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Original research

Effectiveness of Cognitive-Behavioral Training on Self-Esteem and Anxiety of Female Students Affected by divorce

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Abstract

Introduction: Divorce, as a social issue that includes legal dissolution, is of great importance in terms of its widespread effects on population growth and changes in family structure. Therefore, the aim of the present study was to determine the effectiveness of cognitive-behavioral training on self-esteem and anxiety of female students affected by divorce.

Research Method: A quasi-experimental research method with a pre-test, post-test, and follow-up design with a control group and a statistical population including female students studying in junior high schools in Kalaleh affected by divorce, who were selected through purposive sampling and randomly divided into two experimental and control groups (16 in the experimental group and 17 in the control group), which were finally reduced to groups of 15. A researcher-made cognitive-behavioral training package was implemented for the experimental group in 12 90-minute sessions. Data collection tools included Rosenberg's Self-Esteem Questionnaire and Beck et al.'s Anxiety Questionnaire. Data analysis was performed using repeated measures analysis of covariance with a significance level of $p < 0.05$.

Findings: The results showed that the main effect of time and the interaction effect of time and group were statistically significant in the variables of self-esteem and anxiety. Based on the effect size, 42% of the scores in the self-esteem variable and 44% of the scores in anxiety were due to the effectiveness of the cognitive behavioral training package on the experimental group ($p < 0.05$).

Conclusion: According to the results of this study, it can be said that cognitive behavioral therapy leads to increased self-esteem and decreased anxiety levels.

Keywords: Anxiety, Cognitive Behavioral Training, Self-esteem

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Introduction:

The family, as the smallest unit of a society, is an institution that plays a role in the formation and sustainability of society. Since individual growth and development is possible from this small human group, the relationship between the individual and society is formed from this center. Therefore, in this respect, the family has a great impact on both the formation of the personality of its members and the stability of society by creating peace and security (1), and one of the fundamental institutions for human protection and education is the family, in which children are prepared to play a positive role in adulthood by learning values and norms and appropriate psychological training. Meanwhile, the most important factor in the collapse of this valuable institution is separation or divorce (2), and unfortunately, evidence shows that in the country, according to the country's civil registration statistics in 1402, one divorce was registered for every three marriages, and according to the latest statistics published in 1402 by the Vice Presidency, it faced a four percent growth (3).

Also, the situation of children of divorce is more unfavorable compared to orphaned and normal children. According to a study conducted by Moradi and Akhani (4) between two groups of divorced and normal children, divorced children have a higher rate of psychological disorders, including anxiety, withdrawal, social problems, attention problems, and thinking problems, compared to normal children. Also, in the study by Cassepp-Borges, Gonzales and Frazier (5), students from divorced families reported lower retrospective self-esteem and more self-blame than students from non-divorced families, and girls from divorced families have a significant difference from girls from normal families in terms of responsibility, self-esteem, general mental health, and its subscales such as physical symptoms, anxiety and insomnia, social dysfunction, and depression (6). In addition, Buss (7) reported that children of divorce had lower cognitive competence, higher anxiety, and fewer potential sources of social support than normal children, and on the other hand, divorced and normal girls differ significantly in terms of mental health, and unfortunately, their self-esteem is lower than that of their peers in normal families. Self-esteem is considered one of the important variables for the healthy development of children, and it means believing in one's own abilities (8). In other words, self-esteem refers to a person's power and ability to do the required tasks (9). Self-esteem is the state in which an individual finds himself capable of facing basic challenges and considers himself valuable and worthy of happiness. Self-esteem is also the feeling of one's worth, which is often derived from the individual's evaluation of being useful and effective in family, school, work, and other successes. Self-esteem is essential for reducing anxiety, as reported in the study by Perets, Davidovich and Lewin (10).

According to the definition of Velasco, Celata, Griffin and Estensione (11), anxiety is the fear of an unknown and unknown factor that causes mental distress and sometimes symptoms of danger, including palpitations and pallor. According to the study of Abbasi Abarzgeh, Sohrabi, and Borbour (12), the level of perceived stress, depression, and anxiety in adolescent girls from divorced families was higher than in adolescent girls who had experienced death.

At this time, it is necessary to use psychological interventions for children of divorce, and one of these interventions is cognitive behavioral therapy. Cognitive behavioral therapy is a psychotherapy approach that targets dysfunctional emotions and maladaptive behaviors, processes, and cognitive content through a number of systematic, explicit, and goal-oriented methods (13). Cognitive behavioral therapy focuses on solving specific problems with a "problem-solving focus," and in this approach, the therapist tries to help the client choose a specific strategy to deal with the problem with "pragmatism" (14). This therapeutic method, which is also referred to as "cognitive revolution," is actually based on the psychotherapist talking to the patient and understanding his or her perspective and way of thinking about the issues and events around him or her (15).

Considering the problems of children of divorced families and the importance of studying them in order to reduce their problems and prevent their psychological and social harm, the question now arises: does cognitive behavioral package training have an effect on the self-esteem and anxiety of female students affected by divorce?

Research Method:

Qualitative Section: The qualitative research method and the statistical population in the qualitative section included all university psychology professors (with entry criteria: faculty member of the university, with more than 15 years of teaching experience at the university, having a PhD), specialists and therapists in the field of psychology (with entry criteria: with more than 10 years of therapy experience in the cognitive-behavioral field, having a PhD). The sample size continued until theoretical saturation of the information, which was reached with 10 people, and the interviews were saturated. Purposive sampling was used to select individuals for interviews. Based on the findings related to the agreement of the experts' scores on all sessions, it was more than 8. These numbers are reported in percentage in the table above to determine the reliability coefficient. The overall average of the experts' agreement scores on the final content of the sessions is 9.16 out of 10; that is, the percentage of experts' agreement on the final content of the sessions was 91 percent, which indicates a high reliability of the cognitive-behavioral training package. By calculating the average of the total scores of the three criteria for each session, the content validity index value for the entire session was obtained. It should be noted that items with a score higher than 0.79 are appropriate, between 0.70 and 0.79 need to be modified, and less than 0.70 are unacceptable and should be deleted. In order to determine the content validity of the entire program (S-CVI/Ave), the average content validity index was also used. This index is a proportion of all items whose content validity was confirmed; that is, this index is the proportion of items in a tool that were scored 3 or 4 by specialists or experts. The relative content validity coefficient and the average content validity index for the entire sessions were 0.89 and 0.94, respectively, based on the fact that the closer the validity coefficient is to one, the greater the validity, which indicates a high validity of the cognitive-behavioral training package.

Table 1. Researcher-made cognitive-behavioral training package

Sessions	Objective	Session Topics	Description of meetings
First Sessions	Recognizing academic procrastination	Identifying Academic Procrastination, Self-Control	-Welcoming and getting to know each other -Examining people's expectations from cognitive-behavioral therapy -Defining academic procrastination - Factors affecting procrastination -Identifying ineffective thoughts in the occurrence of procrastination behavior -Defining self-control - Teaching techniques for guiding thoughts towards achieving goals - Providing homework
Second Sessions	Recognizing time management	Time management training	-Reviewing previous session assignments with group discussion -Defining time management -Training time management skills -Presenting homework
Third Sessions	Recognizing problem-solving skills	Problem-solving skills training	-Reviewing previous session assignments with group discussion -Defining problem-solving skills - Teaching problem-solving steps - Providing homework
Fourth Sessions	Recognizing self-esteem	What is self-esteem	-Review of previous session assignments with group discussion -Definition of self-esteem and its types - Role of self-esteem in life -Obstacles to self-esteem development due to cognitive errors - Presentation of homework
Fifth Sessions	Understanding self-acceptance	Constructive self-talk	-Reviewing the previous session's assignments with group discussion -Defining constructive self-talk -Training to strengthen positive thoughts and positive thinking - Presenting homework
Sixth Sessions	Recognizing self-acceptance	- Self-acceptance	- Reviewing the previous session's assignments with group discussion - Defining the self (ego) and its role in life - Not judging yourself - Teaching the technique of accepting the true self based on talent and ability - Presenting homework
Seventh Sessions	Recognizing attributional styles	- Document styles	-Reviewing the previous session's assignments with group discussion - Presenting homework

			-Recognizing the types of attributional styles (internal, external) -The impact of the internal attributional style on life -The impact of the external attributional style on life - Strengthening the internal attributional style for personal growth - Presenting homework
Eight Sessions	Recognizing communication skills	- Effective communication skills - Assertiveness skills	- Review of previous session assignments with group discussion - Definition of communication skills (verbal and non-verbal) - Types of verbal communication skills - Types of non-verbal communication skills - Definition of assertiveness skills - Teaching the technique of "saying no" - Homework presentation
Ninth Sessions	Recognizing anxiety and its effects	Defining and Identifying Anxiety	-Reviewing the previous session's assignments with group discussion -Diagnosing your own anxieties in different situations -Identifying irrational anxiety-causing thoughts with the help of group members -The effects of anxious thoughts on physical, psychological, and cognitive functions with the help of group members -Presenting homework
Tenth Sessions	Cognitive coping with anxiety	Cognitive Techniques for Challenging Anxious Thoughts	-Reviewing the previous session's assignments with group discussion -Identifying passive avoidance behaviors during anxiety - Technique for accepting anxious thoughts - Technique for naming anxious thoughts -Presenting homework
Eleventh Sessions	Recognizing anger and its management	- What is Anger - Anger Management	-Reviewing the previous session's assignments with group discussion - Defining anger and the type of thoughts when they occur - Accepting anger as a constructive emotion - Teaching the counting technique to delay the emergence of anger emotions - Teaching the diaphragmatic breathing technique when anger emotions occur -Presenting homework

Twelfth Sessions	Recognizing harmful behaviors	- Identifying Worrying and Passive Avoidant Behaviors	-Reviewing the previous session's assignments with group discussion -Identifying the roots of traumatic and worrying behaviors - Not avoiding thoughts that lead to traumatic behaviors - Teaching the diaphragmatic breathing technique when thoughts that lead to traumatic behaviors arise -Summing up the sessions with accompaniment Group members, - sharing group members' experiences with each other and achievements and expectations that were not met - finally thanking group members for participating in the research and conducting the post-test

Quantitative part: The research method is a semi-experimental one with a pre-test, post-test, and follow-up design with a control group and a statistical population including female students studying in junior high schools in Kalaleh city who were affected by divorce. 33 people were selected through purposive sampling (with entry criteria: full consent to participate in educational sessions, parents' separation from each other) and were randomly divided into two experimental and control groups (15 people in the experimental group and 15 people in the control group). Then, a researcher-made cognitive-behavioral training package was implemented for the experimental group (in 12 90-minute sessions once a week). Analysis of covariance with repeated measures was used to analyze the data. The research instrument was:

1) **Rosenberg Self-Esteem Questionnaire**: This questionnaire was developed by Rosenberg (1965). This questionnaire consists of 10 general statements that measure the level of satisfaction with life and feeling good about oneself and was prepared to provide a general picture of positive and negative attitudes about oneself. In this questionnaire, the respondent indicates the extent to which he agrees or disagrees with each statement on a 4-point Likert scale (I completely agree, score 4, to I completely disagree, score 1). The scores of this questionnaire range from 10 to 40, and a higher score indicates higher self-esteem. Rosenberg (1965) reported the concurrent validity of the questionnaire with the Guinness Self-Concept Questionnaire (1960) as 0.52 and its Cronbach's alpha as 0.85.

2) **Beck Anxiety Questionnaire**: This questionnaire was developed by Beck et al. (1988) and has 21 questions. The questionnaire questions were closed-ended with a four-choice range (not at all, mild, moderate, severe), which were assigned scores of 0, 1, 2, and 3, respectively. The range of scores is between zero and 63. A score of 16 to 25 indicates moderate anxiety, and a score of 26 or higher indicates severe anxiety. This questionnaire measures anxiety in three areas: physical symptoms, mental symptoms, and panic symptoms. In the research of Beck et al. (1988), five types of content validity, concurrent,

construct, diagnostic, and factor, were measured for the questionnaire, all of which indicated the high efficiency of the questionnaire in measuring the severity of anxiety (between 0.80 and 0.72). Also, the internal consistency of the questions was reported as 0.92 through Cronbach's alpha.

Findings:

Table 2: Mean and standard deviation of the total scores of pre-tests, post-test, and follow-up self-esteem and anxiety, separated by female students in the experimental and control groups

Dependent Variable	Group	pre test		post test		Follow up	
		M	SD	M	SD	M	SD
Self-esteem	Experimental	19.60	5.38	24.06	6.25	25.80	7
	Control	21.06	6.29	20.80	7.06	20.33	7.52
Anxiety	Experimental	39.07	3.17	23.13	2.47	22.06	5.41
	Control	39.86	3.42	40.87	4.03	40.80	5.60

As can be seen in Table 2: The mean pre-test scores of self-esteems and anxiety were almost equal for female students in the experimental and control groups, but in the post-test anxiety, the mean scores of the experimental group were lower than the mean scores of the control group, and in the self-esteem variable, the mean scores of the experimental group were higher than the mean scores of the control group.

Before presenting the results of the repeated-measures analysis of variance test, the assumptions of parametric tests were tested. Accordingly, the results of the Shapiro-Wilk test indicated that the assumption of normal sample distribution of data in the self-esteem and anxiety variables in the experimental and control groups was met in the pre-test, post-test, and follow-up stages (P>0.05). Also, the assumption of homogeneity of variance was tested by Levine's test, but its results were not significant, which indicated that the assumption of homogeneity of variances in the two self-esteem and anxiety variables was met (P>0.05). This was while the results of the Mauchly test indicated that the assumption of sphericity of the data in the variables of self-esteem and anxiety was not met (p<0.05). Accordingly, by not meeting the assumption of sphericity, it is determined that the relationships between the variables are likely to change the values of the dependent variable, and accordingly, the chance of committing a type I error increases. Accordingly, in the following table, an alternative analysis (Greenhouse-Geisser test) is used to reduce the chance of committing a type I error by reducing the degree of freedom.

Table 3: Results of analysis of variance with repeated measures, effectiveness of the cognitive-behavioral training package on self-esteem and anxiety of female students

Variable	Sources of changes	Sum of squares	df	Mean of squares	F	sig	Effect size
Self-esteem	Time	12.822	1.35	90.81	1.453	0.001	0.32
	Interaction of group and time	18.288	1.35	13.229	2.630	0.001	0.42
Anxiety	Time	12.0606	1.40	858	2.166	0.001	0.37

Interaction of group and time	15.3523	1.40	10.7283	2.949	0.001	0.44

The results of Table 3 show that in the variables of self-esteem and anxiety, the main effect of time and the interaction effect of time and group are statistically significant. The significance of the time effect means that there is a significant difference in the variables of self-esteem and anxiety of female students in the three stages of pre-test, post-test and follow-up. Also, the significance of the effect of group and time means that there is a significant difference between the two experimental and control groups in the three stages of pre-test, post-test and follow-up in the variables of self-esteem and anxiety of female students. The size of the main effect of the interaction of group and time means that in the variable of self-esteem 42 percent and anxiety 44 percent of the scores resulted from the changes due to time and the difference between the two experimental and control groups, and these changes have become stable and significant. Therefore, it can be said that the cognitive-behavioral training package had a significant and stable effect on increasing self-esteem and reducing anxiety of female students. The results of the LSD follow-up test showed that the pre-test scores of self-esteems were significantly smaller, and in the pre-test of anxiety they were significantly larger than the post-test and follow-up scores.

Discussion and Conclusion:
The findings on the effect of cognitive-behavioral training package on self-esteem and anxiety of female junior high school students showed that in the variables of self-esteem and anxiety, the main effect of time and the interaction effect of time and group are statistically significant. The significance of the time effect means that there is a significant difference in the variables of self-esteem and anxiety of female students in the three stages of pre-test, post-test and follow-up. Also, the significance of the group and time effect means that there is a significant difference between the two experimental and control groups in the three stages of pre-test, post-test and follow-up in the variables of self-esteem and anxiety of female students. The size of the main effect of the interaction of group and time means that in the variable of self-esteem, 42 percent and anxiety, 44 percent of the scores resulted from changes due to time and the difference between the two experimental and control groups, and these changes have become significant in a stable manner. Therefore, it can be said that the cognitive-behavioral training package had a significant and stable effect on increasing self-esteem and reducing anxiety of female students.

The findings of the present study are in line with the results of the research of 16. Shafie-far, Besharat, Bahrami (16), Urao (13), and Krisnamurthi (14). Group cognitive-behavioral training package targets "negative self-talk" as the main core of reduced self-esteem .thus helping the individual integrate into an intellectual space with a positive attitude (17) and expanding the circle of appropriate connections for the individual with the social network through empathy with the emotional symptoms of oneself and others (emotional sensitivity), the ability to master one's emotions (emotional control), the ability to speak politely and accompany others in social discussions (social expressiveness), and the skill of adapting and adapting oneself to stressful or unfamiliar situations (social control), and thus addressing various aspects of life with higher self-esteem.

In explaining these research results, it can be said that cognitive-behavioral training in threatening and challenging situations leads to an increase in the ability to adapt to female students and increases self-esteem and reduces anxiety. Aslan (18) believes that how people evaluate negative events when faced with them is of great importance, and cognitive-behavioral training empowers individuals to correctly evaluate stressful situations and use them to achieve a positive experience to increase self-confidence and effectively deal with anxiety. In addition, research has shown that the lack of skills to manage and control stress and anxiety and the inability to control anxiety cause people to feel frustrated and sad, and as a result, they give up their efforts and activities, and procrastination will be one of their characteristics (19). The same applies to students, as the results of the present study have also confirmed this issue.

In another explanation, the occurrence of divorce causes great damage to the self-esteem of couples and children, because almost all traumatic events affect individuals' beliefs about self-esteem. Cognitive behavioral therapy is the basic content for changing these beliefs related to self-esteem, and the main reason for the effectiveness of this treatment method on self-esteem is that cognitive and behavioral techniques have been used in this section to increase the self-esteem of the subjects. Students from divorced families used cognitive-behavioral techniques to release negative emotions and feelings and heal past wounds. With the help of psychotherapy sessions, they resolved intrapersonal conflicts and learned the necessary skills to deal constructively with the damage caused, and they left the passive role, and learned to deal more effectively with future situations and improve their self-confidence by controlling anxiety.

Research limitations: Time limitation, follow-up of time continuity and long-term transfer of skills on improving self-esteem and anxiety are limitations of this study. In addition, the findings of the study can be generalized to those women who are in the treatment group. Finally, the sample group was only composed of junior high school students living in Kalaleh, so the findings of this study can only be generalized to students.

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