

# Effectiveness of Cognitive Restructuring and Proper Study Skills in the Reduction of Test Anxiety Symptoms among Students in Khalkhal, Iran

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Received July 28, 2015; Revised September 10, 2015; Accepted September 22, 2015

**Abstract** The purpose of this study was to evaluate the efficacy of cognitive restructuring therapy and the appropriate methods of study in reducing test anxiety symptoms among third grade high school students in Khalkhal, Iran. The research method was quasi-experimental with pretest, posttest and control group. The population of the study was all students in the third grade of high school in Khalkhal city. The participants included 300 sampled through Spielberger test anxiety questionnaire and clinical interview. After determining the prevalence, 30 people who had high anxiety scores were randomly classified into two 15-subject groups in experimental group and control group. Then, data were analyzed by SPSS at two levels (descriptive and inferential). The results showed that the prevalence of test anxiety among students was 36.6%. Results of the standard Hotelling test showed that the impact of cognitive restructuring method and study methods were significant in reducing the symptoms of test anxiety of students. Moreover, the Helmert bound contrast statistics reported that the effect of cognitive restructuring therapy in reducing the symptoms of test anxiety in students is more effective than the appropriate methods.

**Keywords:** test anxiety, the study proper method, cognitive restructuring therapy, anxiety

**Cite This Article:** Ghamari Kivi H, Rafeie S. H., and Kiani A.R, "Effectiveness of Cognitive Restructuring and Proper Study Skills in the Reduction of Test Anxiety Symptoms among Students in Khalkhal, Iran." *American Journal of Educational Research*, vol. 3, no. 10 (2015): 1230-1236. doi: 10.12691/education-3-10-4.

## 1. Introduction

One of the most extensive areas of research in the past few decades has been anxiety and the related fields. Recent studies have shown that anxiety disorders have the highest frequency in the general population [1]. "Test anxiety" as a form of anxiety is a common phenomenon which refers to a condition in which a person is afraid of his ability to perform a task [2] and it consequently reduces the ability to deal with a situation such as an exam. Some have reported that reducing anxiety actually improves the performance [3], but some researchers believe that test anxiety provides a person with better study [4]. Thus, a person who is suffering from test anxiety can be described as a person who knows the study material, but the anxiety and his arousal severely prevent him from demonstrating his knowledge during the test. In addition, to the extent that people consider the exam intimidating, they show more stressful responses before the exam and equally they don't face lack of confidence and low self-esteem. Moreover, it may be associated with irrelevant thought to the task, long delay, failure to understand the meaning of words, repeated reading exam questions, fear, distraction and one or more physical

symptoms. The first research on test anxiety was conducted in 1914 [5], but serious research on test anxiety began as one of the important cognitive-emotional variables by Mandler G & Sarason (1952) [6].

Research interest on test anxiety peaked during the 1980s, but it has decreased since 1988 [7]. To cope with stressful situations and conflicts of life compatibly, humans need to learn some skills. To achieve positive performance, different therapy approaches have been used in the realm of anxiety, which in general can be divided into two clusters: "cognitive therapy" and "behavior therapy." Research has shown that if we put knowledge and information to the people and create situations in which these people can experience their learning practically, then the attitude, knowledge and value will change into actual abilities. The ability helps people in any position to know what to do and how to do it [8]. Cognitive restructuring therapy emphasizes the role of cognitive processing in excitement and behavior. Emotional and behavioral responses to a situation are largely the result of perception and interpretation of meaning that is attributed to the event. Cognitive therapist, based on cognitive restructuring, faced with clients who have negative emotions, instead of only focusing on expressing sympathy and support tries to help him, and

test the acknowledges related to the negative feeling of "distancing from" and their accuracy as realistic and non-sentimental. Although the cognitive approach is often accused of "insensitivity", but proper use of this method has no conflict with support that shows compassion and empathy, although they are not limited to it [9]. Research by Kennedy et al., (1975) also showed that cognitive restructuring has a significant effect on the reduction of test anxiety especially math anxiety [10]. Other scholars have used cognitive restructuring therapy for reducing test anxiety. Meichenbaum (1986) by notifying people with test anxiety about their anxious thoughts was to a large extent able to solve their problems [11]. The use of cognitive restructuring method in this paper confirms the findings by reducing test anxiety compared with systematic desensitization method. Explanation of this issue is probably related to the fact that the cognitive restructuring by changing the patient's cognitive beliefs and irrational beliefs, guides him to achieve rational and logical attitude and the durability of this type of treatment depends on the conditions governing the treatment and the characteristics of the therapist and the client. Editha & Kennedy (1977) in a follow-up study after a month of implementation of the cognitive restructuring therapy reported that this method could also be efficient in the long term, and its impact on test anxiety is useful in the long run and disapproval of the subject in this study on reducing test anxiety may be due to the particular situation of test anxiety and how it is taught [12]. Meichenbaum (1979) [13], and Holroyd (1976) [14] effectively reduced test anxiety in the experimental group with cognitive restructuring or other similar techniques. Cognitive restructuring is one of the efficient cognitive techniques. The basic premise in cognitive restructuring is that emotional and behavioral reactions are not the mere effect of that even, but simply it is due to the interpretation of the events. Cognitive restructuring helps people to learn to focus on the task and the lack of focus on the self-centered responses. In this method, the therapist notifies students of the thoughts causing anxiety and teaches them to express themselves and their instruments and flush out the maladaptive cognitive responses and eventually teaches them to relatively apply the methods of interpretation and labeling emotional arousal that are continually called in test situations [11]. In various studies related to cognitive methods, treatment of test anxiety was considered and the results of this method indicated significant decrease in test anxiety [15]. Meichenbaum (1972) has reported the effects of cognitive therapy in reducing successful test anxiety. Meichenbaum treatment method is designed to eliminate worries, thoughts and behaviors irrelevant to students' homework [13]. Holroyd (1976) in a study declared that the cognitive therapy is more effective than cognitive - behavioral method in reducing test anxiety [14]. Spielberger (1995) in a study treated 66 subjects with test anxiety over 8 sessions, the results of this study showed that Beck's cognitive and Ellis rational - emotional therapies had the same effect in reducing anxiety [16]. Fletcher and Spielberger (1980, quoted by Spielberger and Vag, 1995) by examining the effect of Beck's cognitive therapy and Ellis rational-emotional therapy on students' test anxiety showed that both therapies had equal effects in reducing test anxiety and components of the excitement and anxiety [17]. Sud (1993) and Biabangard (1999)

found that the cognitive therapy compared with other methods effectively reduces test anxiety in students [18,19]. Abolqasemi et al., (2006) show that the Ellis rational-emotional therapy has an effect on cutting down the anxiety [20]. Algaze (1980); Sapp (1994), Stober and Parker (1995); Sapp (1996); Smith et al., (1998), Kennedy and Doepke (1999); Wachelka & Katz (1999); Stober and Esser (2002); Ergene (2003) or Bach et al., (2006), found that cognitive-behavioral therapy compared with behavioral methods was effective in reducing anxiety in students [21]. Wittmair (1972) in a study showed that students with high test anxiety than students with low test anxiety have lower levels of efficiency in the study proper manners. In this regard, Spielberger (1980) believes that the reduction of test anxiety alone is not sufficient for improving the academic achievement; but at the same time it is necessary to modify the study habits of students with test anxiety because the students don't attend the test with proper preparation [22]. Students who have proper study practices as a result have a good preparation may show less anxiety and more focus on the test situation [21]. Culler and Haulahan (1980), in a research found that students with high test anxiety who had gained better studying skills with exercise than students with poor study habits had a better performance [21]. The finding suggests a link between the correct methods of study, test anxiety and score average. they also found that the duration of the study (week) before the test was significantly correlated with score average. The finding suggests that more hours of study may compensate the lack of study skills in the students with high test. While subjects with low test anxiety, for excellence in study skills, spend less time on studying. Biabangard (2002) obtained a negative correlation between test anxiety and study skills ( $r = 0.52$ ) [19]. Amiri et al., (2005) compared the effectiveness of cognitive-behavioral therapy techniques, learning the proper ways of study skills and the mixed method in reducing test anxiety [23]. It is important to mention that the prevalence of test anxiety in Iran is estimated to be 17.2 and among girls it is significantly more than boys (Bahrami, 1998; Abolghasemi, Mehrabizadeh, Kiamarsi & Fariborz 2006) [24,20]. However, results showed that all three experimental groups compared with the control group showed a significant decrease in anxiety scores, but the simultaneous application of cognitive-behavioral therapy and study skills training compared with its separate application caused a significant decrease in the score of students' test anxiety. The main goal of cognitive therapy is helping people to achieve reactions compromised with test anxiety. Cognitive therapy and cognitive restructuring helps students to learn to maintain focus on the task and decentralization to unrelated responses. Thus, teaching cognitive restructuring therapy as well as the proper ways of training is important to prevent and reduce symptoms of anxiety in students. Given the importance of reducing test anxiety and its impact on the academic achievement of students, the present study was carried out to evaluate the efficacy of cognitive restructuring and the appropriate ways of study skills in reducing symptoms of test anxiety and answer the question that which methods have a greater impact on decreasing the affectivity and emotional symptoms of test anxiety in students.

## 2. Method and Materials

### 2.1. Participants

In the study, the population of study included all students in third grade of high school in Khalkhal in academic year 2013-2014. The participants aged 15 to 18 years with an average age of 16 years.

### 2.2. Procedure

The study was done considering the aim of this study which was to evaluate the efficacy of cognitive restructuring and the appropriate ways of study in reducing the symptoms of test anxiety. Hypotheses proposed in this study were tested in the context of a pretest-posttest quasi-experimental design with a control group. Psychological interventions (cognitive restructuring and training proper ways of study) were examined as independent variable and components of anxiety and affectivity as dependent variables. Two sampling techniques were used in the study : (1) The first sample consisted of 300 students to determine the prevalence of test anxiety (2) The second sample consisted of two 15-subject groups for placement in cognitive restructuring and proper method of study. Sampling method was purposive. In general, at the first stage of sampling, among participants who were interested

in cooperation, 30 students were selected and randomly placed in the experimental and control groups. A pretest was administered and the following instruments were used for data collection: In order to organize, summarize, and analyze the data, descriptive and inferential statistics were used. In the descriptive analysis, the data were analyzed using statistical parameters such as frequency, frequency, percentage, and the mean. In the inferential analysis, to test the hypothesis, as we had two dependent variables (cognitive restructuring and study skills), we used multiple regression test and multivariate analysis of variance to determine the difference and the effectiveness of each method on anxiety symptoms.

### 2.3. Training Sessions

**Cognitive restructuring guidelines:** In this study, short-term structured cognitive therapy based on cognitive restructuring was used. To this end, a combination of Meichenbaum- Bacăucognitive method and Ellis-Griger irrational beliefs identification (1977) quoted by Spielberg and Vag (1995) was used for 8 90-minute sessions and each week for one session [17]. This package was performed on participants in the experimental group by two counselors who were trained by the corresponding author of this article for 3 months. This method is organized in 8 steps as follows:

**Session I:** initial assessment (getting familiar with work logic and work plan)- introduction to disorder and treatment method - definitions  
**Session II:** Mastering behavioral symptoms - explaining the nature of test anxiety, effects, and methods of coping with it.  
**Session III:** Identifying automatic thoughts, negative and irrational self-talk irrelevant to the task and test.  
**Session IV:** Working on emotional symptoms, identifying negative self-talk, conflicting negative automatic thoughts, recording thinking skills, arbitrary inference, extreme generalization, selective abstraction.  
**Session V:** Training cognitive change techniques, how thoughts create feelings, techniques of differentiating thought from fact, emotional and cognitive factors of test anxiety, readiness for treatment, noting them.  
**Session VI:** Anxiety evaluation techniques, techniques of ignoring the problems, techniques of immersing in uncertainty.  
**Session VII:** Changing and correcting faulty beliefs, techniques of practicing acceptance, preparation for the completion of treatment (undermining dysfunctional beliefs, replacing negative thoughts with positive ones, playing role)  
**Eighth VIII:** Last session of assessment and follow up - discussing about the substitution strategies.

#### The implementation process and method of teaching intervention and appropriate study skill

#### The methods of training study skills in 8 90-minute sessions as group, once a week for 2 hours

**First session:** the logic of effective teaching was discussed while communicating.  
**Second session:** time management techniques were introduced and study behavior formation was examined.  
**Third and fourth sessions:** strategies for memorization was trained and group exercise was done.  
**Fifth and sixth sessions:** learning and study strategies were taught.  
**Seventh and eighth sessions:** study skills particularly careful reading and techniques of it (organizing, marking and summary writing) were trained, also in the last session (8) reviewed again all previous sessions and all subjects were asked to participate the post-test. Finally, students in cognitive restructuring and training correct study were treated in two boys and girls high school of Khalkhal for two months (8 sessions) in the academic year 2012-13 as group.

### 2.4. Instruments

a) **Clinical interview:** The interview consisted of 9 items about the type of problem, course of test anxiety and physiological, cognitive and behavioral expressions and symptoms before and during the test and willingness to treatment that was performed to detect. In this study, participants who received high scores in test anxiety pass the structured clinical interview by Spielberg and Vag (1995) [17]. The structured clinical interview was performed by two trained counselors. Participants who had the diagnostic criteria were placed in the final sample. Cronbach's alpha coefficient of the interview was reported 84% and the reliability was declared 0.79 to 0.84 and criterion validity with Spielberg test anxiety 0.81 and with Ahwaz test anxiety questionnaire 0.86 and the correlation coefficient of clinical interview scores with

Spielberger anxiety questionnaire ( $r = 0.8$ ,  $P = 0.001$ ) was reported to be significant (Abolghasemi et al., 2002) [20].

**B) Speilberger state-trait anxiety inventory (STAI):** The questionnaire included 20 questions and divided into two classes that 10 questions were related to the anxiety or cognitive (W) and 11 questions were related to emotional or physical component (E) that describe the reaction before, during and after the test. Both physical and cognitive anxiety scores for each student are calculated with the overall score in test anxiety [25]. This inventory has higher infidelity for test anxiety measuring than the other inventory such as Beck anxiety inventory. This is a self-report questionnaire and each subject answers each item based on a multiple scale response. These options are scored based on the values of 1, 2, 3 and 4 respectively that the high score in this inventory shows test anxiety. Internal consistency and test-retest reliability coefficients

of the questionnaire were reported 92% and 90%, respectively. Kazemian Moghaddam et al., (2007) quoted by the producer of the scale, have reported the reliability coefficient of anxiety, the emotional, and the total scale as 0.86, 0.90 and 0.94. Cronbach's alpha coefficients of the questionnaire in the samples of male and female were reported as 0.92 and its reliability coefficient after three weeks and a month is reported 0.80. Correlation coefficient of test anxiety of the questionnaire is significant with deterrent subscales ( $r = -0.40$ ) and facilitator ( $r = 0.67$ ) test anxiety and structure definition ( $r = 0.47$ ) (Abolqasemi et al., 2002) [20]. In this study, the Cronbach's alpha coefficient of the questionnaire is 0.87.

### 3. Results

**Table 1. Descriptive table of pretest and posttest in experimental and control group**

Type of test		Mean	Number of subjects	Standard deviation	SEM
Experimental group	Pretest	232	15	47.432	12.247
	Posttest	120.13	15	7.845	2.0257
Control group	Pretest	232	15	47.432	12.247
	Posttest	228	15	55.812	14.410

**Table 2. Correlated t-test to determine significant differences of pretest and posttest in experimental and control group**

Difference between pretest and posttest in experimental group	t value	Degrees of freedom	Significance level
		13.073	14
The difference between the pre-test and posttest in control group	9.131	14	0.063

**Table 3. Descriptive data on the prevalence of test anxiety among students**

Students	Number	Standard deviation	Maximum	Minimum	Prevalence	Mean
Girls	140	10.4	86	21	52.5	50.8
Boys	160	9.2	84	27	20.7	43.7

#### 3.1. Hypothesis 1

Cognitive restructuring in comparison with appropriate study skill was effective for reducing the test anxiety symptoms. To test this hypothesis, since we face two dependent variables (cognitive restructuring and study skill), the multivariate analysis of variance was used to determine the difference and effectiveness of each method on anxiety symptoms.

Since, one of the assumptions of Manova is the equality of the covariance matrices for the studied groups, we used box Sm test, thus the test is significant at 99% level, meaning that the covariance matrices of the dependent variable (cognitive restructuring and correct study skills) was different for the group, so it is possible to perform the multivariate analysis.

In order to increase the internal validity, pretest and posttest were administered for both experimental and control groups. As shown in Table 1, the pretest mean score of the experimental group was 232 and posttest mean score was 120.13. In other words, anxiety scores for experimental group reduced with the intervention of variables (cognitive therapy and study method). Also, according to Table 2 correlated t-test is used to determine the difference between pretest and posttest scores of control and experimental group confirmed this fact. The t calculated for the experimental group was ( $t = 13.073$  and  $p < 0.000$ ) and for the control group is ( $t = 9.131$  and  $p < 0.063$ ).

As Table 3 suggests, the percentage of test anxiety in girls was obtained 52.5 and in boys 20.7.

**Table 4. BOX SM Test to determine the equality of covariance of groups**

BOX SM test	16.178
F level	4.975
Degrees of freedom 1	3
Degrees of freedom 2	141120.000
Significant level	002.

As shown in Table 5, the standard Hotelling test shows the effect of variables of cognitive restructuring technique and proper study skills in reducing the symptoms of anxiety in students was significant. In other words, vector of the groups' means were significantly different ( $T^2 = 4.011$  and  $P < 0.05$ ).

**Table 5. The results of multivariate analysis of variance (MANOVA) about the impact of groups**

Test name	Amount	DF hypothesis	DF error	value of F	Significance level
Hotelling trace test	4.011	2.000	2	54.147	.000

To determine the difference of effect of cognitive restructuring and accurate study skill on reducing test anxiety symptoms, Helmert bound contrast statistics and test (pairwise comparison) were used. Based on Helmert bound contrast statistics, the difference of mean in cognitive restructuring techniques and study skill methods

was significant, but significance level of cognitive restructuring was a correct practice of optimal study. Test (pairwise comparison) showed the effect of cognitive restructuring was more than the correct study skill in reducing test anxiety symptoms.

**Table 6. Helmert bound contrast statistics**

Bound comparison test	Helmert level	Standard error deviation	Significance level
Cognitive restructuring	-13	2.957	.000
The correct study skill	-22.86	2.339	.002

**Table 7. Pairwise comparisons of variables**

Variables	Average score of test anxiety symptoms	Standard error deviation
correct study skill	55.167	1.479
Cognitive restructuring	65.367	1.170

### 3.2. Hypothesis 2

The effect of cognitive restructuring in reducing the component of anxiety was more than the emotional components. Authors used regression test to determine the effect of the independent variable (cognitive restructuring)

on reducing the components of test anxiety. According to Table 8, regression testing showed that the beta size calculated for components of test anxiety was 1.283 and for the emotional aspect was 0.665. So, it can be said that the effect of cognitive restructuring variable on anxiety was more than emotional aspect.

**Table 8. Multiple regression analysis to determine the effect of independent variable (cognitive restructuring) on reducing the components of test anxiety**

Regression model	Level of B	Standard deviation	Beta size	t value	Significance level
Intercept	54.296	16.815		3.229	0.007
Anxiety	0.967	0.184	1.283	5.244	0.000
Emotional	1.179	0.434	0.665	2.716	0.019

### 3.3. Hypothesis 3

The effect of appropriate study skill in reducing the anxiety component is more than emotional component. To determine the effect of independent variables (proper study skill) in reducing the test anxiety component, we use

regression test. According to Table 9, regression testing shows that the beta size calculated for anxiety component is 0.356 and the emotional component is 0.275. So we can say with 95% certainty: the effect of proper study skill on the components of test anxiety was more than the emotional aspect.

**Table 9. Multiple regression analysis to determine the effect of independent variable (correct study skill) in reducing test anxiety component**

Regression model	B size	Standard deviation	Beta size	t value	Significance level
Intercept	73.089	3.496		2.397	0.014
Anxiety	1.200	0.903	1.356	1.328	0.006
Emotional	0.549	0.535	1.275	1.026	0.025

## 4. Discussion and Conclusion

Achieving an effective method that has the maximum efficiency for the learners as a result the educational system in the shortest time was the main objective of this research. As previously mentioned, the aim of this study was to determine the effectiveness of cognitive restructuring compared with the correct study skill on the reduction of test anxiety symptoms and determining the test anxiety for male and female students in high school, third grade in Khalkhal. To achieve the purposes of the study and scientific answers to the questions that were put to the researchers, we attempted to test the research hypotheses that in this part, we discuss and analyze the results of this study.

In connection with the question of any possible difference in prevalence of test anxiety among boys and girls is different, the results showed that the prevalence of test anxiety in female students was 52.2, compared with male students which was 20.2. While according to a research by Abolqasemi et al., (2002), it was reported as 17.62 and test anxiety is observed between 10 to 30% in Iran [26]. Test anxiety level in female students in Khalkhal is higher than the amount of all Iranian students.

In this regard, other studies have reported the frequency of test anxiety at a high level. For example, Soleimani (2005) has done a research on the frequency of test anxiety in students and its relationship with academic performance. The results showed that there is a difference in the validity of test anxiety between boys and girls, (48.3 in females and 35.2 in males), and the mean score of test anxiety in students is also more (90.9 in females and 18.39 in males). This study also showed that the mean anxiety in girls is more than boys. The test anxiety in male students in Khalkhal in the population of the study was 20.7% [24]. also Nabizadeh & ghasemi, (2010) showed in a study that the prevalence of test anxiety in females is more than males [27].

**Hypothesis 1:** Determining the difference and the effectiveness of each method in reducing test anxiety symptoms, we used multivariate analysis of variances, so that the Hotelling measure test shows that the effects of cognitive restructuring techniques and proper study skill is significant in reducing symptoms of test anxiety. In other words, mean vectors of groups are significantly different ( $T^2 = 4.011$  and  $P < 0.05$ ). To determine the difference of effect of cognitive restructuring therapy in study skills on reducing the test anxiety symptoms, we used Helmert bound contrast statistics and test (pairwise comparison). Based on Helmert bound contrast test, the mean difference

of cognitive restructuring and study proper skills is significant, but significance level of cognitive restructuring is a correct method of optimal study skill. Test (pairwise comparison) and the effect of cognitive restructuring more than study skill in reducing the anxiety symptoms. These findings are consistent with the results of various studies on the efficacy of cognitive restructuring on the proper methods of study [24,26,28,29], and also the study by Asadi and Alirezaei Motlaq with a research by Behrouzi, 2000 and also showed that cognitive restructuring has a significant effect on reducing test anxiety symptoms. In another part of the findings, the results showed that the method of teaching proper methods of study in reducing the students' test anxiety showed a little effect than the cognitive restructuring and showed a reverse result with the studies by Iversok and Smodlaco Tobias [30]. On the other hand, the person with test anxiety makes progress through learning cognitive strategies, especially cognitive restructuring techniques. However, some researchers believe that learning the correct way of study merely modifies the incorrect study methods in students. It only helps reduce the students' anxiety by addressing the defect in the wrong ways of study. But it is clear that training study proper methods is effective for encoding, storing, retelling and using information that is reasonable. It has a reverse relation with the present study. Therefore, it can be said that the correct methods of study as a study method reduces the signs of test anxiety and improving test anxiety symptoms and has a consistent relationship with researches conducted by Sud, 1993; Biabangard, 1992 [18,19].

**Hypothesis 2:** We used regression testing to determine the effectiveness of cognitive restructuring in reducing anxiety and emotional components of anxiety. Regression analysis showed that the beta calculated for concern component of anxiety is 1.283 and for the emotional component 0.665. Therefore it can be said that the effect of variable of cognitive restructuring on anxiety is more than the emotional component which result I consistent with the results of research conducted by Fletcher, 1980 quoted by Spielberger and Vag, Altmer, 1981; Lindrezi, Beck et al., 1985; Power et al., 1990; Meichenbaum and Butler, 1991; Wine, Chambls and Gilis, 1993; Spielberger and Pappasdrov, 1995; Gonzalez, researches by Kchofrench, 2001; Durham, 2002; Legir et al., 2003; Mutafi and Farnham, 2005; Kran, 2009; Biabangard, 1992; Mehryar, 2006, and significantly represented the efficacy of cognitive restructuring in reducing test anxiety on the emotional component. Results from the research is consistent with the previous studies about the effectiveness of results and it can be said that cognitive restructuring is effective by exposing physiological and cognitive aspects, following the reduction of anxiety and stress induced from the test [26]. The methods help person to reduce the negative and irrelevant thoughts to the task. This finding is consistent with results of studies done on the effectiveness of cognitive restructuring training, (Kabat - zinn, 2006). Generally, the findings suggest that cognitive restructuring training is effective in reducing anxiety and affectivity and its concerns. This result confirms the other research findings of Wells and Matthews, 1994 and Carver et al., 1983.

**Hypothesis 3:** Based on determining the effect of appropriate study skill in reducing anxiety and emotional

components, we used multiple regression analysis. Multiple regression analysis showed that the size of the calculated beta for anxiety concern is 0.356 and for emotional component is 0.275. Therefore, we can say with 95% confidence that the effect of proper study skill on anxiety concern is more than emotional aspect. Several studies have also confirmed the effectiveness of different methods especially training study skills [7,21]. In general, the findings of studies (Osterhouse, 1972, Lent & Russell, 1978; Altmaier & Woodware 1981) are consistent that considered the effectiveness of training study proper skills in reducing test anxiety. In this method, students can reduce the study time by learning some correct study skills, and increase the duration of keeping contents in memory and learning. They can achieve better results with less effort but smarter and in the result, they show less anxiety and worry in the test situations [26].

With regard to the findings obtained, it seems that cognitive restructuring and the appropriate study skill affects the variables that are in a close relationship with test anxiety and its components, and are further effective in reducing the negative beliefs, increase positive beliefs about worry and correction of negative evaluation. The findings also showed that cognitive restructuring is effective in reducing test anxiety than learning the appropriate way of study. Also a little time is required to describe and explain the methodology underlying rationale. In this study, the students of cognitive group were able to apply easily the techniques in the treatment step. As a result, the present study and studies done in recent years show that cognitive therapy strategies and interventions can be used to prevent or reduce anxiety.

Limitations of this study can be summarized as follows: although Spielberger test anxiety inventory has a high validity and reliability and has been used in many studies, but in general, its reliability depends on observing accuracy and honesty of subjects in responding to the questionnaire items. Partnership of schools, especially male schools in performing research was very low due to compliance with a previous and documented study in realizing students or devoting an hour, even consultant to run treatment methods and it affects the quality of work. Cognitive restructuring technique is a technique which run-time needs a quiet environment ... that this was not easily achieved in school. Finally, cognitive restructuring technique and proper study skills are used to help a wide variety of people, so it is recommended, especially for school counselors to use these techniques to prevent and solve behavior problems of student. If establishing training sessions do not interfere with the student's semester exams, it would be more useful, because anxiety to get close to final exams leads to lack of learning in students.

In the present research there were some limitations. Little size of samples and inability to control of other mental disorders in participants such as depression is the important limitation. All of participations were normal in IQ and there wasn't any learning disability because they were successful students but have test anxiety.

If the expectations of parents and teachers are not consistent with the potential and facilities of students increase students' test anxiety, punishments, reprimands, censures and humiliations and threats as well as irrational rules can cause increased anxiety and apprehension in

students. Accordingly, it is recommended, due to the aforementioned problems, a quiet environment and emphasizing the positive points and capabilities of students has a positive effect on reducing test anxiety.

## Acknowledgements

We are very grateful for the close cooperation of participants in this research.

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