



## Evaluation and comparison of the effect of two methods of cognitive-behavioral therapy and emotional disclosure in reducing anxiety in students of Torbat Heydariyeh University of Medical Sciences

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### ABSTRACT

The main purpose of this study is to evaluate and compare the effectiveness of two methods of cognitive-behavioral therapy and emotional disclosure (speech and writing) in reducing students' test anxiety. The research design is quasi-experimental and the tool used in this research is Beck Anxiety Questionnaire. The statistical population of the present study includes all male and female undergraduate students of Torbat Heydariyeh University of Medical Sciences in the academic year of 2018-2019. After initial screening for test anxiety, random sampling method was divided into 3 groups of 15 experimental (2 groups) and control. The cognitive-behavioral experimental group had 4 sessions per week for 2 sessions in a group and each of the subjects in the other experimental group referred to the therapist for 2 weeks and 4 sessions per week for individual verbal and written emotional disclosure. At the end of the sessions, post-test was performed on both groups. Analysis of covariance and independent t-test were used to analyze the data. The results showed that the experimental group had a significant change in their test anxiety after receiving the training program of cognitive-behavioral therapy and emotional disclosure treatment.

### Keyword:

*Emotional disclosure (spoken and written), Anxiety, Cognitive-behavioral therapy*

## 1. Introduction

One of the most important groups in any country are students who play an important role in building the future and education of countries. While attending university is a positive experience for many students, for others it is a stressful experience, such as exams, articles, presentations, and so on. Undoubtedly, the experience of stress caused by academic issues has a negative effect on the mental, psychological and physical well-being of students (Farahani, 2010). Published statistics on the prevalence of mental disorders in different countries of the world and Iran, highlight the importance of the need to pay attention to mental health. According to the World Health Organization in 2002, about 500 million people in the world suffer from mental disorders, about half of which are mild mental disorders, such as depression and anxiety (World Health Organization, 2009).

Students' mental health is one of the basic issues of student life, according to which it has a direct effect on the growth and development of society, and addressing it is the main condition for optimal productivity of efficient and educated personnel. Student life is a special period for reasons such as distance from family, participation in social responsibility, and the temporal connection of this period with the conditions of adolescence, youth, and academic pressures. Entering the university affects the functioning and efficiency of individuals by bringing about changes in social and human relations as well as new expectations and plans, which are mostly associated with pressure and anxiety (Akbari, 2008). Many students are unfamiliar with the university environment upon arrival, separation and distance from family, lack of interest in the field of study, incompatibility with other people in the living environment and insufficient welfare and economic facilities are some of the conditions that can cause psychological problems and discomfort. And provides performance decline (Leps Lee, 1989). The group must meet growing global demands for decisions on issues such as employment, lifestyle, friends, family, religion, and politics, and meet the expectations of family, teachers, friends, and other groups; By creating emotional and important connections with the environment and people outside the family, they create their own value system, which in most cases is influenced by the family and the culture from which they arose (Biabangard, 2002).

To improve students' mental health, conditions must be created in which they can become familiar with issues such as facing reality, adapting to change, coping with everyday anxieties and stresses, coping with emotions, and the like in recent years. One of the worries and concerns of the educational system is the issue of students' exam anxiety, which has attracted the attention of officials and researchers more than ever and has pointed out the need to deal with and prevent it (Nezami, 2007). Anxiety disorders are one of the most common psychiatric disorders, affecting more than 23 million people in the United States each year and affecting one in four people (Klinke Chris, 2009).

Various studies in Iran have reported the prevalence of mental disorders in students between 12.75 to 30.4% (Bagheri Yazdi, 1995; Dastjerdi, 2001). Also among the problems faced by young students are anxiety, depression, hostility, aggression and low determination (Ellis, 1996).

One of the psychological theories is the approach of Albert Ellis, which emphasizes the cognitive and behavioral dimensions and thinking, judgment, decision-making, analysis. According to this approach, it is not the events that upset a person, but the way of thinking that results from his beliefs, schemas and attitudes that affect the way information is processed and cause emotions and reactions. People who insist on irrational beliefs about themselves and events always have problems in their lives. Ellis shows that individuals can learn how to recognize their irrational and irrational assessments and take action to correct them (Mohammadkhani, 2010).

Emotional disclosure actually means that a person expresses their deepest emotional experiences verbally or in writing to others or to themselves. Since the beginning of scientific studies of emotional disclosure, numerous studies have examined different methods of disclosure and their consequences. Research findings show that people share most of their daily experiences with others (Barlow, 2002). But they refuse to share a small part of their life experiences with others. Some of these experiences and beliefs are contrary to people's personal values or are so painful that they are very difficult to remember and talk about (Baldwin and Chambels, 2003).

Emotional disclosure of writing, referred to in various sources as the writing paradigm (Black Robert, 1988; Campbell and Penny Baker, 2004) was first tested by Penny Baker in 1983. Numerous studies in recent years on the role of this treatment (emotional disclosure) in increasing mental health, improving the immune system by increasing donor cells, (Penny Baker and Campbell, 1988; Judge, Boot and Penny Baker, 1998; victim (2008), reduce physical problems (Camp Bell and Penny Baker, 2003), reduce annoying thoughts and depressive symptoms (Leipour, 1997; Penny Baker, 2006) and increase working memory capacity (Niley, 2004). (1997) in the study of the effect of emotional disclosure on the relationship between disturbing thoughts and depression, concluded that written emotional disclosure modulated the effect of disturbing thoughts on depressive symptoms and thus reduced depressive symptoms. The results of Niley (2004) show Annoying thoughts are one of the important modulators of stress and working memory capacity, and emotional disclosure increases the working memory capacity by reducing these thoughts. The purpose of this quasi-experimental study is to investigate to what extent cognitive-behavioral therapy and emotional disclosure can reduce student test anxiety and which of the two interventions are more effective.

### research method

This study, which was conducted with the general aim of investigating and comparing the effect of two methods of cognitive-behavioral therapy and emotional disclosure in reducing students' anxiety, is a quasi-experimental study. They were divided into two groups for treatment and one group for control, which was eight sessions and each session was one and a half hours, which was two sessions per week. At the beginning of the work, pre-test and post-test were taken at the end. .

### Statistical Society

University College of Takestan

The statistical population of the study includes male and female undergraduate students in the academic year of 2018-2019 studying at Torbat Heydariyeh University of Medical Sciences. Our total statistical population is 150 people, a sample of 45 people were randomly selected.

**Research tools**

The tools used in this study are: Beck Anxiety Questionnaire, which is a 21-item scale in which the subject chooses one of four options that indicate the severity of anxiety in each item. Four options for each question in a four-part range of It is scored from 0 to 3. Each test item describes one of the most common symptoms of anxiety (mental, physical and panic symptoms). Therefore, the total score of this questionnaire is in the range of 0 to 63. The suggested cut points for this questionnaire are listed in Table 1.

Table 1- Determining the degree of anxiety based on Beck Anxiety Questionnaire

Scores	Degree of anxiety
0-7	No or minimum limit
8-15	Light
16-25	medium
26-63	Intense

Studies show that this questionnaire has a high validity and reliability. Its internal consistency coefficient (alpha coefficient) is 92%, its validity with a weekly test method is 75% and the correlation of its materials is from 30% to 76%. % Is variable.

Five types of content validity, simultaneous, structural, diagnostic and factor have been measured for this test, all of which show the high efficiency of this tool in measuring the severity of anxiety (Black, 1988).

Some researches in Iran about the psychometric properties of this test have reported its validity coefficient by retesting method and 80% two weeks apart. Also, Kaviani, Mousavi and Mohit (2001), in examining the psychometric properties of this test in the Iranian population, reported a validity coefficient of about 72% and a validity coefficient of one-month test-retest of 83% and Cronbach's alpha of 92%.

**Descriptive findings**

Table 4-1. Description of the subjects in terms of gender in the experimental and control groups

Control		Emotional disclosure		cognitive behavioral therapy		Gender
percentage	Frequency	percentage	Frequency	percentage	Frequency	

Table 4-4 Descriptive statistics of pre-test and post-test differences in three groups

standard error Average	standard deviation	Average		Group
1/51	5/85	-9/40	15	Cognitive-behavioral
1/41	5/47	-6/07	15	Emotional disclosure
1/26	4/88	-2/00	15	Control

According to Table 4-5 in the analysis of variance test, the difference between pre-test and post-test of test statistics is 17.56 and the significance level of the test is 0.001. Considering that the level of significance is less than 0.01,

0/40	6	0/35	5	0/40	6	Male
0/60	9	0/65	10	0/60	9	
100	15	100	15	100	15	Total

The data in Table 4-1 show that in the experimental group of cognitive-behavioral therapy 60% of women and 40% of men and in the experimental group of emotional disclosure 0.65% of women and 0.35% of men and in the control group 60% of women and 40% Percentage are male

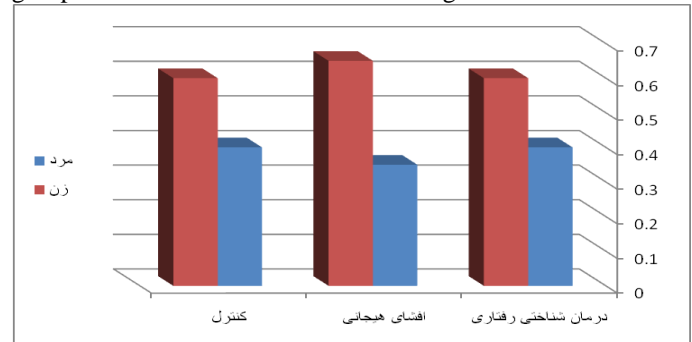


Figure 4-1. Description of the subjects in terms of gender in the experimental and control groups

4-3-1-Hypothesis 1). There is a significant difference between the effectiveness of cognitive-behavioral therapy with emotional disclosure method in reducing students' test anxiety.

Table 4-2: Data Normality Test (Kolmogorov-Smirnov)

Significance level	Kolmogorov-Smirnov statistic	Number
0.849	0.611	15

According to the table, since the significance level of the test is higher than 0.05, then the data has a normal distribution and therefore parametric statistics are used.

Table 4-3: Levin test (homogeneity of variances)

F	Degree of freedom1	Degree of freedom 2	Significance level
0/813	2	42	0/450

The results of the table show that because the significance level (0.45) is greater, we conclude that the variances of the groups are equal.

the null hypothesis is rejected and it can be said with 99% confidence that there is a significant difference between the mean anxiety of the three groups (cognitive-behavioral, emotional disclosure and control group).

Use Fisher's exact test (LSD) for more detailed examination and determination of categories that differ from each other Becomes.

Table 4-6 Fisher LSD test

Significance level	Mean difference	J	I
0/099	3/33333	Emotional disclosure	Cognitive-behavioral
0/001	11/40000*	Control	
0/099	-3/33333	Cognitive-behavioral	Emotional disclosure
0/001	8/06667*	Control	
0/001	-11/40000*	Cognitive-behavioral	Control
0/001	-8/06667*	Emotional disclosure	

According to the table above, the level of significance of the test between the control group with cognitive-behavioral and emotional disclosure is less than 0.05. Therefore, the null hypothesis is rejected and as a result, the average anxiety at the mentioned levels has a significant difference. Other groups (cognitive-behavioral with emotional

disclosure) have a significance level greater than 0.05, so the average anxiety in them is not different. This suggests that both methods are effective in reducing anxiety. 4-3-2- Hypothesis 2). Cognitive-behavioral therapy training has an effect on reducing students' anxiety.

Table 4-7: Data Normality Test (Kolmogorov-Smirnov)

Post-test	Pre-test	Test index
15	15	Number
0/861	1/035	Kolmogorov-Smirnov statistic
0/448	0/234	Significance level

According to the table, since the significance level of all tests is higher than 0.05, then the data has a normal distribution and therefore parametric statistics are used.

Table 4-8: Levin test (homogeneity of variances)

F	Degree of freedom1	Degree of freedom 2	Significance level
1/134	1	28	0/296

The results of the table show that because the significance level (0.29) is larger, we conclude that the variances of the groups are equal.

Table 4-9: Descriptive results of pre-test and post-test of anxiety According to the group

standard deviation	Average	Number	Test	group
5/53	20/40	15	pre-exam	the experiment
3/48	11/00	15	Post-test	
3/08	18/60	15	pre-exam	Control group
6/05	16/60	15	Post-test	

The results of Table 4-9 show that the highest mean pre-test is related to the experimental group (20.40) and the lowest mean pre-test is related to the control group (16.60) and the highest mean post-test is related to the control group (19.50)

and The lowest mean of the pretest is related to the experimental group (0.11), which indicates the effect of cognitive-behavioral therapy training on anxiety.

Table 4-10: Analysis of covariance

Test power	Impact rate	Significance level	F	Mean squares	Degrees of freedom	Total squares	Variable
0/931	0/321	0/001	12/788	284/553	1	284/553	Group membership
0/461	0/121	0/064	3/722	82/829	1	82/829	pre-exam
				22/251	27	600/771	Error
					29	918/800	Total

The results of Table 4-10 show that there is no significant difference in the pre-test of anxiety between the subjects of

the experimental and control groups. (F 27.1) = 3/72, p> 0/05)

But there is a significant difference between the level of anxiety of the subjects in the two experimental groups and

the post-test control group ( $f(27.1) = 78.12, p < 0.01$ ). We conclude with 99% confidence that teaching cognitive-behavioral therapy training has an effect on reducing

students' anxiety. Be. The effect of cognitive-behavioral therapy training on anxiety is 0.32%.

4.3.3 Hypothesis 3). Emotional disclosure method is effective in reducing students' anxiety

Table 4-11: Data Normality Test (Kolmogorov-Smirnov)

Post-test	Pre-test	Test index
15	15	Number
0/649	0/575	Kolmogorov-Smirnov statistic
0/793	0/896	Significance level

According to the table, since the significance level of all tests is higher than 0.05, then the data has a normal distribution and therefore parametric statistics are used.

Table 4-12: Levin test (homogeneity of variances)

F	Degree of freedom 1	Degree of freedom 2	Significance level
0/276	1	28	0/604

The results of the table show that because the significance level (0.60) is greater, we conclude that the variances of the groups are equal.

Table 4-13: Descriptive results of pre-test and post-test of anxiety according to the group

standard deviation	Average	Number	Test	group
4/11	17/00	10	pre-exam	the experiment
4/22	10/93	15	Post-test	
3/08	18/60	15	pre-exam	Control group
6/05	16/60	15	Post-test	

The results of Table 4-13 show that the highest mean pre-test is related to the control group (18.60) and the lowest mean pre-test is related to the experimental group (17) and

the highest mean post-test is related to the control group (16.60) and the lowest mean The post-test belongs to the experimental group (10.93) which shows the effect of emotional disclosure method on anxiety.

Table 4-14: Analysis of covariance

Test power	Impact rate	Significance level	F	Mean squares	Degrees of freedom	Total squares	Variable
0/710	0/201	0/015	6/795	167/422	1	167/422	Group membership
0/483	0/128	0/057	3/947	97/262	1	97/262	pre-exam
				24/640	27	665/271	Error
					29	1003/367	Total

The results of Table 4-14 show that there is no significant difference in the pre-test of anxiety between the subjects of the experimental and control groups. ( $F(27.1) = 3/94, p > 0/05$ )

But there is a significant difference between the level of anxiety of the subjects in the experimental and post-test control groups ( $f(27.1) = 79.6, p < 0.05$ ). We conclude with 95% confidence that teaching the method of emotional disclosure has an effect on reducing students' anxiety. Be. The effect of emotional disclosure training on anxiety is 0.20%.

#### Conclusion:

The aim of this study was to compare the effect of two methods of cognitive-behavioral therapy and emotional disclosure in reducing anxiety in students in Torbat-e Heydarieh.

Hypothesis 1: There is a significant difference between the effectiveness of cognitive-behavioral therapy with emotional disclosure in reducing students' anxiety. According to Table 4-5, the results show that the effectiveness of the treatments studied in the study, while both were effective, were not significantly different from each other.

Considering the research background and the recognition of both methods as effective in reducing negative emotions such as anxiety, it does not seem far-fetched that both methods were so mature and useful that they had a great impact on reducing anxiety and with the mechanism Different effects have the same results in reducing anxiety.

The second research hypothesis

Cognitive-behavioral therapy training is effective in reducing students' anxiety.

Based on the findings of the study in Chapter 4, according to Table 4-10, the results show that cognitive-behavioral therapy has a significant effect on reducing the anxiety of subjects, people who received treatment compared to people in the group. Evidence showed further improvement.

Also, the results obtained are consistent with the research of Kandy and Dupak (1999), Modarres Gharavi and Hassanabadi (2010), Akbari (2008), Biabangard (2002), Milanifar (2003).

The third research hypothesis

The method of emotional disclosure is effective in reducing the level of anxiety of students.

Based on the presented findings, emotional disclosure treatment has a significant effect on reducing students' anxiety. According to Table 4-14, this hypothesis is correct compared to the control group who did not report a significant change in their initial anxiety level. This means that emotional disclosure therapy is an effective and efficient way to reduce the level of anxiety in people.

One of the common aspects of disclosure-based therapies is that clients are allowed to express their emotional experiences in words, and therefore the reason for the effectiveness of emotional disclosure based on the theory of inhibition and cognitive change is that emotional disclosure. Deeply, firstly, it causes the person to face their emotional experiences and the real touch of emotions and feelings, and secondly, it causes them to reconsider emotional events and experiences and change the ways of organizing and re-absorbing them.

In the present study, similar mechanisms have reduced anxiety and experienced anxious issues as non-anxious issues. Penne Baker, (2007), Camp Bell and Penne Baker (2006), Khalaji (2002), Vakili (2008), Rabiee (2006).

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