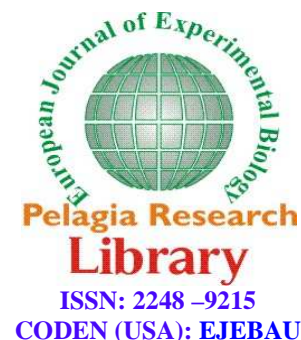




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An investigation of the effects of cognitive therapy training on test anxiety in secondary education

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ABSTRACT

This study aims to determine the effectiveness of cognitive training on test anxiety of high school girls. This study is a semi-experimental one with pre-test - post-test design and control group respectively. The study population was all female high school students in Tabriz. 60 students having test anxiety after performing a diagnostic test questionnaire (Sarason) were selected through multistage random sampling and were randomly assigned to experimental and control groups. The experimental group had cognitive therapy training for 8 sessions; the control group did not receive any intervention. Test results was analyzed using ANCOVA, T. Results showed that anxiety symptoms in subjects in the experimental group compared with the control group significantly decreased. In other words, cognitive therapy training method is effective in reducing test anxiety.

Key words: cognitive therapy training, test anxiety, secondary education

INTRODUCTION

Anxiety as an emotional state of a human during life is both life- saving and cause many problems in the mental life of human beings. Humans have always to express inner struggles with different words, moods, feelings, emotions. Therefore, in terms of the internal struggles, he uses expressions such as anxiety, worry, which is called anxiety in the current psychological language (Biabangard, 2007).

The most important factor of all mental disorders based on the theory of psychological analysis, is, anxiety. Anxiety is a prominent role in the psychological analysis of school. Freud called anxiety, emotional pain. This means the same as if the body suffered from injury, inflammation and disease, the first sign appears to be fever. According to Freud anxiety is the price paid for civilization (Kaplan and Sadok, 2000).

One of the types of anxiety is test anxiety and when its value is likely to exceed the optimal level achievement in learning and academic improvement is overshadowed and causes lost in large part of the human potential talents and economic resources (Biabangard, 2007). Test anxiety is a global phenomenon. This annual event is an important educational problem, which millions of students around the world experience it (Hill, 1984).

Test anxiety is a general term and refers to a type of anxiety or social phobia which creates doubt about a person's ability to deal with situations and its outcomes can reduce dealing with exam situations, situations in which a person is subject to assessment and require problem solving. Therefore it can be stated that a person suffering from anxiety knows the answers, but the severity of anxiety prevents the use of his knowledge (Sargolzaei and Nasser and Keykhany, 2003). Cognitive therapy as one of treatments for test anxiety focuses on the knowledge or test anxiety components. The basic premise of cognitive therapy is that a person's emotional reactions and behaviors (such as anxiety, worry and frustration) are not caused by the mere occurrence of events but arising from the interpretation of events. Methodologies help students to learn focus on pivotal answers. In this way, students are made aware of their anxiety-causing thoughts and teach them to express their feelings and concerns and flush out cognitive responses and use methods of interpretation and emotional arousals in test situations which are continually called upon to operate (Mayknbam and Butler, 1980)

Review of the Related Literature

Although academic achievement is affected by many factors, one cannot ignore the role of test anxiety on academic performance. Most dropouts occur among students who have test anxiety. Also, studies show that about 10 percent of students with test anxiety treatments are needed. And the danger is growing (Hefer, 2009). Test Anxiety at first is in a form of an intense physiological arousal, which is intended to interfere with the performance in tests. Although the average value of it may have positive effect. In this regard anxiety is viewed as part of a responding system which predicts an individual's risk of danger and equipment in order to avoid punishment or to escape from punishment. Thus, the physiological responses when in stress, prepares the body for such a situation (Weems, Taylor, Costa, Marks, Romano, Verrett, Brown, 2009). And this is the moment students need a calm body. These physiological changes inhibit concentration and affect the abilities required in a test. Wide range of physical symptoms may be seen in anxiety, these signs include: "muscle tension, involuntary and impulsive movements, agitation, fatigue, vulnerability, rapid breathing and heart palpitations" (Crak & Clark, 1997).

Spielberger and vagus (1995) investigating The effect of Beck cognitive therapy and Ellis's rational – emotional therapies on students' test anxiety showed that both treatment have equal effects in reducing vulnerability and emotional components of test anxiety and worry.

According to Sarason (1980) features, such as the stomach disorder, collide hours of sleep and peace, a desire for food changes, weakness, dizziness, and changes in blood pressure, pulse rate and secretion of adrenaline and noradrenaline hormones in patients with anxiety during exams, increases especially at test. Also, students in with test anxiety, palpitations, pallor complexion, stuttering, involuntary movements of the arms and legs, hoarseness, and voice tremor, changes in body temperature, dry mouth, and sweating is typical. Students might have some cognitive signs and symptoms, and other students may have different signs

Meiosis and Browder (quoted by Ghasemi, 2003) have described four components of test anxiety: the anxiety, emotional vulnerability, loss of self-esteem and interaction.

Cognitive therapy was introduced in the late 50th century in western countries for the treatment of psychological problems and Psychiatric disorders, controlling anger, and anxiety and mood disorders was used to treat Schizo (Frei, 1999). Cognitive therapy helps ground people Check and correct distorted and useless thought, causing emotional distress and turmoil, decided to solve their problem (Beck et al, 1979).

Due to the damaging effects of test anxiety, studying methodologies and various ways to treat anxiety are researchers' concern (Rost & Schermer, 2001 ; Holroyd' 1976, Hahnloser, 1974).

Ellis and Blackburn (quoted by Izadifar et al, 2010) argued that one of the most effective ways to reduce students' test anxiety, is cognitive – behavior therapy. In practice, the fundamental assumption of cognitive approaches is that cognitive behavioral therapy affects the emotions and behavior. In addition, it is believed that more than events, people respond to cognitive representations of events. Cognitive - behavioral Counseling focuses on reducing effects in beliefs and inconsistent or inefficient feedbacks (Beck et al, 1979).

Mayknbam and Butler (1972) reported that the effects of cognitive therapy are successful in reducing anxiety. Mayknbam treatment is designed to eliminate worries, thoughts and behaviors irrelevant to the task of student anxiety.

Cognitive therapy provides strategies of cognitive restructuring and refusing irrational beliefs and teaches individuals skills to actively engage their minds to change their world (Omidi and Mohammadkhani, Dowlatshahi, Pourshahbaz, 2008). Seligman, 1991 (quoted by Farokhi and Mohammadzadeh, 2004) using cognitive therapy techniques in controlling patients' anxiety in receiving anxiety found out that anxiety and depression have been affected by this treatment and decrease after 8 sessions.

MATERIALS AND METHODS

This study is a semi-experimental study with an independent variable of cognitive therapy training and a dependent variable of test anxiety. Therefore, on this basis both control and test group were studied and compared through pre-test and post-test.

Diagram plan is as follows:

Table 1: Diagram of the experimental design

Experimental Group Control Group	Pre-test	Independent Variable	Post-test
	T1	X	T2
T1	-	T2	

In this study, pre-test and post-test and control group was used. Sampling in this study was a multi-stage random sampling. The sample size in this study was 60 participants. After the test, regarding the scores obtained, 60 participants who achieved the highest scores were selected. These 60 participants were divided into two groups, a group of 30 participants as first group that received cognitive therapy training and next 30 participants were chosen as control group. In the next phase, the first 30 people underwent, 8 sessions of an hour and a half each week cognitive training. The control group was not trained.

In this study, the Test Anxiety Scale of (Sarason, 1978) was used. This scale evaluates four reactions including tension, stress, thoughts unrelated to the test, and physical symptoms to the test.

RESULTS

Training cognitive therapy, reduce test anxiety component (stress, tension, thoughts unrelated to the test, and physical symptoms) in girl students in Tabriz.

The difference between pre-test and post-test and the four components of test anxiety: stress, tension, thoughts unrelated to the test, and physical symptoms, cognitive therapy and control groups are presented in Table 2.

Table 2: Comparison of mean pre-test, post-test sub-components of test anxiety

	Indicators	P	DF	t	Variance	Average	Number
Experimental Group	Tension	0/01	28	2/51	2/82	0/62	30
Control Group					0/887	0/28	30
Experimental Group	Anxiety	0/005	28	2/78	2/01	1/52	30
Control Group					0/38	0/12	30
Experimental Group	Unrelated Thoughts	0/02	28	2/27	0/72	1/10	30
Control Group					1/07	0/46	30
Experimental Group	Physical Symptoms	0/05	28	1/99	1/59	0/78	30
Control Group					0/621	0/015	30

Table 2 shows the results of all the components of tension, anxiety, thoughts unrelated to the test, and physical symptoms, because P calculated was smaller than $P = / 05$, then we can say there is a significant difference between the experimental group and the control group. Given the significant difference between pre-test and post-test averages made it clear that in all areas of education anxiety reduction in the cognitive therapy is more than the control group.

Training, cognitive therapy can reduce test anxiety of girl students in Tabriz.

Table 3: Comparison of results of pre-test and post-test of test and control groups.

Variables	Eta Square	Significance Level	F	Variance	Total Square
Test Anxiety	0/1	0/014	6/416	71/383	71/383
Groups	0/61	0/00	90/621	1008/291	1008/291
Error				11/127	645/338

According to Table 3 F calculated for the difference in anxiety scores between the two groups with the pretest and post-test is equal to 90.621 which due to its significance level reject the null hypothesis with significant level of 95% confidence. Cognitive training is effective in reducing student anxiety. Cognitive training is effective in reducing student anxiety. The eta squared is 61 ($1. / . = ^2 \eta$), it means the independent variable can explain 61% of the variance in the dependent variable.

CONCLUSION

The results of this study showed that cognitive therapy training on test anxiety (stress, anxiety, bad thoughts about the exam and physical symptoms) is effective. In other words, the results suggest that different cognitive techniques have reduced all components of test anxiety: tension, fears, thoughts unrelated to try and physical symptoms.

Various research methods have been used extensively for reducing anxiety. In these researches cognitive methodology was more effective in comparison with behavioral methods in treating anxiety. So in the past two decades, more emphasis was put on cognitive methodologies and cognitive - behavioral treatment of anxiety. It can be that said cognitive techniques in an effective manner help a person reduce worrying mental conflicts and negative thoughts and independent to obligation. Therefore, it can be said that cognitive and physiological changes by methods taught reduce test anxiety of the participants. Because in cognitive therapy training different cognitive techniques were used and considering that the reduction of test anxiety to a large degree is based on cognitive responses and non-adaptive considerations, using various cognitive techniques such as identifying sources of concern, changing beliefs, fears, guided imagery, cause cognitive changes in participants and reducing cognitive structures of anxiety.

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