

Research Article

EFFECTIVENESS OF COGNITIVE-BEHAVIORAL INTERVENTION TRAINING METHOD IN REDUCING EXAM ANXIETY IN TEENAGERS

¹Maryam Karkhaneh and *Kamran Yazdanbakhsh²

¹*Department of Psychology, College of Humanities, Kermanshah Science and Research Branch, Islamic Azad University, Kermanshah, Iran*

²*Department of Psychology, College of Humanities, Kermanshah Branch, Islamic Azad University, Kermanshah, Iran*

**Author for Correspondence: kamran.yazdanbakhsh@razi.ac.ir*

ABSTRACT

This study aimed to investigate the effectiveness of cognitive- behavioral intervention training method in reducing exam anxiety in adolescents. The research methodology is semi-pilot with pre-test and post-test design with a control group. Statistical population, including the junior high school students of Kangavar city in the academic year 92-93, Statistical Sample of this study was composed of 30 students who were selected by multistage random sampling and placed in two groups of control and test group. (Each group consisted of 15 members). Then for each group (Spielberger's exam Anxiety Inventory) semi-pilot were performed. The test group took 8 trainings sessions timed 60 minute in group method and timed per week and control group has remained on hold. Finally post exam on both groups was performed. Data was analyzed using descriptive statistical analysis and multivariate covariance statistical test results obtained by multiple covariance's analysis, showed that, cognitive- behavioral intervention training method, has desired affection on efficiency and progress of learners due to reducing exam anxiety.

Keywords: *Cognitive - Behavioral Intervention, Test Anxiety, Teenagers*

INTRODUCTION

Exam anxiety is the most common issues that adolescents face to it and it has a close relationship with public anxiety. However, this anxiety is holding specific features and characteristics that make it distinct from general anxiety (Sarason, 1980; Spielberger, 1995). The exam anxiety, while initiates to be that person is worry about his mental ability and efficiency in exam situation and it will lead to reducing his perform. When the exam anxiety occurs, some more of cognitive and attentive process interfere to person's effective performance.

Therefore, some of the students experience the feeling of the anxiety in various stages of pre-test and post-test anxiety, and this makes a lot of cognitive and attentive processes and interfere with an individual's work performance (Beh *et al.*, 1388). The exam anxiety as cognitive- emotional phenomena that perform a noticeable negative role in educational performance of adolescent and Youth, has mentioned by psychologists for a long time. In fact, exam anxiety is a type of sensing "self-criticism" that people have doubts about his ability, leading to a negative assessment, lack of concentration, adverse reactions and academic failure (Clark, 1999). According to (Erikson & Paul, 1999), the student, having exam anxiety is a person who has learned lessons' materials very well but due to high anxiety is not able to stating his knowledge in exam situation. According to (Guida & Ludlow, 1989), the exam anxiety, is a undesirable reaction to assessment situation in school and class that this emotional mood is along with tension, anxiety, worry, confusion and arousal of autonomous nervous system.

According to (Dousk, 2008) also defined exam anxiety as a undesirable impression or emotional state that individuals experience it in formal exams or another assessment situations.

(Troyn, 1980) has mentioned some articles about exam anxiety that has written by sixty years ago. Investigation and excavation of psychological texts represent that study about this subject has initiated by (Saraso and Mandler, 1952).

Research Article

Based on researchers' estimation in different researches, the amount of exam anxiety prevalence between students reported as 10 to 30 percent; This estimation in Iran for high school students 17.2% has reported (Abolghasemi *et al.*, 1383).

Reload Results of McDonald (2001) shows that the prevalence amount of exam anxiety is increasing day by day, because using tests to evaluate the individual performance are growing. Studies show that test scores of exam anxiety in primary schools is increasing following by increasing in their age.

In Schwarzer (1986) opinion, exam anxiety is formed and established between ages of 10 to 13 years old and continues up to adulthood border.

In a study that (Turner, 1993) has conducted, it turned out that 41% of primary school students had exam anxiety.

The children, who had exam anxiety, would estimate their social and Cognitive abilities as less and their self-worth was lower.

In opinion of (Ergene, 2003), the exam anxiety can treat the students' mental health and effect negatively on efficiency, talent prosperity and their personality and social identity formation.

Negative affection of exam anxiety on student and pupil's performance would have psycho-social consequences for person and society that it can be mentioned as: school drop or economic, social and human resource wasting (Shank, 1991)

So, study of exam anxiety's treatment and etiology nature is an inevitable necessity. Research evidence indicates that to explain and provide treatment strategies for exam anxiety are key factors: individual, family, school and environment factors that in these four factors, personal factors are more effective in reducing anxiety students.

In individual factors, also, more cognitive and personality traits including sex (female), low self-esteem, low Self-efficacy, external locus of control; high public anxiety, distractibility, personal unreasonable expectations and sense of helplessness have been reported as exam anxiety.

Either, Personal and cognitive factors, effect on anxiousness event, selection of confronting patterns and physiological and behavioral reactions; and in such situation self-esteem will also suffers the consequences and particularly it is cause of anxiety in exam time.

On the other words, the person has anxiety field and vein but in exam and assessment time, it is manifested more. This matter is mentioned as one reason of anxiety prevalence frequency (particularly females) (Spielberger, 1995; quoted Sobhi, 1385).

Either, assessment of researches that has been conducted during the past few decades, has investigated amount of girls' exam anxiety more than boys (Garss *et al.*, 2010).

The most conducted studies (Erjen, 2003; Benson, 1989; Hembri, 1988) reflect this fact that there is positive correlation between increasing anxiety and decreasing educational performance, self-esteem, self-efficacy and other variables of mental health; Because the person who get anxiety, suspects to his ability and feel powerlessness at the situations that is exposed to assessment or expression of his skills and abilities.

Wine (1971) proposed a significant-cognitive model to explain how effectivity of exam anxiety on performance. According to this model, students with high anxiety diverting their attention to activities related to the task, preoccupation with worry, self-criticism and concerns on their health; and therefore, they have lower attention to the task-oriented efforts which reduces their performance.

Also individuals, who have exam anxiety, are having self-efficacy in low level and feeling powerlessness and helplessness and are unable to controlling exam events (Shank, 1991).

Therefore according to a destructive effect of exam anxiety on learners and educational system, pay attention to their psychological status in order to advance and improve their healthy and mental health is essential for preventing economical, educational, social, physical and mental hurts causing exam anxiety; Hence, there are different procedures aimed to reduce exam anxiety; Including these methods is cognitive-behavioral approach. This approach is combination of cognitive-behavioral approaches. Cognitive approach is emphasizing on wrong perceived and beliefs that person has about resource of his

Research Article

psychological problems. Emotional distresses are produced by irrational beliefs of a self-hypnosis of individual and also considering cognitive process as a core of treat, believe and emotion of person side.

In behavioral approach, clients learn to confront conveniently versus anxiety symptoms and launchers so that reduce basic level of physical tension.

In this approach it is trying to discuss to training relaxing techniques and cognitive restructuring in order to reducing exam anxiety.

Hence, discovering effectiveness of these therapeutic techniques can be a strategy for those involved in scholastic and academic training and education issue, to enlisting counselors' expertise and ability, clinical psychologists and related fields to psychology, to help to students and pupils who having exam anxiety.

According to existing researches in the field of exam anxiety, cognitive-behavioral approaches have received strong supports in reducing exam anxiety of suffering pupils.

In several studies, it has emphasis that cognitive- behavioral approaches are effective in reducing exam anxiety (SAP, 1994; Spielberger, 1995; Kennedy and Dvprk, 1999; Sarvr, 2002; Davis and Lysakr, 2005).

Meta-analysis results of (Arizi *et al.*, 1392) named as the effectiveness of psychological interventions and level of exam anxiety by Rosenthal and Robin in Iran, showed that cognitive-behavioral interventions have had the greatest impact in reducing anxiety.

Abolqasemi *et al.*, (1390) either in a research, have discussed to investigation of effectiveness of two training procedure including cognitive-behavioral training procedure and skills of emotion regulation on self-efficiency and educational compatibility of pupils who have exam anxiety; results showed that both the methodological and skills of excitement regulation, have been significantly effective in reducing exam anxiety and increasing self-efficacy and educational adjustment.

Behpajouh *et al.*, (1388) also showed that teaching about cognitive-behavioral strategies in reducing exam anxiety in high school female pupils studying math is effective.

Izadi and also Ashtiani (1389) with the pre-test and post- test study with a control group of 30 pupils, have confirmed usefulness of cognitive-behavioral therapy techniques, training problem solving, and effective and beneficial strategies, in reducing exam anxiety and improving the academic performance of high school students.

Therefore, considering the high prevalence of test anxiety as a problem of education in students, especially female students and its destructive effects on mental health and academic performance, as well as lack of highlighting the cognitive – behavioral training in reducing their anxiety, the current study aimed to efficiency of cognitive - behavioral intervention training in reducing exam anxiety, has conducted.

MATERIALS AND METHODS

Research Methodology

This study is a semi-experimental study with pre-test and post-test. The study population consisted of all secondary school students in the first academic year of high school that was enrolled in governmental schools of Kangavar city at 93-92.

In this study in order to sampling, multi-stages random sampling method has used; so that, two high schools have chosen randomly among all governmental girl high schools in Kangavar city. Then among 155 students of first class in this two high school, students having exam anxiety recognized and students are having eligibility to placing in groups by exam anxiety test.

The method was that after the election of the community, Spielberger test anxiety questionnaire, a week before ongoing exams, has conducted on the first class students of both high schools, and students who in this scale, had archived a score higher than 40 were identified as their number was 44.

These scores considered as post-test that among the 44 people, 38 people were diagnosed as eligible for participation in group and were assigned in two groups including control and experimental group, randomly. Number of students in each of the two groups was 19 people that after the screening, it reduced to 15. The independent variable (cognitive-behavioral intervention training), on experimental group

Research Article

consisting 8 sessions of 60-minute was applied and control group was remained in standby mode and no intervention applied about them. At the end of training program, for the subjects in both groups (control and monitoring) in both high school, simultaneously, the Anxiety post-test by questionnaires of Spielberger was conducted.

It is worth noting that the subjects were selected as subjects with test anxiety that scores in Spielberger anxiety test, showed one standard deviation above the mean of the whole sample. In addition, to evaluate the academic performance, the students average, was used. The group Volume of both control and experimental groups, were appointed based on Cohen table and by taking into account the effect volume of 0.5 and test force 0.88, (Sarmad, a businessman and a Hijazi, 1386). For calculating research data following instrument were used.

Spielberger's test anxiety questionnaire: this questionnaire consisting 20 substance has made by Spielberger (1980), that describe the reaction before, during and after the test described. This questionnaire consists of two sub-tests, including "concern" and "the excitement viability" that measures individual differences of participants in exam anxiety. He used the factor analysis, obtained two factors of concern and excitement viability that are valid as well as overall anxiety score (Abolqasemi, 1383).

This questionnaire is self-report questionnaire tool, and any of the responses based on a multiple-choice test including "never," "rarely," "sometimes" or "often" reply to any of them. The options were scoring based on the values 1, 2, 3 and 4. Getting high score in this questionnaire is representing the high exam anxiety (spilberger, 1980). Cronbach's alpha coefficient of this questionnaire in a sample of male and female, was higher than 0.92 and retest coefficients after three weeks and a month have been reported as 0.80 (Bndalvs and Ytz, 1995). Spilberger *et al.*, (1980) for evaluation of questionnaire validation, used the criterion validity. They reported the correlation of scales of anxiety including mental fatigue & train and state by using MINESOUTA multiphasic questionnaire as 0.79, 0.81 respectfully.

In a study in Iran, (Abolghasemi *et al.*, 1383) on 120 high school students, the final level of internal consistency, split-half and test-retest (after 4 weeks) for this questionnaire obtained as 0.92, 0.92, 90% and total solidarity of the questionnaire and its components with the most test anxiety scales have been reported appropriate.

A correlation coefficient of this scale with subscales of the inhibitor ($r=0.40$) and facilitators ($r=0.67$), test anxiety and defined structures ($r=0.67$) obtained as significantly ($p < 0.01$) (Abolqasemi, 1383).

Cognitive - behavioral intervention training: Researcher conducted cognitive - behavioral intervention training, for 8 sessions and each session 60 minutes once a week as a group.

Each session was initiated with reviewing of assignments and following up their doing approach. Then next steps of treatment would be taught to students.

Summary of the Program was as Follow

Welcome and introduction of participants with researcher, conducting pre-test and familiarity with structure, rules, logic and aims of education (first session), the definitions of anxiety, test anxiety and its symptoms, its effects on educational performance and life and introducing Coping application techniques (second session), express the relationship between thoughts, emotions, behavior, logic and individual situations assess (third session), the introduction and training of relaxation (fourth session), training and planning activities distraction techniques (Fifth Session), identifying negative automatic thoughts and related techniques (sixth session), challenging negative automatic thoughts and learning self-talk with positive words (Session VII), learning how to study correctly and introducing its triple training plan and regulating contingent contract (eighth session).

During this period, did not exercise any training on control group. After the complete ending of training course an exam anxiety test was conducted on students in both groups (control and test). In this study, for describing statistical data, the calculating the intermediate average index and standard deviation distribution index and distribution indexes including (asymmetries and strain) was used and in order to analysis obtaining data, analysis of covariance MANCOVA was applied.

Research Article

RESULTS AND DISCUSSION

Findings

The study sample consisted of 38 students with exam anxiety that were randomly divided to two groups of control and experimental groups. In Table 1, the mean and standard deviation of groups scores in the pre-test and post-test of exam anxiety variable has provided.

Table 1: Descriptive indexes of the experimental and control group participants in the variable exam anxiety

Sig	k-s	elongation	skewness	Standard deviation	Average	Variables N	groups
200.0	086.0	665.-0	228.0	21.9	66.55	Pre-test15	experimental
200.0	178.0	-0/022	693.0	11.8	60.49	Post-test 15	
200.0	163.0	182.-1	355.0	04.10	46.58	pre-test15	control
200.0	161.0	294.-1	020.0	21.9	53.63	post-test 15	

Based on the table above, the different indexes of central tendency, variance and distribution of grades and test results of normality Kolmogorov - Smirnov showed that participants' scores distribution on all the variables are close to the normal distribution.

Table 2: The test results of effects among subjects (dependent variable: exam anxiety)

Sig	F	mean squares	Freedom degree	Total squares	Resources change
344.0	930.0	701.29	1	701.29	groups
001.0	988.60	600.1948	1	600.1948	Pre-test
184.0	859.1	394.59	1	394.59	Groups *pre-test error
		950.31	26	711.830	

As can be seen in Table 2, the probability of accepting the null hypothesis for comparing the performance of experimental and control groups in the pre-test anxiety variable is greater than 0.05 (sig= 0.184). Therefore, one can conclude that the hypothesis of homogeneity of regression slopes is confirmed.

Table 3: The test results of effects among subjects (dependent variable: exam anxiety)

Eta square	P	F	Mean squares	Freedom degree	Total squares	resource s change
680.0	001.0	307.57	229.1889	1	229.1889	Pre-test
206.0	013.0	017.7	341.231	1	341.231	groups errors
			967.32	27	105.890	

As Table 3 shows, the probability of accepting the null hypothesis for comparison test and control groups in pose-test exam anxiety variable is smaller than 0.05 (F=7.017, P<0.05).

In other words, after adjusting the pre-test scores, the factor between the two group's subjects has a meaningful effect. Therefore, it can be concluded that there is a significant difference in the post-test exam anxiety variables between performances of two groups' subjects.

Research Article

The last column of the table, as ITA square shows the indicate coefficient. It can be seen that 20.6 percent (0.206) of variance exam anxiety by the independent variable, as cognitive- behavioral interventions training is explained. Finally, according to the evidence collected in this study, we can conclude that in general, the cognitive - behavioral intervention training can reduce exam anxiety of students. The comparison of averages shows that the average of exam anxiety variable in the post-test in test group has been lower than the control group.

Discussion and Conclusion

The aim of this study was to determine the effectiveness of cognitive-behavioral interventions training method in reducing exam anxiety of teenage students. The study results showed that cognitive-behavioral intervention training was effective in reducing anxiety in adolescent students.

These findings suggest that cognitive- behavioral interventions training is an effective method to improve educational performance and proactive strategy to reduce exam anxiety of students and gives students the ability to control their anxiety and improve their academic performance.

The cognitive approach has emphasized on this assume that individuals in dealing with different situations, act based on their own interpretation and thought.

So changing of individual interpretation of an event can change individual's feeling and physiology to an event. The behavioral approach either the person learns that using relaxation techniques, deal with to stress events, and minimize own physiological stress.

Hence, the cognitive theorists, created a variety of techniques to increase the skills of the coping with, problem solving and improving and changing the way that customers understand and interpret their own around.

These findings are in line with the conclusion of (SAP, 1994; Lygr *et al.*, 2003) that the cognitive - behavioral therapy is significantly efficient to reducing exam anxiety and improving academic performance. In this study that was conducted in order to evaluating cognitive-behavioral intervention training method in reducing exam anxiety of high school students, the results showed that students who were trained in cognitive-behavioral intervention, compared to control group reduced and their self-esteem and self-efficacy increased. It also became evident that students with exam anxiety, pay attention to the mental preoccupation with worry and self-criticism and thus they pay less attention to their task-oriented efforts. Anxious Students have unrealistic negative thoughts; do not know her well deserving man, They fear of failure insensately, compare themselves with others, and in this comparison, prefer other capabilities to themselves and they get negative self-concept, and in totally they use negative self-speaking. Hence, it can be concluded that cognitive –behavioral intervention, positive self-evaluation and free of cognitive- distortion and subsequently increasing in individual performance in reducing exam anxiety is seemed as effective way.

These findings and the results of the Ezadi and Ashtiani (1389), Kennedy and Dvpk (1999), Sarvar (2002), and Davis and Lysakr (2005) is in one line and coordinated.

Since anxiety is neuroticism and mental illness that involves layer of the population, including young people and teenagers, can be said that while individual about his performance and capabilities in exam situation feel with anxiety and fear, this feeling decreases his performance. In other words, unreasonable expectations and more than students' ability can introduce anxiety in them.

Exorbitance expectations of parents, arid and non-flexible parenting, falls competition of students and pupils, their unsuccessful experience, exorbitance rigor and threats too, lack of preparation, anxious parents, comparisons, exorbitance blazoning some of the lessons, unsuitable remuneration, negative thinking, lack of concentration, lack of recognition of own abilities and such cases causes the individual focus on these factors instead of taking exam in own spotlight, and more than thinking about exam problems, try to think about accountability to parents and compensation of previous failures experience, subsequently he cannot regulate his leanings and suffer to anxiety and disquietude.

This study showed that there is a significant difference between performance of the two groups including test and control in the post-test of anxiety variable. Results of the data suggests that with implementation of 8 sessions of cognitive-behavioral intervention, student awareness and knowledge about their ability

Research Article

has increased and ways of coping with inferiority complex and low self-concept and self- bighead and changing attitudes and beliefs about their abilities, as well as education and training has increased and it has confirmed.

In this case Biabangard (1998) exposed to discussion that there is association between mental illustration and cognitive evaluation of individuals and their failure and success. It seems that the Optimists believe people achieve more success in their life and educations.

The results of the study of Britons (1988) on the effectiveness of methods of relaxation and positive self-talk on 42 students with test anxiety, showed that participants in the two treatment groups showed significant reduction in exam anxiety.

Therefore, a trend of cognitive changing including control of destructive thoughts along with the process of relaxation, systematic desensitization and group discussions, create a large improvement in reducing exam anxiety in students and consequently increasing their obtainable skills. Morris *et al.*, (1985), quoted from Sobhi (1385) also by their investigations, found that cognitive deal in reducing the cognitive components of test anxiety and stress are effective.

This cope help people so effectively to reduce mind preoccupation and anxiety-oriented and negative thoughts unrelated to duty. While a person is tested, positive feeling, optimistic and positive thinking can be cause of his success.

From this perspective, anxiety, is not leading to reduced performance and lower scores on a test directly but unrelated thoughts of anxiety is the main cause of this problem.

In this regard, the (Dadsetan, 1376) rightly has said that the using different strategies, not only reduce the problem of academic failure due to exam anxiety largely, but also at the macro level will be effective. Why so, students anxious today, will be our society parents tomorrow. Obviously, if we response to their screaming for help today, not only we have played our role faced to current generation but also we have taken some steps in the prevention of complications and transmission to future generations.

Overall, the results of this study indicate that the cognitive - behavioral intervention training method can reduce test anxiety in girl adolescents.

Therefore, this study discusses the need to pay more attention to anxiety topic and its impact on academic performance and consequently, remind the students' mental health; why so, if the anxiety continue and get severity, it will cause emotional and behavioral malformations for students, families and communities and wasting human and economic resource in educational sector.

Therefore, it is expected that administrators and education officials, parents, educators and counselors with thought consultation, empathy, cooperation and coordination of each other can reduce students' exam anxiety with rely on such research and executing intervention- oriented programs of cognitive-behavioral strategies training and provide their mental health and move in direction of preventing prevalence of disorder and chaos.

REFERENCES

Abolqasemi Abbas, Begay Parvin and Narimani Mohammad (1390). Examined the effectiveness of two methods of cognitive - behavioral training and emotion regulation skills on Self-efficacy and education compatibility of students with test anxiety. *Journal of Educational Psychology* 7(22) 21-42.

Abolqasemi Abbas, Mehrbizadeh Honarmand, Mahnaz Najjarian Bahman and Shekar Kan Hosain (1383). Efficacy of immunization training therapy method, against desensitization therapy and distress in students with exam anxiety. *Journal of Psychology* 8(1) 3-21.

Aclician's guide to assessment and treatment, *New York, NY: springer and Social psychology*, 47, 166-173.

Arizi Hamid Reza, Abedi Ahmad and Ahmadi Forushani Habibollah (1392). Meta-analysing the effectiveness of psychological intervention on test anxiety in Iran with Robin and Rosenthal. *The Journal of School Psychology* 2(1) 99-118.

Research Article

- Bandalos DL and Yates K (1995).** Effects of watch self - concept, perceived self - efficacy, and Attributions, attributions Failure and success on test anxiety. *Journal of Educational Psychology* **87** 611-623.
- Beh Pajouh, Ahmad Basharat, Mohammadali Banab, Fuladi Bagher and Fuladi Fatemeh (1388).** Effect of behavioral- cognitive strategies on reducing exam anxiety of girl high school students. *The Psychology and Educational Sciences Journal* **39** 3-21.
- Benson J (1989).** Structural components of statistical, Test anxiety in adults: An Experimental.
- Briton DV (1988).** *Effect of Relaxation and Positive Self Talking Intervention on Test Anxiety of Mathematics Athematics* (Texas: Southern University).
- Clark Deyvidim and Ferion Christopher (1999).** *The Knowledge and Application Approaches of Behavior Therapy*, translated by Hussein Kavyani (1381) (faars) Tehran.
- Dadsetan Parirokh (1376).** The evaluation and treatment of test anxiety. *Journal of Psychology* **1**(1) 31-60.
- Davis W and Lysaker L (2005).** Cognitive behavioral therapy an functional and met education, **57** 247-261.
- Guida FV and Ludlow LH (1989).** Across – cultural study of test anxiety. *Journal of Cross Cultural Psychology* **20**(2) 178-190.
- Izadifar Masoomeh and Ashtiani Mitra (1389).** The efficacy of cognitive-behavioral therapy techniques in reducing test anxiety and academic performance of students in Tehran. *The Journal of Behavioral Sciences* **4**(1) 23-27.
- Kennedy DV and Deopke KJ (1999).** *Multicomponent Treatment of Test Anxious* (Lawrence Erlbaum).
- Kennedy T and Wigfield A (2009).** *Test Anxiety: A Major Education Problem*.
- Liger A (2003).** Comparison of two measu of perfectionism, Pers individe DC: 14, 119-126.
- Mandler G and Sarason SG (1952).** A study Of anxiety and tearing. *Journal of Instructional Psychology* **21**(2) 161-171.
- Sarason IG (1980).** Introduction in the study of test anxiety. In: *Test Anxiety: Theory, Research, and Applications*, edited by Sarason IG (Hillsdale New Jersey: Lawrence Erlbaum) 3-14.
- Sarmad Zohreh, Bazargan Abbas and Hejazi Elahe (1386).** *Methods of Research in Behavioral Science*, first print (Tehran: Agah Publishments).
- Sarver V (2002).** State and trait anxiety revisited. *Anxiety Disorder* **15** 231-245.
- Schunk DH (1991).** Self – efficacy academic, Motivation Educational Psychology.
- Schwarzer R (1986).** *Self - related Cognitions in Anxiety and Motivation* (Hillsdale, N J: Sciences) **9** 1005 – 1008, *International Journal of Academic Research* **2**(6) 199-203.
- Spielberger CD (1995).** *Test Anxiety: Theory, Assessment and Treatment* (Taylor and Francis).
- Spielberqer CD (1980).** *Test Anxiety Inventor, Preliminary Professional Manual* (Patoatto cA: Consulting Psychology Press).
- Students test – anxiety levels and investigation of their causes, *Journal of Social and Behavioral*
- Sud A and Sharma S (1990).** Two short - term, cognitive interventions for the reduction of test anxiety. *Anxiety Research* **3** 131-147.
- Troyn GS (1980).** The measurement and treatment of test anxiety, Review of Educational
- Turner B (1993).** Test anxiety in African School Psychology Quarterly, **2**(1),140-152.
- Wine J (1971).** Test anxiety and direction psychological, Bulletin, **79** 72-104.