimental group received ten sessions of the stress inoculation program and the control group was on the waiting list. The research instruments included Andler and Parker's coping styles questionnaire, Cohen's perceived stress, and quality of life questionnaire (SF-36). Data analyzed through SPSS-18 and covariance method.

Results: The results indicated that cognitive-behavioral training effectively relieves stress and improves couples' quality of life ($P= 0.001$). This approach also increased the coping styles for couples ($P= 0.001$).

Conclusion: It seems that stress inoculation training can increase quality of life among incompatible couples by increasing problem-solving coping styles.

Keywords: Coping skills, Couple, Stress inoculation, Quality of life

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Introduction

Nowadays, due to the spread of stressors, decreased human ability and power to cope with them, and lifestyle changes, stress has become a complex and large phenomenon. Stress is an integral part of human life. It affects various aspects of psychological, social, and

quality of life (1). Cohabitation and marital relationships always begin with a beautiful perspective for couples. However, because of the differences that arise from training in two different environments and the lack of sufficient knowledge and communicative quality of couples (2), after a while, problems arise that affect the quality of life and the

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compatibility of the couples. Families who experience much stress often encounter the sadness of stressful situations or life events, putting much pressure on the family system (3,4). Kiselica et al. showed that stress inoculation training and creating effective coping strategies could increase the person's adaptability and resilience to hardship while at the same time maintaining good health. In such a circumstance that stress refers to the stressful relationship between the individual and the environment, the couples' evaluation of stress and how to deal with it play a significant role in the quality of their lives (5).

Therefore, the methods that the individual considers and selects to deal with stress are part of vulnerability profile. Applying inappropriate methods in confronting stress may increase vulnerability. While using the proper methods can lead to positive results (1). Stress inoculation training is known as a stress management strategy, in which people are taught cognitive and behavioral coping skills against stressful situations. A stress inoculation program as a quick and short-term intervention is designed to prevent psychological symptoms related to stress, and in numerous studies, its effectiveness has been confirmed (6). For instance, Bodenmann et al. have shown that pursuing stress inoculation plays a significant role in adapting and increasing adolescents' coping skills in life efficiency (7). Schear and colleagues found out that there is a significant and meaningful relationship between stress levels, problem-solving, emotion-solving, and avoidance coping styles (8).

This approach tries to provide the necessary training to the clients during the three stages to reduce stress and the related problems (9). The present study aimed to determine the effectiveness of the stress inoculation method regarding the coping skills and the quality of life in the incompatible couples.

Materials and Methods

This study approved by code IRCT20160721029019N2 in the Iranian Clinical Trial Registration Center. The statistical population of the present study included all incompatible couples referred to counseling center of Kazerun city, Iran in 2015. The inclusion criteria included couples with at least a diploma degree, couples had a divorce case in court and visiting counseling centers and they had willingness to receive counseling

and advice. The exclusion criteria included couples with addiction or alcohol abuse, couples who had divorced because of the murder of their spouse or delinquency, couples with acute psychological disorders.

Of the thirty-two volunteer couples after the screening, thirty couples were selected. Finally, the twenty-four couples who received the highest score from Cohen's perceived stress questionnaire were selected as a sample and were randomly divided into the control and the experimental groups. After training interventions for the experimental group, both groups completed the questionnaires again. In order to observe ethical considerations, the intervention of inoculation steps against stress was performed for the control group two months after the end of the research.

Research instruments

A) Coping Skills Questionnaire: This scale was designed by Andler and Parker in 1990 and consisted of forty-eight items. The three main areas of the coping behavior scale include problem-solving coping, emotion-solving coping, and avoidance coping. The higher score indicates, more use of this skill (10). The total coefficient was reported as %90 for the problem-solving style, %85 for emotion-solving, and %82 for the avoidance coping style (11).

In Iran, the internal consistencies of the above styles have been estimated at 81% for the problem-solving style, 85% for emotion-solving, and 80% for the avoidance coping style (12). Kazemi et al. have reported the Cronbach's α equal to 0.92 for the problem-solving style, 0.83 for the emotion-solving, and 0.79 for avoidant coping styles (13).

B) Quality of Life Questionnaire (SF-36): In 2006, a study was conducted for the first time in Iran to translate and validate the General Quality Assessment Questionnaire of the World Health Organization.

The questionnaire evaluates the quality of life in eight areas with 36 questions, including physical performance, limitations related to physical problems, physical pain, general health, vitality, social functioning, and a constraint on psychological and mental health issues.

Quality of life in various fields is rated from zero to a hundred, and the higher scores indicate higher quality of life. Montazeri and Ghashtaasebi have measured the reliability and

validity of the Persian version of this questionnaire as 0.77 and 0.99 (14).

C) *Cohen's perceived Stress Questionnaire*: The perceived stress scale was designed by Cohen and colleagues in 1983. It includes three versions, 4, 10, and 14 items used to measure perceived stress in the past month. They reported the Cronbach's alpha 0.76 to 0.86. Cohen et al. (15) and Ghorbani et al. (16) reported Cronbach's alpha in the American community and in the Iranian, 0.86 and 0.81, respectively indicating an appropriate internal consistency.

After selecting the counseling center, one of the researchers coordinated with the technical manager of the counseling center, obtained the permission to teaching the stress inoculation program in this center.

In the next step, the call for participation in the training program was prepared and distributed at the center. Then, volunteer clients were enrolled to participate in the training program.

Next, a marital adjustment questionnaire and perceived stress were distributed among the candidates. Finally, those with the highest perceived stress levels and marital adjustment scores (below 101) were selected. After conducting pre-test evaluation, the experimental group received stress inoculation intervention in 10 sixty-minute sessions, and the control group did not receive the training. However, after completing the research course, the control group received the stress inoculation package in the practical guide packages.

The goals and content of stress inoculation training sessions and coping skills are as follows (17-19): First session: Establishing a good relationship, introducing group members to each other and getting to know each other, introducing the training program and its different sections, group rules, the importance of regular participation in meetings, and not being absent.

Second session: Definition and reasons for stress, its types and consequences, cognitive assessment of stress, and the relationship between stress and emotional reactions.

Third session: The concept of coping, definitions, types of coping, planning, organizing activities and anticipating situations in stress preventions, creating a treasure trove of pleasant situations, coping with unavoidable stress, teaching relaxation and de-stressing.

Fourth session: Familiarity with cognitive concepts and the role of thoughts in creating stress and communication with emotions and behavior Fifth session: Couples' coping, how to deal with negative thoughts, learning guided self-talks, and the role of negative self-talk in creating stress.

Sixth session: Thinking and focusing training, and center attention-grabbing techniques on getting closer to each other, increase the dimensions of intimacy, reviving positive emotions, increasing appreciation, and increasing the ability to understand the advantages and benefits of the spouse.

Seventh session: Reviewing the concepts of exchange, fairness, and justice in marital relations, borders, problems of borders in marital relations, intimacy, and closeness in marital relations. Eighth session: Improving marital communication skills.

Ninth session: Improving problem-solving skills, the inevitability of the problem in marital relations, the importance of the appropriate problem, and learning the steps to solve the problem.

Tenth session: Performing the post-test, getting feedback on the effectiveness of the program test in couples' lives

Results

The participants included 24 couples were assigned in two experimental and control groups. In demographic variables, 62.5 percents of the participants aged 20-30 years old. In terms of economic and financial level, 75 percent were at a medium level. Table 1 shows the mean and standard deviation of the scores of coping skills and quality of life in pre-test and post-test. Table 2 presents the emotion-solving skills and problem-solving skill in pre-test and post-test.

Table 1. Comparing of the scores of coping skills and quality of life in the both groups

	Group	Pre-test		Post-test	
		Mean	SD	Mean	SD
Coping skills	Control	163.41	11.06	164.56	14.54
	Experimental	164.66	14.54	185.00	12.43

Quality of life	Control	112.75	5.92	113.33	6.81
	Experimental	114.00	6.50	170.33	5.86

Table 2. Comparing the scores of emotion-solving skills and problem-solving skills

	Group	Pre-test		Post-test	
		Mean	SD	Mean	SD
Emotion-solving skills	Control	41.08	10.25	40.16	10.16
	Experimental	45.50	8.94	46.33	9.81
Problem -solving skills	Control	91.08	10.25	91.50	11.46
	Experimental	95.50	8.94	122.66	6.62

Table 3 indicates covariance analysis related to coping skills and quality of life. The results showed that the default homogeneity of variance at $P < 0.05$ is significant, and the default variance is established.

Also, the default homogeneity of the regression coefficient slope and the normal default distribution examined by Kolmogrov-

Smirnov test is established. Furthermore, F also indicated that the default relationship is assumed to be linear. So, we can use the analysis of covariance. Cognitive-behavioral stress inoculation increased coping skills and the quality of life in couples. The results of Table 4 showed the default homogeneity of variance.

Table 3. Two-group covariance analysis test in coping skills and quality of life

Indicators	Normal distribution		Linearity of the relationship		Homogeneity of variances		Homogeneity of regression coefficient		Covariance F	P
	S-K Z	P	F	P	Levene	P	F	P		
Coping skills	1.065	0.207	17.165	0.001	0.772	0.389	331.946	0.001	21.461	0.001
Quality of life	0.608	0.854	3.624	0.001	0.061	0.807	18.319	0.001	17.36	0.001

Table 4. Testing the analysis of two groups of variances in problem-solving skills

Indicators	Normal distribution		Linearity of the relationship		Homogeneity of variances		Homogeneity of regression coefficient		Covariance F	P
	S-K Z	P	F	P	Levene	P	F	P		
Problem-solving skills	0.982	0.290	58.841	0.001	0.547	0.468	31.669	0.001	58.841	0.001

Based on the results, default variance is established. Also, the default homogeneity of the regression coefficient slope and the normal default distribution examined by Kolmogrov-Smirnov test is established. Furthermore, F also indicated that the default relationship is assumed to be linear. So, we can use the analysis of covariance.

The findings indicated that cognitive-behavioral inoculation training increased the problem-solving skills in couples.

The results of Table 5 show that the default homogeneity of variance at $P < 0.05$ is significant, and the default variance is established. Also, the default homogeneity of the regression coefficient slope and the normal default distribution examined by Kolmogrov-Smirnov test is established.

Moreover, the resulting F also indicates that the default relationship is assumed to be linear. So, we can use the analysis of covariance. Finally, the results of the hypothesis study show that the research hypothesis is rejected. That is,

cognitive-behavioral stress inoculation training does not affect the emotion-solving skills of the incompatible couples.

Table 5. Testing of covariance analysis of two groups in emotion-solving skills

Indicators	Normal distribution		Linearity of the relationship		Homogeneity of variances		Homogeneity of regression coefficient		Covariance F	P
	S-K Z	P	F	P	Levene	P	F	P		
Emotion-solving skills	0.891	0.406	46.647	0.001	0.031	0.862	26.277	0.001	0.973	0.335

Discussion

The present study investigated the effectiveness of cognitive-behavioral training on inoculation against stress on coping styles and quality of life among incompatible couples. The findings showed that inoculation program improved couples' coping styles and quality of life. This finding is consistent with the studies by Ahern and Norris (20), Hekmatpoor (21), and Giunta (22).

In this regard, training to relieve stress and create effective coping strategies can increase adaptation by creating interpersonal communication skills in couples. As people learn to change their beliefs and self-talk, their ability increases to manage and control their behavior about their performance in stressful interpersonal situations. In this way, they can reduce its adverse effects on intimate relationships, general well-being, the risk of negative interaction between two people, and improve couples' quality of life. This approach helps them avoid stressful situations and minimize conflict by creating a set of pre-expansion defenses by training control skills and managing stressful situations in couple reactions (23,24).

In this approach, couples can develop the feeling of a learned skill and tact through successful experiences in the face of controllable levels of stress and create a defensive eye of positive skills and expectations that will help them cope with life's stressful situations.

Also, by examining the interactive nature of stress and expressing thoughts, feelings, perceptions, and behaviors that have effectively created stress, the couples will find that they are not victims of stress. Instead, how they are evaluated the life events can affect the level of stress and quality of life.

As a result, a stress inoculation approach increases a person's coping skills and allows his/her to deal with stressful situations in a new way and test the previous beliefs. This leads to a breakdown in the vicious cycle of negative thoughts. In this way, it affects the improving quality of life (25). Other findings showed that the stress inoculation approach is effective in increasing problem-solving skills and quality of life for couples. This finding is in line with the findings of studies by Isanejad (26) and Thombe and Esplage (27) that state couples who use stress-focused coping strategies are more likely to have adaptability, survival, and quality of life. Mcikuliner's findings showed that stress management training in couples could be effective in discovering environmental stressors, learning problem-solving skills, strengthening interpersonal relationships, and playing marital roles (28).

In this regard, Folkman stated that tranquility, cognitive reconstruction, and coping styles taught in stress management in a cognitive-behavioral way promote interpersonal skills and psychosocial adjustment, reduce interpersonal problems, and increase the quality of the couples' life (29). On the other hand, encouraging couples to use these methods in their daily lives makes them receive positive feedback, which reduces their avoidance of situations and face stressful situations in a problem-solving manner. This means that people with a stress-inoculation style when faced with a problem, focus on the problem itself and plan to solve the problem and see it in control. Thinking about the problem and controlling the problem can reduce stress, and low-intensity stress can focus on solving the problem, controlling and improving the quality of life (30). Based on the findings, stress inoculation training does not affect the emotion-

solving methods. Sander's study indicated that problem-solving coping, in general, is better associated with psychological outcomes. While, avoidance-solving and emotion-solving coping is poorly associated with mental health outcomes. Research has shown that an emotion-solving strategy acts as an adaptive strategy in many situations that are unpredictable and unsolvable (1). The findings are in line with the studies of Houser, Konstam, and Ham showed that women who use emotion-solving strategies have less marital adjustment (32). It is also inconsistent with Moazami Goodarzi's research on the positive effect of gradual stress inoculation training as an emotion-solving solution for reducing strain and stress in women (33). Confronting and planning for problem-solving is one of the cognitive strategies to solve the problems. At the same time, other strategies, including cognitive-behavioral efforts, reduce emotional turmoil. On the other hand, individual and personal differences between couples play a significant role in choosing the type and methods of coping.

These differences, which affect evaluation and coping, are important determinants of psychological vulnerabilities. Therefore, the intermediate variables such as couples' personality, behavioral traits, and their type of attachment styles can explain the effects of stress coping strategies on marital adjustment and compatibility and examine the causal effects of these variables (34). On the other hand, when an accident is controllable, we tend to use problem-focused coping behavior. However, in other situations, we know that performance will not have a beneficial effect or may even make the situation worse.

Therefore, we prefer to use emotion-focused coping behaviors. In other words, emotion-

solving coping strategies work best for stressful events and stresses beyond our ability and control. Furthermore, it seems that couples who do not have enough training and learning in the field of coping skills and problem-solving and can think in complex ways but still do not have enough training and experience to use this ability can use interventions such as relaxation, positive self-talk which can be effective in situations where one's performance is not very effective. On the other hand, some couples who are in a critical situation in life and are involved in their problems do not think when facing stressful situations until they reach a suitable solution and try to use unreasonable ways to cope with stressful situations (35,36). The convenient sampling method, the small size of subjects screened for mental disorders, and lack of attention to socio-economic differences of families are some of the limitations of research. So, these issues are suggested in the future studies.

Conclusion

In general, this study showed that cognitive-behavioral stress inoculation training effectively increases coping skills and the quality of life among incompatible couples. Therefore, this intervention can be suggested in counseling centers.

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References

1. Khodaayari M. [Stress and how to cope with it]. 1st ed. Tehran: Tehran University; 2007: 1-4. (Persian)
2. Bowling TK, Hill CM, Jencius M. An overview of marriage enrichment. *The family journal* 2005; 13(1): 87-94.
3. Simi Z, Karami A, Salimi H, Ghasemi N. The effect of cognitive-behavioral stress inoculation training on coping skills in female adolescents. *Journal of research and health* 2015; 5(2): 165-71.
4. Raymond MW, Moser R Jr. Aviators at risk. *Aviat Space Environ Med* 1995; 66(1): 35-9.
5. Kiselica M, Baker, SB, Thomas RN, Reedy S. Stress inoculation training for adolescents with elevated self-reported anxiety. *J Couns Psychol* 2010; 41: 335-42.
6. Karney BR, Story LB, Bradbury YN. Marriage in context: interaction between chronic and acute stress among newlyweds. In: Revenson T, Bodonmann G. (editors). *Couple coping with stress: Emerging perspectives on dyadic coping*. Washington, DC.: Psychological Association; 2005: 1-13.
7. Bodenmann G, Ledermann T, Brodbury TN. Stress, sex, and satisfaction in marriage. *Pers Relat* 2007; 14: 407-25.

8. Schear M, Bodenman G, Klink T. Balancing work and relationship: Couples coping enhancement training (CCET) in the workplace. *Appl Psychol* 2008; 7: 71-89.
9. Meichenbaum D. [Stress inoculation training]. Mobini S. (translator). Tehran: Roshd; 1997: 55-7. (Persian)
10. Endler NS, Parker JD. A Multi-dimensional assessment of coping: A critical evaluation. *J Pers Soc Psychol* 1990; 8: 844-54.
11. Kaveh Feroz M. [Effects of coping skills training on enhancing the mental health of adolescent boys 13-17 years old living in boarding welfare centers in Tehran city]. MS. Dissertation. Tehran: University of Allameh Tabatabaei, 2009: 52-3. (Persian)
12. Piri L, Shahraray M. [Relationship between identity style, assertiveness and coping styles]. *Journal of psychological studies* 2005; 1(2): 39-54. (Persian)
13. Kazemi P, Agha Mohammadian HR, Ghoruri M, Mahraam B. [An investigation of the effectiveness of life quality program on marriage satisfaction, and mental health]. *Counseling and clinical psychology studies* 2011; 2: 76-86. (Persian)
14. Montazeri A, Ghashtaasebi A. [The determination of validity and reliability of Persian translation of SF-36 questionnaire]. *Medical and paramedical monthly* 2007; 1: 49-56. (Persian)
15. Cohen S, Kamarck T, Mermelstein R. A global measure of perceived stress. *J Health Soc Behav* 1983; 24(4): 385-96.
16. Ghorbani N, Bing MN, Watson PJ, Davison HK, Mack DA. Self-reported emotional intelligence: Construct similarity and functional dissimilarity of higher-order processing in Iran and the United States. *Int J Psychol* 2002; 37(5): 297-308.
17. Antoni MH, Cruess DG, Cruess S, Lutgendorf S, Kumar M, Ironson G, et al. Cognitive-behavioral stress management intervention effects on anxiety. *J Cons Clin Psychol* 2000; 68(1): 31-45.
18. Nazari AM. [The basics of couple therapy and family therapy]. Tehran: Elm; 2007: 172-80. (Persian)
19. Mohebi Kia R. [The impact of life skills training based on cognitive-behavioral therapy on marital adjustment of women]. MS. Dissertation. Tehran: Shahid Beheshti University, 2008: 56-60. (Persian)
20. Ahern NR, Norris AE. Examining factors that increase and decrease stress in adolescent community college students. *J Pediatr Nurs* 2011; 26(6): 530-40.
21. Hekmatpoor A. [Relationship between stress and coping strategies in the county and city public university students in Tehran from 2000-2001 academic year]. MS. Dissertation. Tehran: Tarbiat Modarres University, 2001. (Persian)
22. Giunta CT, Comas BE. Coping in marital dyads: patterns and associations with psychological symptoms. *J Marriag Fam* 1993; 55: 1011-17.
23. Ghamari M. [The effectiveness of stress inoculation training in decreasing student's anxiety]. *Counseling research and development* 2008; 7: 107-16. (Persian)
24. Pezeshkian F. [Methods of stress coping in adolescents 13-17 years in connection with the coping strategies of their parents and academic achievement of students]. MS. Dissertation. Tehran: Al-Zahra University, 1994: 17-18. (Persian)
25. Randall AK, Bodenmann G. The role of stress on close relationships and marital satisfaction. *Clin Psychol Rev* 2009; 29: 105-15.
26. Isanejad O, Ahmadi SA, Etemadi O. [The effect of relationship enhancement on improving the marital quality of couples]. *Journal of behavioral sciences* 2010; 14: 9-16. (Persian)
27. Thombe J, Esplage DL. Relations among exercise, coping, disordered eating, and psychological health among college students. *J Eat Behav* 2007; 5: 337-51.
28. Mcikuliner M. Attachment style, coping strategies and posttraumatic psychological distress: The impact of the Gulf War in Israel. *J Pers Soc Psychol* 1995; 64(5): 225-30.
29. Folkman S. Personal control and stress and coping process: A theoretical analysis. *J Pers Soc Psychol* 1984; 46: 839-52.
30. Bartley CE, Roesch SC. Coping with daily stress: The role of conscientiousness. *Pers Individ Dif* 2011; 50(1): 79-83.
31. Sander N, Tein J, West L. Coping stress, and the psychological symptoms of children of divorce: A cross-sectional and longitudinal study. *Child Dev* 1994; 17: 44-63.
32. Houser R, Konstam V, Ham M. Coping and marital satisfaction in dual-career couples; early stage dual-career couples- wives as college student. *J Coll Stud Dev* 2014; 31(4): 4325-9.
33. Moazami Goodarzi B. [Evaluation of the effect of gradual relaxation training and coping skills on stress and exposure methods of runaway girls in Tehran]. Tehran: Tarbiat Modares University; 2001: 76-77. (Persian)
34. Wilks SE, Little KG, Gough HR, Spurlock WJ. Alzheimer's aggression: Influences on caregiver coping and resilience. *J Gerontol Soc Work* 2011; 54(3): 260-75.
35. Tremblay PF, King PR. State and trait anxiety, coping styles and depression among psychiatric inpatients. *Can J Behav Sci* 1994; 6(4): 505-19.

36. Sayers SL, Kohen CN, Fresco BM, Ballanch AE. Effect of solving skills training in marital conflict and depression. *Journal of addictions and offender counseling* 2011; 22(2): 88-91.