

# Effectiveness Of Cognitive Restructuring And Positive Reinforcement Techniques In The Reduction Of Test Anxiety Among Public Secondary School Students In Benin City, Nigeria

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## ABSTRACT

This study examined the effectiveness of Cognitive Restructuring and Positive Reinforcement techniques in the reduction of test anxiety among public secondary school students in Benin city, Nigeria. The pre-test post-test, control group quasi experimental design was used for the study. A sample of 354 intact class students from three purposively selected public secondary schools in Benin city participated in the study. The two treatment groups (experimental groups 1 and 2) were exposed to eight weeks treatment in Cognitive Restructuring and Positive Reinforcement respectively, while participants in the control group received drug abuse education as placebo treatment. The instrument used for collection of data was the Test Anxiety Inventory (TAI). Results revealed that Cognitive Restructuring technique and positive reinforcement technique are effective in the reduction of test anxiety scores among secondary school student It was recommended that the school counsellors and school psychologists can use Cognitive restructuring and Positive reinforcement techniques to manage test anxiety behaviours.

**Keywords:** Cognitive Restructuring Technique, Positive Reinforcement Technique, Secondary School Students, Test Anxiety, School Success

## Introduction

Test anxiety is a psychological condition in which people experience extreme distress and anxiety in testing situations (Okolo & Kolawole

2021). It is a condition in which people experience extreme anxiety and discomfort before, during and after taking a test. This form of anxiety may stem from an ego threat that

includes fear of judgment surrounding poor performance and the subsequent threat to self-esteem. Test anxiety has also been defined as the emotional, physiological and behavioural responses surrounding the potential consequences of negative evaluation on an upcoming test or examination.

Lowe (2008) had noted that biopsychosocial factors including biological (for example, physiological arousal), psychological (for example, emotional or cognitive factors and social i.e., parent pressure), contribute to development of test anxiety which interfere with thoughts, feelings, or off-task behaviours in testing situations. Consequently, Cizek and Burg (2006) stated that, when a test anxious student perceives a test to be threatening and performs less optimally, that student's maladaptive cognitions are reinforced and test anxiety increases. It has been estimated that between 10% and 40% of all students suffer from various levels of test anxiety (Graham, 2005). Test anxiety has been reported to onset as early as age 7 and has become a disruptive factor in students' academic career. Students with high levels of test anxiety perform lower on tests and have lower overall academic achievement as measured by grade point averages (Segool, et al, 2013). Individuals with test anxiety are excessively concerned with embarrassment or consequences of poor performance thus seeking to avoid performance or evaluative situations or endure those situations with intense distress. Test anxiety which is a subtype of anxiety disorder is a problem affecting many school children.

Test anxiety interventions have generally consisted of either antecedent interventions or anxiety reduction interventions. Accommodations and modifications to the testing method, such as team testing and portfolio assessments, have been offered as alternative designed to reduce/avoid test anxiety (Hurre, Rutledge, & Garven, 2006). Test anxiety

intervention research has primarily examined the effects of cognitive behaviour techniques i.e., cognitive restructuring, positive reinforcement, relaxation, mindfulness, exposure, role playing, imagery, and skill building interventions to reduce test anxiety and improve test performance (Graham, 2005).

Since test taking is done at all level of education, test anxiety can be experienced at any age through the school level from primary school, secondary school to higher education (Segool, et al, 2013). Test anxiety can arise from assessment-related interpersonal and intrapersonal factors. Some of the intrapersonal factors are a person's characteristics and intrinsic attitudes to test taking undertaking. These can depend on the way in which an individual thinks. Anxiety in most case can be debilitating to students' performance in test (Chamberlain, Daly & Spalding, 2011). Excessive anxiety can interfere with executive cognitive processes (making students to forget content and also 'going blank when taking test), and occupy working memory resources and divert attention away from the task at hand (Arnsten, Mazure, & Sinha, 2012; Cassady, 2004; Derakshan & Eysenck, 2009; Owens, et al, 2014; Owens et al., 2008). Academic success can be reduced by students' who are unable to display proficiency in testing situations due to test anxiety (Kayode & Sheu, 2021).

#### Cognitive Restructuring Technique and Test Anxiety

Cognitive restructuring is an approach to the treatment of abnormal behaviour that help individuals behave more adaptively by modifying their thoughts. Its emphasis is on the effect of thought on behaviour and behaviour change techniques. Cognitive – behaviour approach has been successfully used to teach clients how to cope with stressors such as test anxiety; and anxiety during flying. One of the basic tenets of cognitive restructuring is that people suffer from anxiety and depression

because of a performed negative assessment of themselves, attributable to prolonged mental trauma, social aloofness and low self esteem. Cognitive restructuring technique encourages clients to identify dysfunctional thoughts and beliefs relating to their problems and to challenge the validity of these thoughts in order to produce and use more adaptive alternatives.

Cognitive Restructuring has been used successfully to treat a wide variety of conditions, including depression, post-traumatic stress disorder (PTSD), addictions, anxiety, social phobias, relationship issues, and stress. According to Marshal and Barbare (1990 as cited in Aderanti, 2006), cognitive factors play well documented role in anti-social behaviours and conduct disorder, just as they do with anxiety and depression. The study by Weems, et al (2009) on reduction of test anxiety among 13-16 years old among grade nine students of New Orleans public schools in the United States revealed that students reported less test anxiety, less post traumatic stress disorder symptoms, and higher pre-post treatment as follows: total. Furthermore, Yahav and Cohen (2008) carried out a study on reduction of test anxiety among 14-16 years old grade nine students in two major schools in a large city in Israel. It was found that Jewish and Arab groups experienced decreases in some variables in comparison to the no-treatment group. Arab students experience more benefits than Jewish. Anidobi-Sota (2012, as cited in Owens- Sogolo, 2021) worked on effectiveness of cognitive restructuring and relaxation exercise therapies in reducing anxiety and fear of stigmatization towards voluntary HIV counselling and testing. The study showed CRT to be effective in managing or reducing social anxiety in adults who stutter, but not in managing or reducing stuttering frequency.

Asikhia (2014) carried out a study on the effect of cognitive restructuring in the reduction of mathematics anxiety among senior secondary school students in Nigeria. The study

revealed a significant effect of treatment (cognitive restructuring training) on subject level anxiety in mathematics. Cognitive restructuring was found to be more effective than the control group. The study also revealed that gender affected students' anxiety in mathematics significantly with male students having more reduction in mathematics anxiety than female students. It was found that study habit did not affect students' anxiety in mathematics significantly.

Siev and Chambless (1999) contrasted the effects of CBT and relaxation training for parents with panic disorder without severe agoraphobia. Results of these studies showed the superiority of CBT on a range of outcomes. The percentage of patients who no longer experienced the panic attacks after treatment was significantly higher with CBT (77%) than with relaxation training (53%). Similar between-group differences in rates of clinically significant change (72% vs 50%) were observed. Drop-out rates (12% and 14% for CBT and relaxation treatments, respectively) were comparable between the treatments. Notably, compared with patients undergoing relaxation training, those receiving CBT were less afraid of anxiety and endorsed significantly less catastrophic cognition at post treatment.

Sheu (2022) investigated the effect of cognitive restructuring and testwiseness training on test anxiety among newly admitted undergraduate students of Federal University Gusau, Zamfara State, Nigeria. The findings of the study revealed that there was a significant effect of Cognitive Restructuring Technique (CRT) on test anxiety among newly admitted undergraduate students in Federal University Gusau, Zamfara State, Nigeria. Based on the findings of the study, it was concluded that Cognitive Restructuring Technique (CRT) was effective in the reduction of the test anxiety among newly admitted undergraduate students exposed to the treatments. Owens- Sogolo

(2021) examined the effectiveness of Cognitive Restructuring Technique in the reduction of test anxiety among secondary school students in Benin metropolis of Edo state. The students were assigned to one treatment group and a placebo control group. The instrument used for collection of data was the Test Anxiety Inventory (TAI). The study revealed that Cognitive Restructuring Technique is effective in the reduction of test anxiety scores among secondary school students in Benin metropolis of Edo state.

Anyamene and Ogugua (2019) carried out a study on the effect of cognitive restructuring on junior secondary school mathematics test anxiety in Oshimili south Delta State, Nigeria. The Quasi-experimental research design was adopted for this study. The instrument adopted for this study was Maths anxiety rating scale-R. Results obtained from the study indicated that cognitive restructuring therapy (CRT) was effective on mathematics test anxiety of junior secondary school students. The results equally showed that cognitive restructuring therapy was more effective on the female students' mathematics anxiety than their male counterparts. Furthermore, the results indicated a significant difference in the post-test mathematics test anxiety mean scores of students treated with CRT and those in the control group. Also, there was significant difference in the post-test mathematics test anxiety mean scores of male and female students treated with CRT. Uyigue (2016) carried out a study on the Effectiveness of two cognitive behavioral therapies in the management of adolescents with anxiety disorders in Benin metropolis. From the result of the study, it was reported that cognitive restructuring was effective in managing adolescents with anxiety disorders in secondary schools.

Similarly, Ghamari, Rafeie and Iani (2015) researched on effectiveness of cognitive restructuring and proper study skills in the

reduction of test anxiety symptoms among students in Khalkhal, Iran in order 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 method used for the study was quasi-experimental (pretest, posttest and control group). The participants included 300 third grade of high school in Khalkhal city that were 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. Positive Reinforcement Technique and Test Anxiety

Positive reinforcement is a technique of cognitive behavioural therapy used by psychotherapist to modify behaviour by reinforcing the desired behaviour. Positive reinforcement is a method of behaviour modification and a component of operant conditioning theory of behaviourism.

A study by Moore Partin, et al (2010) determined that the delivery of praise as Positive Reinforcement for students' appropriate behaviours can lead to a decrease in students' inappropriate behaviours, as well as an increase in their appropriate behaviours. This study also found that students were given

more opportunities to correctly respond to academic demands due to fewer distractions in the classroom. Larson, et al (2010) carried out study on reduction of anxiety before and during test taking among 8-10 years old third grade students in Midwestern United States. It was found that treated students in two groups reported less test anxiety from pre and posttest, but there was no difference in test anxiety between control and experimental group at post treatment.

Alam and Alay (2018) carried out a study to investigate the effects of positive reinforcement on students' academic performance. Using the experimental study design. A sample of 50 subjects (20 female & 30 male) was selected having the same socioeconomic background with no cultural differences. All of the subjects were taken from a government school their age ranges from 9 to 11 years having mean age of 9.8. They were all 4th and 5th graders. It was hypothesized that positively reinforced students will score higher on recalling non sense syllables through free recall test. the hypothesis and a significant difference was found between the scores of experimental and control groups with a mean of 0.5 for both experimental and control groups and value of "t" was 2.50 significant at 0.5 level. The findings of the study revealed that positive reinforcement affects students' academic performance.

Ern, et al (2019) studied the effect of positive and negative reinforcement on stress, anxiety, confidence, mood and short-term memory among medical students. Sixty (60) participants were randomly assigned into two groups, out of which 30 were assigned into the positive reinforcement group and the other 30 into the negative reinforcement group. Findings revealed that score was significantly higher, in the negative reinforcement group and significantly lower in the positive reinforcement group, with a mean of 6.5 and 4.6, respectively.

All other variables also showed an increase following negative reinforcement but was not significant. However, all the variables showed a significant change following positive reinforcement, with the highest change seen in mood with a score of 7.0. In conclusion, positive reinforcement has reduced the stress and anxiety level, increased the confidence level and improved the mood significantly, whereas, negative reinforcement has increased the stress level and anxiety, and had no significant changes in mood and confidence.

Kaushal and Martins-Ezeifeaku (2022) in their work, the effect of positive and Negative reinforcement in an induced stress response in university students. They found out that positive reinforcement increases typing performance while decreasing systolic blood pressure (SBP).

#### Rationale for the Study

On all accounts, test anxiety is a problem. The highly anxious suffer psychologically while preparing for and taking tests and often afterwards as a function of their inferior performance. For many people, tests and evaluation are recurrent life stressors. Test anxiety can function to lower self esteem and seriously affect educational and vocational developments. Therefore, the devastating effects of test anxiety led to the concern and interest of the researcher to investigate the effectiveness of cognitive restructuring and positive reinforcement in the reduction of test anxiety among secondary school students in Benin metropolis of Edo State.

In view of this the researchers therefore postulated the following hypotheses

- i. There is no significant effect of cognitive restructuring technique in the reduction of test anxiety scores of secondary school students in Benin metropolis of Edo State.
- ii. There is no significant effect of Positive reinforcement technique on the reduction of test anxiety scores of

- secondary school student in Benin metropolis of Edo state.
- iii. There is no significant difference in the effect of the two techniques (Cognitive restructuring and Positive reinforcement) on the test anxiety scores of secondary school students in Benin metropolis of Edo state.

## Methods

### Design

The quasi-experimental research design was used for the study. The researcher used the non-randomized pre-test post-test control group design. There were three intact groups in the design (two experimental groups and one control group). Each group received different treatment. The three groups are: Cognitive Restructuring, Positive reinforcement and Placebo-control group.

### Participants

The participants for the study were achieved through the administration of a pre-test of the Test Anxiety Inventory Scale (TAI) on the SSII students across the three local government area that make up Benin city, Nigeria. The One hundred and thirty-two (132) students who scored 51 and above on TAI constituted the sample for the study.

### Measures

The Test Anxiety Inventory Scale (TAI) used in this study was originally developed by Spielberger (1980). TAI is a self-report instrument consisting of 20 items, which is specially designed to measure the test anxiety of high school and college students. It is divided into two sections. Section 'A' has four items which covered demographics information such as age, sex, class, and name of school, while section 'B' contains three subscales: Test anxiety Total (TAI-T), Test Anxiety Worry

(TAI-W) and Test Anxiety Emotionality (TAI-E). Eight items of Test Anxiety Inventory measure the TAI-W (items 1-8); eight items measure TAI-E (items 9-16) and the remaining four for measuring TAI-T (items 17-20). Test Anxiety Inventory is a 4-point Likert type scale and the students have to respond to the four options: Almost Never =1, Sometimes =2, Often =3 and Almost Always =4. The alpha reliability co-efficient of TAI originally established to be 0.66 to 0.81 with individual student as unit of analysis and from 0.67 to 0.88 with class limit as unit of analysis (Spielberger 1980). However, the reliability of TAI for this study was determined with Cronbach Alpha of 0.76.

### Procedure

The current researchers approached the Ministry of Education to seek for approval which was granted and a letter issued by the ministry to the researchers to take to each schools chosen. Upon arrival at the schools, the principals were met and the purpose of the research explained to them and permission was granted. Days were fixed for the initial interactions with the SS2 students. On the day of interaction, the students were briefed and informed that those not interested in the study may live. Each of them was then giving the TAI to fill which was collected at the end of the day. A new contact date was scheduled. On the second contact, results of the TAI were ready and those who scored 51 and above on the TAI were asked to remain while the rest were thanked and asked to leave. The consent forms were thereafter shared to those left and they were also informed that at any point they wish to discontinue with the research they are free.

This process happened in all the three schools chosen at the end the first school which was designated Experimental group 1 (cognitive restructuring) had 40 students who scored above 51 on the TAI. The second school, experimental

group 2 (Positive reinforcement treatment) had 49 and the third School, experimental group 3 (Control group) had 43. Each treatment group receive treatments for a period of 8 weeks. At the end of the 8 weeks, only 39 students completed Cognitive Restructuring treatment sessions out of the 40 test anxious students. Positive Reinforcement treatment sessions were completed by 47 out of the 49 test anxious students while 42 students completed the Placebo therapy out of the 43. The number of students that dropped out of the entire experiment was 4. A post-test using the test anxiety inventory (TAI) was re-administered on all the 3 groups.

## Results

The Results are presented in Three Categories, which are as follows:

### 1. Cognitive Restructuring Technique and Reduction of Test Anxiety Scores

Results of the hypothesis which states that there is no significant effect of Cognitive Restructuring technique in the reduction of test Anxiety scores of secondary school students in Benin metropolis of Edo State was tested using the paired sample t-test. Results are presented on table 1.

**Table 1:** Paired Sample t- test of Cognitive Restructuring on the Reduction of Test Anxiety.

Test	N	Mean	Std. Dev.	T	Sig.(2-tailed)
Pre	39	54.62	2.92		
Post	39	30.85	4.71	25.567	.000

Table 1 shows a calculated t value of 25.567 and a p value of .000. Testing at an alpha level of .05, the p value is less than the alpha level. So, the null hypothesis which states that “there is no significant effect of cognitive restructuring technique on the reduction of test anxiety scores of secondary school students in Benin Metropolis of Edo state” is rejected. Consequently, there is a significant effect of Cognitive Restructuring technique in the reduction of test anxiety scores of secondary school students in Benin metropolis of Edo state.

### 2. Positive Reinforcement Technique and Reduction of Test Anxiety Scores

Results of the second hypothesis which states that there is no significant effect of Positive Reinforcement technique on the reduction of test anxiety scores of secondary school students in Benin metropolis of Edo state reveals that there was a significant effect of positive reinforcement in the reduction of test anxiety among participants. Results are presented on table 2

**Table 2:** Paired Sample –t- Test of Positive Reinforcement on the Reduction of Test Anxiety.

Test Mean	N	Mean	Std. Dev.	T	Sig.(2-tailed)
Pre	47	57.21	5.50		
Post	47	32.40	5.31	26.372	.000

Table 2 shows a calculated t value of 26.372 and a p value of .000.

### 3. Cognitive Restructuring and Positive Reinforcement Techniques and Reduction of Test Anxiety Scores

The hypothesis which states that there is no significant difference in the effect of the

techniques (Cognitive Restructuring and Positive Reinforcement) on the test anxiety scores of secondary school students in Benin metropolis of Edo state was tested using ANCOVA. Results are presented on table 3.

**Table 3:** ANCOVA of Techniques on Test Anxiety Reduction Scores at Post-test.

Source	Type III Sum of Square	Df	Mean Square	F	Sig.
Corrected Model	8439.255	3	2813.085	90.518	.000
Intercept	668.285	1	668.285	21.504	.000
Pretest	32.396	1	32.396	1.042	.309
Group	7794.804	2	3897.402	125.409	.000
Error	3853.620	124	31.078		
Total	190796.000	128			
Corrected Total	12292.875	127			

R Squared = .687 (Adjusted R Squared = .679)

**Table 3** shows an F value of 125.409, and a P value of .000, testing at an alpha level of .05, the P value is less than the alpha showing a significant difference in the effect of the techniques and control on the test anxiety scores

of secondary school students in Benin metropolis of Edo State. To ascertain the direction of the difference, a pairwise multiple comparison was further carried out. This is shown in Table 4:

**Table 4:** LSD Pairwise Multiple Comparisons of Cognitive Restructuring, Positive Reinforcement and Control on Test Anxiety Reduction.

(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.
Positive Reinforcement	Cognitive Restructuring	1.249	1.245	.318
	Control	-16.415*	1.187	.000
Cognitive Restructuring	Positive Reinforcement	-1.249	1.245	.318
	Control	-17.665*	1.298	.000
Control	Positive Reinforcement	16.415*	1.187	.000
	Cognitive Restructuring	17.665*	1.298	.000

Table 4 shows the comparisons between cognitive restructuring and positive reinforcement with a mean difference of -1.249 and a p value of .318, showing therefore no significant difference between Cognitive Restructuring and Positive Reinforcement in test anxiety reduction. Cognitive restructuring technique was slightly more effective than

Positive reinforcement technique on the reduction of test anxiety but the difference between the two techniques in their effectiveness on test anxiety reduction was quite insignificant. No one of the techniques can be said to be more superior to the other. So, the null hypothesis which state that "there is no significant difference in the effect of the



techniques (Cognitive restructuring and positive reinforcement) on the test anxiety score of secondary school students in Benin metropolis of Edo State” is retained. Consequently, there is no significant difference in the effect of the techniques (Cognitive restructuring and Positive reinforcement) on the test anxiety scores of secondary school students in Benin metropolis of Edo State.

### **Discussion**

Findings showed that treatment with Cognitive Restructuring technique had significant effect in reducing test anxiety scores of secondary school students. The reason for the reduction of students test anxiety scores could be as a result of the students’ acquisition of restructuring skills. Students were taught the negative effect of maladaptive thought that led to test anxiety and the positive effects of developing positive thought to get out of the anxiety using the “ABC model of events” They were also taught how to monitor events, thoughts and feelings, so that they can focus on challenging maladaptive thoughts that could lead to test anxiety and developing positive thought to get out of the anxiety. Students were asked to develop their dysfunctional thought record. They were further taught how to manage their morale and responses to dysfunctional thinking and behavioural assignment. These were of great benefit to students in Cognitive Restructuring technique experimental group, while the control was not. This finding was in support of that of Sheu (2022), which states that cognitive restructuring technique was effective in the reduction of text anxiety among newly addicted undergraduates students exposed to the treatments.

Similarly, Asikhia (2014) confirmed that Cognitive Restructuring was effective on the reduction of mathematics anxiety among senior secondary school students in Nigeria. The findings of this study support the findings of

Butler, et al (2006), Ishikawa, et al (2004) that Cognitive Restructuring technique is the most efficacious intervention for anxiety in adolescents and the goal of therapy is to help client develop a more positive outlook and the maintenance of positive cognition by restructuring the irrational thoughts and belief they hold. Also, Anyamene and Ogugua (2019) findings of effectiveness of cognitive restructuring therapy on students’ mathematics anxiety corroborate findings from this study.

The findings of this study also confirm the view of Beck (2006) that Cognitive restructuring technique is a psychotherapeutic approach that addresses dysfunctional emotions, maladaptive behaviours, cognitive processes and contents through a number of goal oriented, explicit systematic procedures. Therapists use Cognitive Restructuring technique to help individuals challenge their patterns of beliefs and replace “errors in thinking such as over generalizing, magnifying negatives, minimizing positives and catastrophizing “with” more realistic and effective thoughts, thus decreasing emotional distress and self-defeating behaviour. Treatment with Positive Reinforcement technique had significant effect in reducing test anxiety scores of secondary school students when compared with control group. The reason for the significant effect of treatment technique could be as a result of the students’ eagerness for tangible Positive reward. Students were taught the concept of Positive Reinforcement and how Positive Reinforcement works. Students were also taught on how to read to learn and how to read to remember. Furthermore, students learnt how to prepare for tests week and how memory works. Positive reinforcement was administered contingent to the exhibition of desirable behaviour.

Results from this study supported the findings of Moore Partin et al (2010) which revealed that praise as positive reinforcement for students’ appropriate behavior leads to decrease

in text anxiety. Also, Alam and Alay (2019) findings that positive reinforcement affects academic performance lay support for this finding. This study also finds support from the work of Ern et al (2019) in their findings which showed significant change in their investigated variables (Stress level, anxiety etc), following positive reinforcement. Of great support to this study is the finding of Kaushal and Martins-Ezeifeaku (2022) whose study found that positive reinforcement increases typing performance while decreasing systolic blood pressure (SBP) among respondents.

The findings of this study support the findings of Bradely, et al (2007) that Positive reinforcement technique is effective in the reduction of test anxiety. The findings of this study also confirm the findings of Carter, et al (2005) that decreased test anxiety was facilitated by using Positive Reinforcement techniques. Similarly, Wood, Wood and Boyd (2005) stated that Positive Reinforcement is any pleasant or desirable consequences that follow a response and increases the possibility that the response will be repeated. The reward must stimulate the person to produce the desired behaviour to be positive reinforcement.

Findings from the study also revealed that treatment with Cognitive Restructuring and Positive Reinforcement techniques had significant effects in the reduction of test anxiety scores of secondary school students. Comparison between Cognitive restructuring and Positive reinforcement techniques showed no significant difference in the effect of the techniques in the reduction of test anxiety scores of secondary school students. The reason for the lack of significance difference in the effectiveness of the techniques in the reduction of test anxiety of secondary school students in Benin metropolis could be as a result of the students' acquisition of cognitive restructuring skills and students' eagerness for positive

reward. Moreover, students learnt test preparation skills in positive reinforcement.

### **Conclusion**

Based on the findings of this study, the following conclusions were drawn: Cognitive restructuring and Positive reinforcement techniques are effective in the reduction of test anxiety scores of secondary school students in Benin metropolis of Edo state. Thus, test anxiety scores can be effectively reduced using Cognitive restructuring and Positive reinforcement techniques thereby modifying test anxiety behaviours.

### **Recommendations**

The findings of this study have confirmed that Cognitive restructuring and Positive reinforcement techniques are potent techniques for the effective reduction of test anxiety scores among secondary school students. Therefore, the findings of this study should be used as empirical basis for the choice of cognitive restructuring and positive reinforcement techniques as appropriate treatment techniques for modifying test anxious behaviour of secondary school students. In that wise, counsellors are hereby implored to use Cognitive restructuring and Positive reinforcement techniques to manage test anxiety behaviours in schools.

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