EFFECTIVENESS OF COGNITIVE RESTRUCTURING AND SYSTEMATIC DESENSITIZATION COUNSELLING TECHNIQUES IN CONTROLLING HIGH-STAKES TEST ANXIETY AMONG FINAL YEAR SECONDARY SCHOOL STUDENTS IN KADUNA METROPOLIS

BY

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A DISSERTATION SUBMITTED TO THE DEPARTMENT OF PSYCHOLOGY AND COUNSELLING, AHMADU BELLO UNIVERSITY ZARIA, IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF DOCTOR OF PHILOSOPHY IN GUIDANCE AND COUNSELLING.

Department of Educational Psychology and Counselling, Ahmadu Bello University, Zaria

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DECLARATION

I wish to declare that this work is an original research conducted by me. To the best of my knowledge, it has never been presented partially or wholly anywhere for the award of any degree or published in any form. All quotations and other sources of information in this work have been duly acknowledged.

Halilu Bakori MOHAMMED

CERTIFICATION

This dissertation titled ***The Effectiveness of Cognitive Restructuring and Systematic Desensitization Techniques in Controlling High-Stakes Test Anxiety Among Final Year Secondary School Students in Kaduna Metropolis*** by Halilu Bakori Mohammed meets the requirements governing the award of the degree of Doctor of Philosophy of Ahmadu Bello University, Zaria, and is approved for its contribution to knowledge and literary presentations.

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DEDICATION

To my late parents

Hajiya Zainab Muhammad

and

Alhaji Muhammad Almajir

who laboured to train and bring me up to have the courage to undertake this endeavour.

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I am most grateful to Allah for granting me good health, the opportunity, guidance and courage to undertake this research work. Many people have contributed to the successful completion of this task, whose names are too numerous to mention here. I however cannot conclude this work without mentioning the following names:

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ABSTRACT

The study was conceived with the major objective of investigating the Effectiveness of the Cognitive Restructuring and Systematic Desensitization techniques in the Control of High-Stakes Test Anxiety among Final Year Secondary School Students in Kaduna Metropolis. It was also to ascertain which of the two techniques was more effective in controlling the problem. The study sample consisted of three hundred final year students consisting of males and females. It was a quasi-experimental study in which students were assigned to two experimental and two control groups. One of the experimental groups was treated with cognitive restructuring while the other was treated with systematic desensitization. Each of the treatments was carried out within eleven counselling sessions. Individual counselling method was adopted in the study. Each of the subjects was administered with pretest and posttest, using the Westside Test Anxiety Scale designed by Driscole (2004). Seven research hypotheses were formulated and tested at 0.05 level of significance. The first and second hypotheses were comparisons between pretest and posttest of the treatment groups to confirm the efficacy of the two counselling techniques. The third hypothesis confirmed that the cognitive restructuring technique was more effective than the systematic desensitization technique. The fourth and fifth hypotheses were comparisons between posttests of the treatment and control groups which further confirmed the efficacy of the counselling techniques. The sixth and seventh hypotheses also confirmed that cognitive restructuring and systematic desensitization were very effective in controlling poor cognition and emotionality of the students respectively. The t-test statistic was used in testing hypotheses 1 and 2, 4 and 5. The ANCOVA statistic was used in testing hypothesis 3, while the binary logistic model was used in testing hypotheses 6 and 7. All the seven hypotheses were rejected. After treatment, it was discovered that although the two techniques were effective, cognitive restructuring counselling technique was more effective than the systematic desensitization in controlling the disorder. Having discovered the effectiveness of the counselling techniques on high-stakes test anxiety, some major recommendations were forwarded. It was recommended that authorities in our educational systems should take it as a priority to train school counsellors in the use cognitive restructuring and systematic desensitization techniques with a view to helping the students with problems such as high-stakes test anxiety. Recommendations for further studies were also directed to students and scholars. The major causes of the high-stakes test anxiety may be investigated, larger population may be studied, or different techniques may be used to investigate their efficacy on high-stakes test anxiety control. Effectiveness of group counselling in reducing high-stakes test anxiety may also be studied.

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ABBREVIATIONS

AMT	Adaptive Matrices Test
APA	American Psychological Association
ATs	Automatic Thoughts
BACP	British Association of Counsellors
CASSON	Counselling Association of Nigeria
CAT	Computer Adaptive Test
CBT	Cognitive Behaviour Technique
CR	Cognitive Restructuring
CTA	Cognitive Test Anxiety
DSM	Diagnostic Statistical Manual
FIT	Fixed Item Testing
GAD	General Anxiety Disorder
GPA	Grade Point Average
GSP	Generalized Social Phobia
HTA	High-stakes Test Anxiety
I B	Irrational Behaviour
JAMB	Joint Admissions and Matriculation Board
MCQ	Multiple Choice Questions
NECO	National Examination Council
NGSP	Non-generalized Social Phobia
NCLB	No Child Left Behind
OCD	Obsessive Compulsive Disorder
PMR	Progressive Muscles Relaxation
PD	Panic Disorder
RB	Rational Behaviours
REBT	Rational Emotive Behaviour Therapy

SAT	Scholastic Aptitude Test
SD	Systematic Desensitization
SSS	Senior Secondary School
SUD	Subjective Unit of Discomfort
TA	Test Anxiety
TAI	Test Anxiety Inventory
UTME	Unified Tertiary Matriculation Examinations
WAEC	West African Examination Council
WTAS	Westside Test Anxiety Scale

OPERATIONAL DEFINITION OF TERMS

Cognitive Distortion: Systematic errors in reasoning which often stemmed from early childhood. In this study, it is the wrong notion or belief the students have about high-stakes tests which make them fearful about such tests.

Cognitive Restructuring: Cognitive restructuring refers to the process of replacing cognitive distortions with thoughts that are more accurate, realistic and useful.

High-stakes Test: A test is said to be of high-stakes value when its outcome or results are used for high level decisions that have direct and important consequences on the test taker.

Systematic Desensitization: Systematic desensitization is a type of behavioural therapy used to overcome phobias and other anxiety disorders.

Test Anxiety: Test anxiety is the state in which students feel uneasy, and apprehensive or fearful because of the uncertainty of a test they are to write.

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CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

The significance of tests in any educational programme is very clear as the role it plays in evaluating the learning outcomes cannot be overemphasized. It also serves the function of evaluating the curriculum itself and identifying the developmental needs of the educational system. In the selection of candidates for admission, promotion to higher grades, career placement and progression, outcomes of tests are usually the deciding factor.

High-stakes tests are very important as their results are used as tools for taking controversial and high level decisions on education. Decisions such cut-up points for admissions, admission quotas have often been very controversial. High-stakes tests are very essential in any educational plan because while at the lower level of education, opportunities are supposed to be open on equal basis to all children, as they go higher, the opportunities need to be narrowed for several reasons. In the first place, the financial commitment in the educational sector is so enormous that political leaders find it necessary to control it by determining who continues to the next level in the school system.

Also, as the population continues to grow, the facilities at the higher level of education may not have such corresponding growth and so become inadequate. High-stakes tests are therefore used as mechanisms for moderating and selecting the 'best' qualified to progress. In order to control the quality of education as it goes higher, high-stakes tests are used so that only the best qualified students should go to the next level. Only successful students are

expected to be promoted or admitted into higher institutions, while those who fail are made to repeat or retake the test.

High-stakes tests are also used in determining the career progression of employees. Zollar & Ben-chain (as cited in Rizwan and Nasir, 2010) opined that "we are in an era in which we live in a test-conscious age, in which the lives of many people are not only greatly influenced but are also determined by their test performance". Zedner & Most (as cited in Chen 2004) indicated that the current society has been labeled as a test-oriented society. High-stakes tests are usually of a very high population and appear to be more competitive than evaluative because of the purpose they are usually targeted to serve which largely depends on their outcome.

Ordinary tests such as classroom tests and end-of-course assessment tests are bound to result in some manifestations of test anxiety on the candidates. More debilitating however, is the anxiety that is provoked by tests considered as high stakes. With the use of these tests, decisions on the test takers and even sometimes on the tutors of the test takers or the administrators of the schools are taken.

The position of tests in our educational system which makes it inevitable, and the power inherent in the functions of high-stakes tests presuppose that students are obviously faced with a situation of uncertainty. They are aware that at the end of the day, they must be declared either as having passed or failed the test. They therefore become anxious with the situation they find themselves in, and end up in a world of uncertainty. In the end, they think more of the negative consequences of their failure and hardly think of the advantages of doing well in the test. If they could think more of the probability of succeeding and the reward they could

get, they probably would have been energized more in putting more efforts to pass the test. Inversely however, most of the high anxious students think more of failure and view it as a catastrophe. This thought could overwhelm the students and prevent them from adequately preparing for the test. This situation underscores the need for helping professions such as Counselling to work towards helping students in minimizing their proclivity to exhibit the debilitating anxious feelings, and where it has already manifested, to provide professional help to control it.

Test-anxious individuals have learned to believe that they will perform poorly. Irrational worries lead to distorted self-image and an inaccurate perception of themselves. This often results in poor self-esteem. Clearly therefore, overcoming test anxiety means that something has to change. Since the tests and their administration may remain fairly much the same, what must be altered is the students' approach to taking tests. Reducing test anxiety and stress reaction to a comfortable level means learning to alter the way the test anxious person feels, from being tensed up and rigid to being calm and relaxed. The way individuals think about themselves and their abilities have to change from the expectations of failure to the anticipation of success.

The cognitive-behaviour therapy is a choice therapy for the treatment of anxiety in general and the test anxiety in particular. Sharf (2008) declared that cognitive behaviour therapies may be used to control the test anxiety of students as it has been a successful therapy for controlling general anxiety. This underscores the very essence of looking at the theoretical framework of this study in relation to behaviourism and cognitivism.

Behaviour therapists differ from other humanistic and psychodynamic therapists, as they do not explore individuals' thoughts, feelings dreams or past experiences. Rather, they focus on the behaviour that is causing the distress to their clients. They believe that behaviours of all kinds, normal or abnormal are the products of learning. By applying the principles of learning, they help individuals replace distressing behaviours with more appropriate ones. They do not infer causes or look for hidden meanings, but rather focus on the observable and measurable behaviours.

One of the techniques under the behaviour therapy is the systematic desensitization counselling technique. It was first developed by Joseph Wolpe. It was designed to treat clients with extreme anxiety or fear towards specific events, people or objects or even generalized fear. The treatment works towards having clients replace their anxious feelings with relaxation (Sharf, 2004).

Cognitive therapists also have some similarities with, but are different from the behaviourists. Unlike the behaviour therapists, cognitive therapists emphasize changing the beliefs and thoughts rather than the observable behaviours. Cognitive therapists believe that irrational beliefs or distorted thinking patterns can cause a variety of serious problems, one of which may be the test anxiety disorder. They try to teach people to think in a more rational and constructive way.

Cognitive therapists are then able to make use of a variety of techniques to change beliefs that interfere with successful functioning. Among these techniques is the cognitive restructuring technique. Cognitive restructuring therapeutic method is an approach that was popularized by Albert Ellis. Ellis argued that the primary causes of human distress are not unconscious

impulses, as psychoanalysts believe. On the contrary, Ellis insisted that certain core irrational ideas are at the root of human misery. As you think, so will you feel and act. The idea therefore is the cause of the upsetting condition not the reality of events (Ogechiesere, 2002).

In application to test anxiety therefore, it is the fear of the negative outcome of the test that makes students anxious about anything that has to do with the test, more than the actual content of the test. Because of this, questions may be asked on the area that a candidate is well versed and conversant with, and with very high probability of scoring excellent results, but with high test anxiety, the candidate may experience a blackout during the test. This will mean that whatever is the outcome of the test, it will not be a true reflection of the candidate's ability. It follows therefore that any attempt to reduce the propensity of high-stakes test anxiety will enormously enhance the validity of such tests and make them perform the functions they were designed to perform.

1.2 Statement of the Problem

Despite the important position of tests in our educational system, it appears that stakeholders in the system, especially the examinees view it as a source of threat and discomfort rather than a tool for assessing the achievement of the educational objectives. Studies have shown that students consistently perceive examination as a source of anxiety and a situation engulfed in uncertainty and unfairness which also prevents them from demonstrating their true achievements (Mc Cathy & Goffin, 2005). This negative view and feeling of uncertainty is mostly exhibited with tests that have high stakes functions. Candidates become so anxious, so much that the outcomes of tests taken are hardly valid. The test objectives in particular and

the objectives of the whole educational programme in general are therefore threatened, as a result of the test anxiety precipitated by the high stakes functions of the tests.

Obviously, there are multiples of problems in our educational systems ranging from quality of teachers, inadequate infrastructure, falling standards of education and other malpractices. The problem of high-stakes test anxiety is however so enormous that even when problems such as those mentioned above are resolved, it will be very difficult to evaluate the success of our educational programmes, since the validity of the outcome of the tests may not be assured. This is why the researcher decided to investigate the problem and how it can be controlled by the application of some counselling techniques.

An acceptable level of fear and uncertainty is required and in fact necessary for the accomplishment of any new task. This is because such fear serves as a motivation for the pursuance of the task. Test anxiety is however seen as a behaviour disorder because it has gone far beyond the acceptable level to the extent of affecting the normal functioning of the individual. It could make the most serious, intelligent and even most prepared students end up with very low grades in a test. This is because no matter how highly promising a student is, test anxiety could bring about psychological, physical and emotional discomfort that may lead to total blackout during the test. Test anxiety has therefore become a strong stimulus for general anxiety and it has become a prevailing problem of our contemporary society.

Test anxiety may also incapacitate students after preparing well for an examination. The thought of the negative outcomes of the tests could make the students avoid the testing situation, especially those that have high stakes functions. Announcing the results of the 2011 UTME, the Registrar and Chief Executive of the Joint Admissions and Matriculation Board

declared that out of 1,493.604 candidates that registered for the examination, about 43,461 were absent from the exam, which represented about 6.3% (JAMB 2011). In the 2013 UTME, 1,644,110 candidates applied to write the paper pencil and dual based tests, out of which 47,974 candidates were absent. This represented 2.9% of the applicants (JAMB, 2013). While there may be other reasons that may have accounted for this, the uncertainty of the examination and the thought of the possible negative outcomes of the exams may have played a very significant role in the avoidance of the testing situation (DSM IV). This may also be in agreement with the human nature of seeking pleasure and avoiding pains. A negative outcome of such test will definitely bring pains to the candidate who may decide to stay away from it to avoid pains.

These debilitating effects of test anxiety must therefore be radically checked if the lofty objectives of our educational systems are to be achieved. Research results have shown that although there are medical and behavioural remedies to anxiety in general and test anxiety in particular, medical remedies are less reliable because with the withdrawal of drugs, the probability of relapse into former state of anxiety is very high (Wikipedia, 2011). This underscores the relevance of this study which is to investigate the efficacy of cognitive restructuring and systematic desensitization in the control of high-stakes test anxiety among the final year secondary school students in Kaduna metropolis.

1.3 Objectives of the Study

The following are the major objectives this study is set to achieve:

1. To test the effectiveness of cognitive restructuring counselling technique in the control of high-stakes test anxiety among final year secondary school students in Kaduna metropolis.

2. To establish the effectiveness of systematic desensitization counselling technique in the control of high-stakes test anxiety among final year secondary school students in Kaduna metropolis.

3. To determine the differential effectiveness of cognitive restructuring and systematic desensitization counselling techniques in the control of high-stakes test anxiety among final year secondary school students.

4. To assess the difference in the levels of high-stakes test anxiety of the experimental group treated with cognitive restructuring and the control group among final year secondary school students in Kaduna metropolis.

5. To determine the difference in the levels of high-stakes test anxiety of the experimental group treated with systematic desensitization and the control group among final year secondary school students in Kaduna metropolis.

6. To investigate the differential effectiveness between cognitive restructuring and systematic desensitization on reducing the levels of poor cognition among high-stakes test-anxious final year secondary school students in Kaduna metropolis.

7. To investigate the differential effectiveness between cognitive restructuring and systematic desensitization on reducing the levels of emotionality among high-stakes test-anxious final year secondary school students in Kaduna metropolis.

1.4 Research Questions

In meeting the objectives of the study, the following research questions were raised:

1. What is the effectiveness of cognitive restructuring treatment in controlling high-stakes test anxiety of final year secondary school students in Kaduna metropolis?

2. What is the effectiveness of systematic desensitization treatment in controlling high-stakes test anxiety of final year secondary school students in Kaduna metropolis?

3. What is the differential effectiveness between cognitive restructuring and systematic desensitization in the control of high-stakes test anxiety of final year secondary school students in Kaduna metropolis?

4. How are the levels of high-stakes tests anxiety of experimental group treated with cognitive restructuring different from the levels of high-stakes test anxiety of the control group among the final year secondary school students in Kaduna metropolis?

5. How are the levels of high-stakes test anxiety of the experimental group treated with systematic desensitization different from the levels of high-stakes test anxiety of the control group among the final year secondary school students in Kaduna metropolis?

6. What is the differential effectiveness between cognitive restructuring and systematic desensitization on the levels of poor cognition of high-stakes test anxious final year secondary school students of Kaduna metropolis?

7. What is the differential effectiveness between cognitive restructuring and systematic desensitization techniques in controlling the levels of emotionality of high-stakes test anxious final year secondary school students in Kaduna metropolis?

1.5 Research Hypotheses

In line with the research questions raised, the following research hypotheses were presented:

1. There is no significant difference in the pre and post treatment levels of high-stakes test anxiety among the final year secondary school students in Kaduna metropolis exposed to cognitive restructuring counselling technique.

2. There is no significant difference in the pre and post treatment levels of high-stakes test anxiety among the final year secondary school students in Kaduna metropolis exposed to systematic desensitization counselling technique.

3. There is no significant difference after treatment between the levels of high-stakes test anxiety among final year secondary school students in Kaduna metropolis treated with cognitive restructuring and those treated with systematic desensitization.

4. There is no significant difference in the levels of high-stakes test anxiety between the experimental group treated with cognitive restructuring and the control group among the final year secondary school students in Kaduna metropolis.

5. There is no significant difference in the levels of high-stakes test anxiety between the experimental group treated with systematic desensitization and the control group among the final year secondary school students in Kaduna metropolis.

6. There is no significant difference after treatment between the levels of poor cognition of high-stakes test anxious final year secondary school students in Kaduna metropolis treated with cognitive restructuring and those treated with systematic desensitization.

7. There is no significant difference after treatment between the levels of emotionality of high-stakes test anxious final year secondary school students in Kaduna metropolis treated with cognitive restructuring and those treated with systematic desensitization.

1.6 Basic Assumptions of the Study

This study was carried out with the following basic assumptions:

1. That high-stakes test anxiety is prevalent among secondary school students in Kaduna metropolis.

2. That high-stakes test anxiety has serious debilitating effects not only on the performance of students, but also on the whole educational system;

3. That the counselling techniques of cognitive restructuring and systematic desensitization are very effective in the treatment of high-stakes test anxiety;

4. That the population of the study, which is secondary school students in Kaduna metropolis, is very reflective of the socio-economic diversity of the country, presupposing that the outcome of the study may be extended to the target population and the Nigerian population in general;

5. That the cognitive restructuring and systematic desensitization counselling techniques would have no differential effectiveness in the control of high-stakes test anxiety of both male and female secondary school students in Kaduna metropolis;

6. That the effectiveness of the two counselling techniques on the control of high-stakes test anxiety may significantly differ.

1.7 Significance of the Study

The outcome of this study may convince researchers and teachers that the application of counselling techniques such as the ones adopted in this study may be very useful for school counsellors in minimizing the effects of test-anxiety which threatens the general objectives of our educational system.

The outcome of this study may also help policy makers understand the debilitating effects of test anxiety and introduce some measures that will lessen the anxiety provoking features of our high-stakes examinations. Examination bodies will also significantly benefit from the outcome of this study. Since it is the desired objective of any testing organization to give tests that have very high discrimination power, any condition that threatens that discrimination ability of the tests must be strongly addressed to make the test more valid and reliable. The application of therapeutic conditions to control test anxiety will play a significant role as much as possible in objectively assessing the students' achievements.

It is also hoped that the results of this study will be very significant to the counselling profession because it will further highlight the important roles of counsellors in reducing and controlling the negative effects of high-stakes test anxiety, taking into considerations the multicultural nature of our school systems as well as the differences of the backgrounds of the students.

The outcome of this study may also help students understand the extent to which test anxiety may affect their studies and also know that despite the very negative effects of the disorder, school counsellors may help them reduce the unwanted behaviour. Successful change of such behaviour may also in turn help reduce other related problems such as examination malpractice and absenteeism.

The cognitive restructuring and systematic desensitization counselling techniques were aimed at reducing the test anxiety of secondary school students in Kaduna metropolis, with a view to improving the educational standards in the state and the country at large. The result of the study would further bring to the limelight, the strategic importance of counselling in the achievement of any educational objective. It is further hoped that the result of the study will also provide an opportunity to make high-stakes tests in the country more valid and reliable and would improve the stability of the students before, during and after the examinations.

It is expected that the outcome of this study would also provide empirical data to counsellors and psychologists, emphasizing the efficacy of the counselling techniques used for the behavioural change of clients, especially those with high-stakes test anxiety disorder. It will, by extension, open new windows for using the counselling techniques in resolving other types of anxiety disorders. The findings of the study would also sensitize decision makers in the country's educational system, to recognize the unique roles of counsellors and make it mandatory for decision makers to employ trained counsellors in both public and private institutions of learning in the country. The application of these techniques in resolving the behaviour disorder would also open up other areas of research in the counselling and psychology professions.

The treatment package detailed in the counselling sessions which are developed by the researcher may also be adopted by teachers and researchers as well as other practitioners in the counselling profession to help reduce test anxiety of students. This will also be an addition in the enrichment of the current literature in the counselling profession.

1.8 Scope and Delimitation of the Study

The scope of this study is the investigation of the effectiveness of cognitive restructuring and systematic desensitization in the reduction of high-stakes test anxiety of all the SSS III students in Kaduna metropolis, after scientifically identifying the test-anxious students within the target population, using an acceptable instrument. The selection of the techniques was carefully made to make a combination of cognitive and behaviour therapies. The instrument for data collection was also chosen as it had the capacity of identifying who could benefit from counselling interventions as well as their levels of the disorder. The study mainly covers all the secondary schools under the Kaduna and the Sabon Tasha Zonal Education Offices.

The concept of test anxiety has many variations. In medical terms, the test anxiety of patients is very significant as it alters the results of investigations such as blood pressure. This is outside the scope of this study. Even in sports, anxiety drastically brings down the achievements of competitors. This is also not within the scope of this study.

This study was therefore delimited to only the investigations on educational high-stakes test anxiety. It examined the effectiveness of cognitive restructuring and systematic desensitization counselling techniques in the control of educational high-stakes test anxiety. These techniques were carefully chosen out of many, in order to cover both cognitive and behaviour techniques. Although test anxiety is prevalent in all levels of our educational system, this study was delimited to the final year secondary school students in Kaduna metropolis secondary schools, because they formed the category that was preparing to take high-stakes tests such as mock examinations, WAEC, NECO and JAMB. The study was also delimited to these tests although they were not the only high-stakes tests. The reasons for this

include the fact that they had a wider coverage. They were also tests that were compulsorily taken as part of the requirements for progression to higher educational level in Nigeria.

The choice of this class of students was also owing to the fact that at the final year level, students were expected to sit their final examinations which had high stakes functions. It was the level at which the students who were test anxious would be identified for the composition of the sample population. The effects of the treatments might also be easily observed when the administration of the high-stakes tests was on and the symptoms were also exhibited by the test-anxious students.

The study was also delimited to secondary schools in Kaduna metropolis because as a cosmopolitan town, almost all cultural, religious, economic and social backgrounds in the country were represented in the town. With the current accountability in education, educational test anxiety has gone beyond the test taker to the teachers and administrators. The teachers' and administrators' test anxiety were also out of the scope of this study.

Secondary schools in Kaduna metropolis were mainly under the administration of Kaduna Educational Directorate, otherwise called Kaduna Zonal Office. In the extreme northern part of the town, there were some schools under Igabi Zone, while in the southern part we had the Sabon Tasha Zone. For the purpose of this study, only schools under the Kaduna Zone and the Sabon Tasha Zone were considered as the schools in Kaduna metropolis.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.01 Introduction

This chapter is an overview of the concept of Test Anxiety (TA), as it relates to the high-stakes tests which are the main issues under the study. As an experimental study, the cognitive restructuring and systematic desensitization counselling techniques have also been discussed and the literature in which they have been used to control general test anxiety and high-stakes test anxiety in particular are highlighted.

2.02 Conceptual Framework

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 of a test they are to write. (Microsoft Encarta, 2009).

> If at any stage in an evaluation we feel unprepared, unsure of our ability, or we have not performed to our best, we may experience feelings of unease, apprehension, distress or depression. Alternatively, believing that we are well prepared and able to perform well on an evaluation will be associated with more positive feelings such as anticipation, excitement, exhilaration and pride. Test anxiety is most closely associated with the former, with more negative sets of emotions (McDonald, 2001).

Anxiety in general is a mood state that occurs without any physically identifiable triggering stimulus. As such, it is distinguished from fear, which occurs in the presence of an external threat. Also, fear is related to the specific behaviours of escape and avoidance whereas anxiety is the result of threats that are perceived to be uncontrollable and unavoidable. Anxiety is a normal reaction to stress. It may be helpful to a person to deal with a difficult situation by prompting him to cope with it. But when it becomes excessive, it becomes anxiety disorder. (Spielberger 2004, Sharf, 2004)

Like other situations in which a person might feel performance anxiety, test anxiety can make a test taker to have butterflies in his stomach, or a headache. Some people might feel shaky, sweaty, or feel their heart beating quickly as they wait for the test to be given out. A student with really strong test anxiety may even feel like he or she might pass out or throw up (KidsHealth, 1995). It is natural for a normal individual to feel anxious whenever he is to face an unknown situation that has been definitely scheduled to take place. The preparation for and taking of tests are full of this unavoidable situation. Educational tests are even more seriously anxiety provoking because of the importance attached to the outcome of the test. Test anxiety becomes a problem that leads to disorder when it interferes with the students' ability to think logically or remember facts (University of Alabama, 2011; Hall-Flavin, 2011).

Researchers have shown that although a general test anxiety is prevalent, it has in turn been shown to be linearly related to more specific subjects' anxieties such as Maths anxiety. (Falaye, 2010, Szelta in McDonald, 2001). This means that while there are those who have general test anxiety on anything that has to do with high-stake tests, some individuals may be comfortable with some subjects, but become very anxious with other subjects. In our practical example where all subjects are taught and tested in schools, the fact that some subjects are

optional while others are compulsory right from elementary to senior secondary school levels and that having credit in some compulsory subjects such as English and Mathematics is also compulsory before one could gai n admission into tertiary institutions make some students very anxious with these compulsory subjects. That may perhaps account for why failure in high-stakes examinations is higher in the compulsory subjects (English and Mathematics) than in other subjects (Mc Cathy & Goffin 2005).

The concept of test anxiety as a situation specific anxiety trait requires specifications of the antecedent conditions that contribute to the development of the trait. Some researchers such as Driscole (2004) identified poor cognition and emotionality as the major components of test anxiety. Others like Spielberger and Vagg (1995) identified worry and emotionality as the major components. It should be noted that each of the combinations has cognitive and behaviour symptomized components. For the purpose of this conceptualization, worry and emotionality would be adopted.

Spielberger and Vagg (1995) conceptualized a transactional process model for test anxiety. For them, the particular factors that evoke test anxiety are worry and emotionality and that in addition to that, the nature of interpersonal perceptions and cognitions as well as the information processing and retrieval mechanisms that mediate the effects of worry and emotionality on performance are equally important. They also identified the important correlates of test anxiety such as study habits and attitudes (study skills) test taking skills (test wiseness) and task irrelevant thoughts. They presented the diagram in fig. 2.1 which is intended to be a heuristic framework for representing the antecedent conditions and dispositions that influence students' reactions to test, the mediating emotional and cognitive

processes involved in responding to evaluative situations and the correlates on the consequences of test anxiety.

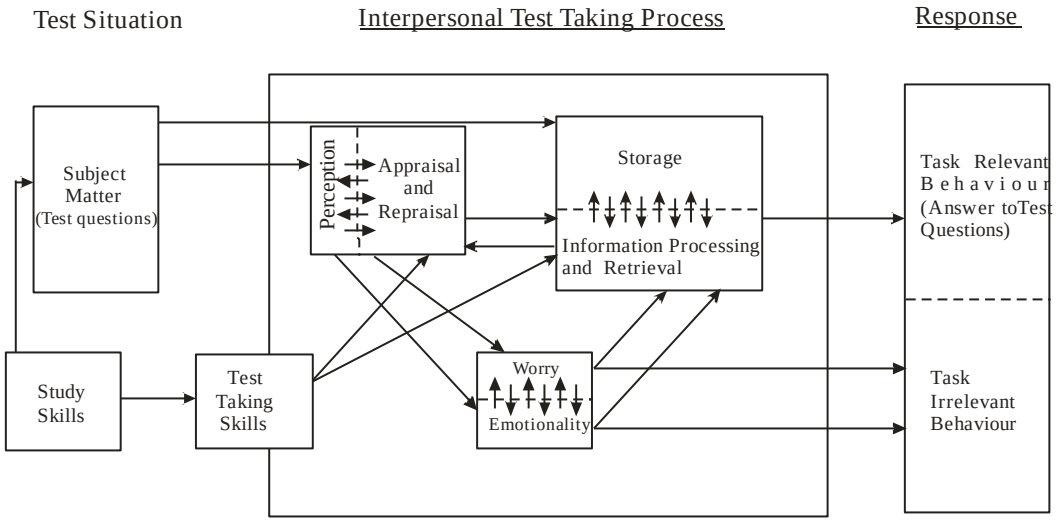


Fig 2.1 conceptual model for test anxiety

The diagram conceptualizes the process of test anxiety. Depending on the individual and his predisposition to test and his study and test taking skills, when he is faced with testing situation, he will immediately refer to his perception about tests. If he is test anxious, the next stage will be his worry and emotionality about the situation. If he is able to overcome the worry and emotionality, his thought will move to information store for processing of the questions before him and retrieving the desired result which will lead to relevant behaviours towards answering the test questions. If he is not able to overcome the worry and emotionality, the next stage will be irrelevant thoughts and behaviours, which may lead to his inability to respond to the questions.

For a student who has no test anxiety, immediately he faces the test situation, his thought goes to his information store and processing commences. The outcome will be his adequate response to the test questions. His thought does not even go into analysis of his perception about the test, let alone entertaining of worry and emotionality.

2.03 Causes of Test Anxiety

Like several other behavioural disorders, test anxiety has a long history, probably as old as man himself. This is more so when test anxiety is viewed beyond the educational testing context, because it is also evident in other competitive tests such as sports. When test anxiety is narrowed down to educational context, it becomes specific to classroom instruction and evaluation. Investigations into the prevalence and impact of test anxiety began in Yale University in the United States of America when students were asked to respond to a test anxiety questionnaire constructed by Sarason and Mandler (Habree as cited in Falaye 2010).

Research interest in cognitive or educational test anxiety became popular after the pioneering effort of Sarason and Mandler. Most of the researchers found two distinct aspects of the cognitive test anxiety which are worry (any cognitive expression of concern about one's own performance) and emotionality (automatic reaction to the test situation) (Falaye 2010). Literature review indicates that test anxiety rises steadily throughout the early years of schooling, which may be attributed to several factors. (Liz, Dave, Kevin & Laura 2009).

Test anxiety is prevalent in every educational system, including the developed, developing and underdeveloped countries. It is therefore pertinent to find out the major causes of the disorder, since it knows no bounds as far as its prevalence is concerned. The following are some of the causes as explained in different studies.

2.03.1 Physiological Causes

Physiological causes of anxiety are the causes that are traceable to the activities in the human body. There is natural regulation of such activities, but when such activities do not meet the regulated point or they go beyond the point, then problems such as test anxiety may come up. Physiological causes of anxiety are therefore mainly the cause of general or character anxiety. However, since people with general anxiety are also more likely to be test anxious, they are listed as causes of anxiety. Perkins (2008) says "Anxiety attacks or anxiety disorders are not a mental health problem. Yes, we all experience anxiety from time to time in response to emotional issues, but this type of anxiety passes after the event is over. Anxiety that continues for no reason and occurs out of nowhere has a physiological basis, not a psychological one" Some of these physiological factors according to Perkins include:

- food allergies
- hormonal imbalances
- depleted or out of balance neurotransmitters
- nutritional deficiencies
- low blood sugar
- mold allergies
- chemical sensitivities
- excessive sugar intake

i) **Food Allergies** – Food allergies or food sensitivity or food intolerance is very rampant but often unacknowledged or undetected. There is very little awareness in our society about these phenomena, but it has serious impact on both physical and mental health. It can be

associated with poor digestion, weak immune system, heredity, repeated exposure to some food, nutritional deficiency etc. This may cause an individual's anxiety.

ii) Hormone Imbalance – Is a very common condition in our society in both men and women. It mostly occurs in women at 30s and men at 40s. Hormones have profound impact on our brain and body. Unstable menstrual period in women and their preparation for menopause may be causes of anxiety. Even in men, such changes expected in preparation for the stage of andropause may cause individuals to be anxious.

iii) Depleted Neurotransmitters – They are essentially the communication system of the body, mind and the nervous system. Neurotransmitters literally govern every system of the body either directly or indirectly. When they are depleted in an individual, body activities may be disrupted which may cause anxiety.

iv) Nutritional Imbalance- Many disorders that are mistaken for mental disorder in individuals are actually caused by some things in their diet, or some things lacking in their diet. Many cases of depression, addiction, hyperactivity, learning disorders, anxiety, alcoholism, schizophrenia and even behavior problems such as crime violence etc respond positively with changes in diets and nutritional supplementation.

v) Low Blood Sugar – When the glucose level in the blood becomes very low, the brain cannot function very well. Glucose is the main source of energy that the body needs to function. When blood sugar becomes low anxiety and many other disorders may come up. Low blood sugar causes strokes, brain damages and many other irreversible damages in the body.

vi) Mold Allergies – Molds are invisible microscopic organisms. They exist everywhere in our environment, including the air we breathe. Molds produce toxins that can damage our health as any damaging chemical can do. They are also found to be a major cause of anxiety.

vii) Chemical Sensitivity – Exposure to multiple chemicals is also a major cause of anxiety disorder. Growing number of people are beginning to develop serious health problems because of their continuous contacts with chemicals.

viii) Excess Sugar Intake – Sugar has much destructive effects on human mind and body, including damaging, altering and disrupting proper function of the nervous system, endocrine system, metabolic system, cardiovascular system as well as functions of organs like liver, kidney, colon and pancreas. It is also known to have directly or indirectly caused serious anxiety problems.

2.03.2 Psychological Causes

i) Excessive Motivation to Succeed: When students are highly motivated to succeed in an academic test, the thought of failure also comes into their minds. This negative thought may affect their preparation for the examination thereby becoming very anxious. (Liz, Dave, Keven and Laura, 2009)

ii) Perfectionism: Some students tend to be perfectionists and overachievers, who will be dissatisfied with anything less than a perfect score. Regardless of their intellectual abilities and study or testing skills, nothing human is perfect which means they could still answer questions wrongly. To these students, these few questions that they could not answer could make them anxious, so much that it will seriously affect the outcome of the test. (Encyclopedia of Applied Psychology, 2004)

iii) Fear of Parental Punishment: With the aim of motivating students to perform well in their tests, some parents promise their children gifts if they pass their tests, while at the same time threatening them with punishment should they fail the tests. Consequently the children become over anxious because of the negative consequences the test may bring to them if they fail. The thought of the punishment may not even end with the parents. Even the society may see them as incapable if they fail the test. (Bint & Abdul Raof).

2.03.3 Environmental Causes

i) The Environment in which one studies is also important for effective study skills. This helps in reducing test anxiety. University of Buffalo (2011) outlined the following as the requirements for a good environment for effective study:

- Less noise;
- Less interruption;
- Adequate lighting;
- Normal room temperature;
- Neatness in the environment;
- Comfortable seats;
- Necessary equipment available.

ii) Unfavourable Test Environment: Even when the students prepare well for the test and get to the venue well on time, they sometimes have to scout for the seats to use, after going round to trace the venue. This is especially relevant to high-stakes examinations taken nationwide. The unfavourable weather conditions, the 'intimidating' invigilators, the commotions sometimes caused by unprepared students, inadequate testing materials, all combine together to create tension in the students in the examination hall.

2.03.4 Personal Causes

i) Ability Level: The intellectual ability levels of students have been known to account for their test anxiety. If students are confident in their abilities, especially with excellent previous performances in similar situations, they are less likely to be anxious about any forthcoming test. However, if they had failed woefully in a similar test, the negative consequences of the failure remain fresh in their minds, which heightens their anxiety. (Encyclopedia of Applied Psychology 2004, Falaye, 2010)

ii) Poor Study Skills. This is another serious factor that leads to test anxiety. There are instances when students would spend a great deal of their time reading, but because of poor study skills, the scheduled time would come when they are not fully prepared for the test. (Rizwan and Nasir, 2010). There are research evidences which show that efforts at reducing test anxiety are usually ineffective unless poor studying habits are remedied. (Allen, McCordick, Kaplan, Finn and Smith in Zeidner 2004).

iii) Poor Test Taking Skills: It is not enough to have effective study skills to avoid test anxiety, although it may reduce the pretest anxiety. Without effective test taking skills, test anxiety that occurs in the examination hall may equally result to debilitating conditions that may hinder the student from effectively reading and understanding the questions. The obvious outcome of the test will be that it may not be a true test of the students' abilities. (Falaye 2010).

iv) Poor Time Management: Some students find it difficult to manage their time, where for example they find it difficult to decide whether to complete an assignment or get ready for a scheduled test. (Bint & Abdul Raof, 2011).

2.03.5 Logistical Causes

i) Increasing Complexity of Teaching and Learning Processes: With developments in the educational sector, the course contents have become very complex so also the systems adopted for evaluating the teaching and learning situations. This complexity further makes the students very anxious by worrying too much about the possible negative outcome of the test. These anxious feelings become so high that they affect the adequate preparedness of the students.

ii) Lack of Implementation of Other Alternatives: There are many ways of testing students understanding of the instructional materials. It has however been established that the most practiced means of evaluating educational instructions is through testing. If other available and acceptable means of evaluation such as continuous assessment, project assessments and assignments were adequately used, the anxiety in high-stakes testing would probably not have reached the present level.

iii) Evaluative versus Competitive Functions of Tests: In almost every practicable educational system, the competitive functions of test seem to be given special consideration at the expense of the evaluative functions. Ideally, a test is to evaluate whether or not students have been able to comprehend the instructions that have been passed to them, and to decide on those who need some remedial attention to be able to catch-up. In practice however, right from pre-primary school stage to senior secondary school level, positions are announced, using the outcome of the test. At the end of secondary school education there comes yet another competition where students have to sit certificate examinations (SSCE – WAEC/NECO) as well as selection examinations into tertiary institutions (UTME - JAMB). All these seriously create avoidable tensions in students as they become very anxious and

agitated. They become unsure whether they would do well or not and ponder more on the consequences of performing poorly.

2.04. Symptoms of Test Anxiety

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' unpreparedness 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 self-defeating 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).

Emotionality and worry are the major factors considered to indicate the prevalence of test anxiety in individuals. 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 can manifest itself in many ways. Educational Testing Service (2005), George Washington University (2011) grouped the symptoms of test anxiety into the following categories:

2.04.1 Physical Symptoms

- Headaches
- Blurred vision
- Chest pains
- Nausea
- Dry mouth
- Cramps
- Sweating
- Tensed muscles
- Queasiness
- Perspiration and physical fatigue
- Pins and Needles
- Frequent use of toilet
- Hands/Body/Legs shaking
- Faintness/Fainting

- Hot flushes
- Choking sensation
- Jelly like legs
- 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
- Blushing

2.04.2 Emotional/Mental Symptoms

- Feelings of bewilderment
- Going mad
- Indecision
- Suggestibility

- Loss of confidence
- Difficulty concentrating
- Disintegration/Depersonalization (a feeling of falling apart)
- Afraid of making a fool of oneself amongst others
- Feelings of guilt/Sorrow/Disgrace
- Short term memory loss
- What's the point/What's the use
- The struggle is becoming/Has become too much
- Feeling alone/Lost within oneself
- Perfectionism
- Little or no motivation
- Fear of the unknown
- Feelings of unreality (such as)

  *Detached from surroundings

  *In a maze

  *Dark tunnel

  *Deep hole

  *In a different world

  *Mentally detached

- Obsessive thoughts
- Compulsive actions

- Fear of harming someone
- Weird strange thoughts
- Thoughts of suicide
- Thoughts or songs that won't stop
- Overwhelmed by sadness
- Overreacting mentally/Emotionally/Verbally
- Becoming short tempered
- Fear

2.04.3 Behavioural Symptoms

i) Inability to act

ii) Inability to make decisions

iii) Inability to express oneself

iv) Inability to deal with everyday situation

v) Difficulty in:

* reading and understanding

* organizing thoughts

* retrieving key concepts.

2.05 Diagnosis of Test Anxiety

There are different ways of diagnosing test anxiety disorder by different helping professions. They use critical observations based on the list of some symptoms which serve as general guideline for making the diagnosis. These observable symptoms include the physical, physiological, psychological as well as behavioural symptoms as listed above. In addition to

these observations, the Diagnostic and Statistical Manual of Mental Disorders (DSM) is also used as a guide.

The DSM IV groups psychiatric disorders into 16 major diagnostic classes such as mood disorders, anxiety disorder and substance abuse disorder. The entry for each disorder includes the definition and a list of signs and symptoms that can be used as diagnostic criteria (Woods, 2009). The DSM entry also refers to some physical or laboratory tests that may help in reaching a diagnosis. It also includes information on the typical age at which the disease or disorder occurs, how it changes over time, the number of people affected in general population and whether it occurs frequently in members of the same family.

According to DSM IV, the definition of test anxiety is subsumed in the definition of general anxiety. Woods also declares that test anxiety description and conditions are most closely associated with DSM description of social phobia which is characterized by marked and persistent fear of social or performance situations in which embarrassment may occur. To be diagnosed as suffering from social phobia (and by extension test anxiety), the DSM IV states that an individual must:

i) show an immediate anxiety response to the feared social or performance situation;

ii) show attempts to avoid the social or performance situation, or sometimes endure it but with extreme fear;

iii) experience a significant disruption of normal activities due to the avoidance or fear associated with the situation;

iv) have experienced the symptom persistently for at least six months.

2.06 Dimensions of Test Anxiety

Early studies did not seem to have bothered about the dimensionality of test anxiety. They seem to have implied its one dimension. McCarthy & Goffin (2005) explained this by saying that it is noteworthy that although Mandler and Sarason, (1952) implicitly conceptualized test anxiety as one-dimensional, they did not explicitly test the dimensionality of their measure. Liebert and Moris 1967 (cited in McCarthy & Goffin, 2005) proposed that test anxiety consists of two major components as follows:

i) **Worry -** This was seen as the concern about the outcome of a test and particularly the fear of possible failure.

ii) **Emotionality –** It is the automatic arousal experienced as a result of the testing situation, which is the bodily tension.

Developments in the studies of test anxiety later came out with four dimensions of the disorder. Sarason (1984 as cited in McCarty & Goffin, 2005) came up with four dimensions as follows.

i) **Tension –** It refers to the feelings of nervousness before, during and after the test.

ii) **Symptoms –** The experiences an anxious student feels, which include psychological, physiological and behavioural signs of the tension which indicate the test anxiety of the student.

iii) **Worry –** As explained elsewhere, it is the feeling of concern about the possibility of performing poorly in the test and the consequences of the failure that bring about excessive worry to the students.

iv) **Test irrelevant thoughts –** These irrelevant feelings are symptoms of test anxiety and distract the attention of the students from issues that have to do with preparation for the test. Such anxious students can therefore not focus on, and adequately prepare for the test.

These two different dimensionalities which are two dimensions and four dimensions have generated a lot of debates. The researcher's view is that the four dimension symptoms are only expansions of the two dimension symptoms. This is in line with McCarthy & Goffin's opinion that the two-factor dimension has achieved more support in the educational realms, as symptoms seen to be manifestations of the internal tension, while the irrelevant thoughts are also the manifestations of the excessive worries of the anxious students.

Driscole (2004) also gave his dimensionality of test anxiety to include poor cognition and emotionality. The two dimensions were explained in his manual of Westside Test Anxiety Scale. The explanation is as follows:

i) **Poor Cognition:** This is the difficulty or inability of students to comprehend the course content they study especially when they are preparing for a test.

ii) **Emotionality:** This is the physical instability of the students who express the symptoms of test anxiety especially when they are preparing for test.

2.07 Effects of Test Anxiety

Test anxiety can affect anyone – primary or secondary school students, college students and employees who have to take test for career advancement or certification. The researcher had a

personal experience. In 2008, while some of my colleagues and I who were due for promotion sat in a large hall, waiting for the distribution of question papers to write promotion examination, a very senior staff burst into tears as a result of the tension that manifested her test anxiety. Test anxiety therefore has no boundary. Existing data in the literature regarding test anxiety have provided strong evidence that high-test anxiety occurs frequently in American school-age and college-age population, and it is also a most conspicuous psychological obstacle faced by Chinese middle-school and college students (Chen 2004). The situation may not be different in Nigeria as evidenced by examination malpractices, examination failures and examination avoidance (JAMB 2011, WAEC 2011 & Faleye 2010).

Test Anxiety has a lot of effects on anxious students, which according to University of Buffalo (2011) include the following:

i) Having difficulty in reading and understanding the questions on the exam paper.

ii) Having difficulty in organizing one's thought.

iii) Having difficulty in retrieving key concepts when answering essay questions.

iv) Performing poorly in an exam even though you know the materials.

v) Mental blocking – going blank on a question, and remembering the answer to questions as soon the exam is over.

2.08 Some Correlates of Test Anxiety

Correlates of test anxiety are those variables which have mutual or complementary relationships with test anxiety disorder. Such relationship may be that of cause and effect, or

complementary. From available literature, studies have been conducted on test anxiety as it relates to other variables. Mandler and Sarason (cited in Robinson, 2011) declare that test anxiety has been studied as a construct for more than 50years. The following are some of the variables that have been compared and found to have significant relationships with test anxiety in some studies:

2.08.1 Test Anxiety and Low Performance

An optimal level of arousal is necessary to best complete a task such as an exam, performance, or a competitive event. However, when the anxiety or level of arousal exceeds that optimum, the result is a decline in performance. (Wikipedia, 2011). The relationship between test anxiety and performance has for long been established. Variations as to the nature of the relationships have however been a source of intellectual debate. Is it test anxiety that causes low performance in test or is it low performance in test that causes test anxiety? Whichever causes the other, it has been found that there is negative correlation between the two. The negative relationship simply means that the more a student is test anxious, the less his performance in the test (Mahmood & Rana, 2010).

Tobias (cited in Robinson 2011) proposes the latter causal relationship where previous low test scores are caused by inadequate study skills and or poor test-taking skills, which in turn cause test anxiety. There are other studies that have however found that the relationship is more of a correlation than a causal one. Such studies concluded that it is plausible to say that low achievement causes test anxiety as to say that test anxiety causes low achievement. Humpree (cited in Robinson, 2011) also conducted a meta-analysis with a wide coverage of

test anxiety disorder. Among others, the study found that in 2004, more than one-third of school age children in the USA had some form of test anxiety.

2.08.2 Test Anxiety and Self-esteem

Self-esteem is the attitude of self-acceptance and self-respect. It is a feeling of being worthy, moving away from being dependent on others' views of oneself towards valuing one's own positive views of oneself (Sharf, 2004). Studies have also shown a significant relationship between test anxiety and self-esteem. Robinson(2011) states that there is a strong negative correlation between self-esteem and test anxiety among test anxious students. Students with high test anxiety tend to have external locus of control, which means that they have little control over their lives. Test anxiety is therefore positively related with defensiveness and both general state and trait anxiety but negatively related with dominance. Cassady's study (cited in Robinson 2011) also concluded that cognitive test anxiety is associated with detrimental perceptions and behaviours in all phases of the learning testing situation.

2.08.3 Test Anxiety and Sex Difference

Probably owing to the traditional sex roles among others, females have shown more evidence of test anxiety than their male counterparts. According to Robinson (2011), females are typically more prone to test anxiety than males, with the difference peaking during grade 5 through 10 and declining thereafter. Robinson also pointed out another study which found out that there was a small inverse relationship between test anxiety and GPA, a further detail of which showed low test anxious female graduate students had significantly higher GPA than high test anxious female graduate students but that there were no GPA differences between low and high anxious male students.

2.09 Theoretical Background of Test Anxiety

Practitioners in the helping professions have at various levels tried to theoretically explain the nature of anxiety in general and test anxiety in particular. It is however evidently difficult to say that there is a single cause of anxiety (Rivera, 2011). The cause is usually a confluence of factors encompassing several levels of human existence. It would have been helpful to say for this disorder one should use this treatment or the other, but is not possible because clients do not fit easily into specific categories. They often have problems that overlap several areas of diagnostic criteria. (Sharf , 2004)

With advances in theoretical formulations to explain human behaviours, theories were developed which among other things explained the test anxiety. Anxiety as explained elsewhere describes an emotional state in which people feel uneasy, apprehensive, or fearful. People usually feel anxious about events they cannot control or predict or about events that seem threatening or dangerous (Buffen & Barlow 2009). Test is an example of the events that precipitate anxiety because students cannot control or predict it. They may feel very anxious on anything that has to do with an important test which they must write. This is because they cannot predict the test questions and have no certainty in getting a good result.

Many theories in counselling and psychotherapy professions have either directly or indirectly dwelled on the issue of test anxiety because it is very important in the psychological wellness of human beings. They all attempted to explain the concept and mechanisms of the disorder. The psychoanalytic theory, the Biological theories, the Environmental theories the Learning theory and the Behavioural theory are hereby briefly discussed. Specific efforts were also

made in conceptualizing theories on test anxiety. However, this does not suggest that the solutions to the disorder are found in the theories.

2.09.1 Psychoanalytic Theory

Freud's view of human development and behaviour is a dynamic one, based on the conflict between the conscious and the unconscious as the individual struggles to cope with life's problems. Freud viewed behaviour disorders such as test anxiety as a conflict between Id impulses and social constraints or their internalized superego equivalents which were handled by repressions and that such repression are only frozen. The frozen conflicts however remain active and unconsciously influence adult behaviour and lead to symptoms of behaviour disorder. For psychoanalysts, the prevalence of test anxiety may be connected to a childhood experience which has been repressed but remains active in the unconscious level. That is why the test anxiety victims are quite conscious that their abnormal behaviours are realistically causing them a lot of trouble, but the subconscious level is so strong and therefore cannot resist the anxious feelings.

Anxiety is therefore an important aspect of the psychoanalytic theory and practice. According to the theory, anxiety institutes appropriate mechanisms of defense against certain dangerous situations. As described by Freud, the dangerous situations include fear of abandonment by or the loss of a loved one (the object). The risks of losing the object's love the danger of retaliation and punishment and finally the hazards of reproach by the superego (Sharf, 2004).

A typical test-anxious student may not only be anxious about the content of the test but also more importantly about the outcome of the test. He might be scared about the possible 'abandonment' by his parents if he fails to pass the test, especially as he might have been

threatened by them, though with the aim of making him pass the test. This is clearly exemplified in situations where parents promise their children some presents if they pass some high-stakes tests, or threaten to withdraw some privileges if they flunk. The child also becomes scared of possible blames and criticisms. Self reproach may even be more catastrophic because it may even lead to low self-esteem, resulting from the eventual failure to pass the examination.

Psychoanalysis continued even after the founder – Sigmund Freud. Various psychoanalytic schools sprang up but adopted different names to indicate that they differed in some issues from the main psychoanalytic theory. For Alfred Adler, he differed from Freud by stressing that the motivating factor in human life is the sense of inferiority. Because inferiority is intolerable, the compensatory mechanisms set up by the mind may get out of hand, resulting in self-centered attitudes. A highly test-anxious student may for the fear of failure in a test go extra length in perpetuating examination malpractice to avoid the negative consequences of failure. This unethical conduct may all be at the expense of getting cognitively and psychologically prepared for the test early enough.

Another psychoanalyst who also attempted to explain test anxiety is Karen Honey. She worked primarily on therapy and neurosis. She categorized neurosis into two types – situation and character neurosis. Situation neurosis arises from the anxiety attendant on a single conflict such as being faced with difficult situations. Although this situation temporarily paralyzes the individual, making it impossible for him to think or act efficiently, such neurosis are not deeply rooted. A test-anxious student may therefore find himself in a complete blackout when in the examination hall and also manifest some other symptoms of test anxiety. Soon after the threatening situation changes, he gets back to his normal self which explains

Honey's claims that situation anxiety such as test anxiety is not deeply rooted. The other character anxiety is however deeply rooted and characterized with basic anxiety and hostility. A typical example of this is panic disorder. People with panic disorder cannot predict when it will come and this unpredictability adds to the anxiety so much that they may be forced to limit their activities outside the home.

2.09.2 Biological Theories

Biological theories use the biological set of human body to explain anxiety and what triggers it to the level of behaviour disorder. Rivera (2011) explains these biological set up under the following headings;

i) **Regulation of Human Brain Chemistry:** Researches in the brain chemistry suggest that imbalances in the chemistry of the brain may be a major biological cause of anxiety disorder. That is why the regulation of certain neurotransmitters in the brain such as serotonin and epinephrine has positive effect in controlling anxiety disorder. These chemicals are known to play vital roles in the management of mood emotions and sleep patterns.

ii) **Changes in Brain Activity:** Through the use of brain imaging technologies, brain activity levels of people with anxiety disorder have been studied. Anomalies in blood flow, metabolism and structural anomalies have been observed with people having anxiety disorder.

iii) **Genetic Factors:** Since sometimes anxiety disorders run in families, it follows that genetics play important roles in the disorder. Those who have members of their family with history of anxiety disorder are more likely to develop such disorder. Further analysis

however shows that among the types of anxiety, panic disorders have the highest genetic indices from all anxiety disorders.

iv) Medical Conditions: Some medical conditions also render their sufferers more vulnerable to anxiety disorders than healthy individuals, especially the conditions that affect the brain, heart, lungs, or glands.

This theory suggests that test anxiety may be related to any of the biological/physiological conditions listed above. The conditions however seem to be lasting conditions and more directly linked with the character anxiety than situation anxiety like test anxiety or object anxiety like fear of a cat. Individuals with any of such conditions listed are however more likely to develop test anxiety than other individuals.

2.09.3 Environmental Theories:

i) Traumas: People that have experienced strong anxiety provoking experiences in their lives are more likely to have anxiety disorder. Such experiences may be traumatic and specific such as watching an individual dying. Sometimes the cause of the trauma may even be hidden to the individual.

ii) Abuse: Experience of abuse in the early life of an individual may cause him to have anxiety disorder. This abuse may be physical or psychological in nature and may not necessarily be seen as significant in making an individual highly anxious.

iii) Neglect: Parental neglect in the early stage of human life may also result in developing anxiety disorder later in life. Children who don't feel appreciated and supported in their early developmental stages are more likely to develop anxiety disorder.

iv) Stress: Experiencing stress in early childhood may make individuals develop anxiety disorder. The stress could be about finances, relationships, careers or about experiencing intense inner tension for extended period of time. Though it is very difficult to control stress, reaction to it may be effectively controlled through counselling.

2.09.4 Learning Theory

The learning theory of Dollard and Miller is often viewed as unique, as they tried to integrate their learning theory with Hullian behaviourism, psychoanalytic view of human behaviour and personality and the contribution of other social sciences to the social condition of learning. The theorists opined that most part of human behaviour is learned. We learn our fears, our feelings of guilt, anxiety, shame and loneliness. They listed the following as fundamentals of learning theory:

i. Drive
ii. Stimulus
iii. Response
iv. Reinforcement.

In applying learning theory to therapeutic situations such as in the control of test anxiety, they explained that the fear drive can be used as the basis for new learning. Fear is seen as part of the many socially learned drives such as guilt, shame, pride, the need for social conformity and the desire for money or power. They consider learning of personality as being learning and unlearning of neurosis.

In the prevalence of test anxiety, it is the fear of negative consequences that continues to inevitably bring the physical reaction which can be observed with a highly anxious individual.

The fear of failure in the test for example is what makes the test anxiety victim continue to feel anxious so much that he can no longer hold himself and make deliberate effort to pass. How then can we control this fear, which will in turn control the thought that results in the confusions that manifest during the state of test anxiety? Uba (1989) says that since fear is the crucial cause, extinguishing the fear is the crucial element of the cure. Dollard and Miller used many of Freud's techniques such as transference, dream interpretation and free association. The concepts of generalization, discrimination and extinction are especially crucial in their therapy. For Sharf (2004), another key principle of basic learning is that of learning through observation. Implicit in the study of behaviour is that behaviour has antecedents and consequences.

2.09.5 Theory Conceptualization of Test Anxiety

As mentioned elsewhere in this work, the first known systematic investigation of test anxiety was done at Yale University, in 1952 by Sarason and Mandler. This study reported that individuals low in test anxiety outperformed those high in test anxiety. Since then, the construct has been extensively researched. Consistent research findings have been relating test anxiety to poor performance on test and achievement tasks. A number of theories have been proposed to explain the results. One line of thought attributes poor performance to high-anxious individuals to the interfering effect of anxiety in evaluative situation. This is called interference model. It assumes that test anxiety interferes with retrieval of previously learned information in test situation by producing test irrelevant responses.

This assumption continued to gain grounds until when a study was carried out which succeeded in reducing test anxiety without corresponding success in improving the academic

performance. As an alternative to interference model therefore, lower performance of high test-anxious individuals was attributed to lower ability and deficient study habit (Hembree 1988 as cited in Bodas & Ollendick 2005). They also cited McKeachie and Holinger 1981 who postulated an information processing model. This model is best viewed as a combination or synthesis of the interference and deficit models. According to this model, poor performance of test anxious individuals can be attributed to a number of cognitive deficits in all stages of information processing, including encoding and organization of deficit reflected in poor studies skills, as well as problems with retrieving information due to interference.

Bodas & Ollendick also cited further attempts which enumerated other potential theories to explain the development of test anxiety. They reported early studies that attributed test anxiety to unrealistic parental expectations as well as school factors such as experience of success and failure. These were some of the early attempt purposely made to develop theories on the concept of test anxiety. The later attempts concentrated on the differential impact of the major dimensions of test anxiety. These aspects are worry, and emotionality. Worry was seen mainly as a cognitive factor, while emotionality was seen as physiologically inclined.

2.10 The High-Stakes Testing

Tests and examinations at all stages of education, especially at higher education levels have been considered important and powerful tools for decision-making in our competitive society, with people of all ages being evaluated with respect to their achievements, skills and abilities (Mahmood & Rana, 2010). High-stakes test refers to any test which has important consequences for the test taker. Performing well in such test usually has some benefits such as admissions, scholarships and the practice of professions. The outcomes of high-stakes tests

are usually the determinants of major public decisions. Failure in such exams also has some disadvantages such as being forced to take remedial classes until the candidate is able to pass the exams to qualify for admission, remaining unemployed, missing promotion chances or inability to acquire professional license. The phrase "high stakes" is traced directly to a gambling term. In gambling, a stake is the quantity of money or other goods that is risked on the outcome of some specific events. The use of the term is to imply that implementing such system introduces uncertainties and potential losses for test takers who must pass the exam to "win" as against obtaining the required scores through other means.

High-stakes are not a characteristic of the test itself, but rather of the consequences placed on the outcome. For example, no matter the type of test used — written multiple choice, oral examination, performance test etc, a medical licensing test must be passed to practice medicine (Wikipedia, 2011). High-stakes test may be of national status such as NECO or JAMB, or of international status such as WAEC or SAT. It may be standardized or achievement test. High-stakes tests have been criticized by many parents and educators, who believe that the outcome of the tests should only be one of the many factors to consider when taking major decisions. High-stakes testing causes stress to students, parents, teachers and school administrators and may in some cases lead to psychological distress so severe that it may also require hospitalization or treatment. The idea that a single test could change the cause of someone's life is also viewed by many stakeholders as distasteful. Several professional organizations like the U S National Council of Teachers of Mathematics have spoken against the role of high-stakes testing because they believe that major decisions require seeking out balanced information including in-class performance, interviews, observations, projects class work and other forms of assessment.

A high level test anxiety in high-stakes tests, when compared with ordinary tests, obviously results in arbitrary and atypical responses. Such response patterns can also produce spuriously high or low total scores that do not accurately reflect the ability levels of the examinees. Such inaccurate test results have great social and economic implications. Drasgow, Leven and Mclaughlin (cited in Chen 2004) describe this problem as follows:

> In academic admissions testing, spuriously high scores can lead to the enrolment of unqualified individuals in undergraduate, graduate, and professional programmes … (and) cause a more deserving student to be denied admission … In employment testing … terminating unsuccessful employees is difficult and can be very expensive if contested in the courts. Individuals who fail to complete a management or vocational training programme conducted by an organization (e.g. a military training school) may cost the organization many thousands of dollars.

2.10.1 Features of High-Stakes Tests

While the immediate targets of the consequences of high-stakes test anxiety are the test takers themselves, the general public is also keenly interested in the outcome of tests that have some high-stakes functions, as the fate of their children are dependent upon such outcomes. In 2011, the lower chamber of the National Assembly was reported to have taken action on the outcome of a high-stake examination. The National House of Representatives took this step in its oversight functions as reported by a daily National Paper as follows:

> The House of Representatives yesterday (20th September, 2011) instituted an investigation into the remote and immediate causes of the recent mass failures of secondary school students in the Senior School Certificate Examination organized by the West African Examination Council and the National Examination Council. … The

House mandated the Committee on Education to carry out public hearing involving all stake holders with a view to arresting the situation. (Daily Trust September 21st, 2011).

This is a characteristic of the high-stakes examinations, especially of a national outlook. No one would have raised any eyebrow if it were a common classroom test which outcome was not immediately useful for high decision taking. In the USA, the number of students who take admission tests has grown dramatically since the early days of these exams. These increases have often been associated with legislative, social and or economic benchmarks (Noeth, 2011). The Joint Admissions and Matriculation Board selection examination which started with a few thousands candidates in 1978 has risen to about 1.5 million candidates in the 2011 UTME (JAMB, 2011). In 2013, about 1.7 million applications into Nigerian Tertiary institutions were received by the Board. All these are necessities of coming up with acceptable tests that would help in determining who goes further to the higher level, and the tests automatically become high-stakes. The Wikipedia (2011) outlined the following as the major features of high-stakes test:

a) It is a single defined assessment: When the results of single tests are used to take decisions about the test taker, then such tests can be considered as high-stakes.
b) It has clear line drawn between those who pass and those who fail. Some test results have the interpretations of distinction, credit, pass or fail. Prior to taking such tests the test taker is aware of these possibilities which are summarized into pass or failure. In some cases, it is after the test results are out that the 'pass' or 'fail' is determined by first deciding the cutoff points.
c) It has direct consequences for passing or failing (which means something is at stake). In high-stakes tests, those who fail are not allowed to progress to the next educational

level, admitted into a higher educational institution or get employed, depending on the purpose of the test. Those who pass on the other hand are rewarded with promotion, admission or employment as the case may be.

Heubert (2002) presented the following measures or criteria as necessities before a test can be considered as high-stakes, as posited by some stakeholders and policy makers:

a) First, policy makers should adopt standards for what students should know and be able to do. The researcher opines that it is very important for the students to be justifiably tested and for the high-stakes test to effectively serve its function. That is why it is difficult to justify the post-UTME tests being conducted by Nigerian universities for undergraduate admissions. If this must continue, and for such tests to serve as high-stakes, there is the need to standardize them throughout the country, or better still improve the effectiveness of JAMB examination which already has a national standard.

b) Second, policy makers and educators should strive to bring the curriculum into alignment with the state's standards; according to Lauren Resnick, a national leader of the standards movement in the USA, many states are still experiencing problems at this stage. This standard is also evidently missing in a multiple of tests in the post-UTME as each university decides on the content of its test and its interpretation.

c) A third step is to bring actual instruction in line with the standards and curriculum. This objective is a challenging one, requiring substantial investments in staff development. Teachers and administrators, who are increasingly called upon to serve as instructional leaders need considerable training, about how to enact the new

curriculum, how to identify the aspects of the curriculum that create problems for students, and how best to address students' learning needs (Elmore, in Heubert 2002). Some institutions will also have to upgrade facilities. Here, too, there is evidence of major gaps about the limited overlap between state standards and what teachers teach.

2.10.2 Criticisms of High-Stakes Tests

Although playing significant assessment roles in educational systems, high-stakes tests have been criticized in both developed and developing countries. These criticisms cover the structure, administration and even the purposes the exams are targeted to serve. In Nigeria, the establishment of the Joint Admissions and Matriculation Board in 1978 resulted in serious public criticism, including the students in the universities who the Board was supposed to serve. The JAMB MUST GO strike was basically against the existence of the Board being the only constitutionally legal body that was to organize and administer entrance examinations and determine the admission criteria into the Nigerian Universities. The high-stakes function of the Board's examinations was therefore the source of worry to the public and not the establishment of the Board as a public office.

Until the enactment of the No Child Left Behind Act in the US, states had some leeway in determining whether to attach high-stakes to the test results. However, with the passage of this act, every state-mandated testing programme has become high-stakes for schools and districts. One outcome of such an emphasis on high-stakes tests is increased pressure on public school practitioners to raise scores. These pressures can lead to a distorting effect on teaching and learning. (Gulek, 2003)

Even then, the situation of serious criticism is hardly different. Mara (2001) described the whole system as engaging in practices and policies which are against equity and liberty which were encapsulated in the national educational programme titled "No Child Left Behind" (NLCB). The description is as follows:

> Consider the activity called "*The Level Playing Field*." The participants line up across the center of a room, holding hands and facing forward. The leader gives various directives: (1) If both of your parents attended college, take one step forward; (2) If English is not your native language, take one step backwards; (3) If you went on family vacations every year, take one step forward; and (4) If you ever went to bed hungry, take one step backwards. As various descriptions of privilege and oppression related to race, gender, religion, class, sexual orientation and language are read, the line is broken; some people move forward, and others back. Before long, the players are no longer able to hold hands because they are too far apart. The leader then announces that since we have a "level playing field" in our country, we will have a race, and "success" is designated as the front wall of the room. "When I say 'Go'," says the leader, "I want you to race to the front wall." When the leader says this, those in front (generally white, male, Christian, able-bodied, heterosexual, native-English speaking, upper-middle-class people) usually do not have to move at all because they are right at the wall of the room. (Mara, 2001)

The effects of high-stakes testing programmes on outcomes such as retention, graduation, and admission into academic programmes are different from the results of using grades alone. High-stakes tests generally have consequences for schools as well as for the students themselves — for example; monetary support may be withdrawn from schools that fail to improve scores. Parents tend to withdraw their children from schools whose end of school

certificate results are not encouraging. The quality of teaching staff and other facilities hardly attract the interest of students and parents because such results among others determine whether or not the students can be admitted into the Nigerian tertiary institutions (Robert & Margaret 2001). From available data, the population of any high-stakes exam goes higher and higher every year. Since the purposes of high-stakes exams are usually for selection or certification, those unable to scale through are advised to retake the examinations in the following years. With this experience, the population of unsuccessful candidates continues to skyrocket (JAMB, 2011). This overpopulation also throws a very big challenge to the examination bodies to the extent that when one loophole is blocked several others are opened. The situation is not only common with examinations conducted in the developing world, but also in the developed world. A critique of a high-stakes exam in Minnesota of USA made the following comments:

> In the year 2000, 8,000 Minnesota students flunked a test they actually passed. The company the school district hired to grade the test erroneously down-scored them. Fifty of these belonged to seniors, and for them this was a life-changing screw-up, derailing college admissions, graduate parties and the chance to stand in cap and gown with their classmates. A year later, another test-scoring company mis-scored 1,800 tests in Pennsylvania. In a few weeks, we'll surely hear about this year's blunders (Weivoda, 2002).

In the 2013 UTME, JAMB was all out to curb examination malpractices by making it compulsory that candidates' finger prints must be captured on the biometric verification machine. This was to ensure that no one would write the exams except the registered candidates. Since the Board had put everything in place and trained operators of the machines, it decided that any candidate whose finger print was not recaptured before writing the exams

would not get his or her result; because it could not be proved that the registered candidate was actually the one that sat the exam. This resulted in over 25,000 results being withheld. Because of the high-stakes function of the exam, this generated public criticism that the federal government had to intervene.

Ebel (cited in Sambo 2012) listed the following as the major criticisms against tests, which are also applicable in some high-stakes tests:

i) Early categorization of students according to their abilities as intelligent or dull often follow the students in their lives:

ii) Uncertainties about the validity and reliability of test items before test administration;

iii) Test biasness. Some tests reflect social class and cultural biases. Children who are born and brought up in different environments are disadvantaged;

iv) Tests are also seen as invasions into individuals' privacy;

v) Sometimes test results are also hidden from the testee, who it is meant to serve;

vi) It is also argued that testing bodies dictate what students should be taught instead of the teacher who passes the instructions to the students;

vii) Tests sometimes encourage students to learn test taking skills rather than the skills intended by the instructions passed to him;

viii) Tests are also used in taking mechanistic decisions on the testee. In so doing, individual and other differences are hardly considered;

ix) Tests also over emphasize competitions rather than the assessment of achievement.

The Wikipedia (2011) also listed the following criticisms against high-stakes examinations:

a) **The test does not correctly measure the individuals' knowledge or skills.** A test may end up measuring whether or not a candidate has read a particular book rather than an intended test of reading skills. This means that a student with low reading skill but who has read the book used in testing the skill is more likely to perform better than a student who has a higher reading skill but has not read the book before. If this happens, then the essence of the test is defeated.

b) **The test may not major what the critique wants to measure.** When legal ethics are thought, the evaluation test may end up testing the students' fundamental knowledge of legal system rather than legal ethics. It is also one thing to have knowledge of the ethics and another thing to actually be guided by the ethics.

c) **High-stakes testing also causes stress for some students.** Critiques also suggest that since some people perform poorly under the pressure associated with test, any test (especially of high-stakes) is likely to be less representative of their actual standard of achievement than a non-test alternative.

d) **High-stakes tests are often given as a single long term.** Some critiques prefer continuous assessment instead of one larger test. This is a clearly supportive argument, because several extraneous factors are more likely to interfere with the validity of a single test than a continuous assessment. APA (cited in Wikipedia 2011) opposes high school exit examinations, saying, "Any decision about a student's continued education, such as retention, tracking, or graduation, should not be based on the results of a single test, but should include other relevant and valid information."

e) **High-stakes testing creates more incentives for cheating.** This is very logical because cheating on a single critical exam may be easier than either learning the required material or earning credit through attendance, diligence or many smaller tests. More examinees that do not actually have the necessary knowledge or skills but who are effective cheaters may pass the test at the expense of those that strictly follow the rules and regulations of the exams. When the outcome of the test is used to determine the teachers' pay, the teachers are also likely to fraudulently aid the cheating.

f) **Sometimes a high-stakes test may be tied to controversial reward.** Criticism is usually framed on over-reliance on a single measurement when looked at from the view of social justice. If the absence of the tested skill is not the fault of the test taker but probably that of his unqualified teacher while the other candidate was trained by fully qualified teachers, then there is no social justice. An absence of skill may not be the test taker's fault, because high-stakes tests measure only skills proficiency, regardless of whether the test takers had equal opportunity to learn the material. Additionally, wealthy students may use private tutoring or test preparations programmes to improve their scores. Critiques see all these as being unfair to students who cannot afford additional educational services.

g) **Negative consequences of repeated test failure.** The negative consequences for repeated failures in high-stakes exam can be very high for the individual. A person who fails a trade test may remain unemployed if success in the test is the condition for his employment. A law graduate may be prevented from practicing if he does not pass the law school exams. The person may also suffer social embarrassment when

his acquaintances discover that his failure to pass the test is the cause of his predicament.

h) **Outcomes of high-stakes tests are sometimes politically influenced.** Sometimes the outcome of the test is also politically determined as the passing or failing may be reviewed to serve some political purposes.

2.10.3 Preparing Students for High-Stakes Tests

Despite the numerous criticisms illustrated in this study, the problems inherent in the preparation, administration and scoring of high-stakes examinations can be drastically reduced. Adequate and appropriate test preparation plays an important role in helping students demonstrate their knowledge and skills in high-stakes testing situations. Norton and Park (cited in Gulek 2003) found a significant relationship between test preparation and academic performance. Chittooran and Miles (also in Gulek, 2003) concluded that adequate test preparation significantly improves students' attitude toward test taking and, hence, actual performance on high-stakes tests. In a meta-analytic study of test preparation practices referred by Gulek, five types of test preparation practices that can help students to fully demonstrate their knowledge and skills on high-stakes tests were listed as follows:

(a) Teaching the content domain;

(b) Using a variety of assessment approaches and formats;

(c) Teaching time management skills;

(d) Fostering students' motivation;

(e) Reducing test anxiety;

(f) Ensuring the quality of assessment data;

(g) Utilizing multiple indicators to inform educational decisions.

Each of these is discussed in more details as follows:

a) Teaching the content domain

When high-stakes are attached to the test results, there is the tendency for educators to emphasize the objectives from the content domain that are sampled on the test. More often, instructions become limited to the content areas that teachers know will be tested, and other content areas are neglected. A teacher should not engage in instruction that addresses only those portions of knowledge included on the test. While this may raise scores, it will not build students' knowledge and skills in the broader subject area. Inappropriate test preparation practices focus only on raising scores on the test. In order to give students a fair chance to demonstrate what they know and can do, it is essential to expose them to all curriculum objectives to be mastered at their grade level. When this is done, test scores will most likely take care of themselves.

b) Using a variety of assessment approaches and formats

Apart from preparation for tests, it is a good educational practice to expose students to a variety of assessment approaches and formats because this allows them to apply their knowledge and skills in multiple learning situations. In addition, because students have different learning styles, using multiple modes of assessment gives the teacher more

opportunities to see what students know and can do, and to adjust instructions accordingly. Probably because of the cost of production, administration and assessment, some high-stakes examinations prepare to use Multiple Choice Questions (MCQ). There are however other bodies that combine MCQ, open ended and essay questions, practical, field works etc. This seems to be a better choice because students have different learning styles as well as different ways of expression of their learning outcomes.

c) Teaching students time management skills

One thing that can hinder students' ability to perform well on a high-stakes test is the lack of time management skills. Jakupcak & Rushton (cited in Gulek, 2003) found that when teachers in their study focused on teaching time management skills, all students, including those with disabilities, demonstrated proficiency on the course exams. Clovis (also in Gulek, 2003) suggests that the most direct and simple way to build time management skills is to give a few tests with time limits throughout the year so that when faced with a timed test, students do not panic. Time management skills in other areas (e.g., studying for tests) can also produce better performance on the test. For example, Loulou (also in Gulek, 2003) suggests three ways to help students study for a high-stakes test:

1. Daily Reviews - Have students conduct short reviews of lecture notes before and after classes. Recommend that they should begin to review after the first day of the classes.
2. Weekly Reviews - Suggest to students to dedicate about one hour per subject to review assigned reading and lecture notes.

3. Major Reviews - Have students start the week before an exam by studying the most difficult subjects and when they are most alert. Suggest that they study 2-5 hours with sufficient breaks. When possible, have them review their answers to tests given during the year so that they can see where they made mistakes.

Time management is not only a skill needed for performing well on high-stakes tests; it is also a skill that a student can use at every stage of his life. Teaching students time management skills will increase their chances of performing well in high-stakes testing situations.

d) Fostering students motivation

A positive outlook about high-stakes tests is nearly as important as one's knowledge of the content area that will be tested. Attitude plays a significant role in students' performance, particularly at the lower grades. Gulek, (2003) cited findings from studies that suggest school practitioners need to understand the motivation patterns of students and use this understanding to help students prepare for the types of high-stakes tests they are required to take. Five factors were suggested for increasing motivation through classroom instruction:

i) Learning and knowledge goals - setting core learning goals that are co-developed by the teacher and the students;

ii) Real-world interactions - making connections between the academic curriculum and the personal experiences of learners;

iii) Interesting subject content - students will devote effort, attention, and persistence to topics that are enjoyable and intriguing;

iv) Strategy instruction - providing direct instruction, scaffolding, and guided practice. Development of intrinsic motivation is strongly dependent on students' competence;

v) Praise and rewards - giving informative compliments that make learners feel a sense of accomplishment and pride in their work.

e) Reducing test anxiety

With the greater emphasis on high-stakes tests, test anxiety is becoming a troublesome and common condition among students in schools. Research indicates that test anxiety may exert a debilitating effect on student's performance. The higher the anxiety level, the lower the student performance. (Berliner & Casanova, 1988; Hancock, 2001; Smith, Arnkoff, & Wright, 1990 in Gulek, 2003). Supplying anxious students with improved test-taking strategies and effective problem-solving skills to replace unproductive worrying seems to work best. Protheroe & Perkins-Gough (cited in Gulek, 2003) suggest to teachers the following methods for reducing test anxiety:

i) Help students prepare ahead of time and provide information about the test. Knowing what to expect increases students' confidence.

ii) Offer positive reinforcements for students' capabilities and work. Starting the test with a sense of success increases the likelihood of higher test performance.

iii) Help students recognize when they are under stress and teach them how to deal with it. Point out that everyone experiences some anxiety during testing, and note that a low level of anxiety in testing can be beneficial for test performance because it makes one alert.

iv) If students are taking more than one test in a sitting, give them the opportunity to relax between tests. Allowing students to take a break might help reduce tension.

f) Ensuring the quality of assessment data

High-stakes tests are meant to improve students' learning and instructional programmes, and also enhance public accountability, confidence, and support in the services that schools offer to students. In order to make the best use of the results, the assessment data must be of high quality. One of the most important standards is that decisions that will have a major impact on students should not be made on the basis of a single test score, and that other relevant information should be taken into account. It also suggests that multiple test forms be used if there are repeated administrations of an assessment and that the tests used should be technically sound.

g) Utilizing multiple indicators to inform educational decisions

Given their seemingly objective nature (as well as the way they are publicized), there is a temptation for school practitioners to emphasize test scores when making decisions about students or programmes. Traditionally, the single indicator used has been a norm-referenced test. Apart from the dangers involved in using results from a single test to make consequential decisions about students or programmes, alignment studies in various states in the USA show that norm-referenced tests are limited in covering state-adopted standards. Where there is misalignment of this sort, using the test results to make decisions about students learning in relation to the standards could be misleading. With the standards movement, nearly all states are using criterion-referenced tests that are aligned with the state standards. Data from such

assessments can lead to better educational decisions because they are based on student performance in relation to the state-adopted standards. At the same time, the most appropriate approach, particularly when high-stakes are involved, is the use of multiple indicators. Scores from high-stakes tests may prove to be of benefit in decision-making if they are coupled with data from district assessments, classroom assessments and observations, and socio-educational factors such as attendance, tardiness, and grade point average (Gulek, 2003).

Heubert (2002) describes some views on measures that policy makers should take if they choose to use tests for high-stakes purposes. These majors are:

a) First, tests should not be used for high-stakes purposes until schools are actually teaching students the relevant knowledge and skills.
b) Second, test users should make sure that a high-stakes test is valid for its intended purpose. This may sound obvious, but it is not something every test user does. For example, a test designed for admission purposes should not be used for employment selection and vice-versa.
c) Third, test developers should take students with disabilities and other groups into account beginning with initial test development, and should take steps to ensure that the test is equally valid for all major student populations that will take it
d) Fourth, test users should not rely solely on test-scores information in making promotion and graduation decisions or for admission purposes etc. Instead, they should look at multiple measures of students' achievement and readiness, and allow high achievement on one measure to balance lower performance on another.

e) Fifth, a test use is inappropriate unless it leads to the best available treatment or placement for students. This means that test users should refrain from using test scores (or other information) to justify educational decisions that are demonstrably harmful to students. Based on the weight of research evidence, two placements or treatments that typically harm students are retention in grade (repeating) and placement in typical low-track classes. Retention and low-track placements are inimical to the goal of helping all students reach high levels of achievement. Both are inconsistent with the principles of appropriate test use.

f) Sixth, the debate over high-stakes testing often frames the issue in "either-or" terms: Either we promote a student who is not ready or we retain him in a grade. Either we give someone a diploma or we deny him a diploma. Neither of the alternatives is attractive of course, because there is almost always another and better approach. Any information schools can use to make a promotion or graduation decision can be used years earlier before the "gate" is reached to determine which children are performing poorly and to help them get the support they will need to be able to meet high standards. Teachers typically know, long before a promotion or graduation test, which students will need help if they are to pass.

g) Seventh, tests by themselves do not improve learning any more than a thermometer reduces fever. At best, good tests provide information. It is important that this information, along with information from other sources, be made available in an understandable form to policy makers, educators, parents and students. It is equally important for all concerned to know which policies and practices are more likely to produce improved effective teaching and learning. Educators and parents also need

access to the resources that are required to make the necessary changes in teaching and learning.

h) Finally, these questions call for additional research on what interventions work, on how effective treatments in some settings can be implemented widely, and on how high-stakes testing policies affect students learning and dropout rates, for students generally and for such important groups of students that are disadvantaged.

Sambo (2012) listed the procedures for preparing for examinations into two major stages which are before the test and during the test.

i) Before the test:

* Think of possible questions, covering the format and possible content;

*Write brief summary or commentary;

*Where applicable, recite to yourself the important theories, dates, terms etc;

*Define some key words based on your understanding;

*Synthesize what you have learned from lectures, reading etc;

*Look at the previous similar test you took and the type of questions you may expect.

ii) During the test:

*Read the instructions very carefully before you begin to attempt the questions;

*Understand the marks allocations in the papers and know how to allocate time;

*Budget your time properly to attempt all the required questions;

*Begin with the questions that you can answer more easily;

*Do not give irrelevant answers;

*Allocate time for going over your answers and proofreading them;

*Write legibly, or loose marks that you deserve.

2.11 Counselling and Psychotherapy

Any serious attempt to distinguish between Counselling and Psychotherapy is faced with equally serious, challenges. In the first place, definitions of each of the two concepts vary and therefore make it difficult to effectively understand the similarities and difference between the two. If we were told that exorcism, shamanism and hypnotism or even witchcraft all have something in common with Counselling and Psychotherapy, we would probably be very surprised that they all represent humanity's response to the healing of emotional problems down through the ages (Windy and Jill 1999)

Experience has shown that people who have the interest in the professions that help man solve his problems end up in adding a postgraduate degree in Counselling, Psychology, Psychiatry or Social Work to their first degree. It is an established fact that these fields are interwoven. Several definitions have been given to Counselling and Psychotherapy, probably in attempting to see where they differ. (George 2011)

2.11.1 Counselling

The definition of Counselling has been difficult because of the yet unanswered questions of whether to deal with feelings, thought or behaviours; or whether to be primarily supportive or confrontational, whether to focus on the past or the present. Further, the consumers of counselling services hardly articulate what their concerns are, what counselling can and can't

do for them or what they want when it is over (Kottler & Brown in Summers-Flanagan and Flanagan 2004). This definition might sound very sarcastic but it is the most simple truth in any counselling session, especially during the first encounter. The writers further gave other definitions by earlier writers which may seem more acceptable:

i) "Counselling is the artful application of scientifically derived psychological knowledge and techniques for the purpose of changing human behaviour"

ii) "Counselling is a helping relationship that includes someone seeking and someone willing to give help. The person willing to give help is trained to help in a setting that permits help to be given and received"

iii) "Counselling consists of whatever ethical activities a counsellor undertakes in an effort to help the client engage in those types of behaviours that will lead to a resolution of the client's problems"

iv) "Is an activity for working with relatively normal functioning individuals who are experiencing developmental or adjustment problems"

2.11.2 Psychotherapy

Psychotherapy, which is an older practice when compared with Counselling, has also been described severally. Flanagan & Flanagan (2004) also referred to the following definitions given by early writers:

i) "A conversation with therapeutic purpose"

ii) "The purchase of friendship"

iii) "Situation in which two people interact and try to come to an understanding of one another, with the specific goal of accomplishing something beneficial for the complaining person."

iv) "When one person with an emotional disorder gets help from another person who has less of an emotional disorder"

v) "Psychological treatment of an emotional problem in which a trained person deliberately establishes a professional relationship with the patient in order to:

a. remove or modify or retard existing symptoms;

b. mediate disturbed pattern of behaviour;

c. promote positive personality growth and development."

Psychotherapy has also been described as a process of discovery – a learning process. In this process, the client and the therapist work together to discover what events, situations and relationships in the client's current life or earlier life are leaving him with uncomfortable feelings or ways of dealing with his world. They work towards acquiring new, effective and helpful ways of understanding the client's experiences and the events in his life, his responses to them and the action he takes. (Aluede, 2010)

In psychotherapy, it is assumed that there are aspects of our lives which we are not fully aware of. Our thoughts, feelings, behaviours dreams and reactions to people and events are based on hidden assumptions, expectations and memories of earlier events. It is the helping profession that awakens the aspects of the inner self which have been hidden. A distinction is made among the psychotherapists into two groups – the medical model and the humanistic model. In the medical model, the client is seen as unwell and the therapists employ their skills

to help the client back to health. The humanistic model has more to do with past experiences of the individual, whether or not he is conscious of them. (Wikipedia Free Encyclopaedia)

2.11.3 Major Differences between Counselling and Psychotherapy

While it is difficult to differentiate between Counselling and Psychotherapy, attempts have been made to highlight some issues that suggest differences between the two. These issues are however not without their criticisms. Sharf (2004) identifies some of these differences:

1. Some writers suggest that Counselling is used to help individuals that may be described as normal but only exhibiting some symptoms of behaviour disorders while for Psychotherapy the individual has to be severely disturbed. A major problem in this regard is the distinction between the less and more severe disturbances. That is why most counsellors and psychotherapists use the same set of techniques for clients of varying levels of severity.
2. Practitioners also look at Counselling as mainly educational in nature while Psychotherapy is more personal. This may have been viewed from the origin of the practice of Counselling, starting from the educational setting. The position that Counselling currently occupies has however gone beyond this view. Since both Counselling and Psychotherapy are rendered to people to resolve some issues, it is difficult to say which one does not actually have personal involvement as they are meant to resolve personal problems.
3. The place of operation is also viewed as a means of attempting to differentiate between the two. While counsellors work in such setting as school or guidance clinics, psychotherapists operate in the hospital. As a result of the overlap of patients'

problems regardless of work setting, the line of demarcation is often not clear, and the distinction becomes unhelpful. Gelso and Fretz (cited in Sharf 2004) describe the continuum as having Counselling at one extreme and Psychotherapy at another extreme. What operates within the interval of the two extremes is the overlap between the two.

4. On a traditional perspective, Counselling has been associated with the educational and to some extent Social Work setting, but Psychotherapy has been associated with Psychiatry and medical setting
5. There is another difference in the relationship between the counsellor or psychotherapist and the individual seeking help. While the term *patient* is used most often in the medical setting and to some extent in Psychotherapy, the term *client* is used more frequently in the educational and social service settings where Counselling is carried out.

For George (2011), the lines of demarcation between counselling and psychotherapy are somewhat blurred these days mainly due to the fact that many educational facilities do not distinguish between the two.

6. After the basic counselling skills are acquired, for one to qualify as a psychotherapist, one needs to undergo a study on personal therapy and also study for at least four years. This distinction may be valid at least in the United Kingdom where the writer operates. It may require some extensive study to confirm whether this condition applies to most other countries.

The sequence of training between Counselling and Psychotherapy seem to suggest that Counselling may have developed much earlier than Psychotherapy as one has to undergo

Counselling training and later gain some experience before venturing into Psychotherapy. Windy and Jill (1999) however disagree with this when they say:

> "The use of the word Counselling, as applied to psychological problems appeared during the 1930s, when Carl Rogers was developing his person-centered approach in the United States. At that time in the United States only medical people were legally permitted to practice Psychotherapy. Calling this therapy Counselling enabled him and other psychologists to practice, thus sidelining the legal barrier"

7. In line with the sequence indicated above, George (2011) also declared that the costs involved in completing the training are enormous when compared with the "simple counselling skills" Again the issue of cost implication may depend on the country of training.
8. It is relatively easy for someone to do a short course in Counselling and call oneself a counsellor. But to call oneself a psychotherapist within the British Association of Counsellors and Psychotherapists (BACP) guidelines, one needs to, apart from the four or five years postgraduate training, also practice for certain period of time and must have worked on some patients with significant progress achieved.
9. Sharf (2008) also tried to distinguish between Counselling and Psychotherapy when in an explanation he declared that "At one time, the term Psychotherapy referred to a form of psychiatric treatment used on severely disturbed individuals, whereas Counselling referred to the treatment of people with milder psychological problems, or advice given on vocational and educational matters.

He however concluded that today, the distinction between Psychotherapy and Counselling is quite blurred and many mental health professionals use the terms interchangeably. Psychotherapists and counsellors often treat the same kinds of problems and use the same sets of techniques.

Bond (2000) however asserts that Counselling and Psychotherapy are sometimes used to distinguish between the roles. The criteria for the distinction vary according to the speaker's point of view. He referred to a research earlier conducted to identify the distinguishing characteristics which were summarized as follows:

Table 2.1 Comparison between Counselling and Psychotherapy

	Counselling	**Psychotherapy**
1	Educational	Reconstructive
2	Situational	Issues arising from personality
3	Problem solving	Analysis
4	Conscious awareness	Preconscious and unconscious
5	Emphasis on working with people who do not have severe or persistent problems	Emphasis on 'neurotics' or working with persistent and/or severe emotional problems
6	Focus on the present	Focus on the past
7	Shorter length of contract	Longer length of contract

Although the study was localized to Britain, it appears that it was what obtained in many other parts of the world. Issues arising from difficult relationship at home, making decision,

bereavement etc may be within the scope of Counselling, while issues that are merely symptomatic of something deeper such as low self-esteem, phobias,, obsessions etc may be more appropriate with psychotherapy. (Bond 2000)

Generally, attempts to distinguish between Counselling and Psychotherapy have centered on several types of comparisons. Counselling has been viewed as more appropriate for less severely disturbed people and has been described as more oriented towards immediate specific and practical outcomes than psychotherapy. Psychotherapy on the other hand is directed towards effecting global or pervasive personality change, or towards "curing" mental illnesses or psychopathology.

2.11.4 The Practice of Counselling and Psychotherapy in Nigeria

Contrary to the belief that counselling as a process began in the USA, in the early 1900s, when Clifford Beers raised the awareness of Americans to the treatment of mental illness, or when Carl Rogers attempted to sideline the strict rules for the practice of Psychotherapy (Windy and Jill 1999), it could be argued that Counselling began in Africa and dates back to the origin of man (Aluede 2010). This was when Counselling was informal as no special skills were required to discharge associated responsibilities. Experience in the art which often came with age was all that was required to counsel.

Better still, it may seem more liberal to say that traditional counselling existed in every society and was very effective as it took care of the then counselling needs of the societies. It was the sophistication of the present societies that made traditional counselling became less functional. Schmidt (cited in Aluede 2010) asserted that historical accounts and guidance literature are filled with reference to wizards, fortune-tellers, medicine men, and others who in

their unique and sometimes mystic ways, created the advent of the helping profession. Counselling was therefore seen as the process of directing, piloting, assisting, guiding which was rendered by parents, priests, imams, older siblings etc. The career guidance and choice were seen as the responsibilities of the parents who were expected to provide for their offspring who would take over from them as they grew older (Ikeotuonye 1982, Odebummi in Aluede 2010, Ozodi 2006).

As it is in the other parts of the world, the line of demarcation between Counselling and Psychotherapy is very thin. The two areas have a great deal of similarities both in theory and practice. Most of the issues raised in Counselling are also found in Psychotherapy. Perhaps a clearer demarcation as practiced in Nigeria depends on the practitioners and where they practice. While Counselling is practiced in the educational setting, social workplaces, Psychotherapy is practiced in the psychiatric hospitals (Sharf, 2004).

2.11.5 Current Status of Counselling and Psychotherapy in Nigeria

Historical accounts relate that the practice of professional Counselling in Nigeria dates back to 1959. It began with the efforts of a group of catholic nuns that organized a career workshop at St Theresa's College Oke-Ado, Ibadan. This effort and several others later culminated in the establishment of Nigerian Career Council that has now metamorphosed into Counselling Association of Nigeria (Ikeotuonye, 1990; Aluede, 2010,).

Currently, Counselling and Psychotherapy are practiced at various levels in Nigeria. Having considered the difficulty involved in differentiating between the two, it may be safe to assume that the terms are used interchangeably in Nigeria. This is because it is very common to find medical personnel rendering counselling as well as psychotherapeutic services in the

hospitals, while at the same time counsellors are seen offering counselling services as well as psychotherapeutic services in schools. Aluede (2010) outlined the current status of Counselling in Nigeria as follows:

i) All federal and some states secondary schools have counselling offices.

ii) In most of these schools, counsellors are also saddled with teaching and other ancillary functions;

iii) Counsellor education departments are making great contributions to the society's counselling demands by producing undergraduate and postgraduate trained counsellors.

iv) There are lots of professors in the counselling departments now, unlike a few decades back when they were very few.

v) Counselling Association of Nigeria (CASSON) is yet to assume legal status, despite the fact that it is as old as the country. This lack of legal backing has made the profession vulnerable to the intrusion of non-trained personnel.

The situation is not different from the actual practice of Psychotherapy in the country. Owing to lack of legal protection, most of the professionals in Counselling and Psychotherapy are serving in government establishments with a few also in some non-governmental organizations. The Counselling Association of Nigeria has a lot to do to improve the professional competence of the practicing personnel. Issues such as professional malpractices, insurance of members, certification and issuance of license need to be effectively resolved for the profession to take its proper position. All this may be practicable if there is legal backing to the body because at the moment the association is only considered as a non-profit organization registered under the Corporate Affairs Commission.

2.12 Cognitive-Behavioural Therapy

The term Cognitive-Behavioural Therapy (CBT) is used to describe the amalgamation of two therapies which earlier on seemed to be working at the extreme ends of the opposite sides. While the behaviourists believed that it is the experience of learning about an idea or object that influences our behaviour towards that idea or object, the cognitive therapists believe that it is the conception or thought one has about an idea or object that makes him behave in a particular way towards that idea or object. The basic premise underlying the approach is that thoughts, feelings and behaviours are interrelated which means that altering one can help to alleviate problems in another. For example, changing negative thoughts will lead to a decrease in anxiety. There are some advantages in the combination of cognitive and behavioural approaches which is evidenced by the findings of some studies as being more powerful when the therapy involves cognitive work, exposures and relaxation. (APA Division 12, 2011)

The foundation of behaviour modification using the behaviourist methods was first propounded by Pavlov, in his experimental library, where a dog was trained to salivate when a circle was projected on a screen and not to salivate when an ellipse was shown. The shape of the ellipse was gradually modified to resemble the circle. When only a slight difference between the circle and the ellipse could be perceived, the dog became agitated and no longer displayed the continued response it had acquired. This is a clear example of the early behaviour modifications using the behaviourist method, which started with animals. The experiment was further advanced to humans, where an 11-month old boy who had previously played with a rat was conditioned to fear the rat by associating a loud noise with it, which they called pairing. Later, some experimental designs to reduce the fear by associating the

animal with different stimulus capable of arousing positive reactions and letting the child play with the rat among other children were carried out (Bijou 2008).

This presupposes that using the method in the experiment above, the irrational behaviours manifested through the symptoms of test anxiety may be replaced with rational types of behaviours. As an example, such method may be adopted for changing the physical reactions of a high anxious student. He may have developed the excessive fear of the test after seeing past students who had failed similar test, and the negative effects of the failure, or may have been threatened with some negative consequences of the failure by his parents or significant others. Behaviour modification techniques such as systematic desensitization may be very effective in changing such unwanted behaviours like high-stakes test anxiety.

CBT is also based on the premise that human psychological problems stem from maladaptive cognitions. Another important tool used in CBT is cognitive restructuring which aims to change maladaptive cognitions and replace them with more adaptive ways of information processing. (Szentagotai, 2005). Cognitive restructuring is also sometimes called ‘reframing’ and is essentially the core technique from CBT, which is also a highly regarded and validated Psychotherapy (Dambeck and Well-Moran, 2011).

The therapeutic approaches of Albert Ellis and Aaron T. Beck gained popularity among behaviour therapists, despite the earlier behaviourist rejection of "mentalistic" concepts like thoughts and cognitions. Both of these systems included behavioural elements and interventions and primarily concentrated on problems in the present. Albert Ellis's system, which originated in the early 1950s, was first called rational therapy, and can arguably be called one of the first forms of cognitive behavioural therapy. It was partly founded as a

reaction against popular psychotherapeutic theories at the time, mainly psychoanalysis. (Wikipedia, 2011). Further researches seem to suggest that while each of the theories had its strong basis of argument, the combination of the two would give a better way of understanding human behaviour, thereby enabling helping professions to effectively modify unwanted behaviour. (Beck, 1979)

CBT theorists often consider both overt and covert behaviours in their research and psychotherapies (Sharf, 2008). CBT was primarily developed through the merging of behaviour therapy with cognitive therapy. Though rooted in different theories, these two traditions found common ground in focusing on the "here and now", and on alleviating symptoms. Many CBT treatment programmes for specific disorders have been evaluated for efficacy; the health-care trend of evidence-based treatment, where specific treatments for symptom-based diagnoses are recommended, has favoured CBT over other approaches such as psychodynamic treatments. (Wikipedia, 2011)

CBT is therefore a psychotherapeutic approach that aims to solve problems concerning dysfunctional emotions, behaviours and cognitions through a goal-oriented, systematic procedure in the present. The title is used in diverse ways to designate behaviour therapy, cognitive therapy, and to refer to the therapy based upon a combination of basic behavioural and cognitive research. CBT is effective for the treatment of variety of problems which include mood, anxiety, personality disorder, eating, substance abuse and psychotic disorders. (Wikipedia, 2011). These treatments have been very effective in the developed societies and it is hoped that its replication in the Nigerian society will also be successful.

CBT believes that most of our emotions and behaviours are the result of what we think or believe about ourselves, other people and the world. These cognitions shape how we interpret and evaluate what happens to us and influence how we feel about it and guide our response to it. Unfortunately, sometimes our interpretations, evaluations and underlying beliefs may be distorted, which may influence our behaviours to undesirable manifestations.

The application of CBT to change behaviour is therefore not an overnight process for clients; a typical course consists of 12-16 hour-long sessions. Even after clients have learned to recognize when and where their mental processes go awry, it can in some cases take considerable time or effort to replace a dysfunctional cognitive-affective-behavioural process or habit with a more reasonable and adaptive one. CBT is problem-focused and structured towards the client. It requires honesty and openness between the client and therapist, as a therapist develops strategies for managing problems and guiding the client to a better life. A basic concept in CBT treatment of anxiety disorders is *in vivo exposure* — a gradual exposure to the actual, feared stimulus. This treatment is based on the theory that the fear response has been classically conditioned and that avoidance negatively reinforces and maintains that fear. This "two-factor" model is often credited to O. Hobart Mowrer. Through exposure to the stimulus, this conditioning can be unlearned; this is referred to as extinction and habituation. CBT also looks at an individual's way of thinking and the way that he or she reacts to certain habits or behaviours. A specific phobia, such as fear of spiders, can often be treated with in vivo exposure and therapist modeling in one session. (Wikipedia, 2011)

CBT has been shown to be effective in the treatment of generalized anxiety disorder, and possibly more effective than pharmacological treatments in the long term. In fact, one study of patients undergoing benzodiazepine withdrawal who had a diagnosis of generalized anxiety

disorder, showed that those who received CBT had a very high success rate of discontinuing benzodiazepines compared to those who did not receive CBT. This success rate was maintained at 12-month follow up. Furthermore in patients who had discontinued benzodiazepines, it was found that they no longer met the diagnosis of general anxiety disorder and that the number of patients no longer meeting the diagnosis of general anxiety disorder was higher in the group which received CBT.

2.12.1 The Basic Steps Based on Cognitive Behavior Therapy Principles.

CBT techniques are especially helpful in re-aligning, re-arranging and changing unhealthy behavior and thought patterns. These techniques are based on the assumption that your feelings and behaviour result from how you think about yourself and the life you lead. These techniques help you because they teach you to recognize, challenge and in the end replace negative thoughts with more positive, realistic thoughts. Purva, (2007) outlined some steps that can help in changing from unrealistic to realistic thoughts, based on CBT principles. They are summarized as follows:

i) **Observe and identify situations that trouble, provoke or stress you.**

Observe the situations in your day-to-day life that you find trouble and deflate your self-esteem. Are you not able to handle criticism at home or work? Is it difficult for you to understand the perspective of another person? Are you nervous before making a business presentation? Are you always angry or always expecting the worst? Are you struggling to cope with domestic problems, abuse or depression? Has there been the death of a loved one in the recent past? What is it that brings misery and headache to you on an otherwise normal

day? First and foremost you need to be honest with yourself and identify what is really the problem. Unless you or your psychologist or counsellor knows what the problem is, how will the treatment begin?

ii) **Start becoming aware of your beliefs and thoughts.**

Once the trouble is identified, pay attention to what goes on in your mind when such a situation presents itself. How does your mind work when such a circumstance is about to arise? Do you start a conversation in your mind, which is all negative and irrational? Based on assumptions, false and imaginary ideas, do you start to read other people' mind wrongly? Does it happen with you? Are you saying may be it does?

iii) **Time to pinpoint negative or irrational thought**

What you have to understand and be clear about from now is that your beliefs and thoughts about a condition or situation affect your reaction to it. Irrational thoughts based on assumptions and beliefs about a person or situation can provoke unhealthy emotional and behavioral responses. Personally, stress often gives me a serious headache. And each time I say, I have given myself a headache. It's a better way to remind myself that it is up to me to not suffer it.

You would be surprised to know that stress and irrational emotional outbursts can make people to experience stiff-neck, sore back, racing heart, stomach problems, sweating or irregular sleeping patterns. Stress can also cause things like difficulty in concentrating or a feeling of depression, anger, sadness, nervousness, guilt or worry. Behavioural responses

include eating without feeling hungry, working more than usual, staying aloof or blaming others for your problems.

iv) Try to question your negative or irrational thought patterns.

It may not be easy in the beginning, in the sense that if it was so easy to unwind and look at things objectively, the situation would not have occurred in the first place. However/ through careful observation, it can be done. Start the process of mental filtering. May be you will observe that you can only see negative things and worry about them. May be this thought pattern does not allow you to visualize that person or situation or your life in the right perspective.

So it's time probably to convert negatives into positives. Concentrate on the positive aspects instead. Don't mistake feelings for facts. Avoid self putdowns. No need to over react to the situations.

v) Try to bring a change to your thoughts and beliefs

The final stage is when you decide to replace the negative or irrational thoughts with accurate thoughts and beliefs. This will give your self-esteem a boost.

2.13 Cognitive Therapy:

Jean Piaget is associated with early developments in cognitive studies. Early cognitive developmentalists view man as a constructivist; that is, an organism who responds to his environment in terms of his own understanding (construction) of its essential features. A person's construction of reality or the characteristics of his environment is said to depend on

the cognitive operational system (structures) currently available at that point in his developmental history (Hendrick 1977). Scholars like Aaron Beck later developed further studies in the area. Beck developed an approach that helps individuals understand their own maladaptive thought and how it may affect their feelings and actions. Cognitive therapists use structured method to help their clients understand their own belief systems, by asking the clients to record dysfunctional thoughts and using questionnaires to determine maladaptive thought.

Cognitive therapy is based on a model that cognition and perception may often be based on arbitrarily associated events and that moral rules are such individual constructions (rather than being universal ideals). Thus, the early founder of cognitive therapy, George Kelly in 1955 might say, "That is your construction of reality", as if all constructions of reality are on equal footing. (Leahy, 1996)

Cognitive therapy is often described as a collaborative relationship. It is characterized by a careful approach to details and the role of thinking process in behavioural and affective change. Cognitive therapies directly attend to faulty beliefs that interfere with individuals achieving their goals, taking into cognizance the roles of affective and behavioural elements in bringing about the change. The basic goal of cognitive therapy is to remove biases or distortions in thinking so that individuals may function more effectively. Through the process, clients' distorted thoughts are challenged, tested and discussed to bring about more positive feelings, behaviours and thoughts. (Sharf, 2004). Cognitive restructuring is a tested and trusted technique in cognitive therapy.

2.13.1 Cognitive Distortion:

In order to understand cognitive restructuring better, we need to know what brings about the need for the restructuring. This is called cognitive distortion, which though consciously made, is hardly seen by the client as the root of his problem. Cognitive distortions are exaggerated and irrational thoughts identified in cognitive therapy and its variants, which in theory perpetuate certain psychological disorders. The theory of cognitive distortions was first proposed by Aaron T. Beck. Eliminating these distortions and negative thoughts is said to improve mood and discourage maladies such as depression and chronic anxiety. The process of learning to refute these distortions is called cognitive restructuring. (Wikipedia, 2011) CBT holds that most of our emotions and behaviours are the result of what we think or believe about ourselves, other people, and the world. These cognitions shape how we interpret and evaluate what happens to us, influence how we feel about it, and provide a guide to how we should respond. Unfortunately, sometimes our interpretations, evaluations, and underlying beliefs, thoughts, contain distortions, errors, or biases that are not very useful or helpful. This results in unnecessary suffering and often causes us to react in ways that are not in our best interest. (Bingelli, 2003)

Bingelli describes the term "cognitive distortion" as referring to errors in thinking or patterns of thought that are biased in some way. They may include:

a) Interpretations that are not very accurate and which selectively filter the available evidence,

b) Evaluations which are harsh and unfair,

c) Expectations for one and for others which are rigid and unreasonable.

The more a person's thought is characterized by these distortions, the more he is likely to experience disturbing emotions and to engage in maladaptive behaviour. A number of common patterns of cognitive distortions have been identified, which include the following: (Bingelli, 2003, Sharf, 2004, Wikipedia, 2011.)

1. **All-or-nothing thought:** Looking at things in absolute, black-and-white categories, instead of on a continuum. For example, if something is less than perfect, one sees it as a total failure.

2. Overgeneralization: Viewing a negative event as a part of a never-ending pattern of negativity while ignoring evidence to the contrary. You can often tell if you are over generalizing if you use words such as never, always, all, everybody, none, no one, nobody, or everyone.

3. Mental filter: Focusing on a single negative detail and dwelling on it exclusively until one's vision of reality becomes darkened.

4. Magnification or minimization (e.g., magnifying the negative and minimizing the positive): Exaggerating the importance of one's problems and shortcomings. A form of this is called "catastrophizing" in which one tells oneself that an undesirable situation is unbearable, when it is really just uncomfortable or inconvenient.

5. Discounting the positive: Telling oneself that one's positive experiences, deeds, or personal qualities don't count in order to maintain a negative belief about oneself, or doing this to someone else.

6. Mind reading: Concluding from what someone is thinking without any evidence, not considering other possibilities, and making no effort to check it out. It is even more dangerous as it is often more negative and distorts the mind and the feeling.

7. Fortune telling: Anticipating that things will turn out badly and feeling convinced that the prediction is an already established fact. It often involves:

a. overestimating the probability of danger;

b. exaggerating the severity of the consequences should the feared event occur;

c. underestimating one's ability to cope should the event occur.

8. Emotional reasoning: Assuming that one's negative emotions necessarily reflect the way things really are (e.g., "Because I feel it, it must be true." "I feel stupid, therefore I am stupid").

9. Rigid rules (perfectionism). Having a precise, fixed idea of how oneself or others should behave, and overestimating how bad it is when these expectations are not met. Often phrased as "should" or "must" statements.

10. Unfair judgments: Holding oneself personally responsible for events that aren't (or aren't entirely) under one's control, or blaming other people and overlooking ways in which one might have also contributed to the problem.

11. Name-calling: Putting an extremely negative and emotionally-loaded label on oneself or others. It is an extreme form of magnification and minimization, and also represents a gross over generalization.

12. Personalization – Attribution of personal responsibility (or causal role or blame) for events over which a person has no control.

2.13.2 Cognitive Restructuring:

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 theory 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)

Cognitive restructuring and the disputing of dysfunctional or irrational beliefs of people who have emotional and behavioural disturbances date back to the ancient times, particularly early Asian Greek and Roman Philosophers who took to constructivist view of humans. A contemporary of the period called Epictetus concluded that people are disturbed not by the events that happen to them, but by their views of these events. (Jane & Steven 2003)

Terms like ‘reframing’ ‘idea repairs’ are all used to refer to cognitive restructuring. It is a therapy that was popularized by Albert Ellis. Ellis argued that the primary causes of human distress are not unconscious impulses as opined by psychoanalysis, but that certain irrational beliefs are the causes of such behaviour problems. (Ogechiesere, 2002). Ellis did not however claim to have initiated the CBT as he declared as follows;

> I was not the first therapist to use what becomes known as Cognitive Behaviour Therapy (CBT) since a few practitioners such as Herzberg (1945) and Salter (1949) had employed aspects of it previously. But I seem to have been the main Therapist to create Systematic Cognitive Restructuring which I called Disputing Irrational Beliefs. (Jane & Steven 2003)

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 test-anxious students in one of the experimental groups. These learning experiences are:

i. monitoring his negative, automatic thoughts;
ii. recognizing the connections between cognition, effect and behaviour;
iii. examining the evidence for and against his distorted automatic thoughts (thereby challenging the distorted cognition);
iv. substituting more reality-oriented interpretations for these biased cognitions;
v. learning to identify and alter the dysfunctional beliefs which predispose him to distort his experience.

Wikipedia (2012) outlined the following as the model of the basic steps in cognitive restructuring therapy:

1. Identification of problematic cognitions which is otherwise known as "automatic thoughts" (ATs), which are dysfunctional or negative views of the self world or future;

2. Identification of the cognitive distortion in the ATs;

3. Rational disputations of the ATs;

4. Development of rational rebuttal to the ATs.

Beck (cited in Szentagotai, 2005) describes cognitive restructuring process when he says it involves:

a) Identifying maladaptive cognitions;

b) Modifying maladaptive cognitions;

c) Assimilating adaptive cognitions.

Unfortunately, maladaptive thinking patterns are sometimes so strong and automatic prior to therapy that they tend to persist until new thinking habits become stronger and more general through practice.

Cognitive restructuring, in combination with other techniques, has been used successfully in other parts of the world to reduce anxiety in many people, from trauma victims to students suffering from test anxiety to diabetes-related issues. (Wikipedia, 2011). Sharf, (2004) asserts that there are a variety of techniques employed in cognitive therapeutic relationships. He says that Freeman, (1987) describes fifteen different techniques. He summarized the basic ones, which include the following:

a) Understanding Idiosyncratic Meaning: Words can have different meanings from different people, depending on their automatic thoughts and cognitive schemas. That is why it is not enough for therapists to assume that they know what the client means by certain words. The therapist should be able to instantly clarify what the client means by certain words.

b) Challenging Absolutes: Clients often make generalized absolute statements that are biased. Such statements include: Nobody, Everybody, I can never, All the time, etc. It is often helpful for the therapist to question or challenge the absolute statement so that the client can present the statement more accurately

c) Reattribution: Sometimes clients attribute responsibilities for situations or events to themselves when they do not actually have any control or responsibility for the event. They put the blame on themselves which makes them feel guilty or even depressed about what they did not do. Reattribution attempts to challenge and replace this distorted thought with a more rational one.

d) Libeling of distortion: Labeling the types of cognitive distortions to the knowledge of the client helps in reducing the distorted thoughts. This will also help the client understand how the distorted thoughts can prevent him from achieving his goals.

e) Looking at a normal situation as catastrophic: Clients magnify events by negatively painting the events, ideas or their outcomes. To say that 'if I fail that exam my life is finished' is magnifying the failure. The therapist attempts to make the clients see the failure within its own limits.

f) Challenging all-or-nothing thought: This is a perfectionist idea. In the passing of exam, the client sees anything below excellent grade as a failure. The therapist makes the client understand that it is not scoring everything in the exam that shows one's worth. Even with average grades one could still progress.

g) Listing Advantages and Disadvantages: By listing the advantages and disadvantages of a distorted thought, the client is able to see for himself how illogical his thought is and must be ready to replace it with a more rational belief

h) Cognitive Rehearsal: Here, the client is made to imagine the situation or idea in which he has the distorted thought. He is first made to imagine the event with its negative outcome, and then later with its positive consequences.

Ellis developed the Rational Emotive Behaviour Therapy (REBT) and Cognitive Behavior Therapy (CBT) and ABC theory of neurotic disturbances. The first two therapies explained that if people are confronted with adversities that interfere with their goals and purposes; they can choose to have functional or rational beliefs that will encourage them to create healthy emotional and behavioural consequences. But if they choose to have irrational beliefs, these will help them to produce unhealthy feelings and behaviours. Ellis further added that being constructivist (innately and by social learning), they are able to "think about their thinking and even think about thinking about their thinking." Therefore they can therapeutically choose to change their irrational beliefs to more rational self helping beliefs. Ellis (cited in Jane & Steven 2003) also outlined the people that can benefit from cognitive restructuring or disputing of irrational beliefs as he says it may help psychotherapy clients who are convinced by their therapists or by themselves that:

a) Their emotional-behavioral dysfunction is partly the result of irrational and unrealistic and illogical thinking;

b) They can constructively change their irrational beliefs to rational beliefs and will then function significantly better; They persist in emotional (strong) feeling and (behaviourally) acting against their dysfunctional beliefs.

c) Their irrational and dysfunctional thinking includes strong emotional and behavioural components.

d) They automatically and unconsciously can effectively adopt new philosophy that will tend to make them less disturbed and keep them from seriously disturbing themselves in the future.

The basic idea of cognitive restructuring is that peoples' emotions and behaviours can be greatly affected by what they think. If people can consciously change their habits of what they say about themselves, they can make themselves happier or more productive or can accomplish any of several changes. Sometimes people do blame worthy things, and it is quite normal to get angry with these things. Sometimes, when something very bad is in danger of happening, some fear is appropriate. If we do things that hurt other people, it is quite appropriate to feel guilty. All these stimuli are normal in life. But if we perceive them wrongly and record them wrongly in our cognition, then such cognition is bound to make us behave equally wrongly. Therefore in changing the behavior, we would need to change the cognition first. The good thing is that there are some ways of changing the unwanted behaviours as human beings have the capacity for rewriting their cognition.

Cognitive restructuring may therefore be seen as giving a disturbed individual more control over his own thought, feeling and behaviour but certainly not an attempt to eliminate all bad feelings which is not a good idea, not even a healthy option. Strayhorn, (2003) classified the events he encountered in his life into the following classes:

i) The things that he himself did;

ii) The things that someone else did;

iii) The things that neither himself no someone else did but an act of God;

iv) A mixture of all these classifications.

The responses to either of these classifications of events could be in either or all of the following:

i) Awfulizing;

ii) Getting down on oneself;

iii) Blaming someone else;

iv) All of the three above.

If a second year senior secondary school (SSS II) student fails his promotion exam to final year class, he may develop a serious test anxiety disorder if he responds to the failure in any of the ways stated above. He could see the event as awful by telling himself over and over again that he is finished and that his life is worthless, since he could not pass the exams. He might also begin to blame himself for not preparing well, or that he has since known that he is stupid and therefore can never pass the exams. He might also choose to blame others for not passing. He could blame the teachers, the markers, or even the invigilators. He could also combine all the blames. These kinds of responses may not just be for a while but may be fixed in his thought. As long as this thought continues in his mind, he would continue to be anxious about anything that has to do with the test. It is clear that the three responses exemplified above are irrational. It could have been healthier to see the event as less grievous by telling himself 'It was a good attempt. At least I now have the experience of how the exams look like and should be able to do better in my next attempt, or that 'I know my worth and my performance in the class before the exam has been very good.' 'I only need to plan well.'

In using CBT for cognitive reconstruction, the therapists guide the clients through the process of becoming more aware of what they are telling themselves and help them to evaluate themselves, and when appropriate, to modify their own thinking. In essence, the therapist teaches the client a process that will help him distinguish distorted thinking from more accurate and useful thinking. CBT emphasizes that this is best done as a collaborative process in which the client is assisted in taking the lead as much as possible. The therapist refrains from assuming that the client's thoughts are distorted and instead attempts to guide the client with questions that encourage the client to make their own discoveries. Bingelli (2003) asserts that clients are also encouraged to engage in this process on their own during their time between sessions by using a written format. Cognitive restructuring, in combination with other techniques, has also helped patients struggling with Post Traumatic Stress Disorder, Body Dysmorphic Disorder (BDD), Substance Abuse Habits (SAH) and Non-generalized Social Phobia (NGSP).

2.13.3 Elements of Cognitive Restructuring

Ellis (cited in Jane & Steven 2003) gave the following as the key elements of cognitive restructuring:

a) Show clients the ABC of REBT. Show them how adversities (As) alone do not lead to their disturbed behavioural consequences (Cs) but that they personally contribute to their Cs by engaging in strong and persistent beliefs (Bs) about their As. Thus A x B = C

b) Particularly show clients that when they disturb themselves (at point C) they have powerful RBs that largely consist of flexible preferences as well as strong IBs that are largely of absolutistic, rigid musts, should and other demands.

c) Show clients how to think, feel and act against their rigid IBs with a number of cognitive, emotive and behavioural techniques which interrelates with each other.

d) Show clients how to specifically dispute their IBs realistically and empirically, logically, juristically or pragmatically. Particularly show them how to change their rigid, absolutistic demands on themselves, other people and world conditions to flexible, workable preferences.

e) Show clients that when they actively and persistently dispute their IBs they can create an effective new philosophy that includes strong rational coping statements that can help them to feel better and stay better.

2.13.4 Some Contradictions of Cognitive Restructuring

Despite the relative efficacy of cognitive restructuring, critiques of the therapy have observed some contradictions with it, which include:

a) Some individuals with OCD and other severe thought disorders may take cognitive restructuring and the disputing of IBs to extremes and may become so absorbed in analyzing and changing their beliefs that they sidetrack themselves from other useful techniques of the therapy.

b) Individuals who are rigidly convinced that changing their IBs cannot have any effect on their feelings may refuse to try to do so or may waste their time and energy by trying only half-heartedly.

c) People with abysmal self deprecation may severely blame themselves for trying to use this technique and failing.

d) Clients with abysmal low frustration tolerance may find it too hard to try and may give up on it.

2.14 Behaviour Therapy

This therapy was developed on the basic principles of behaviour. It is situational, specific and depends on the desired behavioural change. Behaviour therapists use elicited information about the client to, for example, reduce fears, and anxieties. Sometimes the therapists work with the actual situation in which the event occurs, while at other times the clients are made to imagine the events. The goals of behavioural therapy is usually to identify the behaviours that need to be changed and which must be tackled first before the others, as clients often present several problems. Sometimes therapists have to perform assessments and analyses to be able to identify the gravity of the problems. It is then that specific goals are identified and how the goals can be achieved. Assessment is a continuous process in behaviour therapy as it continues up to the end of the therapy. Different methods are used in the assessment of clients' behaviours which include the following as listed by Sharf (2004):

i) Behavioural Interviews: It is essential in understanding the problem in behavioural terms. If for example a client says he becomes very anxious when he is to write a test, the therapist may want to know the level of anxiety and at what stage it occurs. Many of the questions that a therapist may ask have to do with the details about the target behaviour.

ii) Behavioural Reports and Writing: Written instruments developed to assess problems of behaviour are used for this purpose. Many self-report inventories have been designed to assess depression, fear, anxiety, social skills, health-related disorders, sexual dysfunction, and marital problems.

iii) Behavioural Observations: Direct observations can also be made in assessing the unwanted behaviour. The client may be asked to record the number of times and intervals in which the unwanted behaviour is performed.

iv) Physiological Measurement: Physical functioning such as blood pressure, heartbeat, respiration, etc may be used to assess the rate of some unwanted behaviours. The problems may be psychological, but the symptoms are mostly physiological in nature.

2.14.1 Behaviour Therapy Techniques

i) In vivo exposure: It is the Latin phrase for '*in life'* which refers to the therapeutic procedure that takes place in the clients' natural environment. It is the gradual exposure to the actual feared stimulus. In this technique, the treatment is based on the theory that the feared response has been classically conditioned and the avoidance negatively reinforces and maintains that fear. Through this technique, conditioning can be unlearned through extinction and habituation.

ii) Systematic Desensitization: It is a specific procedure for replacing anxiety with relaxation, while gradually increasing the imagined exposure to an anxiety producing situation.

iii) Imaginal Flooding: Unlike systematic desensitization which is gradual, in imaginal flooding, client is exposed to a mental image of a frightening or anxiety-producing object or event and continues to have the mental image of the event until the anxiety gradually diminishes. Exposure is not to the actual event but to an image of a frightening situation such as past question papers and being seated in the examination hall for test anxiety clients.

iv) **Self Instructional Training:** This is seen as a cognitive behavioural therapy that teaches clients to instruct themselves verbally so that they may cope with difficult situations.

v) **Stress Inoculation:** It is a cognitive behaviour therapy in which clients learn coping skills for dealing with stressful situations and then practice the skills while being exposed to the situation.

2.14.2 Systematic Desensitization

Systematic desensitization is a type of behavioural **therapy** used to overcome phobias and other anxiety disorders. More specifically, it is a type of Pavlovian therapeutic procedure developed by South African psychiatrist Joseph Wolpe in the 1950s. It gradually teaches people to be relaxed in a situation that would otherwise frighten them. It is often used to treat phobias and other anxiety disorders. The word desensitization refers to making people less sensitive to or less frightened by certain situations. Systematic desensitization is sometimes called graduated exposure **therapy. (**Wikipedia, 2011, Microsoft Encarta, 2009**).**

Systematic desensitization (SD) is known for the effective control of general anxiety and specifically tested to minimize test anxiety. It is also called graduated exposure therapy. SD is one of the techniques under the behaviour therapy, which is often applied in cognitive-behaviour therapy. The Wikipedia Free Encyclopedia (2012) found out that "successful SD is more likely when skills deficits are not causing the anxiety. That is, if you develop anxiety about taking exams in school and if you have a tendency not to study or do your hard work well, your anxiety is probably a result of not knowing the material; systematic desensitization may not be of any help in this case. But if you know the material 'backward and forward', and then develop anxiety, then the SD might be used to desensitize yourself to performance fear."

Joseph Wolpe (as cited in Flanagan & Flanagan, 2004) who is credited with the therapeutic procedure now known as systematic desensitization is quoted as saying: As the therapy procedure has evolved, the anxious patient is first trained in progressive muscle relaxation exercises and then gradually exposed imaginably or *in vivo* to feared stimuli while simultaneously relaxing. This study will adopt this SD order by the following steps:

1. Relaxation;
2. Construction of an anxiety hierarchy;
3. Pairing relaxation with the situations described in the anxiety hierarchy.

Jane & Steven (2003) refer to Wolpe's description of systematic desensitization as:

> "… an effective therapeutic treatment in the reduction of maladaptive anxiety. It is a process by which a person is induced into deeply relaxed state and is presented with a series of graduated anxiety evoking situation using imaginable exposure. When anxiety is experienced during exposure, the image is terminated and a relaxed state is induced. With continued exposure to each situation, the person's level of anxiety weakens progressively until the person no longer experiences anxiety in response to the aversive stimuli."

Systematic desensitization has been used with recorded success in other parts of the world, especially among adolescents. Ellis, Kraft, (as cited in Egbochuku 1998). It involves the use of classical conditioning method in relaxing an individual who is anxious. It is a counter conditioning whereby an established habit can be weakened or off-set by learning something else. The feeling of relaxation is made to dominate over the feeling of fear and anxiety for certain critical situation in a person's life.

2.14.3 Types of Systematic Desensitization

Two types of systematic desensitization have been identified which are as follows:

i) In Vivo Desensitization

ii) Self-control Desensitization

i) In Vivo Desensitization – This is similar to imaginable exposure in terms of procedure. In Vivo desensitization utilizes a hierarchy of real life anxiety-evoking situation that are presented to the client. While each of the types is effective when used singly, imaginable and in vivo desensitization techniques are often used together to facilitate transfer of skills.

The client first successfully responds to anxiety-evoking situation using imaginable exposure and then confronts similar situations in a real life setting. Based on Wolpe's procedure, systematic desensitization using imaginable exposure is presented to a group of individuals with common anxiety-related difficulties. Administration of the hierarchy items is typically determined by the progress rates of the lowest participating group member. Group desensitization can be effective for therapist treating multiple clients with similar phobias, allowing for cost time-effective interventions.

ii) Self-control Desensitization – This type of desensitization is founded under Davison's counter conditioning model. It is a process regarded as behavioural rehearsals procedure in which the client learns how to cope with anxiety during a series of anxiety-provoking situations using a series of imaginable procedure. Rather than attempting to reduce anxiety caused by a specific scenario, the primary focus is to assist the client in identifying the physiological cues that indicate anxiety and then use the cues to help the client initiate relaxation to reduce the tension.

2.15 Procedural Steps for Systematic Desensitization

Jane & Steven (2003) also listed some steps to be followed in the process of systematic desensitization. Determining when to use the procedures depends on the individuals and the problem being presented. Consideration should however be made to ensure that no 'cognitive misconception' exists. The following are the listed steps:

i) Relaxation training;

ii) Development of graduated anxiety hierarchy;

iii) Presentation of hierarchy items while the client is in a deeply relaxed state.

a) Relaxation technique –This step is made up of the following procedures:

i- Teaching the client how to reduce tension in the body, using a systematic procedure.

ii- Providing clients with the necessary antagonist that will serve to inhibit anxiety (Wolpe, as cited in Jane & Steven 2003)

Relaxation serves as a mechanism for allowing the client to participate more readily in the imaginable exposure process by increasing the clarity of images sought. It lasts for about 5 – 7 minutes, but more time may be allowed depending on the client. Instructions focus on teaching the client to recognize muscle by contracting and relaxing muscles and then releasing the tension. Different muscles grouping can be addressed during separate sessions. Eg session one = arms, session two = head, session three = mouth, session four = neck & shoulders etc. During the training, the client should be able to sit comfortably and concentrate without fear or distraction. Closing the eyes is encouraged. The therapist speaks softly while giving instructions and present hierarchy items. The following is an example of the relaxation script for session one:

- Take a deep breath; hold it (about 10 seconds). Hold it. Now let go, feeling the release.
- Stick your arms out and make a tight fist. Really tight. Feel the tension on your hands; notice the discomfort. I am going to count up to three, and when I say three, drop your arms and hands. One …Two…Three. Relax … just let go. Notice the difference.
- Release your arms again and bend your fingers back towards your body. Hold it. Now drop your arms and hands; just let go. Notice the sensation; feel the difference; feel the comfort.
- Tense your forearms and upper arms by pressing your elbows down against the chair. Feel the tightness. Hold it. Now relax.

In each of these relaxation steps, about 10 seconds are spent, with 10 – 15 pauses between each. The entire process lasts for about 25 minutes. Subjective Units of Discomfort (SUD) rating (0 – 100 range) should be taken at the end of each relaxation session to determine the level of relaxation. Once the client is able to relax, to the point of 0 or near 0 and an anxiety hierarchy has been developed, hierarchy item presentation can begin.

b) Anxiety Hierarchy Development

In this step, the process of systematic desensitization is the formulation of hierarchy of anxiety-evoking situation. Construction can be done concurrently with relaxation training and should be a collaborative effort on the part of the client and therapist. From the client's history, information is gathered and the client and therapist identify a series of situations that cause the client's maladaptive levels of anxiety. Daily logs may be completed by the client

that records common behaviours and activities. Therapists can also use their personal observations of the client's behaviour to identify additional anxiety-provoking scenes that could be included in the hierarchy (Goldfield & Davison in Jane and Steven 2003).

The client then ranks the discovered scene in order of aversion with the most anxiety-evoking situation located at the top of the hierarchy. In some cases, multiple hierarchies may need to be constructed according to different stimuli.

c) Imaginable Exposure

This is the final step in the SD process. Having been taught how to relax and how to rank the feeling according to hierarchy of series of anxiety provoking situations, the client is now ready to control these anxiety-provoking situations. Each imaginable exposure session begins and ends while the client is in relaxed state. He then reports an SUD rating of 10 or less before beginning scene presentation. In the process, the therapist uses the verbal report of the client to create a neutral scene, which will serve as a control. It allows the therapist to access the client's capacity and to visualize clearly and if any obstacle exists that can hamper visualization.

The neutral scene is typically pleasurable in nature. It will be utilized whenever the client experiences anxiety during exposure process and can be returned to during relaxation period. A signal (such as raising the index) should be used to indicate that the scene image is clear, as the client continues to visualize the scene for approximately 10 seconds at which point the client is then asked to stop the visualization and an SUD rating is taken. The client is then returned to relaxation state, with reported SUD rating of 10s or less. The following paragraph is presented by Jane & Steven, culled from Wolpe (1990):

> First, I am going to help you relax. When you are relaxed, I will ask you to imagine certain scenes. Each time a scene becomes clear to you in your mind, let me know by raising your index finger … (Begin relaxation process) … Now you are feeling relaxed and calm. The sun is shining and the slight breeze is blowing. You feel so comfortable and relaxed. Fluffy white colours are moving slowly overhead (watch the client for raised index finger when indicated). Allow visualization to continue for approximately 10s, stop the scene on a scale of 1 to 100, what is your SUD rating?

The first hierarchy item is then presented in a similar fashion, using verbal description of the anxiety-evoking situation. The client signals the therapist when the scene has been visualized clearly. Visualization continues for about 5 – 7s at which point the client is asked to terminate the scene. An SUD is then taken and the client is then returned to a relaxed state. Additional presentation of the same scene continues until the SUD rating following the visualization is 0. With this visualization, the therapist can move to the next item. The scenes anticipated to create significant levels of anxiety can be initially presented for shorter periods of time such as 2 – 3s with subsequent presentation of the same item increasing in length until the client is able to tolerate 5 – 7s exposure period. The context of image may also dictate the time length of visualization with simple tasks.

During a typical 25 - 30min exposure session, a client may be presented as many as three to four scene presentations, each ultimately an SUD rating of 0. However, the number of items addressed in a single session and over the cause of treatment will vary, depending upon the progress of the client through the hierarchy. Each new session should begin with the most recent item to receive a zero SUD rating. Some reoccurrence of anxiety previously reported at 0 can occur. If so, the item should be presented again until the client reports a zero anxiety

level. The number of scene presentations will increase as the client's level of anxiety increases.

Following each session and especially during relaxation training, homework should be encouraged. This may include continued practice of relaxation technique or in vivo exposure. Audio and videotapes can be prepared by the therapist and given to the client to assist in these activities. However, the client should not attempt imaginable or in vivo exposure of a new hierarchy item without the therapist present.

The basic approach of systematic desensitization is to have clients replace their anxious feelings with relaxation. Wolpe (as cited in Sharf, 2004) also illustrated three major procedures of systematic desensitization which are relaxation, hierarchy construction and desensitization. They are explained as follows:

i) **Relaxation:** Before the adoption of this procedure by Wolpe, it was first developed by a person called Jacobson. It involves tensing and relaxing muscle groups including arms, face, neck, shoulders, chest, stomach, and legs to achieve deeper and deeper levels of relaxation. This procedure continues throughout the therapy so that it could be paired with imagined anxious situations.

ii) **Anxiety Hierarchy:** Details of highly specific information about events that cause a client to become anxious are gathered and arranged according to their intensity. After describing the events that elicit anxiety, clients then list them from the least anxiety evoking to the most anxiety evoking. This is done by assigning numbers ranging from 0 – 100 to each of the events. The assignment of the numbers is highly subjective as the client does that.

iii) **Desensitization:** This process involves the therapist asking clients, after they are relaxed, how many SUDs they are experiencing. If the level is above 25, then relaxation is continued. The client is then instructed to imagine the events that evoke his anxiety, going by the hierarchy of the events already listed. The event that has the least anxiety evoking stimulus is first imagined and paired with relaxation.

In the first step of desensitization, the therapist and client establish an anxiety hierarchy by drawing a list of fear-provoking situations arranged in order of how much fear they provoke in the client. Then the client must be taught relaxation skills in order to control fear and anxiety responses to specific phobias. Once the individual has been taught these skills, he or she must use them to react towards and overcome situations in the established hierarchy of fears. For a man afraid of spiders, for example, holding a spider may rank at the top of his anxiety hierarchy, whereas seeing a small picture of a spider may rank at the bottom. In the second step, the therapist makes the client relax, by using one of the relaxation techniques described below as illustrated by the University of Alabama (2011).

The relaxation procedure involves systematically tensing and then relaxing different groups of muscles in your body:

a. Begin the procedure by either sitting in a comfortable chair or lying down. Move your arms toward the center of your body and bend both arms at the elbow. Tighten your hands into fists and simultaneously tense the muscles in your upper arms and shoulders. Hold for ten seconds and then relax for fifteen to twenty seconds.
b. Tense your face muscles by wrinkling your forehead and cheek muscles. Hold for ten seconds then relax.

c. Tense the muscles in your chest for fifteen seconds and then relax. Repeat this procedure for all the different parts of your body while telling yourself that you are becoming more and more relaxed. Pay particular attention to the muscles in your neck and back since these muscles become tense easily.

d. After ten or fifteen minutes you will find that your body is completely relaxed.

Then the therapist asks the client to imagine each situation on the anxiety hierarchy, beginning with the least-feared situation and moving upward. For example, the man may first imagine seeing a picture of a spider, then imagine seeing a real spider from far away, then from a short distance, and so forth. This also applies to test-anxious students. The hierarchy may begin from imagining having a discussion on high-stakes tests, getting prepared for the test, to the actual situation of sitting in an examination hall and attempting a high-stake test. If the client feels anxious at any stage, he or she is instructed to stop thinking about the situation and to return to a state of deep relaxation. The relaxation and the imagined scene are paired until the client feels no further anxiety. It is believed that an individual will learn to cope and overcome the fear in each step of the hierarchy, which will lead to overcoming the last step of the fear in the hierarchy. Eventually the client can remain free of anxiety while imagining the most-feared situation.

Specific phobias are one class of mental illness often treated through systematic desensitization. The therapist might encourage subjects to examine what they imagine happening when exposed to the phobic object, which allows them to recognize their catastrophic visions and contrast them with the actual outcome. For example, patients with snake phobias might imagine any snake they encounter coiling itself around their neck and

strangling them. Research has demonstrated the potential effectiveness of systematic desensitization in helping subjects reduce similar animal phobias.

The second component of systematic desensitization is the gradual exposure to the feared object. The therapist begins by asking the patient to develop a fear hierarchy, listing the relative unpleasantness of various types of exposure. For example, seeing a picture of a snake in a newspaper might be rated 5 of 100 while having several live snakes crawling on one's neck would be the most fearful experience possible. Once the patients have practiced their relaxation technique, the therapist presents them with the photograph and helps them relax. The patients are then presented with increasingly unpleasant situations such as the poster of a snake, a small snake in a box in the other room, a snake in a clear box in view, and then touching the snake. At each step in the progression, the patients are taught to be desensitized to the phobia through the use of the coping technique. It is believed that when the patients realize that nothing harmful happens to them as a result of the object or situation previously feared, the fear gradually goes into extinction.

2.16 Criticisms of Cognitive-Behaviour Therapy

Cognitive-behaviour therapy has come under fire from non-CBT therapists who claim that the data does not fully support the extent of attention and funding it receives nor its extension beyond psychotherapy, and that the limitations of the CBT model when used to blanket-address psychological suffering are unrecognized. Some psychotherapists even opined that this constitutes "a coup, a power play by a community that has suddenly found itself on the brink of controlling an enormous amount of money." They argue that "science isn't the appropriate perspective from which to look at emotional difficulties, and that everyone has

been seduced by CBT's apparent cheapness." (Wikipedia, 2011) Professionals, at various presentations, dished out their criticisms of this method which include the following:

i) As more research focuses on CBT, more studies are published on CBT. This reinforces the logical error that CBT is superior and this has a direct negative effect on other forms of therapy, which are well documented but have smaller bodies of research.

ii) People who get therapy improve substantially, regardless of the type of therapy they get. When therapies are compared to one another, they usually appear to be equally effective.

iii) Excessive spending on CBT and discouraging other forms of therapy hurts the public.

iv) That no trial employing both blinding and psychological placebo has found CBT to be effective in schizophrenia.

v) It was also found that there were few well-controlled studies of CBT in depression that found the therapy to be effective, and in those found, the effect was small.

vi) CBT was also found to be ineffective in preventing relapses in bipolar disorder.

A well known clinical psychologist by name James Oliver (as cited in Hussain, 2009) also claimed that CBT is simplistic and concluded that it does not work. He rejected the UK government's claims where he accused government ministers of a wrong claim that CBT could relieve half of 900.000 people of their depression and anxiety. He said that there is no

single study which supports that claim and that because CBT is cheap, quick and simplistic, it naturally appeals to authorities. Proponents of the therapy however pointed out that the UK National Institute for Health and Clinical Excellence declares that CBT has a solid evidence for treating a number of diagnoses including depression and schizophrenia.

2.17 Empirical Studies on Cognitive-Behaviour Therapy and Test Anxiety

Studies have been conducted to investigate test anxiety in relation to other variables. There are also some studies that are collections of previous studies that have to do with the construct. This is also called meta-analysis. Culler & Holahan (1980) investigated the following:

a) The relationship of TA to academic performance in college students;
b) Differences in study-related behaviours between high and low test-anxious students;
c) Differential effectiveness of study-related behaviours for both groups.

Undergraduate students were 65 high and 31 low scores on the TA scales. Results demonstrate a significant decrease in GPA associated with TA. High anxious students were also found to have poorer study skills. For high test-anxious students, quality of study habits and amount of study time were positively related to academic performance, whereas missing classes and delaying exams were inversely related to performance. The current study is taking another dimension of enquiry by applying therapeutic conditions to control the behaviour disorder

Sarason (as cited in Wikipedia 2011) studied the nature of TA and its relationship to performance as well as cognitive interference and analyzed them from the standpoint of

attention processes. A new instrument to access the dimensions of reactions to test was developed by the researcher. Reactions to the test questionnaire (covering tension, test irrelevant thinking, and bodily symptoms) were compared with regard to intellectual performance and cognitive interference. The results were consistent with the idea that the problem of anxiety is, to a significant extent, a problem of intrusive thoughts that interfere with task-focused thinking. The study concluded that self preoccupying intrusive thinking could be reduced by means of a task-focusing experiment. This study is a point of reference in this area, especially because of the effective instrument developed by the researcher. It is however different from the current study as it is more of a correlation study while the current study attempts to find ways of controlling high-stakes test anxiety disorder.

Berman, Miller & Massman (1985) reviewed psychotherapy outcome research and reassessed some previous findings that reported evidence that cognitive therapy was considerably more effective than systematic desensitization. A substantially larger sample of studies that have compared these two forms of treatment was examined. These analyses indicated that:

a) cognitive and desensitization treatments are roughly equal in efficacy;
b) Shapiro & Shapiro's earlier findings may have occurred only because most of the studies they examined were conducted by investigations with an allegiance to cognitive therapy.

The results of the study revealed that therapies combining both cognitive and desensitization treatments are no more effective than one of the treatments alone. The comparable level of improvement for cognitive, desensitization and combined treatments has important implications for psychotherapy theory and research.

In a major report published by the American Educational Research Association, researchers such as Thomas Kellaghan, George Madaus, and Anastasia Raczek (as cited in FairTest 2011) brought up some questions which included: Do high-stakes tests motivate all students? What do tests motivate students to do? They found that high-stakes testing could actually undermine motivation, especially for students who already have a tenuous hold on schooling. Even for motivated students, examinations may not lead to the desirable outcomes – higher levels of achievement and problem solving. Intrinsic motivation, general competence, and self-determination are crucial to the nurturing of an informed citizen and a skilled workforce. Some of the good students we interviewed around the state said that they valued school. The eighth or ninth grade was the "best year ever" for some. Still, many see MCAS (a graduation exam) as a "mental block" that some believe will be difficult to surmount. Some believe that MCAS is "a plan to drop city kids from going to college." Many see MCAS as a "set up to tell you you're stupid."

Smith, Arnkoff and Wright (1990) studied the ability of three theoretical models to explain the academic performance and TA of 178 undergraduates as compared. The cognitive attention model also included negative thoughts and underlying concerns. The cognitive-skills model also included study habits. The social learning models included self-efficacy and outcome expectations as well as goal related motivation. The study found that the hierarchical regression variable sets from all models added unique variants to explain performance and to explain TA. Cognitive attention processes emerged as relatively more important than academic skills or social learning processes, though the latter sets did contribute significantly. It then concluded that multimodal counselling addresses cognitive skills and social learning processes. It is similar to the current study because of the counselling experimental processes

involved and the TA, but different because of the counselling techniques adopted in the two studies.

Hassan & Okatahi (1990) studied forty-eight (48) undergraduates, who were certified as test-anxious. They were randomly assigned to three groups namely: cognitive restructuring, implosive therapy and no treatment groups. The two treatments were found to be effective in reducing anxiety, although only cognitive restructuring treatment resulted in improvement in academic performance. This is closely related to the current study as one of the independent variables is similar to the one in the study.

Topman (1994) administered a Study Management and Academic Results Test (SMART) in three perspective studies, together with measures for optimism and test anxiety. In the first two studies done among two hundred and fifty-three (253) first year students enrolled in four different faculties, the highest significant correlations with academic performance were found for the SMART scales. In a replication study among first-year medical students (n = 156), at a different university, the same pattern of results was observed. A stepwise multiple regression analysis with academic performance as a dependent variable showed significant correlation only for the SMART test competence and time management (multiple r = .61). The results further gave specific indications about the profiles of successful students.

Cassady & Johnson (2002) also conducted a study on the Cognitive Test Anxiety (CTA) and academic performance. They found out that higher levels of CTA were associated significantly with lower scores on each of the three course examinations they administered. High levels of CTA were also associated with significantly lower Scholastic Aptitude Test (SAT) scores. Procrastination was in contrast related to performance only on the course final

examinations. Gender differences were also found not to be related to performance on the exams. In the same vein, it was discovered that moderate levels of physiological arousal generally were associated with higher exams performance. All these findings were consistent with cognitive appraisal and information processing model of TA, and support the conclusion that CTA exerts a significant stable and negative impact on academic performance measures. This is also a correlation study which differs from the current study which is experimental.

Yusufu (2002) conducted a postgraduate study of the effectiveness of some methods of behaviour therapy in the treatment of test anxiety. The experiment was carried out on some undergraduate students of the Federal College of Education, Zaria. Two hundred and forty (240) students were studied. The methods used were self-control therapy, implosive therapy and flooding therapy. The researcher found that all the methods were effective in the treatment, although self control had the highest effect of decreasing the disorder, followed by implosive therapy. The flooding therapy was the lowest effective method. The study was quite related to the current study in terms of using behaviour modification techniques in reducing the test anxiety of students. However, the techniques used were quite different just as the populations under the study were also different in many respects.

Chen (2004) studied the effects of test anxiety, time pressure, ability and gender (as independent variables) on response aberrance (dependent variable). Test-taking behaviour associated with TA and time pressure namely start-up anxiety, random guessing, and early quitting were examined with respect to TA levels among others and normal or aberrant responses of the examinees. Participants in the study were 450 juniour-high-school-grade-3 students in first semester of the 2003 academic year in China.

The self-report study reveals that students with higher trait anxiety level were more likely to acknowledge the start-up anxiety behaviour and the earlier quitting behaviour. It was however found that trait anxiety does not affect examinees' response aberrance. It means that the effect of trait TA does not affect examinees response aberrance but may probably vary with content areas, supporting the argument with the result of a study by Zeidner, 1988 (cited in Chen 2010) which conducted a cross-cultural adaptations of the TAI conducted in 14 countries. The study reveals that females on average scored higher than their male counterparts and except for Turkey and China, gender differences were statistically significant in other countries. The female subjects in the research however obtained a lower mean score than the males in some countries in contrast to the US in which the females demonstrated higher levels of TA. Although the studies were on TA, the types of study designs differ. They used survey and correlation designs while the current study is experimental.

Egbochuku (2005) investigated the effect of systematic desensitization therapy on the reduction of TA on some identified test-anxious students. In addition, three secondary independent variables were studied along. The variables were entry test anxiety, sex, and locus of control. SD was found to be effective in the reduction of TA of the students who were test-anxious. Entry test anxiety levels of subjects were found to be significant on the level of reduction of TA. Sex had no significant effect on the reduction of TA of students. There was also no significant interaction effect of the therapy on the secondary independent variables. However, at the end of the treatment there was significant interaction effect of entry test anxiety and the therapy. In this study, the independent variables and the design of the study are partially similar with current study. The combination of CR and SD and the population of the current study make the two studies different.

Yahaya (2006) investigated the effects of CR on the attitude of secondary school students in Ilorin towards HIV/AIDS patients. The study revealed that the cognitive restructuring training programme employed was effective in modifying the subjects' attitudes towards HIV/AIDS patients. The attitudes of the experimental group were better than the control group after the exposure to treatment package. While the experimental group was exposed to the cognitive restructuring training programme, the control group was not. The finding was further confirmed by the fact that the attitude of control group was not significantly different from that of the experimental group at pretest level and there was no significant difference in the pretest and post-test attitudes of the control group. The study used one of the counselling techniques the current study used, but the dependent variables were different.

McCarthy & Goffin (2005) also conducted a selection test anxiety study, exploring tension and fear of failure across the sexes in simulated selection scenarios. The study found that test anxiety was found to be bi-dimensional and negatively related to performance on a cognitively based selection instrument. The study also found that gender moderated the relation between TA and test performance, with stronger association for males. This study is quite related to the current study as they are both on high-stakes TA. However while it was a correlation study, the current study is to experiment possible ways of controlling the disorder.

Abramowitz & Deacon (2006) investigated a short term efficacy of brief intensive cognitive-behaviour therapy (CBT) for panic disorder (PD). The treatment involved 9hour of therapist contact over two consecutive days and was developed for the purpose of delivering CBT for PD to a largely rural patients population. The choice of brief intensive CBT was made by the patients, instead of weekly CBT. They were recruited from routine clinical practice. Assessments conducted at pre-treatment and 1month follow-up revealed large clinically

significant reductions in PD symptoms anxiety sensitivity, body vigilance and anxiety and depression symptoms. About 60% became panic-free after treatment. The summary of the outcome is that brief, intensive treatment may be an effective means of delivering CBT for controlling PD. The study is related to the current research in the use of CBT. It is however different in the dependent variable.

Liz, Dave, Kevin & Laura (2009) investigated the effects of SAT on the emotional and physical wellbeing, educational experience and outcomes of primary school pupils in England. The study found out that poor SAT grades in English, Maths, and Science were significantly associated with higher level of self-reported TA and lower level of resilience and that the negative effects of worry of task behaviour and outcome reaction components of TA were moderated by differences in pupils' resilience. While the study was on correlation, the current study is an experimental one.

Ndirangu, Muola, Kithuka & Nassiuma (2009) conducted a study to determine the relationship between TA and academic performance among students in Nyeri District, Kenya. A correlation study design was used. The target population was about 83,000 students, 600 teachers out of which eighty students from 4 schools and 12 teachers were randomly sampled. The study was carried among form four students and their teachers. The result of the study showed that there was a statistically significant difference ($p < 0.01$, $t = -3.736$) between TA levels before and after the examination. It was also established that both boys and girls were equally affected by TA. The results further showed that teachers do not adequately help students cope with TA, while concluding that there was no significant relationship ($r = 0.06$) between TA and academic performance. This and the current study are related in the field of TA but they are different in their designs.

Falaye (2010) investigated the level of cognitive test anxiety of selected undergraduates of Obafemi Awolowo University, Ile-Ife, in comparison with their learning outcomes. A total of 92 students participated in the study. Results showed that students cognitive test anxiety was generally low. It was also discovered that the CTA negatively affects performance levels. Analysis of the results of the study showed that the higher the level of students' CTA, the lower the level of students' learning outcome and vice-versa. However, sex difference did not lead to corresponding difference in CTA and performance levels. This was also comparing TA and performance as against the current study that seeks to find ways of controlling the disorder.

Mahmood and Rana (2010) also investigated the relationship between TA and academic achievement of students at the postgraduate level. Four hundred and fourteen (414) students in Lahore University, Pakistan participated in the study. The study found that a significant negative relationship existed between TA scores and students' achievement scores. Results showed that a cognitive factor (worry) contributes more in TA than affective factor (emotionality). The study concluded that TA is one of the factors which are responsible for students' underachievement and low performance but it can be managed by appropriate training of students in dealing with factors causing it. The study compared the relationship between TA and performance but concluded that by controlling the causes of TA the disorder can be effectively controlled. The current study however sees therapeutic methods as the most effective way of controlling TA.

Onyeizugbo (2010) examined self-efficacy and test anxiety as correlates of academic performance among 249 undergraduate students of the University of Nigeria Nsukka. General Self-efficacy Scale and Westside Test Anxiety Scale were used to assess self-efficacy and test

anxiety respectively, while results in psychology courses were used to assess the performance of the subjects. The result showed a significant correlation between self-efficacy and academic performance. He opined that the high prevalence of exam malpractice in Nigeria may not have been unconnected with students' low appraisals of their capabilities in academic context.

Tuulia and Juliane (2011) investigated the effects of TA on test performance, using Computer Adaptive Testing (CAT) versus conventional Fixed Item Testing (FIT). A total of 110 students (aged 16 to 20) from a German secondary modern school filled a short form of Test Anxiety Inventory – General (TAI-G) and were presented with an item from the Adaptive Matrices Test (AMT) on the computer either on CAT form or FIT form with a selection of items arranged in order of increasing item difficulty. In a moderated regression approach, a significant interaction of TA and test mode was revealed. The effect of mode on the AMT score was stronger for students with higher scores on TA than for students with lower TA. It was also discovered that getting information about CAT led to significantly better results than receiving standard test instructions. This study was a step higher than some other correlation studies in traditional testing mode. The modern testing techniques were also found to have been affected by the disorder. It however failed to attempt finding ways of controlling the disorder, which is the primary focus of the current study.

Binti & Abdul (2011) conducted a study on overcoming TA from the perspectives of senior students of the Faculty of Education in the University of Technology, Malaysia. The study found that most participants perceived TA as normal feelings and thus did not bother much to overcome it. Two ways were also discovered as means of overcoming TA, which can be categorized as physical reactions and mental reactions. Mental reactions were further divided

into two, which are self-motivation and religious motivation. The study is similar to the current study as they both aim at ways of overcoming TA. However, while the study adopted a survey method of enquiry, the current study uses experimental method.

Hembree (2011) took a wider coverage of the study of TA. He conducted a meta-analysis study of five hundred and sixty-two (562) studies. They were integrated to show the nature, effects and treatment of academic TA. His analysis found that TA causes low performance and also relates inversely to students' self-esteem and directly to their fears of negative evaluation, defensiveness and other forms of anxiety. He also found some conditions that gave rise to differential TA levels which include ability, gender and grade levels. The study also indicated a variety of treatments that are effective in reducing TA and improving test performance and GPA consistently. The study also analyzed studies on the relationship between CBT and General Anxiety Disorder (GAD). It referred to a study by Borkovec and Whisman which found out that the use of CBT to control GAD produces significant improvement which was maintained long after treatment termination. CBT has also been found to generate greater improvement than no treatment analytic psychotherapy, pill placebo non-directive therapy and also placebo therapy. Despite the recorded success and the efficacy of CBT, the analysis found that only half of the CBT treated clients achieved high end state functioning. The analysis then concluded that further techniques development is necessary. This is a very recent study but was an analysis of some other previous studies. The review of the previous studies further supports a claim in chapter one that most of the previous studies were correlation studies.

2.18 Summary

The chapter is a review of the work done in the field of TA and other related variables. Test anxiety, as the emotional state in which people feel uneasy and apprehensive has been an alarming condition that has drawn the attention of stakeholders in the achievement of educational objectives. A careful study of the existing literature exposes the limitations in the efforts of the professionals in the field especially in the local context. The theoretical framework, causes and consequences of TA have all been reviewed, which showed that TA like other similar disorders can be effectively controlled. Attempts to theoretically explain the nature of test anxiety have been on for long. There is however a strong difficulty in linking TA with a particular theoretical explanation. The psychoanalytic view, biological, environmental and learning theories have also been reviewed in this chapter as they are linked with the disorder.

These theories have brought to light, the major causes of the disorder as listed in the review. It can be summarized that the major causes are mainly from within the individual's cognition and skills while others are attributable to the environment as well as those around the individual. While the symptoms of TA can be visibly seen by any close observers, ascertaining the level of TA requires the use of validated instruments. The symptoms include physical, emotional, mental as well as behavioural signs of the disorder. The chapter also reviews the concept, features, criticisms as well as the techniques of adequately preparing candidates for the high-stakes examinations.

The study also found in the literature that despite the debilitating effects of TA and the apparent unfavourable perceptions of HST by the beneficiaries, the Counselling profession

can do a lot to effectively control the disorder. This brought about the somehow cloudy perceptions of Counselling and Psychotherapy even by the practitioners in the fields. It is a fact that both fields have the purpose of helping humanity solve their problems in order to be fully functional in the society and to prevent the personal problems from degenerating into general social problems.

The literature in the chosen techniques of cognitive restructuring and systematic desensitization have also been reviewed. It was found that although the TA disorder may be controlled by pharmaceuticals as well as therapeutic methods, therapeutic methods are more reliable because the withdrawal of drugs sometimes results in a relapse.

Empirical studies in high-stakes test anxiety (HTA) and CBT were also reviewed. Attempts have been made locally and internationally to conduct studies on HST and the use of CBT.

It should be mentioned however that of all the studies reviewed, no literature was available to the researcher on the effectiveness of cognitive restructuring and systematic desensitization counselling techniques in the control of TA. This study will therefore practically provide empirical data that will explain how effective the techniques can be in controlling the disorder. The outcome of this study will reduce the existing gap between Nigeria and the Western world in terms of research studies in the counselling efforts to minimize the scourge of the disorder

CHAPTER THREE

METHODOLOGY

3.1 Introduction

In this chapter, a general outlook of the research methodology adopted in this study is outlined. The research design adopted, the population, sample and sampling procedures, and the research instruments are all explained. The validity of the research instruments, their administration, data collection procedures and data analysis procedures, are also discussed.

3.2 The Research Design

The research design adopted for this study was the pretest-posttest-control group design. The study was a quasi-experimental study which was conducted outside of the laboratory setting and the scheduling of the treatment variable was out of full control of the researcher. It is the design in which the researcher deliberately interferes with the experimental situations by controlling who are exposed to certain conditions in the study. The use of cognitive restructuring and systematic desensitization techniques to alter the high-stakes test anxiety of the sample population was a deliberate effort to modify the behaviours of the sample. This means that cognitive restructuring and systematic desensitization techniques were the independent variables and their manipulation was expected to result in change in the high-stakes test anxiety which was the dependent variable.

The design involves the random assignment of participants to two or more groups with one or more groups receiving treatment while the other(s) is/are not. The random assignment of the subjects in this study was however stratified because the representative sample groups were

decided after scoring the pretest. Only candidates that scored between 3.0 to 5.0 qualified for placement into either the treatment or control groups. The groups that receive the treatments were considered as the experimental groups while those without treatment were considered the control groups. The simple design is conceptualized in the literature as follows:

$$R\ O_1\ X\ O_2 \qquad \text{(Experimental group)}$$

$$R\ O_3 \qquad O_4 \qquad \text{(Control group)}$$

Here, the first row represents the experimental group in which the treatment was carried out, while the second row represents the control group where no treatment was carried out. The two Rs may be differentiated by assigning R_1 to the R (randomization) in experimental group, while R_2 to the R (randomization) in control group. These representations are as follows:

R_1 = randomization in experimental group

O_1 = observations before treatment (pretest) in the experimental group

X = treatment

O_2 = observations after treatment (posttest) in the experimental group

R_2 = randomization in control group

O_3 = first observations in the control group (pretest)

O_4 = second observations in the control group (posttest)

The purpose of the design was to test the effects of the independent variables which in this study were the cognitive restructuring and systematic desensitization counselling

techniques. This was reflected in the differences on the dependent variable(s) which in this study is the high-stakes test anxiety, especially observed between pretest and posttest (O_1 and O_2). The unique strength of this design pertains to the use of the pretest, which allows the researcher to perform various analyses that might be helpful in making valid inferences about the effects of the independent variable (Heppner, Wampold and Kivlinghan, 2008). As explained in the definition of this design, the groups may be two or more. This study required two experimental groups and two control groups, one from each of the groups in a school. This is because there were two independent variables to use in order to observe the changes in the dependent variable. Since the independent variables were tested in each of the schools, each experimental group was given a control group from the same population in the same environment. The conceptualization therefore became as follows:

A. R O_1 X O_2 (Experimental group)

R O_3 O_4 (Control group)

B. R O_1 X O_2 (Experimental group)

R O_3 O_4 (Control group)

In this conceptualization, the first rows in A and B represented experimental groups using cognitive restructuring and systematic desensitization respectively, while the second row in each of A and B represented the control groups for cognitive restructuring and systematic desensitization respectively.

The rationale for using a separate control group for each of the two experimental groups was for the following reasons:

i) To get members of the control group from the same environment with the experimental group;

ii) To pick the control group members who have the same characteristics with the treatment groups. It could have been difficult to justify male students in experimental group but females in a different school being the control group or vice versa;

iii) To ease closer watch of the two groups by the researcher;

iv) To prevent some extraneous variables caused by difference in location from influencing behaviour changes in the control groups;

v) To justify claims that changes observed in experimental groups were purely results of the treatment.

3.3 Population

The population of this study constituted of all SSS III students in the Kaduna metropolis who exhibited the symptoms of test anxiety. The subjects were identified after the scoring of the pretest which was administered on some final year students of some purposefully selected secondary schools. The highest scorers were considered test-anxious. The sample population was therefore the twenty (20) highest scorers among the students who had made the required points to qualify as high-stakes test-anxious as stated in the manual of Westside Test Anxiety Scale (Driscole, 2004).

From the information received from the Kaduna Zonal Education Office, there were thirty-eight (38) public secondary schools under the zone with a total population of about 27,165 students. This gave an average of 4, 528 final year students. The Sabon Tasha Zonal Office had forty-six

public secondary schools with a population of 32,213 students. The average of final year students in public schools in the zone stood at 5,369. There were also forty-six private schools in the metropolis who had registered under the Kaduna State Private Schools Management Board. Taking the average of final year students in public schools by the number of schools in private schools, it was estimated that there were about 5,481 final year students in the private secondary schools. These constituted an estimated population of about 15,378 final year students within the metropolis.

The students were within the age range of 12 – 17 years. The population was typically heterogeneous as the students were of different ethno-cultural backgrounds. This was owing to the nature of the general population of Kaduna as a cosmopolitan settlement. Two schools were considered representative enough as an experimental study. Twenty students from each school were randomly selected from the students with high scores in the Westside Test Anxiety Scale. Breakdown of the analysis of pretest scores, showing the accepted categories in the test manual is attached in the appendix. Out of the twenty (20) students in each school, ten were randomly selected as the experimental group while the second ten became the control group. These students were selected based on their punctuality in the first scheduled meeting after scoring the pretest. To take care of possible drop out however, three test-anxious students were added to each of the experimental and control groups in each of the schools. A total of forty test-anxious students therefore constituted the representative population at the end. This was in line with Heppner, Wampold and Kivlinghan (2008) on the limitation of the number of participants which says that by necessity, counselling research is conducted with a limited number of participants. Ohlsen and Gedza (as cited in Bawa, 2007) also asserts that better results are achieved in smaller (experimental) groups.

3.4 Sample and Sampling Procedure

This research adopted the stratified and multistage sampling designs. On one side it used the stratified sampling since it selected samples based on two strata by gender through one school each for males and females. On the other side it used a multistage sampling because it selected subsamples of students with high test anxiety.

Two schools were sampled out of one hundred and thirty secondary schools in Kaduna metropolis, using the stratified random sampling method. The method was stratified because the following were considered in the selection:

a) The standard of the schools must not be below average. This was in order to get the respondents that were able to respond appropriately and communicate effectively so that the researcher could be able to elicit the actual data.

b) One of the schools must be a male school, while the other must be a female or two co-education schools.

The following table describes the spread of the sample population used in the study:

Table 3.1 Distribution of Sample Population by Schools and Gender

Name of School	Cognitive Restructuring	Systematic Desensitization	Control Group	Total
Government College, Kaduna (Males)	_	10	10	**20**
Queen Amina College, Kakuri Kaduna (Females)	10	_	10	**20**
Total	**10**	**10**	**20**	**40**

3.5 Control of Intervening Variables

Being a quasi-experimental research design, where the researcher did not have total control over the population of the study, it was clear that other compounding or intervening variables could also come up. The variables were those that could prevent the researcher from completely attributing the observed changes in the dependent variables to the effects of the independent variables on them.

Since the aim of the researcher was to consider the exact effects or otherwise of the independent variables on the dependent variables, and to further generalize the effects, it was necessary to

control the intervening variables effectively. The major anticipated intervening variables of the study were: Medium of communication, Test-retest effects otherwise called test wiseness, Acculturation, Experimental mortality, Maturity or time factor, and Experimental and Control group interaction.

a) **Medium of Communication:** With the falling standards of education, it was anticipated that many of the students in the target population may not fully understand the content of the Westside Test Anxiety scale. The researcher therefore had to personally read the items to the students and also entertained questions to be sure that they fully understood the questions. Additional explanations on each of the items were also given in the local language (Hausa) in order to fully understand the items in the questionnaire.

b) **Test-retest Effects:** When the same test is used in pretest and posttest, it is likely that the familiarity with the pretest may affect the participant's response in the posttest. The researcher therefore effectively controlled this by personally administering the instrument. It was also expected that the time span between the pretest and posttest which took about three months would have significantly weakened this intervening variable. Within this period, treatments were carried out in the two experimental groups, while the control groups were engaged in some discussions which were meant to serve as placebo treatment.

c) **Acculturation of the Instrument:** The instruments originated from the populations with different cultural and educational backgrounds with the current study population. It was found in the literature that the Westside Test Anxiety Scale had also been widely used the world over including Nigeria (Onyeizugbo, 2010).

Furthermore, the researcher also conducted a pilot test as a way of trial-testing the instrument to reaffirm its suitability. The instrument was found to be both valid and reliable. (see 3:7:4&5)

d) **Experimental Mortality:** It was possible that while the experiment lasted, some of the subjects might withdraw especially as they were told from the beginning that their participation was voluntary. To control this, the researcher sampled more subjects than required right from pretest. Three students were added in each of experimental and control groups. At the end of the counselling process, posttest results of the first ten students in each group were used in the analysis.

e) **Maturity:** It is logical to also say that as the time for the high-stakes tests approached, the test-anxiety was more likely to rise higher, to affect the levels of anxiety in the pretest and posttest. The discussions that were held before the test were also aimed at controlling these variables. There was also a good plan of taking the pretest when the students were getting ready for their mock exams, while they took the posttest a week to the commencement of their first term examinations in SSS III. These examinations were considered of high-stake value because their outcome determined the eligibility of the candidates to register for the SSCE external final examinations. So it was actually planned that the students took the pretest when they were about to take their WAEC/NECO mock examinations. By the time the treatment was concluded, they were about to write their end of first term examinations. So the posttest was administered when they were ready for another high-stake examination. This means the conditions in which they took the examinations were similar, which further supports the fact that the changes observed

in the dependent variables were caused by the manipulations of the independent variables.

f) **Experimental and control group interaction**: The researcher deliberately and as much as possible, kept the two groups in each school separate. This was aimed at preventing the control group from knowing the participation of the experimental group after the pretest. That was why the control group was not left idle but was engaged in discussions on issues irrelevant to the variables in the study.

g) **Gender biasness in the use of the counselling techniques**: The design of the study was such that a technique each was used for the male and the female populations. This could be a confounding variable in the experiment and could affect generalization of the outcome of the study. The researcher carefully selected the samples in both experimental and control groups based on their pretest scores. The control groups were also of the same sex with their respective experimental groups.

3.6 Treatment Procedures

The researcher cautiously applied treatments in the experimental groups of the two schools sampled. Since we had two techniques for the treatment, each school had a group for treatment and a control group. Official permission was first sought by the researcher from the Kaduna State Ministry of Education for the use of public schools while authorities of the private schools were contacted for the use of their schools.

3.6.1 Pretreatment Sessions

i) **First Visit.** The researcher first visited the schools for the purpose of meeting the principals and the Guidance and Counselling Masters. Requests were made to the schools for permission to see all SSS III students and administer the pretest. Approval letters from the zonal offices were presented to the principals and they graciously accepted the request.

ii) **First Interaction**. This was the interaction between the researcher, school Guidance and Counselling Master and all SSS III students in each of the schools. It served as an introduction where students were informed about the mission of the researcher. This was however not too detailed in the aspect of the enquiry in order not to affect the students' responses in the pretest. The interaction lasted for about forty minutes in each school.

iii) **Administration of the Pretest.** Shortly before the commencement of 2012 Kaduna State WAEC/NECO mock examinations, the pretest instrument was administered. The administration was well timed because of the anticipation of test anxiety especially when students were preparing for high-stake tests in subjects they were to sit for in the external examinations. The Westside Test Anxiety Scale was administered on the students as the pretest. It had ten items with five-point Likert scale response options. It had the unique purpose of identifying who could benefit from test anxiety counselling (Driscole, 2004). Apart from the advantages of the test listed under validity and reliability of the instrument, the number of items in the test

made it easy to administer and score on a large population of all SSS III students in the selected schools. The administration of the test also lasted for about 20minutes.

iv) **Scoring of Test and Selection of Sample.** The researcher thereafter scored the test in preparation for his return to the schools the following week to commence the counselling relationship. Since the instrument had a gradational scoring points attached to the options, the points scored by the students depended on their choice of options. The following exemplifies the scoring procedure.

Table 3.2: Example of Calculation of Pretest Scores

Option Value	**No. of Options**	**Added Option Values**	**Final Scores**
A = 5	2 = 2x5	10	
B = 4	2 = 2x4	8	
C = 3	1 = 3x1	3	
D = 2	2 = 2x2	4	
E = 1	3 = 1x3	3	
	Total	**28**	28/10 = **2.8**

Table 3.3: Example of Calculation of Pretest Scores

Option value	**No. of Options**	**Added Option Values**	**Final Score**
A = 5	4 = 4x5	20	
B = 4	1 = 1x4	4	
C = 3	2 = 2x3	6	
D = 2	1 = 1x2	2	
E = 1	2 = 2x1	2	
	Total	**34**	34/10 = **3.4**

From the examples in the tables above, candidate in table 3.2 was not picked in the sample because he had less than 3.0 while candidate in table 3.3 was picked because he had met the 3.0 minimum points. It was mainly the outcome of this test that determined who was to be selected for the treatment. Other conditions for the treatment included the full consent of the school authorities, and the students' willingness to participate in the treatment.

3.6.2 Treatment Sessions

Each of the treatments lasted for eleven sessions. It was based on individual counselling and each session lasted for between 25 to 30 minutes. Two groups were treated, one in each school, and in each school there was a control group, which did not receive any treatment.

Within the weeks the treatments lasted, Mondays were scheduled for treatment of systematic desensitization group, while Tuesdays were scheduled for discussions with their control group. Wednesdays were scheduled for treatment of cognitive restructuring group, while Thursdays were scheduled for discussions with their control group. Subsidiary arrangements were made for students who failed to attend on the scheduled days. The sessions commenced before the mock exams, ran through the period of the examination and were rounded off after about three months. The posttest was also taken a week before the commencement of their first term examinations. Details of the treatment sessions are attached in appendixes I & II.

3.6.2.1 Experimental Group I: Cognitive Restructuring

The cognitive restructuring counselling technique treatment was administered to the students of Queen Amina College, Kaduna within eleven sessions. Each of the sessions lasted for between twenty-five to thirty minutes. The first session was basically aimed at establishing the counselling relationship between the researcher and the students. It specifically explained the responsibilities of the counsellor and that of the counselee which was to be adhered to for a successful counselling relationship.

The second session introduced to the students what was high-stakes test anxiety and how cognitive restructuring counselling technique could effectively be used to help in replacing the unwanted behaviour. The third session identified and began monitoring of the negative automatic thoughts of each of the test-anxious students.

The fourth session was dedicated to the process of attaching the negative automatic thoughts to behaviours that were symptoms of their high-stakes test anxiety. From the fifth session to the ninth, the researcher and each of the students provided evidences against the distorted

thoughts by way of challenging them and the unwanted behaviours. The researcher then guided the students in replacing the negative and unrealistic thoughts with some positive and realistic ones. The tenth session was mainly occupied with discussions with candidates on some other possible negative automatic thoughts which the students did not mention, and the possible faulty behaviours that such thought may manifest.

In the eleventh and final session, the counselling relationship was concluded after an open discussion with the students on other important issues relevant to the counselling intervention within the sessions held. Finally the posttest was administered at the end of the session which marked the end of the treatment sessions. The students were seen individually in a hall which was provided by the school authorities, for the training sessions.

3.6.2.2 Experimental Group II: Systematic Desensitization

The systematic desensitization counselling treatment was administered in eleven sessions. Each of the sessions lasted for between twenty-five to thirty minutes. The first session was dedicated to the establishment of the counselling relationship, firstly by self introduction by the counsellor and the counselee. In the second session, the concept of high-stakes test anxiety and what counselling interventions could do to help the students were discussed.

In the remaining sessions, the basic stages in systematic desensitization counselling intervention were serially followed. In session three, the concept of relaxation and specifically progressive muscle relaxation were introduced to each of the students. In the fourth and fifth sessions, the actual relaxation processes were practiced with the individual students. The sixth and seventh sessions were dedicated to the identification of the events that lead to the high-stakes test anxiety and then guiding the students in arranging them hierarchically.

Having been introduced to the provoking situations and the hierarchy of the events, the seventh session was dedicated to the introduction of the concept of subjective unit of discomfort (SUD) to the students. They were made to understand that the subjectivity in assessment was purely based on their feelings since it was their behaviour that needed to be changed. The eighth session was dedicated to the pairing of the imagination of the anxiety provoking events and relaxation process, aimed at desensitizing the events in the students' thoughts. Session nine continued with the desensitization process, while the tenth session assessed the change in the students' feelings related to the high-stakes test anxiety.

The eleventh session concluded the counselling relationship. Other relevant issues such as the general experience of the students during the period of treatment, use of SD technique even after the treatment were also discussed before administering the posttest on the students. Individual counselling was carried out in these sessions.

3.6.3 The Control Groups: No Treatment

In order to keep the control groups under watch, the researcher continued meeting with the groups while the treatment in the experimental groups lasted. Group discussions with participants in the control groups were organized on areas that did not have any relationship with the topic of the research. The topics included the following:

1. The evils of corruption;
2. Dieting without tears;
3. Nationalism;
4. Challenges of adolescence;
5. Physical training and keeping fit;
6. Vulnerability and risks in drug abuse;
7. The dangers of premarital sex;

8. The importance of self-reliance;
9. General discussions on topics discussed earlier;
10. General discussions on topics discussed earlier;
11. Round up discussions and administration of posttest.

The topics were discussed at the peripheral level. Caution was taken not to discuss details that may influence changing their test anxiety. The researcher considered the discussion of these topics as a kind of placebo treatment because the participants might have believed that they were receiving treatment although the topics were completely irrelevant to the dependent variables. The topics were supposed to keep the control group busy and not to effect any change of the unwanted behaviour.

3.7.1 Instrumentation

The Westside Test Anxiety Scale (WTAS) was used as the pretest to ascertain those who could benefit from the therapy. It was also used as posttest to test the effectiveness of the counseling techniques before making inferences from analysis of the data received. WTAS was developed by Richards Driscole. It was purposely developed to determine who could benefit from TA interventions. The scale has ten items with five-point response options. The procedure for scoring the instrument, how to interpret it and the permission to use it were all found in Driscole (2004). The items mainly asked questions on aspects of poor cognition and emotionality which interfered with concentration on the main exam. Physiological stress was considered to be a weak indicator in the instrument.

3.7.2 Scoring of the Instrument

The WTAS was designed with five-point Likert scale response options, ranging from "extremely or always true" to "not at all or never true." The scaling is as follows:

5. extremely or always true
4. highly or usually true
3 moderately sometimes true
2. slightly or seldom true
1. not at all or never true.

The manual of the scale explained that it was found that students who scored at least 3.0 or more on the scale tended to benefit from anxiety reduction training, experiencing lower anxiety on tests and achieving higher grades. The individual scores were arrived at by dividing whatever was scored by ten. Detailed examples are in 3.6.1

3.7.3 The Pilot Testing

In order to confirm the validity and reliability of the instrument in the intended environment, the researcher trial tested the instrument in two schools within the Kaduna metropolis. These were the Sardauna Memorial College, Kaduna and Maimuna Gwarzo Government Day Secondary School Tudun Wada, Kaduna. Statistical tools were then applied which scientifically confirmed the validity and reliability of the instrument. Tables 3.4, 3.5 & 3.6 are statistical analysis to prove the validity of the instrument.

The conduct of the pilot testing was useful in order to try out the instrument and the experimental methods on a small scale. This was also necessary to ensure the suitability of the instrument in

testing the target population, since it was developed in an environment that had some socio-cultural differences from the environment of the current study. Pilot testing the instrument was expected to lead to improvements and it could also reveal other troubles that might be serious on a large scale. During data collection and analysis processes in a complex experiment of this nature, problems relating to unpredictability of human beings and inaccessibility of the subjects were encountered at the field. The researcher's experience on the field in the pilot testing however helped tremendously in the actual study. The pilot testing was also a procedure which was necessary for early checking of the quality of the returns. Plans were also made for handling none response, which could have resulted to the failure of the experimenter to obtain information from some of the units in the sample or some sections of the instrument. On submission of the completed questionnaire, the researcher personally crosschecked to make sure that all the items were attempted. The results of the pilot study were also used to compute the reliability of the research instruments. As a standardized test however, there were no serious issues that called for any adjustments in the instrument. The instrument was therefore fully adopted without any adjustment.

Table 3.4: Results Summary of Test Anxiety Levels in the Pilot Testing

Schools	**N**	**Percent**	**Mean**	**Std. Deviation**
Sardauna Memorial College, Kaduna	96	46.8	3.14	0.516
GGSS, Maimuna Gwarzo	109	53.2	3.12	0.654
Total	205	100.0	3.13	0.529

The table 3.4 shows that 205 respondents were measured in two strata. Sardauna Memorial College, Kaduna had 96 respondents while GGSS, Maimuna Gwarzo had 109 respondents. Again, 46.8% of the respondents were male students from Sardauna Memorial College while 53.2% were female students from GGSS, Maimuna Gwarzo. The male students had a mean test anxiety score of 3.14 with a standard deviation of 0.516 while the female students had a mean test anxiety score of 3.12 with a standard deviation of 0.654. The overall mean test anxiety score in the entire pilot study was 3.13 with a standard deviation 0.529.

3.7.4: Validity of the Instrument

The validity of the Westside Test Anxiety Scale was scientifically confirmed by the author as satisfactory, and was certified highly valid and reliable for identifying sufferers of test anxiety (Driscole, 2004).

The instrument has also been widely used for the diagnosis of the prevalence and levels of test anxiety among children and adolescents. It was also validated at the University of Nigeria Nsukka (Onyeizubo, 2010). It was used to assess the test anxiety of 249 undergraduate students of the University. Supervisors of this project have also ascertained its authenticity as a standardized instrument.

For further confirmation, a statistical procedure was conducted to investigate the validity and concordance of the ten items in the instrument measuring the test anxiety. This was aimed at further strengthening the findings of the study. This is common in psychological researches, in order to reach meaningful conclusions. The pilot study investigated the level of agreement between the ten construct items contained in the instrument used herein for measuring test

anxiety. This effort confirmed that the instrument actually measured what it was designed to measure. The Kendall's coefficient of concordance was applied for the test.

Kendall's Concordance Test

The null hypothesis of the Kendall's coefficient of concordance is that there is no significant agreement between the ten construct items contained in the instrument used herein for measuring test anxiety. Against the appropriate alternative, the rule is to reject H_0 if $p<0.05$ otherwise accept it at the 5% level of significance. The computations are summarized in the SPSS Kendall's coefficient of concordance table.

Table 3.5: Group Statistics for Test Items Concordance

Statistics	**Values**
N	80
Kendall's W	0.42
Df	9
Asymp. Sig	0.006

From table 3.3 above, since $p=0.006<0.05$, we can therefore conclude that there is significant agreement between the ten construct items contained in the instrument used herein for measuring

test anxiety. Hence, the ten items in the instruments were adequate in investigating the levels of high-stakes test anxiety among final year secondary school students in the Kaduna metropolis.

3.7.5 Reliability of the Instrument

In addition to the reliability of the instrument as expressed by the author the result of the researcher's trial testing also confirmed the reliability of the instrument. The reliability of the instrument was measured by the Cronbach's alpha statistic. Cronbach's alpha was designed as a measure of internal consistency; that is, a test of whether all items within the instrument measured the same thing. It is simply a measure of reliability of the question items. In this research work, there were 10 construct question items in the scale to evaluate and assess the test anxiety of students. Coefficient alpha is the approximate average correlation between all pairs of question items. Based on the formula of alpha, a rule of thumb that applies to most situations for the interpretation of reliability by alpha which is mostly acceptable is as follows.

Table 3.6: Rules for Reliability test

Cronbach Alpha	**Remark**
$\alpha \geq 0.9$	Excellent
$0.8 \leq \alpha < 0.9$	Good
$0.7 \leq \alpha < 0.8$	Acceptable
$0.6 \leq \alpha < 0.7$	Questionable
$0.5 \leq \alpha < 0.6$	Poor
$\alpha < 0.5$	Unacceptable

The details of the computations of the Cronbach's alpha based on a pilot test with a sample size 205 are summarized in table 3.5 below.

Table 3.7: Reliability Statistics for the WTAS Instrument Tested in Two Schools

Status of Respondents	Number of Items	Sample Size	Cronbach's Alpha
Sardauna Memorial College, Kaduna	10	96	0.804
GGSS, Maimuna Gwarzo	10	109	0.835
Total	10	205	0.820

From table 3.7 above, the Cronbach's alpha of *0.804* for the instrument used in Sardauna Memorial College, Kaduna is reliable. Similarly, the Cronbach's alpha of *0.835* for the instrument used in GGSS, Maimuna Gwarzo is also reliable. Also, the Cronbach's alpha of *0.820* for the entire pilot study implies that the instrument is generally good and reliable. Hence, the instrument has excellent reliability as far as internal consistency is concerned.

3.7.6 Procedures for Data Collection

The instrument was administered personally on the subjects with the help and cooperation of the school teachers and administrators. It was administered as the pretest for the identification of the highly test-anxious students, and was later used as the posttest for evaluating the efficacy of the counselling interventions. Before the pretest administration of the scale, there were group discussions between the researcher and the students and at least one of the teachers holding the

schedule of the school counsellor. This was aimed at enlightening them and appealing for their honesty and cooperation in responding to the items and in officiating in the process of the test administration. In one of the schools, the principal, her two vice principals and other relevant staff members were in attendance and did not only pledge their corporation but also personally declared that they learnt a lot in the discussion.

The pretest was then administered to all the SSS III students in each of the schools in the week preceding the commencement of the 2011 WAEC/NECO mock examinations. It was from the analysis of the pretest results that the test-anxious students were identified, out of which the sample population was constituted. The students were however notified that their participation was strictly voluntary. After the treatment was completed, the posttest was also carried out on the sample. This was done almost immediately the treatment was completed. In both pretest and posttest, the researcher read out the items to the students, and entertained questions from them to clarify grey areas.

3.7.7 Procedures for Data Analysis

After the experimental procedures, the first step taken in this study was to edit the completed instruments with the hope of amending recording errors, or at least of deleting data that are obviously erroneous. Decisions about computing procedure were also made in cases where answers to certain questions were omitted by some respondents or were deleted in the editing process. Thereafter, the computations that led to the estimates were performed. In this case, the Statistical Package for the Social Sciences (SPSS) Version 17.0 was employed for the actual data presentation and analysis. The following statistics were adopted in testing the hypotheses presented in this research work.

The T-Test Procedure

This statistical procedure was used in the study to compare the results of the two treatments in the study and to find out if one of the treatments was more effective than the other. The paired sample t-test was used in analyzing different test scores from same group. The independent sample t-test, or two-tailed t-test was used in analyzing different test scores from different groups.

Kendall's Coefficient of Concordance

In this research work, there were ten construct variables in the Westside Test Anxiety Scale and the study wanted to measure the agreement in their responses. The degree of agreement or association among these ten construct variables was adequately measured by means of the Kendall's coefficient of concordance statistic.

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CHAPTER FOUR

RESULTS AND DISCUSSIONS

4.1 Introduction

This chapter presents an analysis of the findings of the study. To make the results of the study more meaningful, discussions about the outcome were made. The chapter therefore is made up of three sections namely: answers to research questions, hypotheses testing and discussions on the findings of the study. The data generated in this research work were collected through a carefully planned and well designed experiment using reliable instrument to assess and evaluate the level of test anxiety among the students. The main data were collected using the Westside Test Anxiety Scale particularly applied to the target population. After the actual data collection process, the data were classified into tables with purposeful and logical categories in order to facilitate analysis. The main data were analyzed using appropriate statistics. The entire research hypotheses were tested at 0.05 level of significance.

4.2 Demographic Data

The demographic data of the students that constituted the population of study is hereby presented in tables 4.1 and 4.2 It is a picture of the personal characteristics of the sample population. The data here was elicited before the treatment and post treatment collection of data from the experimental and control groups.

Table 4.1: Frequency Distribution of Levels of Test Anxiety of the Students by School/Sex.

Schools	Interpretation of Intervals	Frequency	Percentage	Cumulative Percentage
GCK	Comfortably Low Test Anxiety	9	6.7	6.7
(Male)	Normal Test Anxiety	27	20.0	26.7
	High Normal Test Anxiety	38	28.1	54.8
	Moderately High Test Anxiety	44	32.6	87.4
	High Test Anxiety	17	12.6	100.0
	Total	135	100.0	
QAC	Comfortably Low Test Anxiety	5	3.0	3.0
(Female)	Normal Test Anxiety	24	14.5	17.6
	High Normal Test Anxiety	20	12.1	29.7
	Moderately High Test Anxiety	60	36.4	66.1
	High Test Anxiety	56	33.9	100.0
	Total	165	100.0	

From the Table above, it can be deduced that 6.7% of the male students had comfortably low test anxiety while 3.0% of the female students had comfortably low test anxiety. On the other hand, 20.0% had normal test anxiety while 14.5% of the female students had normal test anxiety. These two categories posed no threat to the candidates as they might even serve the function of motivation in preparing for test. For high test anxiety, 12.6% male students fell under this

category, while 33.9% female students were also highly anxious. This category was in great need of counseling interventions and it was from the category that the samples were randomly selected.

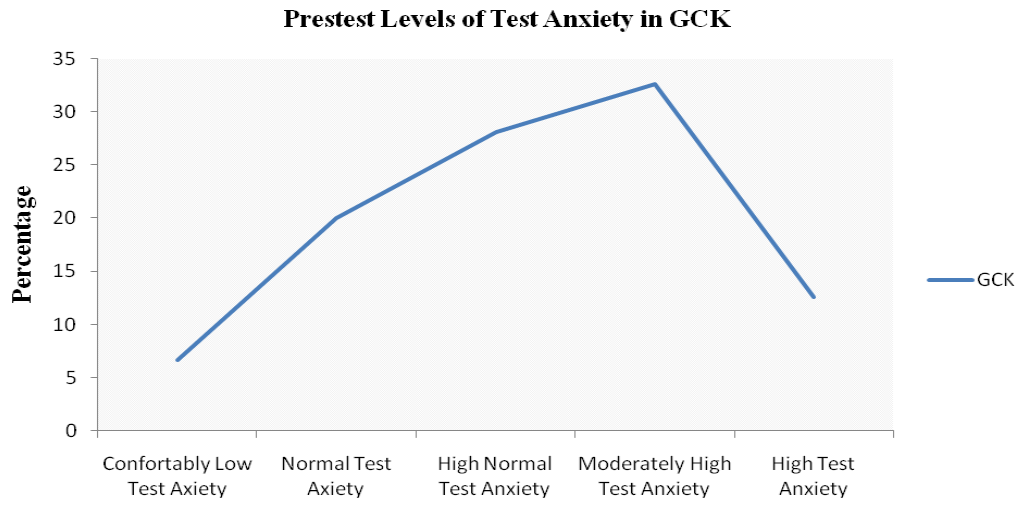


Fig. 2

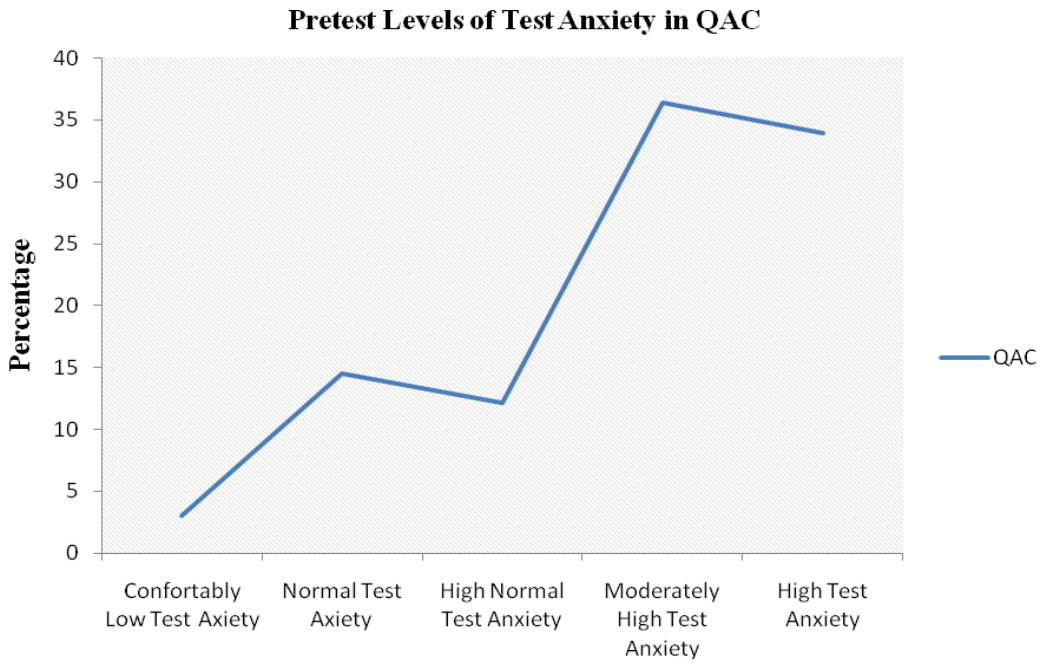


Fig. 3

The graphs in figures 1 and 2 illustrate the levels of high-stakes test anxiety of the subjects before the treatment. They are graphic representation of table 4.1 Fig. 1 is closer to a perfect curve because majority of the students stood at the centre. This is an indication that there is a very high level test anxiety among them. Fig 2 illustrates that the level of test anxiety in QAC is even much higher than in GCK. The greater percentage of the students had very high test anxiety. The shape of the graph also does not look like a normal curve, signifying that those with high-stakes test anxiety are much more than those with less high-stakes test anxiety. Despite this however, the techniques adopted for the treatment of the students in the two schools were found to have similar level of effectiveness in reducing the disorder. The descriptive statistics of the test anxiety of the sample population is shown in the following table.

Table 4.2: Descriptive Statistics for Levels of Test Anxiety of Students in the Two Schools

School	N	Mean	SD	Remark
Government College Kaduna	135	2.82	0.54	High Normal TA
Queen Amina College Kaduna	165	3.16	0.56	Moderately High TA
Total	300	3.00	0.58	Moderately High TA

From the descriptive Table above, it can be deduced that students from Government College had a mean test anxiety of 2.82 which fell in the category of high normal test anxiety. On the other hand, students from Queen Amina College had a mean test anxiety of 3.16 which fell in the category of moderately high test anxiety. Although the number of students in QAC was higher by thirty, the mean of the score of the students in GCK was higher. The level of test anxiety in GCK students was interpreted as high normal, while that of QAC was moderately high. The

differences in individual mean are also not very wide, as indicated in the standard deviation column. The overall sample of 300 students had a mean test anxiety of 3.00 which fell in the category of high normal test anxiety. Students with extremely high test anxiety were earlier isolated for the treatments. The contrast of test anxiety by school/sex is depicted in the following mean plot:

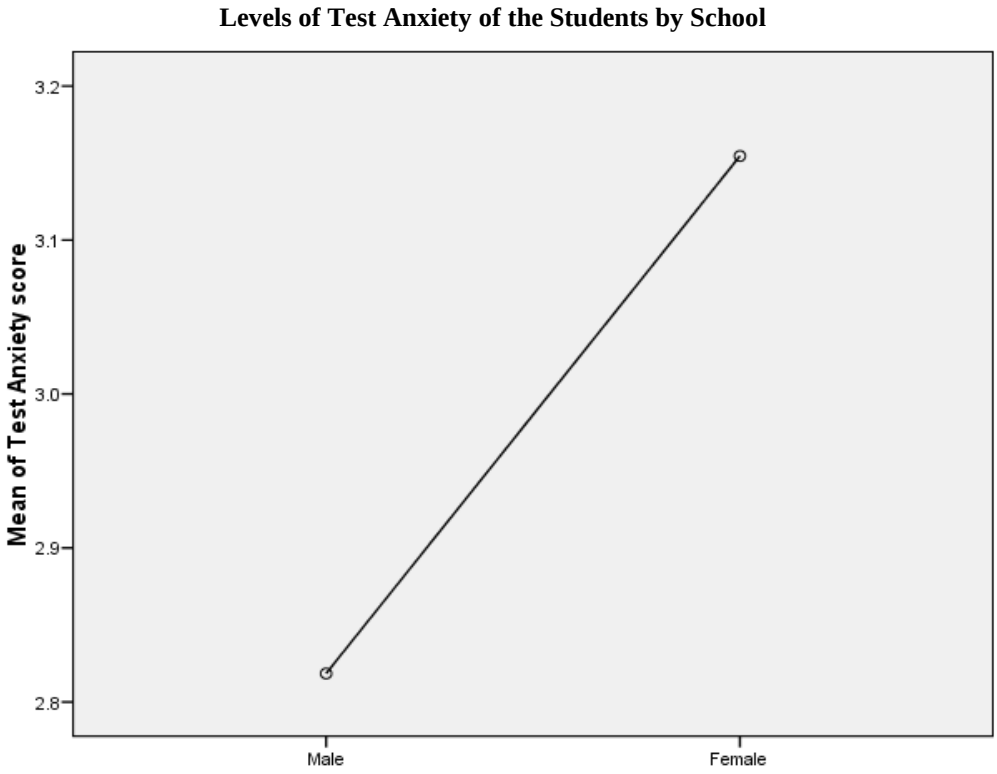


Fig. 4 Sex

Table 4.3 contains a part summary of the representative population responses to the questions in the instrument used for collecting data. The frequency distribution as well as the percentages of the responses are indicated. It is however only the highest acceptance (Always True) and the lowest acceptance (Never True) of the statements that were summarized. Details of all the responses were not required for this purpose but the table gives a picture of the demographic data captured.

From the Table, it can be deduced that 15.6% of the male students said that it was always true with them that the closer they were to a major exam, the harder it was for them to concentrate on the materials while 20.6% of the female students said so. Similarly, 28.9% of the male students said that the notion was usually true while 32.1% of the female students said so. At the extreme end, 16.3% (male) indicated that it was never true with them; while13.3% (female) indicated same, as depicted in the table above. This interpretation applies to the other items in the questionnaire as summarized in the table. Table 4.3 displays the distribution of the mean responses of the items used in the instrument administered on the sample population.

Table 4.3 Summary of part of pretest responses to WTAS by the sample population

	RESPONSES							
	GOVT COLLEGE, KADUNA				**QUEEN AMINA COLLEGE, KADUNA**			
	ALWAYS TRUE		**NEVER TRUE**		**ALWAYS TRUE**		**NEVER TRUE**	
ITEM NO.	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**
1.	21	15.6	22	16.3	34	20.6	26	15.8
2.	11	8.1	34	25.2	36	21.8	22	13.3
3.	15	11.1	63	46.7	35	21.2	41	24.8
4.	18	13.3	39	28.9	33	20.0	27	16.4
5.	26	19.3	23	17.0	42	25.5	17	10.3
6.	34	25.2	24	17.8	44	26.7	16	9.7
7.	16	11.9	35	25.9	28	17.0	23	13.9
8.	30	22.2	19	14.1	44	26.7	30	18.2
9.	34	25.2	27	20.0	60	36.4	15	9.1
10.	34	25.2	36	26.7	49	29.7	45	27.3

4.3.0 Research Questions

The following were the research questions presented in the study, with their corresponding answers.

4.3.1 Question 1: What is the effectiveness of cognitive restructuring treatment in controlling high-stakes test anxiety of final year secondary school students in Kaduna metropolis?

Table 4.4: Group Statistics for Test Anxiety of Students Treated with Cognitive Restructuring

Cognitive Restructuring	N	Mean	Std. Deviation	Std. Error Mean
Pre-treatment	10	4.11	0.129	0.042
Post-treatment	10	1.96	0.493	0.156
Mean difference		**2.15**		

Table 4.4 confirms that there was a great difference between the levels of high-stakes test anxiety among the students before and after the cognitive restructuring treatment, while the mean score of the anxiety was up to 4.11 (with the maximum being 5.00) the effect of the treatment dropped down the mean score to 1.96.

The difference of 2.15 mean scores therefore manifests the efficacy of the cognitive restructuring treatment. The standard deviation which shows possible difference in individual mean is also not high. We can therefore answer the question that the difference between the levels of high-stakes test anxiety of the students after the cognitive restructuring treatment was adequate to declare the treatment effective.

Levels of Test Anxiety of Students treated with Cognitive Restructuring.

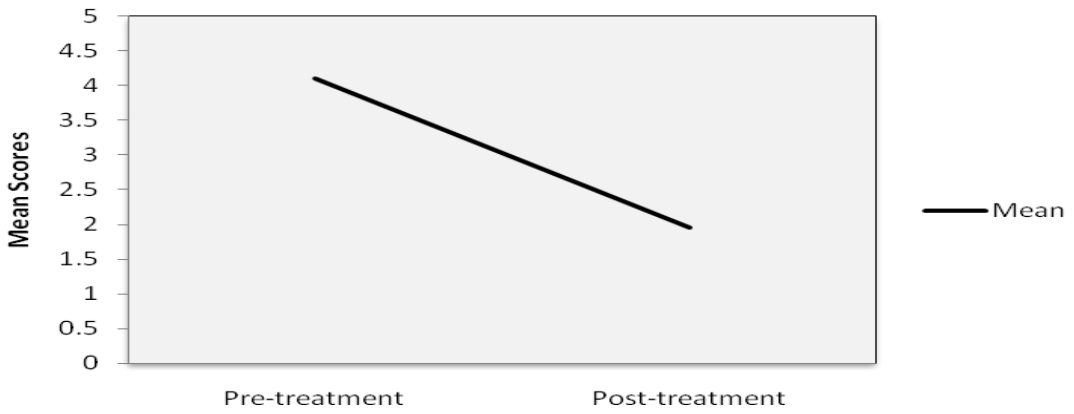


Fig 5: Treatment Status

The contrast of test anxiety between pre treatment and post treatment is depicted in the mean plot above. It shows how the mean score of test anxiety drastically dropped after the cognitive restructuring treatment.

4.3.2 Question 2: What is the effectiveness of systematic desensitization treatment in controlling high-stakes test anxiety of final year secondary school students in Kaduna metropolis?

Table 4.5: Group Statistics for Test Anxiety of Students Treated with Systematic Desensitization

Systematic Desensitization	**N**	**Mean**	**Std. Deviation N**	**Std. Error Mean**
Pre-treatment	10	4.26	0.310	0.098
Post-treatment	10	2.07	0.770	0.244
Mean difference		**2.19**		

Table 4.5 confirms that there was a great difference between the levels of high-stakes test anxiety among the students before and after the systematic desensitization treatment. While the mean score of the anxiety was up to 4.26 (with the maximum being 5.00) the effect of the treatment dropped down the mean score to 2.07 The difference of 2.19 mean scores therefore manifests the efficacy of the systematic desensitization. The standard deviation which shows possible difference in individual mean is also not high. The difference is therefore strong and clearly manifests the efficacy of the treatment.

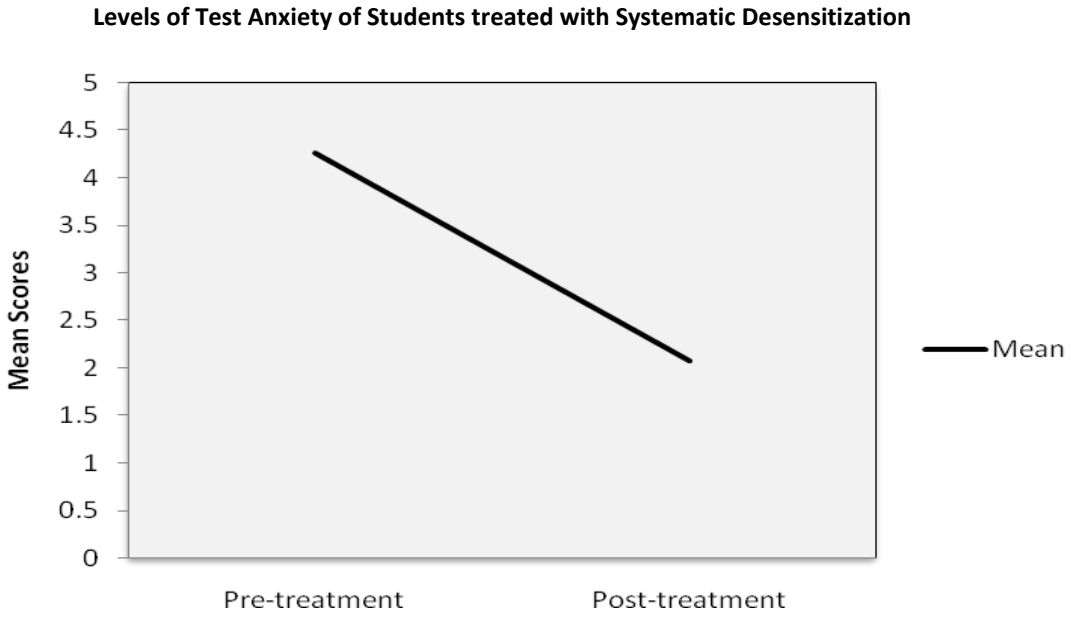


Fig. 6: Treatment Status

The contrast of test anxiety mean between pre treatment and post treatment is depicted in the above mean plot. It shows how mean scores of the students' test anxiety drastically dropped after the treatment with systematic desensitization.

4.3.3 Question 3: What is the difference in effectiveness between cognitive restructuring and systematic desensitization in the control of high-stakes test anxiety of final year secondary school students in Kaduna metropolis?

Table 4.6: Group Statistics Comparing the Effectiveness of the Two Counselling Techniques

Counseling Technique	**N**	**Mean**	**Std. Deviation**	**Std. Error Mean**
Systematic Desensitization	10	2.070	0.770	0.156
Cognitive Restructuring	10	1.960	0.493	0.224
Mean difference		**0.11**		

While the two techniques have proved to be effective in the control of high-stakes test anxiety, analysis of the elicited data after the two treatments shows that both the two techniques were very effective in controlling high-stakes test anxiety, and that the difference in their effectiveness was very small and insignificant.

Table 4.6 clearly confirms the differences in the effectiveness of the techniques. The mean difference of 0.11 also confirms the insignificant differences in their mean scores after treatment. Answer to the research question is therefore that there is no significant difference in the mean scores of the two groups after treatment with the two techniques which means.

Contrasting the Levels of Test Anxiety of Students in the Two Experimental Groups

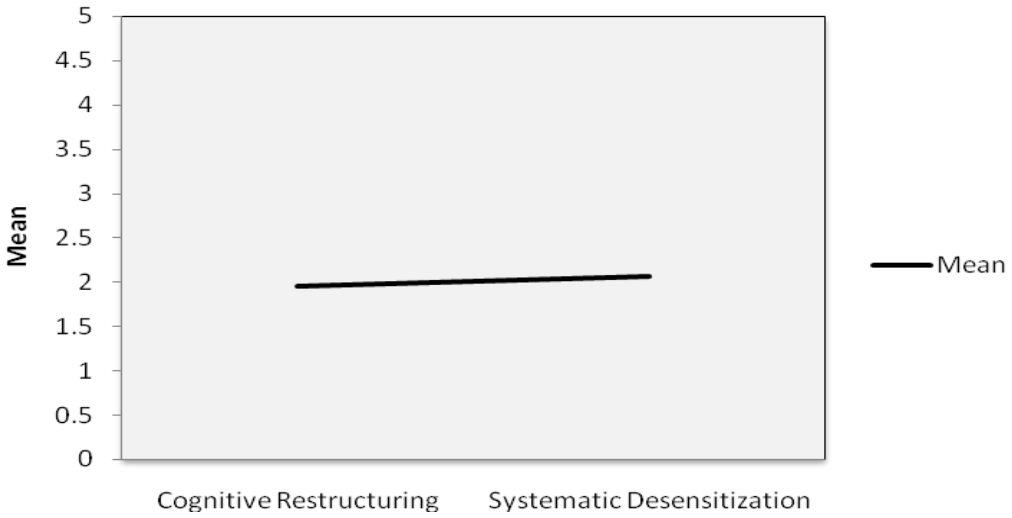


Fig. 7: Counselling Techniques

The contrast of treatments for test anxiety through cognitive restructuring and systematic desensitization counselling techniques is depicted in the above mean plot. It shows that although the treatments were very effective their effectiveness does not differ much.

4.3.4 Question 4: How are the levels of high-stakes test anxiety of cognitive restructuring treated group different from the levels of high-stakes test anxiety of the control group among the final year secondary school students in Kaduna metropolis?

Table 4.7: Group Statistics for Cognitive Restructuring Treated Group and Control Group

Cognitive Restructuring	**N**	**Mean**	**Std. Deviation**	**Std. Error Mean**
Experimental Group	10	1.960	0.493	0.156
Control Group	10	3.950	0.531	0.168
Mean difference		**1.99**		

After the cognitive restructuring treatment, the high-stakes anxiety of the treated group came down to the mean scores of 1.96, while the control group slightly changed to 3.95 mean scores. Having effectively controlled the extraneous variables, the difference can be purely attributed to the effects of the treatment. The decrease of 2.15 test anxiety mean scores of the treated group also indicates the effectiveness of the cognitive restructuring technique in controlling test anxiety. Table 4.7 depicts the evidences for this claim. The contrast of test scores of the experimental and control groups is also depicted in the following mean plot.

Levels of Test Anxiety of the Cognitive Restructuring Treated and Control Groups

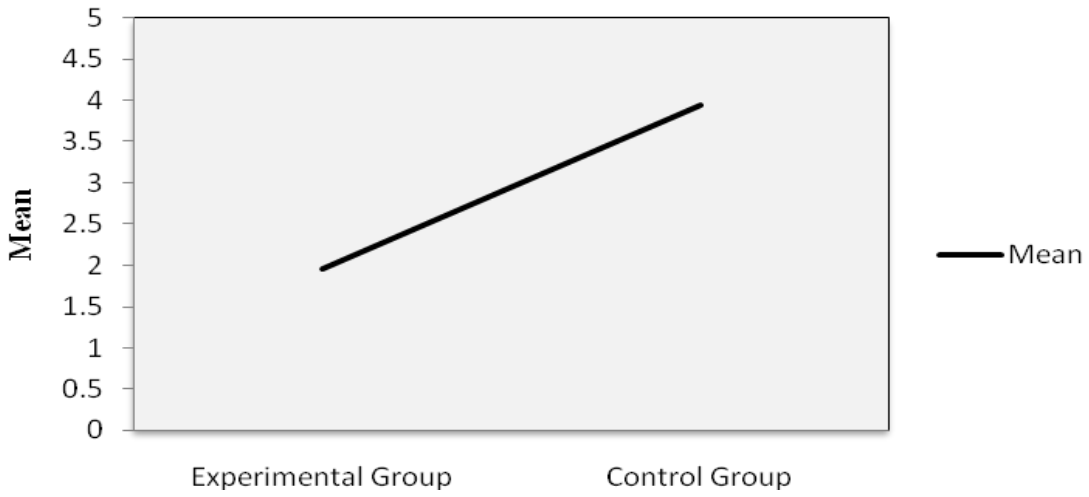


Fig. 8: Experimental Status

This diagram shows that after the treatment with cognitive restructuring, the level of test anxiety of the treated group came down to 1.96 But the level of test anxiety of control group which did

not receive any treatment stood at 3.95. This shows that the technique used was very effective in controlling the disorder.

4.3.5 Question 5: How are the levels of high-stakes test anxiety of systematic desensitization treated group different from the levels of high-stakes test anxiety of the control group among the final year secondary school students in Kaduna metropolis?

Table 4.8: Group Statistics for Systematic Desensitization Treated Group and Control Group

Systematic Desensitization	N	Mean	Std. Deviation	Std. Error Mean
Experimental Group	10	2.070	0.770	0.244
Control Group	10	4.260	0.246	0.078
Mean difference		**2.19**		

Analysis of the data received shows the effectiveness of the systematic desensitization technique which resulted in some significant difference between the treated and control groups among the high-stakes test anxious final year secondary school students of Kaduna metropolis.

After the treatment of the experimental group with systematic desensitization, the mean scores came down to 2.070, while the control group had slightly increased mean scores of 4.260. The mean difference between the two is 2.19 Having effectively controlled the extraneous variables, the difference can be purely attributed to the effects of the treatment. Table 4.8 depicts the evidences for this claim. The contrast of tests for the experimental and control groups is depicted in the following mean plot:

Levels of Test Anxiety of the Systematic Desensitization Treated and Control Groups

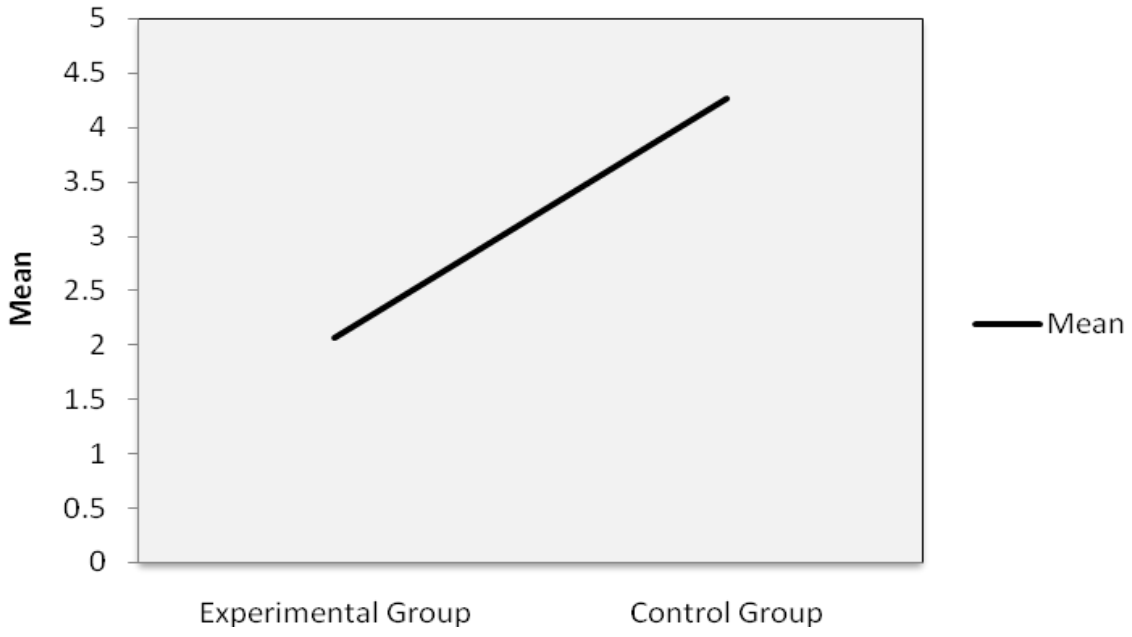


Fig. 9: Experimental Status

Here, the diagram shows that after the treatment with systematic desensitization, the level of test anxiety of the treated group came down to 2.070 But the level of test anxiety of control group which did not receive any treatment stood at 4.26. This shows that the technique used was very effective.

4.3.6 Question 6: What is the differential effectiveness between cognitive restructuring and systematic desensitization on the levels of poor cognition of high-stakes test-anxious final year secondary school students in Kaduna metropolis?

Table 4.9: Group Statistics for Post treatment levels of Poor Cognition in the Two Experimental Groups

Variable	Treatment Group	N	Mean	Std. Deviation	Std. Error Mean
Poor Cognition	Systematic Desensitization	10	2.100	0.829	0.262
	Cognitive Restructuring	10	1.967	0.477	0.151
	Mean difference		**0.133**		

The data received were analyzed and it was discovered that there was insignificant difference in effectiveness between cognitive restructuring and systematic desensitization counselling techniques in the control of poor cognition of the test-anxious final year secondary school students of Kaduna metropolis. The results further show that with a mean difference of only 0.13, the effectiveness of the two techniques was not very different.

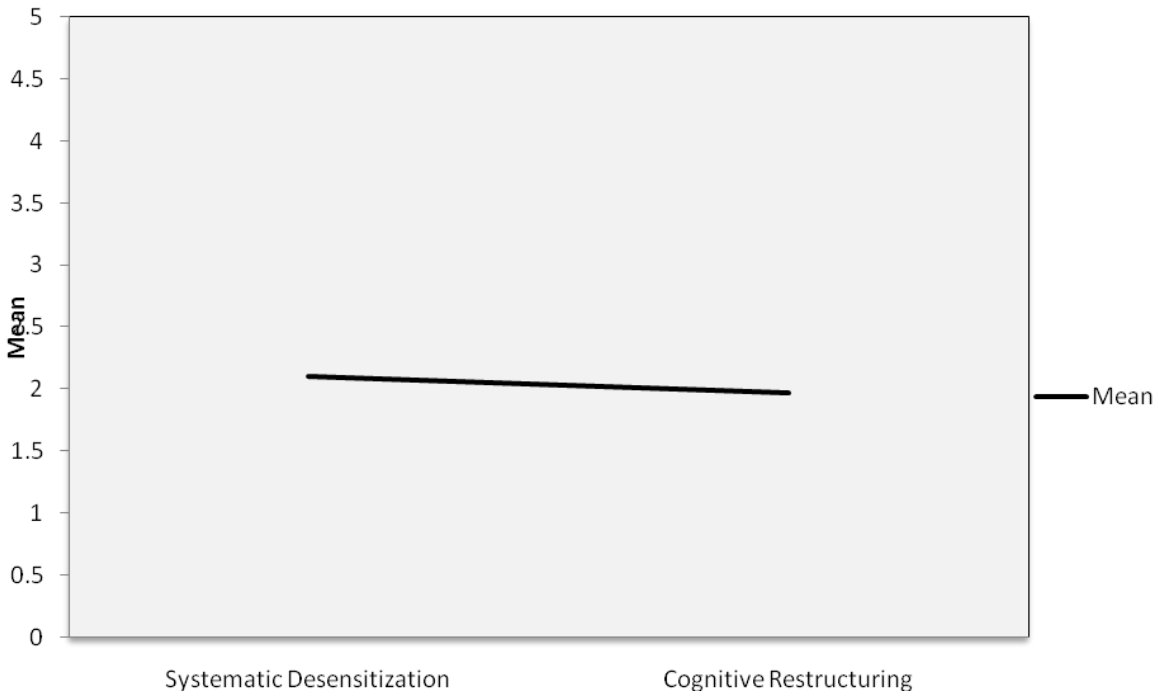


Fig. 10 Treatment of poor cognition

The contrast of tests for the effectiveness of the two techniques in reducing poor cognition is depicted in the above mean plot. The graph shows that after the treatment with the two techniques their mean scores became very close, almost on the same line. This further indicate that their effectiveness were not much different.

4.3.7 Question 7: What is the differential effectiveness between cognitive restructuring and systematic desensitization techniques in controlling the levels of emotionality of high-stakes test-anxious final year secondary school students in Kaduna metropolis?

Table 4.10: Group Statistics for Post treatment Levels of Emotionality in the Two Experimental Groups

Variable	Treatment Group	N	Mean	Std. Deviation	Std. Error Mean
Emotionality	Systematic Desensitization	10	1.950	0.633	0.200
	Cognitive Restructuring	10	2.075	0.717	0.227
	Mean difference		**0.125**		

Analysis of data also shows that there was some minor difference between the effectiveness of cognitive restructuring and systematic desensitization counselling techniques in the control of emotionality of the test-anxious students. This difference is however very insignificant. The two techniques have proved to be very effective with mean difference as low as 0.125.

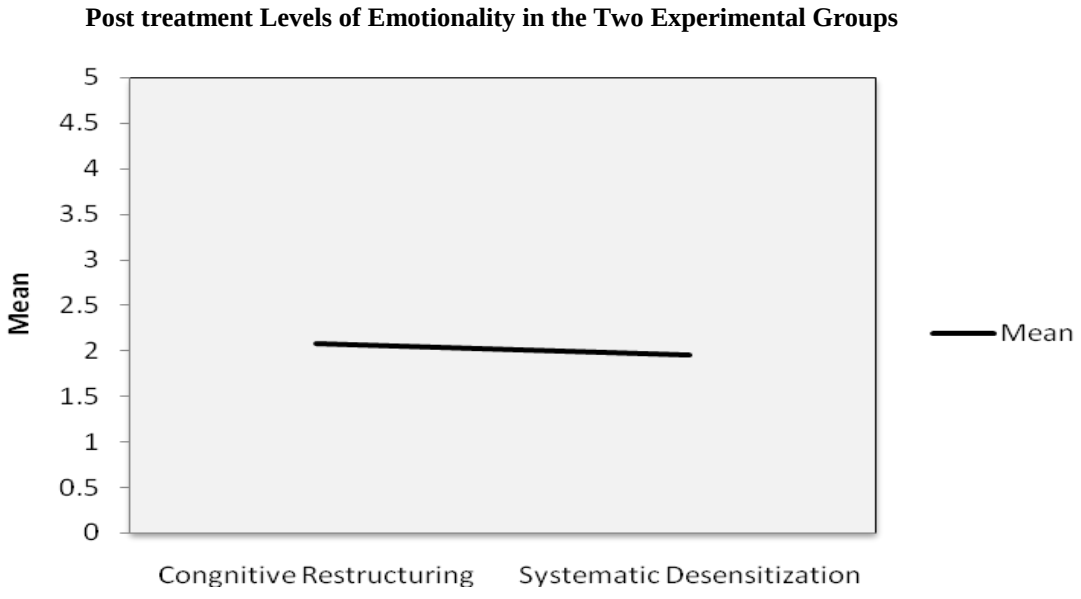


Fig. 11 Treatment of Emotionality

The contrast of tests for the effectiveness of the two techniques in reducing emotionality is depicted in the above mean plot. The graph shows that after the treatment with the two techniques their mean scores became very close, almost on the same line. This further indicate that their effectiveness were not much different.

4.4.0 Research Hypotheses

Seven hypotheses were presented and tested at 0.05 level of significance. The following are the results of the tests from the data collected.

4.4.1 Hypothesis 1

H_0: There is no significant difference in the pre and post treatment levels of high-stakes test anxiety among the final year secondary school students in Kaduna metropolis exposed to cognitive restructuring counselling technique.

To test this hypothesis, the pretest and the post test of cognitive restructuring experimental group were computed and comparatively analyzed for presence or absence of significant difference in their high-stakes test anxiety scores.

Table 4.11: Paired sample t-test for Levels of Test Anxiety of Students Treated with Cognitive Restructuring

Cognitive Restructuring	N	Mean Scores	Std. dev	Std.err	Df	t-calculated	t-critical	P (sig)	Mean Dif.
Pre-treatment	10	4.11	.12867	0.042	9	12.736	1.96	0.000	2.15
Post-treatment	10	1.96	.49261	0.156					

P calculated< 0.05 t calculated > 1.96 at df9

From table 4.11 above, the mean difference of 2.15 between the pre treatment and post treatment indicates the effectiveness of the technique. We can also observe that the standard deviation is not very high which shows that the individual mean values were not widely different. This further strengthens the decision on this hypothesis. We can therefore say that since *p=0.000<0.05* alpha level of significance and the calculated t value of 12.736 is higher than the t critical value of 1.96 at 9 df, the null hypothesis which says there is no significant difference in the levels of high-stakes test anxiety among the final year secondary school students in Kaduna metropolis before and after being treated with cognitive restructuring counselling technique is rejected. The paired sample t-test was applied in testing the hypothesis. The significant mean difference between the scores of the pre treatment and post treatment groups which stands at 2.15 supports this decision. It is concluded that there is significant difference in the levels of high-stakes test anxiety among final year secondary school students in Kaduna metropolis before and after being treated with cognitive restructuring counselling technique. From the mean test anxiety scores, students had lower test anxiety after the treatments with cognitive restructuring

counselling technique. Hence, the technique has significantly contributed in alleviating test anxiety among students as shown in the table above.

4.4.2 Hypothesis 2

H_0: There is no significant difference in the pre and post treatment levels of high-stakes test anxiety among the final year secondary school students in Kaduna metropolis exposed to systematic desensitization counselling technique.

To test this hypothesis, the pretest and the posttest of systematic desensitization experimental group were computed and comparatively analyzed for presence or absence of significant difference in their high-stakes test anxiety scores.

Table 4.12: Paired sample t-test for Levels of Test Anxiety of Students Treated with Systematic Desensitization

Systematic Desensitization	N	Mean Scores	Std. dev	Std.err	Df	T calculated	T critical	P (sig)	Mean Dif.
Pre treatment	10	4.26	0.310	0.098	9	8.665	1.96	0.000	2.19
Post treatment	10	2.07	0.770	0.244					

P calculated< 0.05, t calculated > 1.96 at df9

From table 4.12 above, the mean difference shows a drop of 2.19 between the pre treatment and post treatment. This is an indication of the effectiveness of the technique. We can also observe that the standard deviation is not very high which shows that the individual mean values were

not widely different. It shows that the scores were well spread. This further strengthens the decision on this hypothesis. Therefore, since $p=0.000<0.05$ alpha level of significance, and the calculated t value of 8.665 is higher than the t critical value of 1.96 at df9 the null hypothesis which says there is no significant difference in the levels of high-stakes test anxiety among the final year secondary school students in Kaduna metropolis before and after being treated with systematic desensitization counselling technique is therefore rejected. The paired sample t-test was applied in testing the hypothesis. The paired sample t-test was also applied in testing this hypothesis. The significant mean difference between the scores of pretest and posttest which stands at 2.19 supports this decision. The study concludes that there is significant difference in the levels of high-stakes test anxiety among final year secondary school students in Kaduna metropolis before and after being treated with systematic desensitization counselling technique. From the mean test anxiety scores, students had lower test anxiety after the treatment with systematic desensitization counselling technique. Hence, the technique has significantly contributed in alleviating test anxiety among students as shown in the table above.

4.4.3 Hypothesis 3

H_0: There is no significant difference after treatment between the levels of high-stakes test anxiety among the final year secondary school students in Kaduna metropolis treated with cognitive restructuring and those treated with systematic desensitization.

To test this hypothesis, the posttest of the two independent groups of cognitive restructuring treated and systematic desensitization treated groups were computed and comparatively analyzed for presence or absence of significant difference in their high-stakes test anxiety scores.

Table 4.13: Independent Sample t-test for Testing the Levels of Test Anxiety of Students Treated with the Two Counselling Techniques

Variable	Treatment Groups	N	Mean	Std. Dev.	Std. Err.	Df	t cal.	t-crit	Sig.	Mean Dif.
High-stakes Test Anxiety	Cognitive Restructuring	10	1.960	0.493	0.156	18	0.380	1.96	0.708	0.11
	Systematic Desensitization	10	2.070	0.770	0.244					

P calculated > 0.05, t-calculated t<1.96 at df 18

In table 4.13, since *p=0.708>0.05* alpha level of significance while the t-calculated value of 0.380 is < than the t-critical value of 1.96, at df 18, the null hypothesis which says there is no significant difference after treatment between the levels of high-stakes test anxiety among the final year secondary school students in Kaduna metropolis treated with cognitive restructuring and those treated with systematic desensitization, is therefore retained. The independent sample t-test statistic was employed in the analysis. The low mean difference between the scores of the two experimental groups which stands at 0.11 supports this decision. It is concluded that there is no significant difference in the levels of high-stakes test anxiety among students after being treated with cognitive restructuring and those treated with systematic desensitization. From the mean anxiety scores, students had comparably very close levels of high-stakes test anxiety after the treatments with the counselling techniques. Hence, both the two counselling techniques significantly alleviate test anxiety among students as evidenced in the significant difference found in hypotheses 1 and 2.

4.4.4 Hypothesis 4

H_0: There is no significant difference in the levels of high-stakes test anxiety between the experimental group treated with cognitive restructuring and the control group among the final year secondary school students in Kaduna metropolis.

To test this hypothesis, the posttest of the two independent groups of cognitive restructuring experimental group and the control group were computed and comparatively analyzed for presence or absence of significant difference in their levels of high-stakes test anxiety.

Table 4.14: Independent Sample t-test for the Levels of Test Anxiety of the Experimental Group Treated with Cognitive Restructuring and the Control Group

Variable	Treatment groups	N	Mean	Std. Dev.	Std. Err.	Df	t -cal	t-crit.	Sig. (2-tailed)	Mean Dif.
High-stakes Test Anxiety	Experimental group	10	1.960	0.493	0.156	18	8.770	1.96	0.000	1.990
	Control group	10	3.950	0.531	0.168					

P calculated < 0.05 t-calculated >1.96 at df 18

From table 4.14 above, the mean score difference of 1.990 between the treated and the control groups show that the means of the treated group significantly dropped after the treatment, while not much change was recorded for the control group which was not treated.

Also, since $p=0.000<0.05$ alpha level of significance and the calculated t value of 8.770 is higher than the t-critical value of 1.96 at 18 df, the null hypothesis which says there is no

significant difference in the levels of high-stakes test anxiety between cognitive restructuring treated and control groups among the final year secondary school students in Kaduna metropolis is therefore rejected. Again, the independent sample t-test was applied in testing this hypothesis. The significant mean difference between the scores of experimental and control groups which stands at 1.990 supports this decision. The study concludes that there is significant difference in the levels of high-stakes test anxiety of cognitive restructuring treated and control groups among final year secondary school students in Kaduna metropolis. From the mean anxiety scores, students had reduced test anxiety when treated with cognitive restructuring counselling technique. Hence, the cognitive restructuring treatment has significantly contributed in alleviating high-stakes test anxiety among students as shown in the table above.

4.4.5 Hypothesis 5

H_0: There is no significant difference in the levels of high-stakes test anxiety of the experimental group treated with systematic desensitization and the control group among the final year secondary school students in Kaduna metropolis.

To test this hypothesis, the posttest of the two independent groups of systematic desensitization experimental group and the control group were computed and comparatively analyzed for presence or absence of significant difference in their levels of high-stakes test anxiety.

Table 4.15: Independent Sample t-test for Levels of Test Anxiety of Students Treated with Systematic Desensitization and the Control Group

Variable	Treatment groups	N	Mean	Std. Dev.	Std. Err.	Df	t- cal.	t- critical	Sig (2-tailed)	Mean Dif.
High-stakes Test Anxiety	Experimental group	10	2.070	0.770	0.244	18	8.564	1.96	0.000	2.19
	Control group	10	4.260	0.246	0.078					

P calculated< 0.05 t calculated > 1.96 at df 18

From table 4.15 above, the significant gap between the mean scores of these two groups is an indication of the efficacy of the technique used for the treatment. The standard deviation which shows the individual means variability and the probable error are however higher in the experimental group.

Also, since *p=0.000<0.05* alpha level of significance and the calculated t value of 8.564 is higher than the t critical value of 1.96 at 18 df the null hypothesis which says there is no significant difference in the levels of high-stakes test anxiety of systematic desensitization treated and control groups among the final year secondary school students in Kaduna metropolis is therefore rejected. Again, the independent sample t-test was applied in testing this hypothesis. It is concluded that there is significant difference in the levels of high-stakes test anxiety of systematic desensitization treated and control groups among final year secondary school students in Kaduna metropolis. From the mean test anxiety scores, students had reduced test anxiety when treated with systematic desensitization counselling technique. The significant mean difference

between the scores of experimental and control groups which stands at 2.19 supports this decision. Again, the systematic desensitization treatment has significantly contributed in alleviating test anxiety among students as shown in the table above.

4.4.6 Hypothesis 6

H_0: There is no significant difference after treatment between the levels of poor cognition of high-stakes test anxious final year secondary school students in Kaduna metropolis treated with cognitive restructuring and those treated with systematic desensitization.

To test this hypothesis, the posttest of the two independent groups of cognitive restructuring and systematic desensitization treated groups were computed and comparatively analyzed for presence or absence of significant difference in their levels of poor cognition.

Table 4.16: Independent sample t-test for the Levels of poor cognition after treatment with the two techniques

Variable	Treatment groups	N	Mean	Std. Dev	Std. Err	Df	t- cal	t-critical	Sig. (p)	Mean Dif.
Poor Cognition	Systematic Desensitization	10	2.100	0.829	0.262	18	0.441	1.96	0.664	0.133
	Cognitive Restructuring	10	1.967	0.477	0.151					

P calculated > 0.05 t calculated < 1.96 at df 18

From the table, since *p=0.664>0.05* alpha level of significance and the calculated t value of 0.441 is higher than the t critical value of 1.96 at 18 df, the null hypothesis which says there is no significant difference after treatment between the levels of poor cognition of high-stakes test

anxious final year secondary school students in Kaduna metropolis treated with cognitive restructuring and those treated with systematic desensitization is therefore retained. The independent sample t-test statistic was employed in the analysis. It is concluded that there is no significant difference after treatment between the levels of poor cognition of high-stakes test anxious final year secondary school students in Kaduna metropolis treated with cognitive restructuring and those treated with systematic desensitization. The low mean difference between the scores of the two experimental groups which stands at 0.133 supports this decision. Hence the two counselling techniques were very effective and have closely and significantly contributed to the drop of poor cognition in the two experimental groups.

4.4.7 Hypothesis 7

$H_{0:}$ There is no significant difference after treatment between the levels of emotionality of high-stakes test anxious final year secondary school students in Kaduna metropolis treated with cognitive restructuring and those treated with systematic desensitization.

To test this hypothesis, the posttest of the two independent groups of cognitive restructuring and systematic desensitization treated groups were computed and comparatively analyzed for the presence or absence of significant difference in the students' levels of emotionality.

Table 4.17: Independent sample t-test for the levels of emotionality after treatment with the two techniques

Variable	Treatment groups	N	Mean	Std. Dev.	Std. Err.	Df	t cal.	t-crit.	Sig (p)	Mean Dif.
Emotionality	Cognitive Restructuring	10	2.075	0.717	0.227	18	0.413	1.96	0.684	0.125
	Systematic Desensitization	10	1.950	0.633	0.200					

P calculated > 0.05 t calculated < 1.96 at df 18

From the table, since *p=0.684>0.05* alpha level of significance and the calculated t value of 0.413 is less than the t critical value of 1.96 at 18 df,, the null hypothesis which says that there is no significant difference after treatment between the levels of emotionality of high-stakes test anxious final year secondary school students in Kaduna metropolis treated with cognitive restructuring and those treated with systematic desensitization is therefore retained. The independent sample t-test statistic was employed in the analysis. It is concluded that there is no significant difference after treatment between the levels of emotionality of high-stakes test anxious final year secondary school students in Kaduna metropolis treated with cognitive restructuring and those treated with systematic desensitization. The low mean difference between the scores of the two experimental groups which stands at 0.125 supports this decision. Hence, the two counselling techniques were very effective and have closely and significantly contributed to the drop of emotionality among students in the two experimental groups.

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4.5 Summary of Major Findings

After carefully collecting the relevant data and analyzing same, the outcome of this study reveals the following:

1. There were significant reductions in the levels of high-stakes test anxiety among final year secondary school students in Kaduna metropolis after being treated with cognitive restructuring counselling technique. From the mean anxiety scores, students had lower test anxiety after the treatments with cognitive restructuring counselling technique.

2. There were significant reductions in the levels of high-stakes test anxiety among final year secondary school students in Kaduna metropolis after being treated with systematic desensitization counselling technique. From the mean anxiety scores, students had lower test anxiety after the treatment with systematic desensitization counselling technique.

3. The two counselling intervention techniques adapted were very effective in the control of the disorder. When compared, the mean difference after treatment with cognitive restructuring counselling technique and the systematic desensitization technique was very insignificant. From the mean anxiety scores after treatments, students had comparably similar test anxiety drop, with the mean difference of only 0.11

4. There were no significant differences between the levels of poor cognition among high-stakes test anxious final year secondary school students in Kaduna metropolis treated with cognitive restructuring and those treated with systematic desensitization. The mean scores difference between the two groups was very insignificant.

5. There was no significant difference between the levels of emotionality among high-stakes test anxious final year secondary school students in Kaduna metropolis treated with cognitive restructuring and those treated with systematic desensitization. Treatments with the two techniques greatly reduced the levels of emotionality in the two groups. The mean scores difference between the two groups was however very insignificant.

6. There were significant differences between the levels of high-stakes test anxiety of cognitive restructuring treated and control groups among final year secondary school students in Kaduna metropolis. From the mean anxiety scores, students had reduced test anxiety when treated with cognitive restructuring counselling technique.

7. There were significant differences between the levels of high-stakes test anxiety of systematic desensitization treated and control groups among final year secondary school students in Kaduna metropolis. From the mean anxiety scores, students had reduced test anxiety when treated with systematic desensitization counselling technique, while the test anxiety of the control group remained constant.

4.6 Discussions on Major Findings

The use of tests has remained one of the most effective means of assessing the achievement of educational objectives. This is why any unwanted condition that weakens the validity of test must be resolved with all seriousness.

The two counselling techniques that were employed in the treatment in this study had proved effective in controlling the high-stakes test anxiety. This was evident in the significant difference found in the levels of the high-stakes test anxiety of the students before being treated with the techniques and after the treatment. The anxiety mean scores of the students also showed that the

students had very much lower test anxiety after the treatment with both the cognitive restructuring and systematic desensitization counselling techniques. Both treatments therefore significantly contributed to the massive reduction of the disorder. Tables 4.9 and 4.10 show the differences in the mean scores of pre treatments and post treatments using the the two counselling techniques, while figures 2 and 3 give the graphic representations of the drops.

The study further found that although the two techniques were used on different groups, analysis of data received proved that they had similar effectiveness in the control of high-stake test anxiety among the population studied. This is because of the very minor difference in their posttest mean scores. Tables …. shows that cognitive restructuring treated group had posttest mean scores of 1.96, while systematic desensitization had posttest mean scores of 2.070, with the mean difference standing as 0.11

The effectiveness of the two techniques in the drastic reduction of the high-stakes test anxiety disorder of the students did not come as a surprise, as the techniques have been used with recorded successes. (Ellis, Kraft as cited in Egbochuku 1998). The finding of this study which revealed significant differences in the levels of test anxiety of the students after treatment with the two methods as depicted in tables 4.6 and 4.7 is in agreement with this. The drastic reduction of test anxiety levels using behaviour modification methods is also in agreement with Yusufu (2002). The researcher found that all the counselling techniques he adapted were effective in the treatment of his subjects, although self-control had the highest effect of decreasing the disorder, followed by implosive therapy. The flooding therapy was the lowest effective method. The results of the study of Abramowitz & Deacon (2006) also proved that the use of cognitive behavioural therapy proved very effective in controlling panic disorders in some rural population. Also, from the mean anxiety scores, students had lower test anxiety after the

treatments with cognitive restructuring counselling technique. This is again in line with Yahaya (2006) who found significant difference in students' behaviours towards HIV after using the cognitive restructuring counselling technique. Similarities in the techniques used in these studies as well as their population characteristics may have resulted in the agreement with the findings of the current study.

Egbochuku (2005) also found the use of systematic desensitization as very effective in the reduction of test anxiety among some secondary school test-anxious students, which is in agreement with the finding of this study that there were significant differences in the levels of high-stakes test anxiety among final year secondary school students in Kaduna metropolis before and after being treated with systematic desensitization counselling technique. From the mean anxiety scores, students had lower test anxiety after the treatment with systematic desensitization counselling technique. This means the technique was very effective in the desired behavioural change. The agreement between these two studies may be linked to the similarities in the characteristics of the populations studied and the techniques adopted in the behaviour modification process. Both studies used secondary school populations and the systematic desensitization counselling technique. Results of this study may also further support the findings of the current study that the difference in the sexes used for the two techniques did not influence the results of the study. Egbochuku found that gender difference of his subjects did not influence the reduction of test anxiety of his subjects.

Results of the study also reveal that there were significant differences in the levels of high-stakes test anxiety of cognitive restructuring treated and control groups among final year secondary school students in Kaduna metropolis. From the mean anxiety scores, students had lower test anxiety when treated with cognitive restructuring counselling technique than their control group

counterparts, whose anxiety remained constant. Yahaya (2006) also found that the use of cognitive restructuring also resulted in significant difference in students' attitude when the attitudes of the treated and control groups were compared. The result is also in agreement with the current findings, owing to the use of the cognitive restructuring counselling technique in the two studies. Although Yahaya's study was not aimed at reducing test anxiety, it corroborates the findings of the current study that cognitive restructuring can effectively modify an unwanted behaviour.

On the other hand, it was discovered that there were no significant differences in the levels of high-stakes test anxiety among students after being treated with cognitive restructuring and those treated with systematic desensitization. From the mean anxiety scores after treatments, students had comparably similar level of test anxiety after the treatments with the two counselling techniques. This is not in line with the discovery of Berman, Miller & Massman (1985), Hassan & Okatahi (1992) who found that cognitive therapy was more effective than systematic desensitization in the control of high-stakes test anxiety. Results of Hassan and Okatahi's study and that of the current study are very much comparable because the two studies used single technique on a sub-population. The pretest posttest control group research design was also used in the two studies. The similarities of these studies notwithstanding, the current study disagrees with the former study's finding that cognitive restructuring was more effective than systematic desensitization.

The findings of this study are also not in agreement with the findings of some other works reviewed. McCathy and Goffin (2005) found that gender difference moderated the relationship between test anxiety and test performance after their treatments. They found that test-anxious male students performed lower than the test-anxious female students. The finding of this study

however was that gender difference did not affect the treatment of the subjects. Falaye (2010) on the other hand found in his survey that gender difference of his test-anxious subjects did not relate to difference in cognitive test anxiety and performance of the subjects. Analysis of the pretest results of this study however shows that female students were more test-anxious than the male students.

In reference to the conceptual framework of the study, the counselling process attempted to change the perception of the candidates by changing their cognition about test, using the cognitive restructuring counselling technique. On the other hand, systematic desensitization was used to lessen the sensitivity of the testing situation to the candidates. By this, the wrong perception and appraisal in fig. 2.1 were corrected which also reduced their test anxiety. Going by the adopted model, if the study continued to investigate achievement after the treatment, the students would have been found to have replaced their task irrelevant behaviours with the task relevant behaviours in their responses, which would have in turn manifested an optimum increase in their performance. This is also in line with the theoretical assumption of Hembree 1988 (cited in Bodas & Ollendick 2005) who postulated an interference model to account for the low performance of test anxious students. It is this task irrelevant behaviour caused by test anxiety that interferes with the flow of thought of the students. The successful control of the interference through the treatment carried out in this study may have reduced the test anxiety of the students.

The learning theory also considers test anxiety as a learned behaviour, and that any learned behaviour can be unlearned. The treatment process of the candidates also attempted to make the students unlearn the task irrelevant behaviours. It may therefore be concluded that it was the

success of unlearning the task irrelevant behaviours that reduced the test anxiety of the students. This is therefore in line with the learning theory.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This is the concluding chapter in this study. Having carefully presented the results of the analysis of the data collected in chapter four, this chapter is a summary of the whole research work. Recommendations are also presented for various stakeholders in the administration of high-stakes tests who include the teachers, parents, guidance and counselling masters, administrators and the major examination bodies in the country. The collective efforts of these people will surely help in drastically reducing the disorder. Recommendations for further studies have also been presented.

5.2 Summary

This study was an experimental research in which the efficacy of two important counselling techniques in controlling the high-stakes test anxiety among secondary school students was tested. In testing the techniques, two schools were purposefully selected. One was selected for the male's representative population while the other was to represent the females. In each of the schools, ten students were picked for each of the treatment and control groups. Fourty students therefore constituted the sample population, although three additional test-anxious students were added in each of the subgroups to take care of possible mortality.

The Westside Test Anxiety Scale was used in the pretest, in order to identify the students whose High-stakes test anxiety required counselling intervention and who could benefit from such interventions. After treatment, the same instrument was used to find out the differences that

might have come up as a result of the treatment. The paired sample t-test and the independent sample t-test were used in the analysis of the data collected. The discovery after analysis was that the two techniques used proved to be very effective in controlling high-stakes test anxiety. Having carefully followed all the necessary technical steps in collecting and analyzing the elicited data, the following summarizes the results obtained in this research:

1. It was discovered that 6.7% of the male students had comfortably low test anxiety while 3.0% of the female students had comfortably low test anxiety. On the other hand, 20.0% male students had normal test anxiety while 14.5% of the female students had normal test anxiety. Also, 32.6% male students and 36.4% female students had moderately high test anxiety, while 12.6% of the males and 33.9% of the female students had high test anxiety. These last two categories needed counseling intervention most.

2. It was on the average that students from Government College had a mean test anxiety of 2.82 which fell in the category of high normal test anxiety. On the other hand, students from Queen Amina College had a mean test anxiety of 3.16 which fell in the category of moderately high test anxiety. Also, the overall sample of 300 students had a mean test anxiety of 3.00 which fell in the category of high normal test anxiety. Students with extremely high test anxiety were isolated for the treatments.

3. Again, it was established that on the average, students had reduced test anxiety when treated with cognitive restructuring counselling technique. Hence, the cognitive restructuring treatment had greatly resulted in alleviating test anxiety among the students.

4. It was established that students had reduced test anxiety when treated with systematic desensitization counselling technique. Again, the systematic desensitization treatment had greatly resulted in alleviating test anxiety among students.

5. The study also established that students treated with cognitive restructuring counselling technique and those students treated with systematic desensitization counselling technique had similar post treatment levels of test anxiety. This means that none of the techniques was more effective than the other.

6. The seven null hypotheses presented were tested at 0.05 level of significance. Four of the hypotheses were rejected while three were retained. The table of summary of findings of the study is in the appendix:

5. 3 Recommendations from the Study

Based on the findings of this study, the following recommendations are hereby presented:

1. Since it was observed that the effects of test anxiety may invalidate the results of a test, and that teachers use test to assess the success of their lessons, it is recommended that teachers who are directly in contact with the students should be trained to acquire behaviour modification techniques such as cognitive restructuring and systematic desensitization, to be able to detect and help students with such behaviour problems. This will not only help them in the success of their lessons but also in the general success of the educational system.

2. The findings of this study proved that poor cognition greatly contributes to the high-stakes test anxiety of students. The schools guidance counsellors as well as the teachers should therefore be trained to detect its symptoms and how to reduce its effects on the students' high-stakes test anxiety.

3. In school Guidance Programs the Guidance and Counselling masters should acquire skills to be able to draw special programs that will take care of students with poor cognition problems to enable them improve their cognition levels to compete with the rest of the students on the same level playing ground.

4. In the classroom instructional processes, teachers should acquire skills to be able to detect students with poor cognition problems in order to give them more attention to be able to catch-up with the rest of the students.

5. With the important roles played by emotionality in the high-stakes test anxiety of the subjects studied, guidance counsellors and teachers should work in synergy to help emotional students not only in the school system but beyond that, to the life after school.

6. Since systematic desensitization technique greatly reduces high-stakes test anxiety of students, the school guidance and counselling masters as well as the teachers should be trained on the skills of using the counselling technique to reduce test anxiety symptoms and its effects among the students.

5.4 Recommendations for Further Studies

1. This study investigated the efficacy of some counselling techniques on the reduction of high-stakes test anxiety. Further studies may be conducted to find the major causes of this type of anxiety and whether or not the causes are related to biological, social, environmental or psychological variables.

2. The control of test anxiety disorder may also be studied using other counselling techniques and or different populations. The outcome of such studies will further give the school counsellors wider range of techniques to use in helping their students.

3. Time constraint and limited resources restricted this study to the small target population. Since it has been established that the larger the population the more accurate the result will be, a wider population may be used to conduct similar studies in the future. The whole country may for example be used as the target population.

4. This study was also limited to the effects of the selected counselling techniques on the selected sample population. Further investigations could be carried out to find out how this effective control of the test anxiety may also affect other behaviours of the population. These behaviours could be social, academic or other related variables. Whether for example test-anxious students intermingle freely with other students or not, their performance levels etc.

5. Since the study reveals that high levels of poor cognition and emotionality lead to high-stakes test anxiety, a study may be conducted with the aim of controlling these variables to find out if their reduction would reduce test anxiety.

6. The effects of high-stakes test anxiety may also be taken to further investigate its relationship with other correlates such as age, performance, gender, etc. The findings of such studies may help behaviour change practitioners.

7. This study used individual counselling technique for the control of the high-stakes test anxiety of the students. Group counselling may also be used to control the test anxiety of students in a similar or another population.

8. Other instruments may also be used to experiment the efficacy of the cognitive restructuring and systematic desensitization counselling techniques used or some other relevant techniques. The instruments may even be self-developed ones.

9. This study also applied a single Counselling technique to a sub-population. However, double or multiple techniques may be used in a population for a lasting effectiveness and wider inference. Berman, Miller & Massman (1986) emphasized that the result of using the two techniques was considerably more effective than using one.

5. 5 Conclusions

From the results of this research, the use of cognitive restructuring and systematic desensitization techniques in helping students to reduce their test anxiety has been very successful, considering the significant drop in the mean scores of the students' test anxiety after the treatments. The study therefore concludes that cognitive restructuring and systematic desensitization are very effective techniques in reducing the high-stakes test anxiety of students. It was further concluded that poor cognition and emotionality are major determinants in the test anxiety of students. It may not be out of place to conclude too that a great percentage of the rampant examination failures and the continued falling standards of education are traceable to test anxiety. It is concluded that the effects of high-stakes test anxiety have enormous socio-economic implications on the larger population. The reassuring fact which the result of this study has confirmed, however, is that effective counselling can successfully control the behaviour problem. Therefore, teachers, parents, governments and all stakeholders in education must join hands with counsellors to reduce the students' high-stakes test anxiety to a minimal level.

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APPENDIX I

EXPERIMENTAL GROUP I: COGNITIVE RESTRUCTURING COUNSELLING SESSIONS

Session One

Objectives: i) Introduction of selves by both the counsellor and the student;

ii) Explaining to the student the mission of the counsellor;

iii) Establishing a counselling relationship with the student.

Step I The counsellor introduces self to the student;

Step II The counsellor introduces to the student what relationship she is about to enter, which is counsellor/client or counsellor/counsellee relationship;

Step III The counsellor explains to the student the counsellor's responsibilities while the counselling sessions last;

Step IV The counsellor also explains to the student her own responsibilities;

Step V The counsellor then emphasizes the importance of developing a collaborative relationship for the success of the counselling process.

Step VI The counsellor then asks the student to respond to these points by accepting the commencement of the process or otherwise;

Step VII The counsellor then requests the student to ask any questions on what has been discussed in the session.

Step VIII The counsellor then informs the student of coming to the end of the session.

EXPERIMENTAL GROUP I: COGNITIVE RESTRUCTURING COUNSELLING SESSIONS

Session Two

Objectives: i) Properly understand what test anxiety is;

ii) Introduce to the student what counselling technique can do to change behaviour;

iii) Introduce to the student, the concept of cognitive restructuring as a counselling technique.

Step I The counsellor welcomes the student to the second session of the counseling process;

Step II Introduction of the main objectives of the session;

Step III The counsellor then explains to the student what cognitive restructuring is and how it can be used to minimize her test anxiety.

Step IV The goals of the whole counseling relationship will then be set collectively between the counsellor and the student.

Step VI The counsellor gives the student homework which will form part of the next session. She is to list ten items in her thought about tests which make her anxious about them, especially tests of high-stakes status.

EXPERIMENTAL GROUP I: COGNITIVE RESTRUCTURING COUNSELLING SESSIONS

Session Three

Objectives: i) To identify the negative automatic thoughts of the clients;

ii) To monitor the negative automatic thoughts of the clients.

Step I The counsellor welcomes the client to the session;

Step II The counsellor gives the client a very warm reception for her to feel at home and be relaxed for the collaborative session to commence;

Step III The counsellor then reminds the client about the homework given to her the previous session. She is then asked to mention her negative thoughts.

Step IV The counsellor will then pick the thoughts one by one and request the client to explain what she means and how she feels.

Step V The counsellor listens and expresses his emphatic feelings while the client explains her feelings about the thoughts.

Step VI While expressing his emphatic feeling, the counsellor will explain what the therapy can do to help provide an environment for collaborative efforts between him and the client to change the unwanted behaviour.

Step VII The counsellor then closes the session by giving the client some homework of attaching these negative thoughts with the behaviours they cause her to exhibit.

EXPERIMENTAL GROUP I: COGNITIVE RESTRUCTURING COUNSELLING SESSIONS

Session Four

Objectives: i) To understand how automatic thoughts can trigger unwanted behaviour;

ii) Explain the process of attaching behaviour to automatic thoughts.

Step I Welcomes the student to another session of the counseling process

Step II Explains the process of automatic thought formation to the student.

Step III Discuss a few of the student's automatic thoughts and how they started.

Step IV Discuss how the automatic thoughts affect their behaviour towards high-stakes tests.

Step V Discuss with examples how automatic thoughts can cause unwanted behaviour.

Step VI Ask for any questions from the student on what has been discussed in the session.

Step VII Ask the student to list the behaviours that each of the automatic thoughts they listed causes them to exhibit. This will be given as homework.

EXPERIMENTAL GROUP I: COGNITIVE RESTRUCTURING COUNSELLING SESSIONS

Session Five

Objectives:

i) Identify evidences against the negative thoughts mentioned in the previous session.

ii) Examine the evidences against the negative thoughts mentioned in the previous session.

iii) Identify the unwanted behaviours exhibited by the client, which are mainly caused by the negative thoughts.

Step I The counsellor warmly welcomes the client into another session, expressing unconditional regards for her. Some complimentary comments would be made by the counsellor on the client to make her feel at home.

Step II The counsellor will read out the negative thoughts about tests as forwarded by the client. This will be done to refresh the minds of both the counsellor and client.

Step III Each of the negative thoughts will be viewed in its own merit, looking at its negative effects on the client and the behaviour that the thoughts precipitate.

Step IV The client will be guided to identify how these thoughts affect her academic pursuits and personality.

Step V The counsellor will then inform the client of coming to the end of the session, but will ask if the client has anything to enquire or bring forward.

Step VI A homework will be given to the client by requesting her to come up with at least ten difficulties she thinks test anxiety causes her.

EXPERIMENTAL GROUP I: COGNITIVE RESTRUCTURING COUNSELLING SESSIONS

Session Six

Objectives: i) Challenge the distorted thoughts identified in the previous sessions.

ii) Guide the client to positively think of better alternatives to her challenged distorted thoughts.

Step I As usual, the counsellor welcomes the client into another session of the therapy.

Step II The counsellor leads the client in recapitulating on the previous sessions and the success so far achieved.

Step III Having discussed the negative thoughts in previous sessions, the counsellor now defines what a normal and positive thinking is, as against a distorted thought.

Step IV The counsellor, with the cooperation of the client, then begins to challenge the distorted thoughts presented by the client by picking each thought and exposing its faults.

Step V The counsellor then guides the client in selecting substitute positive thoughts. In this session, four out of the fifteen negative thoughts will be exposed and substituted with more realistic thoughts.

Step VI The counsellor then clearly offers his support to the client appreciating the kind of collaborative sessions they have had.

Step VII The client would then be asked if she has any observations to make on the progress so far made.

Step VIII The session then ends with an assignment for the client to think deeply on the substitution of the negative thoughts with more realistic ones, and report back in the next session how such substitution has affected her feelings and behaviour towards anything that has to do with examinations.

EXPERIMENTAL GROUP I: COGNITIVE RESTRUCTURING COUNSELLING SESSIONS

Session Seven

Objectives: i) To continue to challenge the distorted and unrealistic thoughts identified in the previous sessions.

ii) Also continue to guide the client to positively think of better alternatives to her challenged distorted thoughts.

Step I As usual, the counsellor welcomes the client into another session of the therapy.

Step II The counsellor leads the client in recapitulating on the previous sessions and the success so far achieved.

Step III Having discussed the negative thoughts in previous sessions, the counsellor now defines what a normal and positive thinking is, as against a distorted thought.

Step IV The counsellor, with the cooperation of the client, then continues to challenge the distorted thoughts presented by the client, by picking each thought and exposing its faults.

Step V The counsellor then guides the client in selecting substitute positive thoughts. In this session, four out of the fifteen negative thoughts will be exposed and substituted with more realistic thoughts.

Step VI The counsellor then clearly offers his support to the client appreciating the kind of collaborative sessions they have had.

Step VII The client would then be asked if she has any observations to make on the progress so far made.

Step VIII The session then ends with an assignment for the client to think deeply on the substitution of the negative thoughts with more realistic ones, and report back in the next session how such substitution has affected her feelings and behaviour towards examinations.

EXPERIMENTAL GROUP I: COGNITIVE RESTRUCTURING COUNSELLING SESSIONS

Session Eight

Objectives: i) To continue to challenge the distorted and unrealistic thoughts identified in the previous sessions.

ii) Also continue to guide the client to positively think of better alternatives to her challenged distorted thoughts.

Step I As usual, the counsellor welcomes the client into another session of the therapy.

Step II The counsellor leads the client in recapitulating on the previous sessions and the success so far achieved.

Step III Having discussed the negative thoughts in previous sessions, the counsellor again explains what a normal and positive thinking is, as against a distorted thought.

Step IV The counsellor, with the cooperation of the client, then continues to challenge the distorted thoughts presented by the client, by picking each thought and exposing its faults.

Step V The counsellor then guides the client in selecting substitute positive thoughts. In this session, four out of the fifteen negative thoughts will be exposed and substituted with more realistic thoughts.

Step VI The counsellor then clearly offers his support to the client, appreciating the kind of collaborative sessions they have had.

Step VII The client would then be asked if she has any observations to make on the progress so far made.

Step VIII The session then ends with an assignment for the client to think deeply on the substitution of the negative thoughts with more realistic ones, and report back in the next session how such substitution has affected her feelings and behaviour towards anything that has to do with examinations.

EXPERIMENTAL GROUP I: COGNITIVE RESTRUCTURING COUNSELLING SESSIONS

Session Nine

Objectives: i) To continue to challenge the distorted and unrealistic thoughts identified in the previous sessions.

ii) Also continue to guide the client to positively think of better alternatives to her challenged distorted thoughts.

Step I The counsellor welcomes the client as usual, establishing a close rapport with her.

Step II The counsellor also reviews the progress so far made and the way forward.

Step III The counselor then requests the client to explain to him how the replacement of the distorted thoughts has affected her feelings and behaviour.

Step IV Continue to challenge the remaining distorted thoughts from where the last session stopped.

Step V Again, while challenging the negative thoughts, the counsellor guides the client in substituting the negative thoughts with more realistic ones. The remaining three unrealistic thoughts will be replaced during this session.

Step VI At this point, the session will be rounded off by informing the client and giving her the opportunity to make any observations deemed necessary.

EXPERIMENTAL GROUP I: COGNITIVE RESTRUCTURING COUNSELLING SESSIONS

Session Ten

Objectives:

i) To present to the client other possible automatic thoughts which she did not present.

ii) To present to the client possible faulty behaviour that the automatic thoughts may cause.

iii) To challenge the automatic thoughts and explain how they can negatively affect the student.

Step I The counsellor welcomes the client to another session.

Step II Makes reference to the automatic thoughts the client presented, which have been dealt with.

Step III List some other faulty thinking or automatic thoughts which were presented by other students.

Step IV Critically look at the faults in such thoughts by letting the student herself analyze and criticize them before the counsellor.

Step V Discuss possible behaviour that the automatic thoughts could cause and their unhelpful nature.

Step VI Challenge both the automatic thoughts and possible unhelpful behaviour they cause.

Step VII Lets the student ask questions or make further comments.

Step VIII Session comes to an end.

EXPERIMENTAL GROUP I: COGNITIVE RESTRUCTURING COUNSELLING SESSIONS

Session Eleven

Objectives:

i) To round off the counselling relationship.

ii) To ascertain the effects of the counselling process carried out in the last ten sessions.

iii) To discuss other relevant issues not discussed in the previous sessions.

iv) To administer the posttest on the student.

Step I The counsellor warmly welcomes the client into the final session of the therapy.

Step II The counselor appreciates the collaborative efforts they had throughout the weeks of the counseling process.

Step III The client will be requested to express what resulted from the substitution of her distorted thoughts with more realistic thoughts.

Step IV Discuss some general aspects of test anxiety and the counseling process which is about to be concluded.

Step V The client will be told to get ready for another test which will be the concluding part of the counseling process.

APPENDIX II

EXPERIMENTAL GROUP II: SYSTEMATIC DESENSITIZATION COUNSELLING SESSIONS

Session One

Objectives: i) Introduction of selves by both the counsellor and the student;

ii) Explain the mission of the counsellor to the client;

iii) Establish a counselling relationship with the client.

Step I The counsellor introduces self to the client;

Step II The counsellor introduces to the client what relationship they are about to enter, which is counsellor/client relationship;

Step III The counsellor explains to the client the counsellor's responsibilities while the counselling sessions last;

Step IV The counsellor also explains to the client his own responsibilities;

Step V The counsellor then emphasizes the importance of developing a collaborative relationship for the success of the counselling process.

Step VI The counsellor then asks the client to respond to these points by accepting the commencement of the process or otherwise;

Step VII The counsellor then requests the client to ask any questions on what has been discussed in the session.

Step VIII The counsellor then informs the client about coming to the end of the session.

EXPERIMENTAL GROUP II: SYSTEMATIC DESENSITIZATION

COUNSELLING SESSIONS

Session Two

Objectives: i) To properly explain to the client what test anxiety is;

ii) To introduce to the client what counselling therapy can do to change behaviour;

iii) To introduce systematic desensitization counselling technique to the client.

Step I The counsellor welcomes the student to the second session of the relationship;

Step II The counsellor introduces to the student what relationship they are about to enter, which is counsellor/client relationship;

Step III The counsellor explains to the student the counsellor's responsibilities while the therapy sessions last;

Step IV The counsellor also explains to the student his own responsibilities;

Step V The counsellor then explains to the student the importance of adopting a collaborative relationship for the success of the sessions.

Step VI The counsellor then asks the student to respond to these points by accepting the commencement of the process or otherwise;

Step VII The counsellor then explains to the student what systematic desensitization is and how it can be used to minimize his test anxiety.

Step VIII The goals of the therapy will then be set collectively between the counsellor and the student.

Step IX The counsellor gives the student homework which will form part of the session to come. He is to list ten negative feelings he has about tests, especially of high stakes status.

EXPERIMENTAL GROUP II: SYSTEMATIC DESENSITIZATION COUNSELLING SESSIONS

Session Three (Relaxation)

Objectives: i) To introduce to the client the concept of relaxation in psychotherapy;

ii) To prepare the client well for the process of Progressive Muscle Relaxation (PMR);

iii) Inform the client his significant roles to the success of the process.

Step I The counsellor warmly welcomes the client to the systematic desensitization counseling process.

Step II The client is then introduced to the concept of Progressive Muscles Relaxation (PMR) and its application on behavioural change in counselling and that it is easy to teach them relaxation process and procedure.

Step III The counsellor will now teach the client the procedure for PMR, which involves creating tension on parts of the body and then relaxing to ease the tension.

Step IV Ask the client what parts of his body become very tensed up when he is experiencing TA. It was expected that out of his experience, the client would itemize the tensed parts of his body one by one.

Step V The counsellor would also mention other parts of the body that might be tensed when TA was on and ask for the client's confirmation.

Step VI The counsellor would also request the client to have optimistic but realistic expectations out of the relaxation process.

Step VII The steps and procedures of relaxation would then be enumerated and explained by the counsellor in readiness for practice in the next session. He was however not expected to practice on his own before practicing with his counsellor.

Step VIII The counsellor would request the client to make any observations or ask any questions at the end of which the session would close.

EXPERIMENTAL GROUP II: SYSTEMATIC DESENSITIZATION

COUNSELLING SESSIONS

Session Four

Objectives: i) To review the success so far made in the previous sessions;

ii) To commence the preparation for practicing of relaxation;

iii) To actually practice the relaxation of some parts of the body.

Step I The counsellor welcomes the client to yet another session of the therapy, while reviewing the achievements so far made in the previous sessions.

Step II The counsellor mentions parts of the body muscles to be relaxed in the day's practice which are:

a) arms; b) face;

c) neck; d) shoulders;

e) hands.

Step III The counsellor asks the client to raise his arms on the armchairs and tighten his fists for some moments. He would be asked to tighten more until the tension was well felt. Then he would be asked to release the tension. This would be done severally before moving to the next muscles.

Step IV While on the arm chair, the counsellor would ask the client to close his eyes very tightly, clench his jaws and grimace in such a way that his whole face

was filled with tension. He would tighten the face well until the tension was felt, then release the tension. This will be repeated until some ease is felt through the face.

Step V The client would be asked to tighten his muscles round the neck very well. They would be very tight so that the neck would be strengthened. This tightness was held for some time and later released. The muscles would be further strengthened by bending the neck in every direction while the muscles remained strengthened. This would be repeated severally until the relaxation was felt.

Step VI The shoulders' muscles would also be tightened. While tightening the muscles, he would also be asked to lift his arms until they were almost touching his ears. This would continue until the tension was well felt when he would be asked to release the tension. The process would continue until some relief was well felt.

Step VII While resting his arms on the chairs, the client would be asked to tighten his fingers by clenching them as tight as possible, holding the tightness for some time until the tension was felt. He would then be asked to release the tension. This would also be done severally, until the effect was felt.

Step VIII The client would be asked to express his feelings resulting from the exercises done in the session. The session would be rounded off with a general discussion. The client would also be requested to be practicing these processes before the next session.

EXPERIMENTAL GROUP II: SYSTEMATIC DESENSITIZATION COUNSELLING SESSIONS

Session Five

Objectives: i) To review the progress achieved during the previous sessions;

ii) To continue the relaxation process in the other parts of the body.

Step I The client would be reminded of what was done during the last session and he would be required to explain how far he went with the relaxation practice at his home.

Step II The counsellor would now tell the client which parts of the body the training would cover in this session, which would be as follows:

a) chest

b) stomach

c) back

d) legs

e) any other parts of the body

Step III The client would then be told to take a very deep breath and hold it very tight for some moment until the tension was felt in the chest muscles. He would then be

told to release the tension by breathing out. This would be repeated until some relief was felt on the chest.

Step IV He would be asked to take the same deep breath as in the chest muscles relaxation. The attention in this case would however be on the muscles of the stomach. It would be done severally until the feeling of relief was also felt in the stomach muscles.

Step V The legs of the anxious client would also be made tensed. By lifting his toes in the air until they look upwards while he would be seated, both the upper and the lower legs will be tensed up. The legs would be held tight for some moment until the tension was felt. Then he will be required to return the legs to the comfortable positions by returning them on the floor. This will be repeated severally until some relief was felt.

Step VI The muscles of the back would also be tensed up by asking the client to strengthen his two hands upwards while he remained seated. The hands would be held upwards for some time until some tension was well felt on the back muscle. The hands were then gently brought down until the tension was released. This was also done severally until the muscles were relaxed.

Step VII At this point, the client would then asked if he had discovered any muscles that were tensed when he was anxious. The same process of easing tension would be followed on the newly discovered tensed muscles.

Step VIII The session would come to an end, while the client would be asked to practice the process more when he got back home.

EXPERIMENTAL GROUP II: SYSTEMATIC DESENSITIZATION COUNSELLING SESSIONS

Session Six (Anxiety Hierarchy)

Objectives i) Introduce the client to the concept of anxiety hierarchy in systematic desensitization;

ii) Identify the events that precipitate anxiety to the anxious client;

iii) Guide the client in arranging the anxiety provoking events according to its intensity in the individual.

Step I The counsellor will welcome the client as usual, into another stage of the systematic desensitization counseling process, called anxiety hierarchy. Details of what it means will be explained to the client.

Step II The counsellor then explains to the client what anxiety hierarchy is, and its position in the systematic desensitization counselling technique.

Step III The client will be informed that he is most responsible for the success of the stage, because it is what he feels in his mind that must be truthfully told, and it will be the main focus.

Step IV The client will then be asked to mention the events about high-stakes tests that make him most anxious.

Step V With the identification of the events, fifteen most prevailing of the events will be shortlisted. The client will then be taught how to assign Subjective Unit of

Discomfort (SUD) to each of the events on the scale 0 - 100. These ratings will be collected and organized out of which 10 most anxiety provoking events will be decided. It is anticipated that the list may look like the following:

i) purchase of high-stakes examination document;

ii) completing the high-stakes examination document;

iii) reviewing past question papers for high-stakes examination document;

iv) preparing for the high-stakes mock examination;

v) the high-stakes examination is scheduled to commence in a week time;

vi) waking up in the morning of the examination day;

vii) in the exam hall before question papers are distributed;

viii) when the exam question papers are distributed;

ix) when the invigilator stands near the client;

x) the time allowed for the exam has gone half way.

Step V The counsellor intends to work with the client to come up with the anxiety hierarchy based on his personal feeling about the examination situations. This will be done right in the session and the candidate will assign his SUDs.

Step VII The session comes to an end. The counsellor asks client to make any observations on the process just followed. He will be informed of the next session's schedule.

EXPERIMENTAL GROUP II: SYSTEMATIC DESENSITIZATION COUNSELLING SESSIONS

Session Seven (Desensitization)

Objectives: i) To review the client's understanding of anxiety hierarchy;

ii) To explain to the client the importance of anxiety hierarchy in systematic desensitization counselling;

iii) To exemplify the levels of test anxiety provocation events;

iv) To introduce to the client, the concept of Subjective Unit of Discomfort (SUD).

Step I The counsellor welcomes the client to another stage in the counseling process.

Step II The counselor asks the client to explain what he understands by anxiety hierarchy.

Step III The counselor gives more explanation of anxiety hierarchy with some applicable examples

Step IV The counselor explains how the hierarchy differs between individuals as some test aspects are more frightening to some people than others.

Step V The client is asked what aspects of test makes him more frightened.

Step VI The client is then given a homework to list the events in high-stakes tests that make him afraid of the exams. He is to present the list in the next session.

Step VII The client is given the opportunity to ask any questions relevant to what has been discussed.

Step VIII The clients are then introduced to the concept of subjective unit of discomfort, its meaning and rating process.

Step IX The client is then requested to give example of an object that easily scares him. He is then requested to practice imagining that object and also practice rating how uncomfortable he feels on imagining the object.

EXPERIMENTAL GROUP II: SYSTEMATIC DESENSITIZATION COUNSELLING SESSIONS

Session Eight (Desensitization)

Objectives: i) To introduce to the client the desensitization process in the systematic desensitization counselling technique;

ii) To commence the pairing of the anxiety provoking events with the relaxation process, so as to desensitize the events in the client's thought.

iii) To commence desensitization process of the events in the hierarchy listed in step two of session five. The following will be the desensitization process to be applied.

Step I The counsellor welcomes the client to another stage in the systematic desensitization counselling technique.

Step II The client is reminded of the anxiety hierarchy that was constructed in the previous sessions. He is then informed the actual desensitization process is about to commence.

Step III The counsellor will ask the client to imagine the first scene as he quietly and comfortably sits with his eyes closed on armchairs. The first scene will be the point of purchase of the application document otherwise called registration form.

He will be requested to imagine the scene very clearly and to raise his index fingers when fully in the scene. The counsellor will then stop the client from the scene and be asked to record his SUDs. He will then be requested to relax deeply. This process will be repeated until the SUDs get to 25 or below.

Step IV The next stage is to imagine completing the application documents. The client will be asked to imagine the scene, raise his hands when it is fully imagined. He is then told to stop imagining and record his SUDs and deeply relax all parts of his bodies. This will also be repeated until all his SUDs are not above 25.

Step V At this stage, the counsellor will ask the client to imagine reviewing past question papers for the previous exams. He will be told to start the imagination at the same time after the count of three. (one – two – three). He will also be required to raise his index when fully in the scene, record his SUDs and have deep relaxation. It will also continue until his SUDs do not go above 25.

Step VI The client will be told to imagine the scene of reading for the preparation for the exams. The client will be requested to raise his hand when fully in the scene. He will then be requested to record his SUDs and have deep relaxation of the body. The process will be repeated until the client records 25 SUDs or less.

Step VII At this point, the day's session will come to an end. The client will be told to freely make his observations about the technique and clearly state what effects it is having on his anxious feelings.

EXPERIMENTAL GROUP II: SYSTEMATIC DESENSITIZATION COUNSELLING SESSIONS

Session Nine

Objectives: i) To review the achievements recorded in the last session;

ii) To review the effects the client is beginning to feel on his anxiety;

iii) To continue with the desensitization processes on the anxiety provoking events.

Step I The counsellor welcomes back the client to another session of the last segment of the therapy.

Step II The counsellor will request the client to individually express his feelings about the effects of the therapy on them.

Step III The client will be requested to go into the next imagined scene, which is the writing of the WAEC/NECO Mock examinations. He will be requested to start at the same time after the count of three. As usual, the client will raise his index fingers when he is fully in the scene. The counsellor will then ask him to stop the scene and record his SUDs, and then go into deep relaxation.

Step IV The client will then be told to imagine himself reading for the exams proper when it is less than one week to the commencement of the exam. He will

also be told to raise his index finger when he is fully in the imagined scene. The counsellor will then tell him to stop the scene, record his SUDs and go into deep relaxation.

Step V The counsellor will then lead the client into the next scene of the anxiety provoking event. He will be asked to imagine waking up from sleep in the morning of the day of the examination. He will be reminded to raise his index finger when fully in the scene, after which the counsellor will request him to stop the scene and record his SUDs and then relax his bodies deeply.

Step VI Lastly in this session, the counsellor will guide the client to move into the next scene, which is imagining that he is in the examination hall before the question papers are distributed. Anxiety is sometimes high at this moment because some of the anxious student may begin to feel empty no matter how much he most have prepared for the exams. He will start the imagination at the same time. When fully in the scene, the client will be expected to raise his index finger as done in the other sessions. He will be told by the counsellor to stop the scene, record his SUDs and then go onto deep relaxation.

Step VII The session will be ended up by asking the client to make his observations

EXPERIMENTAL GROUP II: SYSTEMATIC DESENSITIZATION

COUNSELLING SESSIONS

Session Ten

Objectives: i) To recapitulating the achievements so far recorded;

ii) To assess the feelings of the client about the therapy;

iii) To continue with the therapeutic procedure.

Step I The client will be welcomed back into another session and the final in the therapy.

Step II The client will be requested to give account of the effects of the therapy so far felt in his anxious feelings

Step III The client will be guided to imagine that currently, the question papers are being distributed, while he is seated waiting for his papers. He will be requested to raise his index when he feels fully in the scene. He will then be asked to stop the scene, rate his SUDs and then relax deeply.

Step IV The next scene will have to do with the examination invigilators and other officials. The client will be told to imagine an official of the exam standing over him and watching him writing the exams. When he indicates his being fully in the scene, the counsellor will request him to stop the imagination, record his SUD and then have deep relaxation. This will be repeated until his SUD are not above 25.

Step V The last of the scenes is when the time of the exam is almost halfway gone and the candidates are still writing, the invigilators are warning them of the time. The client will commence the imagination and will be asked to stop and record his SUDs when he is fully in the scene, which must not go beyond 25.

Step VI At this point, all the events in the hierarchy have been desensitized, which marks the end of the whole therapy. This information will be passed on to the client

Step VII Specially, the client will be engaged in a general discussion about everything that has to do with the therapy and how effective it has been in helping him control his unwanted behaviour.

EXPERIMENTAL GROUP II: SYSTEMATIC DESENSITIZATION

COUNSELLING SESSIONS

Session Eleven

Objectives: i) To round off the counselling relationship.

ii) To ascertain the effects of the counselling sessions carried out in the last ten sessions.

iii) To discuss other relevant issues not discussed in the previous sessions.

iv) To administer the posttest on the student.

Step I The counsellor warmly welcomes the client into the final session of the therapy.

Step II The counselor appreciates the collaborative efforts they had throughout the weeks of the counseling process.

Step III The client will be requested to express what resulted from the systematic desensitization of the anxiety provoking situations in the imagined examinations.

Step IV Discuss some general aspects of test anxiety and the counseling process which is about to be concluded.

Step V The client will be told to get ready for another test (posttest) which will be the concluding part of the counseling process.

DEPARTMENT OF EDUCATIONAL PSYCHOLOGY AND COUNSELLING

Faculty of Education

AHMADU BELLO UNIVERSITY, ZARIA

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Our Ref: _____ *Date:* 15TH-JUNE-2012

THE HONOURABLE COMMISSIONER
KADUNA STATE MINISTRY OF EDUCATION
KADUNA

Dear Sir,

STUDENTS' FIELD RESEARCH

The Department of Educational Psychology and Counselling, Ahmadu Bello University, Zaria requires each student working for a Degree to complete a research Thesis/project. Our Students entering the final year of their studies will be collecting data during the year.

Most of them will need to be allowed access to certain relevant documents and some valuable information which you may have.

Please give assistance as much as possible.

TOPIC OF RESEARCH:
EFFECTIVENESS OF COGNITIVE RESTRUCTURING AND SYSTEMATIC DESENSITIZATION COUNSELLING TECHNIQUES IN CONTROLLING HIGH-STAKES TEST ANXIETY OF FINAL YEAR SECONDARY SCHOOL STUDENTS IN KADUNA METROPOLIS

Thank You for your Continuing cooperation.

Yours Sincerely,

DEPARTMENT OF EDUCATIONAL PSYCHOLOGY AND COUNSELLING A.B.U. ZARIA

PM Bello

Research Adviser

MINISTRY OF EDUCATION
KADUNA STATE

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Kaduna Niger

Date: 29-6-'12

The DIRECTOR
IASD DIVISION
KADUNA

PERMISSION TO CONDUCT RESEARCH

The bearer Mal/~~Mr.~~/~~Mrs.~~/~~Miss~~/~~Messrs~~: MUHAMMED HALILU BAKORI is a student from: ABU ZARIA

for conducting a research on: Effectiveness of Cognitive restructuring and Systematic de-sensitization Counselling techniques in Controlling high-stakes test anxiety of final Sec. Sch. Stude

for the award of PHD Guidance & Counselling.

I am directed to convey the Ministry of Education's approval for the above research.

Give him/her your maximum co-operation please.

Officer's Name Yakubu Ugale Salisu Signature

Designation Assistant Director (PRS) Date 29-6-12

THE HON. COMMISSIONER
SIGN
DATE 29/6/12
MINISTRY OF EDUCATION KADUNA STATE.

For Hon. Commissioner

KADUNA STATE
MINISTRY OF EDUCATION
ZONAL OFFICE
KADUNA

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Kaduna - Nigeria

Your Ref: _____
Our Ref: KDZ/GEN/1018/VOL.I/72

Date: 2ND July, 2012

The Principal,

GOVERNMENT GIRLS DAY
SECONDARY SCHOOL
MAIMUNA GWARZO
TUDUN WADA, KADUNA

LETTER OF INTRODUCTION

MUHAMMED HALILU BAKORI

The bearer of this, with the above name is a student from A.B.U Zaria. He is undertaking a research on Effectiveness of Cognitive Restructuring and Systematic Desensitization Counseling Techniques in Controlling High – stakes Test Anxiety among SSII Secondary School Students, for the award of P.H.D (Guidance and Counseling).

Approval has been granted for him to carry out academic research. You are therefore requested to assist and give him the necessary co-operation to conduct the research in your school please.

Yusuf R. Garba
AD/P
For: Director.

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KADUNA CAPITAL
SCHOOL, MALALI
KADUNA

LETTER OF INTRODUCTION

MUHAMMED HALILU BAKORI

The bearer of this, with the above name is a student from A.B.U Zaria. He is undertaking a research on Effectiveness of Cognitive Restructuring and Systematic Desensitization Counseling Techniques in Controlling High – stakes Test Anxiety among SSII Secondary School Students, for the award of P.H.D (Guidance and Counseling).

Approval has been granted for him to carry out academic research. You are therefore requested to assist and give him the necessary co-operation to conduct the research in your school please.

Yusuf R. Garba
AD/P
For: Director.

APPENDIX VI

RESEARCH QUESTIONAIRE ON THE EVALUATION OF THE EFFECTIVENESS OF COGNITIVE RESTRUCTURING AND SYSTEMATIC DESENSITIZATION COUNSELLING TECHNIQUES ON THE CONTROL OF FINAL YEAR SECONDARY SCHOOL STUDENTS' HIGH-STAKES TEST ANXIETY

Dear Respondent,

The researcher is a Ph D student in the Department of Psychology and Counselling, Ahmadu Bello University, Zaria. He is conducting a research on the effectiveness of some counselling techniques in the control of high-stakes test anxiety.

You are requested to please give your frank and honest feeling on each of the statements. Note that there is no right or wrong response to any of the items. All responses will be treated with utmost confidentiality. You are to give your personal feeling and not what you think people want you to feel. Your honest response is highly valued.

Thank you for your cooperation

Yours faithfully,

Mohammed, Halilu Bakori

SECTION A: Personal Information

1. Name of Student ..... **School No.** .....

2. Name of School: .....

3. Sex: i) Male
ii) Female

4. Class: i) SSS I
ii) SSS II
iii) SSS III

5. Type of School: i) Girls School
ii) Boys School
iii) Coeducational

6. Ownership of School: **i)** Private
ii) Public

SECTION B: Level of Test Anxiety

WESTSIDE TEST ANXIETY SCALE

Rate how true each of the following is of you, from extremely or always true to not at all or never true.

Use the 5 point scale to respond. Tick your choice of response.

No.	Item	Extremely always true **5**	Highly usually true **4**	Moderately sometimes true **3**	Slightly seldom true **2**	Not at all Never true **1**
1	The closer I am to a major exam, the harder it is for me to concentrate on the materials.					
2	When I study for my exam, I worry that I will not remember the materials on the exam.					
3	During important exams, I think that I am doing awful or that I may fail.					
4	I lose focus on important exams, and I cannot remember material that I knew before the exam.					
5	I finally remember the answer to exam questions after the exam is already over.					
6	I worry so much before a major exam that I am too worn out to do my best on the exam					
7	I feel out of sorts or not really myself when I take important exams.					
8	I feel that my mind sometimes wanders when I am taking important exams.					
9	After an exam, I worry about whether I do well enough.					
10	I struggle with written assignments, or avoid doing them, because I feel that whatever I do will not be good enough. I want it to be perfect.					

RESPONSES OF STUDENTS ON EACH STATEMENT IN THE QUESTIONAIRE

Table Q1: The closer I am to a major exam, the harder it is for me to concentrate on the materials.

Schools	Options	Frequency	Percent	Cumulative Percent
Government College Kaduna (Male)	Always true	21	15.6	15.6
	Usually true	18	13.3	28.9
	Sometimes true	47	34.8	63.7
	Seldom true	27	20.0	83.7
	Never true	22	16.3	100.0
	Total	135	100.0	
Queen Amina College Kaduna (Female)	Always true	34	20.6	20.6
	Usually true	19	11.5	32.1
	Sometimes true	68	41.2	73.3
	Seldom true	18	10.9	84.2
	Never true	26	15.8	100.0
	Total	165	100.0	

Table Q2: When I study for exams, I worry that I will not remember the materials on the exam.

Schools	Options	Frequency	Percent	Cumulative Percent
Government College Kaduna (Male)	Always true	11	8.1	8.1
	Usually true	19	14.1	22.2
	Sometimes true	37	27.4	49.6
	Seldom true	34	25.2	74.8
	Never true	34	25.2	100.0
	Total	135	100.0	
Queen Amina College Kaduna (Female)	Always true	36	21.8	21.8
	Usually true	31	18.8	40.6
	Sometimes true	52	31.5	72.1
	Seldom true	24	14.5	86.7
	Never true	22	13.3	100.0
	Total	165	100.0	

Table Q3: During important exams, I think that I am doing awful or that I may fail.

Schools	Options	Frequency	Percent	Cumulative Percent
Government College Kaduna (Male)	Always true	15	11.1	11.1
	Usually true	8	5.9	17.0
	Sometimes true	32	23.7	40.7
	Seldom true	17	12.6	53.3
	Never true	63	46.7	100.0
	Total	135	100.0	
Queen Amina College Kaduna (Female)	Always true	35	21.2	21.2
	Usually true	28	17.0	38.2
	Sometimes true	36	21.8	60.0
	Seldom true	25	15.2	75.2
	Never true	41	24.8	100.0
	Total	165	100.0	

Table Q4: I lose focus on important exams, and I cannot remember material that I knew before the exam.

Schools	Options	Frequency	Percent	Cumulative Percent
Government College Kaduna (Male)	Always true	18	13.3	13.3
	Usually true	31	23.0	36.3
	Sometimes true	25	18.5	54.8
	Seldom true	22	16.3	71.1
	Never true	39	28.9	100.0
	Total	135	100.0	
Queen Amina College Kaduna (Female)	Always true	33	20.0	20.0
	Usually true	35	21.2	41.2
	Sometimes true	47	28.5	69.7
	Seldom true	23	13.9	83.6
	Never true	27	16.4	100.0
	Total	165	100.0	

Table Q5: I finally remember the answer to exam questions after the exam is already over.

Schools	Options	Frequency	Percent	Cumulative Percent
Government College Kaduna (Male)	Always true	26	19.3	19.3
	Usually true	25	18.5	37.8
	Sometimes true	36	26.7	64.4
	Seldom true	25	18.5	83.0
	Never true	23	17.0	100.0
	Total	135	100.0	
Queen Amina College Kaduna (Female)	Always true	42	25.5	25.5
	Usually true	29	17.6	43.0
	Sometimes true	49	29.7	72.7
	Seldom true	28	17.0	89.7
	Never true	17	10.3	100.0
	Total	165	100.0	

Table Q6: I worry so much before a major exam that I am too worn out to do my best in the exam.

Schools	Options	Frequency	Percent	Cumulative Percent
Government College Kaduna (Male)	Always true	34	25.2	25.2
	Usually true	31	23.0	48.1
	Sometimes true	24	17.8	65.9
	Seldom true	22	16.3	82.2
	Never true	24	17.8	100.0
	Total	135	100.0	
Queen Amina College Kaduna (Female)	Always true	44	26.7	26.7
	Usually true	44	26.7	53.3
	Sometimes true	33	20.0	73.3
	Seldom true	28	17.0	90.3
	Never true	16	9.7	100.0
	Total	165	100.0	

Table Q7: I feel out of sorts or not really myself when I take important exams.

Schools	Options	Frequency	Percent	Cumulative Percent
Government College Kaduna (Male)	Always true	16	11.9	11.9
	Usually true	18	13.3	25.2
	Sometimes true	37	27.4	52.6
	Seldom true	29	21.5	74.1
	Never true	35	25.9	100.0
	Total	135	100.0	
Queen Amina College Kaduna (Female)	Always true	28	17.0	17.0
	Usually true	29	17.6	34.5
	Sometimes true	51	30.9	65.5
	Seldom true	34	20.6	86.1
	Never true	23	13.9	100.0
	Total	165	100.0	

Table Q8: I feel that my mind sometimes wanders when I am taking important exams.

Schools	Options	Frequency	Percent	Cumulative Percent
Government College Kaduna (Male)	Always true	30	22.2	22.2
	Usually true	30	22.2	44.4
	Sometimes true	33	24.4	68.9
	Seldom true	23	17.0	85.9
	Never true	19	14.1	100.0
	Total	135	100.0	
Queen Amina College Kaduna (Female)	Always true	44	26.7	26.7
	Usually true	31	18.8	45.5
	Sometimes true	37	22.4	67.9
	Seldom true	23	13.9	81.8
	Never true	30	18.2	100.0
	Total	165	100.0	

Table Q9: After an exam, I worry about whether I did well enough.

Schools	Options	Frequency	Percent	Cumulative Percent
Government College Kaduna (Male)	Always true	34	25.2	25.2
	Usually true	20	14.8	40.0
	Sometimes true	33	24.4	64.4
	Seldom true	21	15.6	80.0
	Never true	27	20.0	100.0
	Total	135	100.0	
Queen Amina College Kaduna (Female)	Always true	60	36.4	36.4
	Usually true	35	21.2	57.6
	Sometimes true	42	25.5	83.0
	Seldom true	13	7.9	90.9
	Never true	15	9.1	100.0
	Total	165	100.0	

Table Q10: I struggle with written assignments or avoid doing them, because I feel that whatever I do will not be good enough. I want it to be perfect.

Schools	Options	Frequency	Percent	Cumulative Percent
Government College Kaduna (Male)	Always true	34	25.2	25.2
	Usually true	15	11.1	36.3
	Sometimes true	31	23.0	59.3
	Seldom true	19	14.1	73.3
	Never true	36	26.7	100.0
	Total	135	100.0	
Queen Amina College Kaduna (Female)	Always true	49	29.7	29.7
	Usually true	16	9.7	39.4
	Sometimes true	30	18.2	57.6
	Seldom true	25	15.2	72.7
	Never true	45	27.3	100.0
	Total	165	100.0	

Appendix VIII: Summary of the Results of Tested Research Hypotheses

Ho	P Value	Probability	Decision
1. There is no significant difference in the levels of high-stakes test anxiety among the final year secondary school students in Kaduna metropolis before and after being treated with cognitive restructuring counselling technique.	P = 0.000	P < 0.05	Ho Rejected
2. There is no significant difference in the levels of high-stakes test anxiety among the final year secondary school students in Kaduna metropolis before and after being treated with systematic desensitization counselling technique.	P = 0.000	P < 0.05	Ho Rejected
3. There is no significant difference after treatment between the levels of high-stakes test anxiety among final year secondary school students in Kaduna metropolis treated with cognitive restructuring and those treated with systematic desensitization.	P = 0.547	P > 0.05	Ho Retained
4. There is no significant difference in the levels of high-stakes test anxiety between cognitive restructuring treated and control groups among the final year secondary school students in Kaduna metropolis.	P = 0.000	P < 0.05	Ho Rejected
5. There is no significant difference in the levels of high-stakes test anxiety of systematic desensitization treated and control groups among the final year secondary school students in Kaduna metropolis.	P = 0.000	P < 0.05	Ho Rejected
6. There is no significant difference after treatment between the levels of poor cognition of high-stakes test anxious final year secondary school students in Kaduna metropolis treated with cognitive restructuring and those treated with systematic desensitization.	P = 0.664	P > 0.05	Ho Retained
7. There is no significant difference after treatment between the levels of emotionality of high-stakes test anxious final year secondary school students in Kaduna metropolis treated with cognitive restructuring and those treated with systematic desensitization.	P = 0.684	P > 0.05	Ho Retained