



Effect of Cognitive Restructuring Counselling Technique on Test Anxiety among Students of Colleges of Education in Kaduna State, Nigeria

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ABSTRACT

The theme of this paper is the effect of the Cognitive Restructuring Counselling Technique on test anxiety among students of Colleges of Education in Kaduna State, Nigeria. The study outlines three objectives and three corresponding hypotheses. A quasiexperimental design, utilizing a pre-test and post-test format, was adopted. The population of the study included all first-year students (NCE I) exhibiting symptoms of test anxiety from two Colleges of Education in Kaduna State during the 2022/2023 academic session. This consisted of 444 students from FCE Zaria (FCEZ) and 235 students from KSCOE, totaling 679 students. A sample of 60 students was purposively selected for the treatment. Two instruments were used in the study: the "Test Anxiety Checklist," which identified students with symptoms of test anxiety, and the "Test Anxiety" Instrument," which was used to gather pre-test and post-test scores from the participants. The content validity of the instruments was verified by experts in educational psychology and counselling from the Faculty of Education at Bayero University Kano (BUK). The reliability index of the test was reported as 0.825, indicating a high correlation coefficient. The study found that the Cognitive Restructuring Counselling Technique was significantly effective in managing the physiological, cognitive, and emotional dimensions of test anxiety among College of Education students. The paper concludes that this counselling intervention successfully reduced these symptoms. It recommends that the government, through the Ministry of Education (MOE) and non-governmental organizations, establish functional guidance and counseling units in all tertiary institutions in Nigeria. Additionally, college management, examination committees, and school counselling units should enhance orientation programs for first-year students (NCE I) on test-taking skills and methods, which would help reduce test anxiety and improve academic performance during school-based assessments.

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INTRODUCTION

It is undeniable fact that, everywhere around the world, students, irrespective of the level, face challenge of coping with tests. This is because, test results are used to make important decisions about an individual who takes it and hence, raises some form of anxiety among the

students. Test anxiety is the feeling of uneasiness or apprehension by students before, during, or after a test simply because of worry or fear. It must be pointed out that, test anxiety affects people of all ages who have to be evaluated, assessed, and graded on their abilities or achievements. Test anxiety therefore,

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is an important factor in all levels of education consisting of the primary, secondary and tertiary level.

What prompted the study was the observation made on the conduct of NCE students in the Colleges of Education in Kaduna State; particularly when it comes to C.A test and semester examinations. It was discovered that the period is attached with high emotional instability and it seriously lead to negative symptoms which ultimately affect performance. This unpleasant condition exhibited by the students had significantly differed from normal behaviours displayed during normal classroom lectures; that is why it had become a source of concern to psychologists, counsellors and teachers.

Zeidner (2005) stated that early conceptions viewed test anxiety as a unidimensional construct; but recent researches indicated that test anxiety is multi-dimensional in nature. The symptom of test anxiety manifest in different dimensions ranging from physiological, cognitive and emotional. The symptoms manifest in students through physiological dimension include sweating, headache, stomach upset, handshake and heartbeat, while the symptoms manifest through cognitive dimension include forgetfulness, feeling of uncertainty and unsatisfactory score; as well as irrational thinking. The symptoms manifest in students through emotional dimension include fear, lack of concentration, making careless mistakes, loss of comfort and constant time checking respectively.

Despite the efforts made by the colleges in collaboration with Guidance and Counselling Units; Students' Associations like the Muslim Students Society of Nigeria (MSSN); Christian Fellowship and Students Representative Council (SRC) in making orientations readily available every year to the newly admitted students; the problem still persist.

In view of the prevailing condition of the test anxiety among students of Colleges of Education in Kaduna State, it is hoped that, exploring therapeutic intervention may lead to possible adjustment of test anxiety among NCEI students which is highly precious. It is hope that,

after exposing these students-teachers who are most often overwhelmed with test anxiety with various treatments packages it will curb unnecessary display of anxiety during school based testing as well as learning new strategies toward early management of the test anxiety among upcoming students who are right now at lower school levels.

The technique used management of test anxiety is Cognitive Restructuring Counselling Technique (CR). This technique refers to the process of replacing cognitive distortions with thoughts that are more accurate and useful. It is goal is to change pattern of students thinking and behaviour; and it is expected to help students identify causes for poor cognition, distortion in thinking that lead to anxiety during test administration; and shaped those negative thoughts toward exploring and adopting positive ones on school based testing. Beck in Szentagotai (2005) stated that the basic tenets of cognitive restructuring are: Identify Maladaptive thinking; Modify Maladaptive thinking; and Assimilate adaptive thinking.

Statement of the Problem

The major problem students faced with school's based testing is that it frequently caused "Anxiety" this feeling of anxiety lead to psychological imbalance and incapacitates some students to perform well in almost every school's tests. Test anxiety disorder lead to procrastination, failure and underachievement among students of tertiary institutions.

The researcher made an observation on the conduct of NCE students during regular lectures, continuous assessment test and examination period. It was noticed that the students were seen to be physically, mentally and emotionally stable while taking their regular lectures but as soon as the continuous assessments test commence and examination approaches, or examination time table was pasted, one would notice a drastic change in their normal mood. They continued to experience feelings of tension and anxiety before, during and after the testing period. This anxiety disorder has significantly become a source of worry to many





students and due to this intense fear some become psychologically devastated and emotionally imbalance to the extent that some felt sick; some abscond the scheduled tests and the rest that take it, do it with displeasure.

The most concern group are the fresher students (NCEI) who their extreme exhibition of test anxiety was information conceived that, students in the first year of study who had scored less than 1point and happened to be on probation list will be automatically withdrawn from the college; unfamiliarity with the new college environment; uncertainty on the mode of testing in the new college environment; experience just had from tests written that is associated with feelings of high stake anxiety (WEAC/NECO & JAMB); poor study skills and test-taking skills, parental expectations and other consequences of poor performance. The aforementioned factors might be the cause of severe anxiety among NCEI students; it is also assumed to be the reason for the cause of high failure among this group of students when compared to others at different levels of study.

Objectives of the Study

The objectives were set to find out the:

- 1. Effect of Cognitive Restructuring Counselling Technique on Physiological Dimension of Test Anxiety among Students Colleges of Education in Kaduna State, Nigeria
- 2. Effect of Cognitive Restructuring Counselling Technique on Cognitive Dimension of Test Anxiety among Students of Colleges of Education in Kaduna State, Nigeria
- 3. Effect of Cognitive Restructuring Counselling Technique on Emotional Dimension of Test Anxiety among Students of Colleges of Education in Kaduna State, Nigeria

Hypotheses

 There is no significant difference between the pre-test and post-test mean score of Physiological Dimension of Test Anxiety among Students of Colleges of Education in Kaduna State-Nigeria exposed to Cognitive Restructuring Counselling Technique.

- There is no significant difference between the pre-test and post-test mean score of Cognitive Dimension of Test Anxiety among Students of Colleges of Education in Kaduna State-Nigeria exposed to Cognitive Restructuring Counselling Technique.
- There is no significant difference between the pre-test and post-test mean score of Emotional Dimension of Test Anxiety among Students of Colleges of Education in Kaduna State-Nigeria exposed to Cognitive Restructuring Counselling Technique.

LITERATURE REVIEW Test Anxiety

Anxiety has been described as the emotional state in which people feel uneasy, apprehensive, or fearful. People usually experience anxiety about events they cannot control or predict, or about events that seem threatening or dangerous. Test anxiety is therefore a state in which students feel uneasy, and apprehensive or fearful because of the uncertainty on the outcomes of a test, they are subjected to write. If at any stage in an evaluation we feel unprepared, unsure of our ability, or we have not performed to our best, we experience feelings of unease, apprehension, distress or depression. Ergene (2003) defined concept of "test anxiety" as a scientific construct, referring to the set of phenomenological. physiological, behavioural responses that accompany concern about possible negative consequences or failure at an examination or at a similar evaluative situation. Test anxiety has been considered to include physiological over-arousal, often referred to as "emotionality," along with dread, worry, and expectations of terrible failure (Ergene, 2003). Test anxiety is an issue of concern in counseling this can be seen by its growing volume of literatures. In explaining the need to study test anxiety, researchers argued that we live in a test-conscious, test-giving cultured society in which the lives of people are in part determined by their test performance. Test anxiety is frequently cited among other important factors at play in determining a wide array of





unfavorable outcomes for students; these factors include poor cognitive performance, scholastic underachievement, psychological distress, and ill health (Zeidner, 2004).

Effect of Test Anxiety on Test Performance:

Worry consists of the cognitive symptoms, while emotionality consists of physiological symptoms. Test anxiety has been shown to have a consistently negative relationship with test performance, and test-anxious students are found to perform about 12 percentile points below their non-anxious peers (Wikipedia, 2011). It is common to see students sweating while in examination halls or looking stunned after preparing for the examination for days, months or even years. With test anxiety, feelings of worries, fears and self-doubt can interfere with the effective evaluation of students' performances. The lack of adequate preparation for tests often cause test anxiety, while on the other hand the intensity of test anxiety may also lead to students' un-preparedness before examination, which may further aggravate the test anxiety symptoms. A learning deficit model suggests that high anxious students have ineffective study habits which lead to deficiency in test preparations, such that these students exhibit less task involvement despite describing themselves as spending more time studying than the lower anxious students. Such high anxious students appear to sabotage their own study efforts through procrastination and other selfdefeating strategies. They worry about their possible performance, speculating about how well others are doing and wonder if they are falling behind, all to the neglect of the task at hand of adequately preparing for the test. However, the anxiety that urgently requires intervention is the type whose symptoms appear regardless of the students 'preparation or knowledge of the subject matter (Hall-Flavin, 2011). A student who also became tensed up before an exam gave a life account of what test anxiety could do in the following words:

"When I went to the rest room to pee before the test started, I could hear a woman crying in the stall next to me. On the side, another was

vomiting. I suddenly understood how scary and nerve-wrecking testing can be" (Wright, 2002).

Dimensions of Test Anxiety

According to Kendra (2012) the following are the dimensions of test anxiety:-physiological, cognitive and emotional dimensions. Each dimension has various sign/symptoms.

Physiological Dimension: These include the following: Headaches; Blurred vision; Chest pains; Nausea; Dry mouth; Cramps; Sweating; Tensed muscles; Perspiration and physical fatigue; Frequent use of toilet; Hands Body/Legs shaking; Faintness/Fainting; Agitation; Lightheaded; Flushed face; Lump in the throat; Racing/Thumping heart; Diarrhea; Hyperventilation; Breathing difficulties; Stomach churning; Neck & overall tension; Sounds amplified; Muscle spasms; Panic attacks; and Blushing.

Cognitive Dimension: "going blank" or "freezing," confusion and poor organization; Feeling alone/Lost within oneself; Obsessive thoughts; Short term memory loss; Inability to concentrate leads to impaired performance in examination. Fidgeting during or outright avoidance of the tests. Students often report "blanking out" even though they have studied sufficiently for the test.

Emotional Dimension: These include the following: Feelings of bewilderment; Going mad; Loss of confidence; Concentration difficulty; Disintegration/Depersonalization; Feelings of guilt; Sorrow; Disgrace; What is the point; Fear of the unknown; Compulsive actions; Overwhelmed by sadness.

Cognitive Restructuring Counselling Technique (CRCT)

Cognitive restructuring refers to the process of replacing cognitive distortions with thoughts that are more accurate and useful. Cognitive restructuring has two basic steps:





- a) Identifying the thoughts or beliefs that are influencing the disturbing emotion;
- b) Evaluating them for their accuracy and usefulness using logic and evidence, and if warranted, modifying or replacing the thoughts with ones that are more accurate and useful.

Cognitive restructuring in cognitive therapy is also seen as the process of learning to refute cognitive distortions, or fundamental "faulty thinking" with the goal of replacing one's irrational, counter-factual beliefs with more accurate and beneficial ones. The cognitive restructuring therapy holds that people are directly responsible for generating dysfunctional emotions, and their resultant behaviours, like stress, depression, anxiety, and social withdrawal, and that we humans can get rid of such emotions and their effects by dismantling the beliefs that give them life. Because one sets unachievable goals "Everyone must love me; I have to be thoroughly competent; I have to be the best in everything" a fear of failure results. Cognitive restructuring then advises individuals to change such irrational beliefs and substitute them with more rational ones: "I can fail. Although it would be nice if I excel, I don't have to be the best in everything." (Ellis in Wikipedia, 2011)

Assumptions of the Cognitive Restructuring Counselling Technique

The following is the assumptions of Cognitive Restructuring Technique

- 1. Abnormal behavior is caused by abnormal thinking processes.
- 2. One interacts with the world through mental representation of it.
- Mental and emotional disorder occurs when one mental representation or ways of reasoning are inaccurate or inadequate.

The cognitive therapist teaches clients how to identify distorted cognitions through a process of evaluation. The clients learn to discriminate between their own thought and reality. They learn the influence that cognition has on their feelings, and they are taught to

recognize observe and monitor their own thoughts.

Beck (1979), explains how a cognitive therapist can help a client to think and act more realistically and adaptively about his problems and thus reduce the symptoms of the behaviour that deserves to be changed. Beck emphasized that cognitive techniques aim at delineating and testing the client's specific misconceptions and maladaptive assumptions. This approach consists of specific learning experiences designed to change the clients' unwanted behaviour. This technique was adopted in this work for the cognitive restructuring of the testanxious students in one of the experimental groups. These learning experiences are:

- 1. Monitoring his/her negative, automatic thoughts;
- Recognizing the connections between cognition, effect and behaviour;
- Examining the evidence for and against his distorted automatic thoughts (thereby challenging the distorted cognition);
- Substituting more reality-oriented interpretations for these biased cognitions;
- 5. Learning to identify and alter the dysfunctional beliefs which predispose him/her to distort his/her experience.

THEORETICAL FOUNDATION Cognitive Interference Theory (CIT) Founded by Sarason, S. B (1988)

Cognitive Interference Theory was developed in an effort to understand how anxiety influences cognitive functioning. CIT postulated that expected performance in a test usually lead to anxiety. Test anxiety therefore leads to negative self-statements which divert attention resources from the test demand tasks and the negative self-statements act as cause of cognitive interference. The theory profound that students with test anxiety usually experience cognitive distortion and it seriously affect their performance during testing.





(CIT) has the following assumptions:

- Students developed test anxiety when they notice they cannot meet up with the expectation in the scheduled tests and mostly worried on how others appraised them.
- Anxiety manifest through affective, physiological, behavioral, and cognitive components The cognitive aspect was linked to an increase in apprehensive thoughts regarding how students evaluate themselves in relation to others (Trower et al., 1990).
- 3. Various forms of evaluation have been analyzed (e.g., test anxiety, math anxiety, sports anxiety, social anxiety), but the commonality between all types is the prospect of personal evaluation anxiety in real or imagined social situations. There was greater link between testing, anxiety, cognitive interference, and poor performance. Several studies illustrate the association between test anxiety and impaired performance on a variety of cognitive demand tasks including block design (Mandler&Sarason, 1988).

Application of Cognitive Interference Theory in the Treatment of Test Anxiety

Exposure technique was used in controlling extreme feelings of test anxiety among students. Therapists bring students to (real life) testing situation and provide information that disconfirms the cause of negative thinking toward testing processes.

METHODOLOGY

The design adopted was quasi-experimental and in form of pre-test, post-test group only. The population of the study comprised of all fresher students (NCEI) identified with symptoms of test anxiety from the two colleges of education in Kaduna State 2022/2023 Academic session. It consists of 444 from FCEZ and 235 from KSCOE with total of 679 six hundred and seventy nine students. Thirty students (30) were purposively selected in order to serve as subjects for the treatment.

Two instruments were used in the study. The first instrument was entitled Test Anxiety Checklist (TAC) and it was used for identification of students with symptoms of test anxiety, items in the instrument were adopted from the work of Sarason (1980). The checklist has 28 items with true or false responses. The higher the true's of the respondents the higher the test anxiety. The second instrument entitled Test Anxiety Instrument (TAI) was used to obtain pre-test and post-test scores of the participants. It is adapted from the work of Daniel and Songnalle (2018).

The content validity of the instruments was ascertained by specialists in the Faculty of Education, B.U.K, and Yusuf Maitama Sule University, Kano in the areas of Tests and Measurement, Guidance and Counselling, Psychology as well as Research and Statistics. The specialists were asked to determine the instrument content value with particular reference to the research objectives, and hypotheses. These experts had assessed TAC with twenty eight (28) items and TAI with thirty (30) items and ensure that items conform to the construct under study. TAI was recommended to the following adjustment, 6items were reframed; 5items were replaced; and 19items were retained. However in ensuring construct validity both initial and the modified instruments were administered to the participants and scores were obtained. The data collected was analyzed using Pearson Product Moment Correlation, which yielded 0.81 Correlation Coefficient. This indicated stronger convergent validity and revealed that both the instruments are measuring the same underlying constructs.

The reliability of the instrument was determined using test-retest method in order to ascertain whether the instrument will be stable over time. The instrument was administered on two different occasions with interval of two weeks between the first and second administrations. The data from the two administrations were collated and analyzed using Pearson Product Moment Correlation (PPMC) statistical tool. The responses from the two administrations were computed and run through Software Package for





the Social Sciences (SPSS) in order to determine the reliability index of the instrument. Based on the analysis, the pilot testing yielded a coefficient index of 0.825 hence the instrument was found reliable for the study.

Data collected from the study was analyzed using descriptive and inferential statistical methods. Inferential statistic in form of pair sample t-test was used to test the 3 null hypotheses raised.

RESULTS

Hypothesis One: There is no significant difference between the pre-test and post-test mean scores of physiological dimension of test anxiety among students of Colleges of Education in Kaduna state exposed to Cognitive Restructuring.

Table 1: Pre-test and post-test mean scores on PDTA exposed CRCT

| Group | N | Mean | SD | df | t | Р | Decision |
|-------------------------|----|---------|---------|-----|------|------|----------|
| Pre-test (CRCT) PDTA | 30 | 22.7667 | 3.66421 | 298 | .813 | .000 | Rejected |
| Post-test (CRCT) | 30 | 14.5333 | 3.00268 | | | | - |

Significant at P < .05

Table 1 shows the pretest mean score of 22.7667 and standard deviation of 3.66421 after exposure to the treatment, the mean score reduced to 14.5333 and standard deviation was 3.00268 with the degree of freedom, t-value of 29, 8.813 respectively. The table also shows the p-value of .000 and was found to be lesser than the 0.05 alpha level of significance. This suggests that there is a significant effect of

Cognitive Restructuring Technique on physiological dimension of test anxiety and the hypothesis was rejected.

Hypothesis Two: There is no significant difference between the pre-test and post-test mean scores of cognitive dimension of test anxiety among students of Colleges of Education in Kaduna state exposed to Cognitive Restructuring.

Table 2: Pre-test and post-test mean scores on CDTA exposed to CRCT

| Group | N | Mean | SD | df | t | Р | Decision |
|-------------------------|----|---------|---------|-----|------|------|----------|
| Pre-test (CRCT) CDTA | 30 | 23.9667 | 3.99554 | 298 | .577 | .000 | Rejected |
| Post-test (CRCT) | 30 | 17.1333 | 2.51524 | | | | - |

Significant at P < .05

Table 2 shows the pretest mean score of 23.9667 and standard deviation of 3.99554. After exposure to Cognitive Restructuring, the mean score was reduced to 17.1333 and standard deviation of 2.51524 with the degree of freedom and t-value of 29 and 8.577 respectively. The table also shows a p-value of .000. It can therefore be observed that, the p-value of .000 was lesser than the 0.05 alpha level of significance and the hypothesis was rejected.

This means that there is a significant effect of Cognitive Restructuring Technique on emotional dimension of test anxiety.

Hypothesis Three: There is no significant difference between the pre-test and post-test mean scores of emotional dimension of test anxiety among students of Colleges of Education in Kaduna state exposed to Cognitive Restructuring.

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Table 3: Pre-test and post-test mean scores on EDTA exposed to CRCT

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|--|----|---------|---------|----|-------|--------|----------|--|--|
| Group | N | Mean | SD | df | t | Р | Decision | | |
| Pre-test (CRCT) EDTA | 30 | 24.8333 | 3.22793 | 29 | 13.47 | 0 .000 | Rejected | | |
| Post-test (CRCT) | 30 | 15.0667 | 3.03921 | | | | • | | |

Significant at P < .05

Table 3 shows that participants exposed to Cognitive Restructuring Technique had the pretest emotional dimension mean score of 24.8333 and standard deviation of 3.22793 before the treatment. After the exposure, the posttest mean and standard deviation scores were reduced to 15.0667 and 3.03921 with the degree of freedom and t-value of 29 and 13.470 respectively. The table also shows a p-value of .000. This shows that the p-value of .000 was lesser than the 0.05 alpha level of significance and the hypothesis was rejected. This implies that there is a significant effect of Cognitive Restructuring Technique on cognitive dimension of test anxiety.

DISCUSSION

The finding revealed that there was a significant effect of Cognitive Restructuring Counselling Technique on physiological dimension of test anxiety among students of colleges of education in Kaduna State-Nigeria. This is because of the difference recorded in the pretest mean score of 22.7667 and post-test mean score which has reduced to 14.53333. This implies that students exposed to cognitive restructuring had their physiological dimension of test anxiety reduced. The assumption of the study was cognitive restructuring counseling technique (CRCT) may have effects on physiological dimension of test anxiety among students of colleges of education in Kaduna State-Nigeria. The results of the hypotheses tested affirmed the assumption of this study thereby revealing that the cognitive restructuring counseling technique has reduced physiological dimension of test anxiety among students in colleges of education in Kaduna State. This finding concurred with that of Hamza and Sani (2019) who conducted a study on Effect of Cognitive restructuring counselling

technique on test Anxiety among staff secondary school students in Tertiary Institutions of Kano State. Nigeria. The findings of the study revealed significant effect of cognitive restructuring counselling technique on physical dimension of test anxiety in the treatment group with (F=1.396, P=0.000) and significant effect of cognitive restructuring counselling technique exists on psychological dimension of test anxiety in the treatment group with(F=5.489,P=0.008). The finding was in line with Ghamari et al. (2015) who worked on 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 finding 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 was more effective than the appropriate methods of study. The findings of the study is however in agreement with Cognitive Behaviour Theory of Aaron Beck which profoundly states that, CBT techniques are especially helpful in realigning, re-arranging and changing unhealthy behaviour and thought patterns such as the negative thought. The theory teaches students how to recognize, challenge and in the end replace negative thoughts on (testing and cause of severe anxiety) with more positive and realistic thoughts i.e (facing test with adequate preparation and bearable/motivational anxiety).

Cognitive restructuring as a technique of CBT try to reshape students negative thought toward testing and thereby adopting more appropriate one. The study has brought out





information on the effectiveness of the theory in paving ways to address the cognitive distortions on testing among students.

The finding revealed that there was a significant effect of Cognitive Restructuring Counselling Technique on cognitive dimension of test anxiety among students of colleges of education in Kaduna State-Nigeria. This is because of the difference recorded in the pretest mean score of 23.9667 and post-test mean score which has reduced to 17.1333. This implies that students exposed to cognitive restructuring had their cognitive dimension of test anxiety reduced. The assumption of the study was cognitive restructuring counselling technique (CRCT) may have effects on cognitive dimension of test anxiety among students of colleges of education in Kaduna State-Nigeria. The results of the hypotheses tested affirmed the assumption of this study thereby revealing that the cognitive restructuring counselling technique has reduced cognitive dimension of test anxiety among students in colleges of education in Kaduna State.

The study agreed with Anyamene and Ogugu (2019) who studied Effect of cognitive restructuring on junior secondary school mathematics test anxiety in Oshimili South L.G.A of Delta State. And 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. The study corresponds to Jalil et al, (2013) with a study on effects of cognitive therapy training on test anxiety in secondary education Department of Psychology, Islamic Azad University, Tabriz, Iran. The results showed that anxiety symptoms in students in the experimental group compared with the control group has significantly decreased and in other words, cognitive therapy

training method is effective in reducing cognitive dimension of test anxiety. However, Cognitive Interference Theory has it that, anxiety interfered with cognitive ability to respond accurately to testing demand tasks and this can only be control through counselling preferably by exploring relevant techniques to address the problem. Exposure technique can be used to control extreme feelings of test anxiety among students. The therapists may bring the students to (real life) testing situation and provide information that disconfirms the cause of negative thinking toward testing processes. The theoretical postulation was ascertained by the current study thereby identifying cognitive dimension as a unit where anxiety prevails.

The finding revealed that there was a significant effect of Cognitive Restructuring Counselling Technique on emotional dimension of test anxiety among students of colleges of education in Kaduna State-Nigeria. This is because of the difference recorded in the pretest mean scores of 24.8333 and post-test mean score which has reduced to 15.0667. This implies that students exposed to cognitive restructuring had their emotional dimension of test anxiety reduced. The assumption of the study was cognitive restructuring counselling technique (CRCT) may have effects on emotional dimension of test anxiety among students of colleges of education in Kaduna State-Nigeria. The results of the hypotheses tested affirmed the assumption of this study thereby revealing that the cognitive restructuring counselling technique has reduced emotional dimension of test anxiety among students in colleges of education in Kaduna State.

This finding was in line with Goldfried et al. (2015) who carried out a research in Reduction of Test Anxiety through Cognitive Restructuring. Results indicated that systematic rational restructuring participants reported significantly less anxiety than prolonged exposure participants. This coincides with Asikhia and Olubasayo (2014) who study focused on the Effect of Cognitive Restructuring on the Reduction of Mathematics Anxiety among Senior Secondary School Students in Ogun





State. Results of this study revealed a significant effect of treatment (Cognitive-Restructuring training) on subjects' level of Anxiety in Mathematics (F-ratio= 5.81, P < 0.05). Cognitive-Restructuring was found to be more effective (x = 40.80) than the control group. Fao and Kozak (1986) founded emotional processing theory. In this theory, anxiety is represented in memory and it made up associated stimulus, response, and meaning elements designed to avoid danger. For instance, the fear structure is the test and was regarded as stimulus; and this was to various behavioral connected physiological response elements (i.e., avoidance, heart racing, sweating, etc.). The situation can be managed through counselling such as exposure or imaginal processes thereby exposing the students to the feared situation (testing processes) and activate the anxiety and then bring information that disconfirms the feelings/ perception of the students.

CONCLUSION

Finding from result conclude that cognitive restructuring counselling intervention has reduced physiological dimension/symptoms of test anxiety.

Finding from hypothesis two lead to conclude that cognitive restructuring counselling intervention has reduced cognitive dimension/symptoms of test anxiety.

Finding from hypothesis three lead to conclude that cognitive restructuring counselling intervention has reduced emotional dimension/symptoms of test anxiety.

RECOMMENDATIONS

- Since the study had established the efficacy of SFBT in the management of physiological dimension of TA. It was recommended to be used in the management of physiological symptoms/dimension of TA among students of COEs and other tertiary institutions in Kaduna State.
- Since the efficacy of SFBT in the management of cognitive dimension of TA was established. SFBT should be used in the management of cognitive

- symptoms/dimension of test anxiety among students of COEs and other tertiary institutions in Kaduna State
- The study had established the efficacy of SFBT in the management of emotional symptoms/dimension of TA. Therefore, SFBT should be used in the management of emotional dimension of test anxiety among students of COEs and other tertiary institutions in Kaduna State.

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REFERENCES

- Anyamene, A.N. & Ogugua, G.U. (2019) Effect of cognitive restructuring on junior secondary school mathematics test anxiety in oshimili south I.g.a of delta state: Hofa: African Journal of Multidisciplinary Research, Vol.4, No.1,2019, ISSN: 2636-7173. DOI 10.5281/zenodo.3399832
- Asikhia, O. A. (2014). Effect of cognitive restructuring on the reduction of mathematics anxiety among senior secondary school students in Ogun State, Nigeria. *International Journal of Education and Research* 2(2), http://www.ijern.com
- Beck, A. T., Rush, A. J., Shaw, B. F., & Emery, G. (1979). Cognitive therapy of depression. New York: John Willey & Sons.
- Daniel, B. A., & Songnalle, S. (2018). Test
 Anxiety Instrument: Department of
 Education and Psychology, University
 of Cape Coast Ghana. Retrieved from
 https://www.researchgate.net/publicatio
 n/329268565
- Ergene, T. (2003). Effective interventions on test anxiety reduction. a meta-analysis.

 London: SAGE Publications.





- Foa, E. B., & Kozak, M. J. (1986). *Emotional* processing of fear: Exposure to corrective information. Psychological Bulletin, 99, 20–35.
- Ghamari, K. H., Rafeie, S. H., & Kiani, A. R. (2015). 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*, 3(10), 1230-1236. doi: 10.12691/education-3-10-4.
- Goldfried, M. R., Linehan, M. M. & Smith, J. L. (2015) Reduction of test anxiety through cognitive restructuring. State University of New York: Stony Brook; and Catholic University of America. *Journal of Consulting and Clinical Psychology* 1978, Vol. 46(1) 32-39 DOI: 10.1037//0022-006X.46.1.32
- Hamza, M. R. and Sani, M. M (2019). Effect of cognitive restructuring counselling technique on test anxiety among staff secondary school students in tertiary institutions of Kano State, Nigeria (Unpublished Master's thesis Ahmadu Bello University, Zaria)
- Jalil, F., Rahim B.G. and Parviz S. (2013) An investigation of the effects of cognitive therapy training on test anxiety in secondary education department of psychology, tabriz branch, Islamic Azad University, Tabriz, Iran. European Journal of Experimental Biology, 3(1),

- 116-120.
- http://www.pelagiaresearchlibrary.com Kendra, C. (2012). Test Anxiety Symptoms. The New York Times Company.
 - https://psychology.about.com/od/menta lhealth/a/test-anxiety
- Sarason, S. B., & Mandler, G. (1988). A study of anxiety and learning. *Journal of Abnormal and Social Psychology*, 47, 166-173.
- Szentagotai, A. (2005) Cognitive psychology research as a tool for developing new techniques in cognitive behavioural therapy: a clinical example. *Journal of Cognitive and Behavioural Psychotherapies.* 5, 1
- Wright, W. E. (2002). The effects of high-stakes testing in an inner-city elementary school: the curriculum, the teachers, and the English language learners.

 Current Issues in Education.

 http://cie.ed.asu.edu/volume5/number5
- Zeidner, M., & Matthews, G. (2005). Evaluation anxiety: Current theory and research. In A. J. Elliot & C. S. Dweck (Ed.), Handbook of competence and motivation (pp. 141-163). New York: Guilford Publications.
- Zeidner, M. (2004). Test anxiety. In Spielberger (Ed.). *Encyclopedia of Applied Psychology* (pp.545-56). Academic Press: San Diego