EFFECTS OF COGNITIVE RESTRUCTURING THERAPY AND TEST-TAKING SKILLS TRAINING IN THE MANAGEMENT OF EXAMINATION ANXIETY AMONG UNDERGRADUATES IN SOUTHWESTERN NIGERIA

BY

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ABSTRACT

Examination is an integral part of school work for any undergraduate. This however could pose a threat to students' academic success where they harbour negative emotion on test-taking. It is widely known that examination anxiety could make examination experience torturous for the students with their self-esteem and motivation threatened. Literature has focused on factors precipitating examination anxiety with little emphasis on interventions. This study, therefore, determined the effects of Cognitive Restructuring Therapy (CRT) and Test-Taking Skills Training (TTST) in the management of examination anxiety among undergraduates in Southwestern Nigeria. The moderating effects of gender and field of study were also examined.

Sarason's Cognitive interference theory provided the framework for the study while the pretest-posttest control group quasi- experimental design with a 3x2x2 factorial matrix was adopted. Three federal universities (University of Ibadan, ObafemiAwolowo University and Federal University, Oye-Ekiti) were randomly selected. One hundred and twenty-six undergraduates were randomly selected from the three universities. The percentage of female participants was 40.5%. The fields of study taken into consideration were sciences 38.1% and humanities 61.9%. Participants were randomly assigned to CRT (48), TTST (40) and Control (38).The training lasted eight weeks. The instruments used were: Anxiety test inventory (α=0.74) as screening tool and Revised test anxiety scale (α =0.82). Five sessions of Focus Group Discussion (FGD) were also conducted. Quantitative data were subjected to Analysis of covariance, Scheffe Post-hoc test at 0.05 level of significance while the qualitative data were content analysed.

There was significant main effect of treatments in the management of examination anxiety among the participants ($F_{(2,113)}$ = 380.67,partial n^2 = .87). The mean of participants exposed to CRT (32.23) was significantly different from those in the TTST (26.53) and the control group (54.26) in the management of examination anxiety. There was no significant main effect of gender and field of study in the management of examination anxiety. The two-way and three-way interaction effects were not significant in the management of examination anxiety. FGDs revealed that inadequate preparation, procrastination, poor test-taking skills caused examination anxiety. Poor motivation and lack of confidence, fear of failure, previous poor test performance and examiner characteristics may aggravate examination anxiety.

Test-taking skills training was more effective in the management of examination anxiety than Cognitive restructuring therapy among the participants. Counselling and educational psychologists should adopt these strategies to help students overcome examination anxiety.

Keywords: Cognitive restructuring therapy, Test-taking skills training, Examination anxiety, Undergraduates in Southwestern Nigeria

Word Count: 434

CERTIFICATION

I certify that this research work was carried out by Temidayo Eniitan Afolabi-Ige (Matric. No. 92949) of the Department of Counselling and Human Development Studies, Faculty of Education, University of Ibadan.

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DEDICATION

This work is specially and gratefully dedicated to the Almighty God, the Giver of life, wisdom, knowledge and understanding, who made all things possible throughout the programme.

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CHAPTER ONE
INTRODUCTION

1.1 Background to the Study

A prerequisite for anyone to pass through school is examination and being evaluated favourably is crucial to all students across tiers of education because education is germane to the growth and development of knowledge, economy and society as it drives the economic and socio-political development of any given country of the world. Education is considered as the key to economic prosperity, self-reliance, social reconstruction, vital instrument for combating disease and sustaining development. This is why education is viewed as an important element in nation building or national development. In Nigeria, the government policy on certificate is causing a lot of anxiety because there is much emphasis on certificate at the expense of performance. This is the genesis of examination anxiety and academic fraud e.g. I must pass syndrome. Anxiety is an emotional state encounter by human beings within their daily experiences and undergraduates are susceptible to immense anxiety during examinations, which can affect their health and performance. One of the main and the natural concerns for an educational psychologist is to educate the students on the importance of a good learning environment and to make students attain academic success. Examination anxiety is one of the main barriers to reach this goal. Feelings of anxiety towards examination have existed ever since examinations have been used in the educational settings and are frequently expressed in today's competitive environment. Examinations at every educational level have become a global and very powerful strategy for decision making about people of all ages and strata. All over the world people are evaluated in terms of their skills, abilities and achievements and such evaluations are determined by their test performance (Rana and Mahmood, 2010). As the need for knowledge and professionalism increases, there is need for assessment of the students, which in turn requires more and more tests with the aim to measure and classify, in order to enter a grade in their studies.

Examination anxiety could be cognitive, affective, and behavioural. The cognitive component involves worry or negative thoughts, depreciating self statements that occur during assessments and performance inhibiting difficulties that may arise from anxiety (e.g. problem in recalling facts). The affective component includes the person's appraisal of his/her physiological state such as tension, tight muscles and trembling. The behavioural component includes poor study skills, avoidance and procrastination of work (Seligman, Walker and Rosenhan, (2010).

Research on examination anxiety has a long history. First, studies relating to examination anxiety were conducted as early as 1914 and again in 1952 when Mandler and Sarason (1952) published a series of studies on test anxiety and how it relates to performance, as well as developed an instrument to assess individual differences in test anxiety in adults, the Test Anxiety Questionnaire. A meta-analytic study that examined "Test Anxiety Inventory" data collected from 14 different countries was conducted by Seipp and Schwarzer in 1996. The findings revealed that youth from Egypt, Jordan and Hungary experienced the highest levels of test anxiety, while youth from China, Italy, Japan, and the Netherlands had the lowest anxiety levels (Bodas and Ollendick, 2005). In Nigeria, modest levels of anxiety is experienced by most undergraduates before and during the examination and such can actually motivate students to work harder and perform well (Arogundade, 2012).

Too much worry about examination is commonly referred to as examination anxiety. It is perfectly natural to feel some anxiety when preparing for and taking a test. Examination anxiety is pervasive in modern society. In this information age, examination scores are becoming more important in evaluating applicants for demanding jobs and candidates for admission into highly competitive educational programmes. Yearly, millions of students under-perform in schools and universities because of heightened examination anxiety, which is referred to as worry, apprehension, palpitation, increase in pulse rate and other physiological symptoms during examination (Vitasari, Numbli, Ethman, Herrawan and Sinnadurai, 2010). Although, examination anxiety is known as a situational variable which affect the academic performance negatively, it varies markedly from one individual to another. Some students are relatively calm when it comes to an examination, whilst others perceive examinations as more dangerous or threatening and experience more intense levels of state anxiety when taking tests (Rezazadeh, 2009). Examination results in most academic and occupational settings have important practical implications for a person's goals and future career. Many researchers have investigated the nature, antecedents, correlates and consequences of examination anxiety and the literature is prodigious (Busari and Osiki, 2005; Othman and Awang, 2010; Arogundade, 2012; Okorodudu and Ossai, 2012; Nemati, 2012; Akinsola and Nwaje, 2013; Vitasar, Wahab, Rastegar and Heidari, 2012; Oladipo and Ogungbamila, 2013).

Examination anxiety is a problem that is commonly experienced by most students. Practically, students will feel some level of anxiety when taking an examination, but for some students the level of anxiety increases drastically and affects their performance (Abolghasemi, Mehrabizadueh-Honarmand, Najarian and Schleon, 2004). It is a common and

significant phenomenon in education and it involves the combination of physiological over arousal, worry and dread and frequently disturbs the normal learning and also decreases the examination performance (Miller, Morton, Driscoll and Davis, 2006).

The experience of examination anxiety also slows down the mind by suppressing clear thought and confusing it so that the problem-solving process becomes more complex (Akca, 2011). Additionally, anxiety causes detrimental effects to some somatic processes which can lead to tachycardia, sweating, muscle tension, and also affect respiration. Aysan (2001) asserts that stress felt from the test can have negative physiological effects to the body like hypertension, coronary heart disease, respiratory distress syndrome and suppressed immune system functioning.

Zeidner (1998), citing Carver and Scheier (1984), argue that examination anxious persons are likely to have strong and chronic doubts about either producing adequate performance in examinations, being evaluated favourably by significant others, or being able to control their feelings so that they would not be overwhelmed by them. Speilberger and Vagg (1995) regard examination anxiety as a situation specific or state anxiety which is a temporary emotional state. This could be different from trait anxiety which is a constant personality characteristic. According to Speilberger and Vagg (1995), test anxious individuals are more prone to react with excessive anxiety such as worry, negative thoughts, nervousness and physiological arousal across testing situations. This proneness predisposes them to experiencing more intense levels of state anxiety which is considered as the emotional component of test anxiety in evaluative situations. The high level of state anxiety among test anxious people activates worry conditions stored up in memory and these conditions interfere with test performance (Zeidner, 1998). A positive relationship between trait and examination anxiety is therefore expected.

One of the challenges in the educational sector is examination anxiety. The word “examination” though familiar to all students, evokes varying degrees of anxiety in them depending on the importance attached to the examination and their level of preparedness for the examination. Furthermore the severity of such anxiety increases as the examination approaches, and peaks on the night preceding the examination (Tooran-Poshti, 2011). Examination anxiety is a psychological condition in which undergraduates experience extreme distress in testing situations. While many undergraduates experience some degree of stress and anxiety before and during examinations, examination anxiety can actually impair learning and hurt test performance. Examination anxiety is an overwhelming feeling of disturbance and distress among students globally and can be a devastating problem for them

because it may impair their performance and their well being later in life (Farooqi, Ghani and Spielberger, 2012; Rafiq, Ghazai and Farooqi, 2007). According to Cohen (2004), examination anxiety can adversely affect people in every field of life whenever and wherever people of all ages and strata have to be evaluated, assessed and graded in terms of their abilities, achievements or interests.

Currently, it is challenging to estimate the number of students who are faced with examination anxiety because of the lack of a large-scale epidemiological study (Zeidner, 1998). Previous studies have reported an anxiety rate from 20-35% in studies of college student populations in Philadelphia by Naveh-Benjamin, Lavi, McKeachie and Lin (1997) and Zeidner (1998). Although more recently, the anxiety rates were found to be much higher than 33% among school children and adolescents affected (Whitaker, Sena, Lowe and Lee, 2007), and lately the approximation of 40% of students have been mentioned (Huberty, 2009; Cassady, 2010; Salend, 2011). Locally, many studies have been carried out on examination anxiety (e.g., Arogundade, 2012; Busari, 2005; Adeyoju, 1989).

Examination anxiety if not reduced may make students to develop learned helplessness which is the reaction on the part of students to become frustrated and simply give up after repeated failures. Students who feel helpless when presented with test or examination are often frozen into inaction. They may not even attempt the test or examinations and their beliefs that they can't do them prevent them from even trying. When students overestimate their helplessness, other forces take control and shape their future. They believe they can't do the tasks, they don't do them and so grades suffer, labels are applied and curriculum tracks are solidified (Seligman, 2001).

Numerous studies have been carried out to determine the relationship between test anxiety and performance. In one study, Cassady and Johnson (2002) find that test anxiety exerts a significant stable and negative impact on students' academic performance. In another study, Kassim, Hanafi and Hancock (2008) investigated the consequences of test anxiety on academic performance among university students, and found test anxiety to be negatively related to academic performance. Ndirangu, Muola, Kithuka and Nassluma (2009) in their own study on the relationship between test anxiety and academic performance found that secondary school students exhibited higher anxiety levels before the examination in all subjects.

Previous studies were interested in identifying the factors and therapies to manage examination anxiety so that students can achieve optimally. Attempts in that regard include Osiki and Busari (2005) who targeted secondary schools students, Kartas, Aki and Aydin

(2013) also targeted high school students, there by focussing undergraduates in the university which studies have shown are more prone to examination anxiety. In view of this, this study was designed to determine the effectiveness of cognitive restructuring therapy and test-taking skills interventions in management of examination anxiety among undergraduates. Osiki and Busari (2005) use stress-inoculation training management of test anxiety among secondary school students. Other psychotherapies like Cognitive-restructuring therapy have been used to reduce examination anxiety (Adejoyu, 1989; Akinranti, 1984; Akinwale, 2004). Most of these studies focused on secondary school students.

Cognitive Restructuring Therapy is a psychotherapeutic process of identifying and disputing irrational or maladaptive thoughts known as cognitive distortions. It was developed by Beck (1963). According to Fergene (2003), cognitive-restructuring therapy is the most researched of all the 'talking therapies' as outcome studies into the cognitive treatment of anxiety have shown generally good results. Cassady and Johnson (2002) also support the superiority of cognitive restructuring by emphasizing that it is a very versatile treatment, adaptable to both group and individual settings as children, adolescents and adults across a wide range of cultural and socio-economic backgrounds have been used. The choice of cognitive-restructuring therapy is also based on the fact that it is a time efficient treatment with most uncomplicated causes of anxiety being treated in 4 to 14 sessions.

Hewstone, Fincham and Foster (2005) define cognitive-restructuring technique as a relatively short term treatment designed to get clients thinking about events in their lives. In other words, cognitive-restructuring therapists focus more on clients' cognitive and affective experiences. It is a social skill training programme designed to help students manage examination anxiety. This was developed by Aaron Beck (1963). It is an approach to the treatment of abnormal behaviour that tries to help individuals behave more adaptively by modifying their thoughts. Its emphasis is on the effect of thought on behaviour and behaviour change techniques. According to Meichenbaum (1993), cognitive behaviour therapists strive to change misconceptions, strengthen coping skills, increase self-control and encourage self reflection.

The choice of cognitive restructuring therapy is due to the reported relationship between anxiety and irrational beliefs and thoughts. Studies have shown that individuals who have examination anxiety have heightened fears and beliefs concerning the examination process as well as the purpose of the examination. Many studies (e.g. Busari 2005, Fayand, Gargari and Sarandi 2013) have been conducted to ascertain the efficacy of cognitive therapy for anxiety. In one of such studies, Cohen (2004) compares the use of therapy with the use of

tricyclic antidepressant therapy (pharmacotherapy) using patients suffering from clinical depression. They find that cognitive therapy was more effective than tricyclic anti-depressant therapy and relapse rates were lower among patients who received cognitive therapy.

Another intervention which could be used in reducing examination anxiety is Test-Taking Skills Training which helps undergraduates on how to control test anxiety and promote their abilities and academic achievement. It has been noted that anxious students suffer from test anxiety due to inability of using sufficient test-taking skills to approach examination. Test-Taking Skills Training can improve students' cognitive processes which affect the organisation, processing and retrieval of information. Students can learn various tips and strategies of Test-Taking Skills Training activities to improve their study activities, study abilities and academic achievement. Test-Taking Skills are the skills needed by students to demonstrate the cognitive ability that the examination is constructed to measure (Harris, 2012). Testing is a skill and being successful in school requires a high level of study and Test-Taking Skills. Students must learn these skills, practice them and develop effective test-taking skills in order to be successful. Once the students develop effective Test-Taking Skills, the studying and learning become easier and thus the examination anxiety would be reduced to a minimal level (Mayland, 2002).

Gender as a moderating variable could determine the variation in examination anxiety among undergraduates. It is widely claimed that gender, which is connected to many developmental trends, affects the growth and exposure of anxiety in evaluative encounters (Basso, Gallagher, Mikusa and Rueter, 2011). Students' gender has its advantages and disadvantages when it comes to examination and confidence. It is stated that girls may become more concerned about their personal inadequacies than boys and as a result, experience more worry and discomfort in evaluative conditions due to the increased degree of public self-consciousness (Arezou, Rusnani, Habibah and Maznah, 2012). Furthermore, it has been hypothesized that men and women perceive and react to assessment in a different mode (Zeidner, 1998).

Hodge, McCormic and Elliot (1997) explore the level of examination anxiety in a large group of adolescents as they approached their last examination. They found that most of the students, especially girls, were encountering a high level of distress during this time, and variables like poor socio-economic condition and the perception of academic competence makes them to be most vulnerable to these negative states. Chapell (2005) in assertion of aforementioned studies, finds that female students reported elevated levels of anxiety and depression and also devalued their academic competence, while male students showed a

reversed trend and overvalued their competency (Locker and Cropley, 2004). Consistent with previous research, some other studies also showed that female undergraduates experience more test anxiety than their male counterparts in spite of having higher Grade Point Average than male students (Chapell, 2005).

Field of study is another moderating variable that could influence examination anxiety. Field of study refers to the type of field of interest a student is studying in the university. It is assumed that the level of demands a course requires could pose anxiety on the students when examination is approaching. Students tend to perform poorly in public examinations in science courses (Salim, 2000). When students are supposed to indulge in numerical sort of questions, they encounter examination anxiety. In science subjects numerical answers are more likely to be required hence can be a cause of poor performance in public examinations in science subjects (Dew, Galassi and Galassi, 1984).

Generally, students in meticulous academic subjects like Mathematics, Physics, Pure and Applied Chemistry etc., feel more anxiousness than in the Humanity. Physical science students have highest level of examination anxiety when compared with those in the Humanity (Muhammad, Omera, Shazia and Farzan, 2013; Everson, 1993). Pure science students experience higher level of examination anxiety than students in social science. It is more likely that in pure science, students deal more with numerical sort of tests than in social science and this can be one of the reasons for this high level of examination anxiety. As Rouxel (2000) reveals that it is not degree of preparation for the test but category of subject which accounts for different levels of examination anxiety. Another study conducted by Everson (1993) finds that science students suffer more examination anxiety than students in the Humanities. Muhammad et.al (2013) compared levels of examination anxiety in students of English, Mathematics, Physical science and Social Science, the result indicated that physical Science courses elicited the highest levels of evaluative anxiety, after controlling for perceptions of difficulty and test demands.

The outcome of this study will provide an insight into management of examination anxiety among undergraduates with the use of Cognitive Restructuring Therapy and Test-Taking Skills Training and would be valuable to all stakeholders including the parents, educators, psychologists, policy makers and researchers.

1.2 Statement of the Problem

Examination anxiety among Undergraduates has become a source of worry and huge concern to parents, lecturers, counseling psychologists and various school authorities. It has been observed that examination anxiety is a student's challenge because in the domain of education, it is often experienced by students during performance related activities such as examination. Academic examinations and school work are considered to be more stressful events of student's life. Although, some level of anxiety among students is essential to achieve success in examinations, too much of it can have adverse effect on their performance. It can affect their physical and psychological well-being which may cause panic attack which makes them go blank during examinations, feel helpless, cold and nervous, having sweaty palms, fast breath, palpation and even stomach upset.

The modern education system heavily utilizes tests and examinations as the main means of assessment, evaluation and comparison. Tests and examinations, however, cause some students to be very distressed and entire examination experience for these students becomes excruciatingly painful, with their self-esteem and motivation put under threat. Students who repeatedly experience examination failures or low-examination performances despite putting in much effort commonly feel shame, stupidity, incompetence and develop learned helplessness and may not be motivated to learn because examination feedback can propel or discourage learning.

Examination anxiety involves many negative effects including poor performance, low motivation, negative self-evaluation beliefs, and low concentration, as well as an increase in school dropout rates and general anxiety. The effect of examination anxiety on motivation can also influence the success expectancy. Consequently, students with higher examination anxiety might minimize the success expectancy's level and relegate significant learning outcomes protectively (Bembennutty, 2008). Other negative effects include low self-esteem, reading difficulties and low Mathematics achievement, failing grades, disruptive classroom behavior, negative thoughts about the school, and feelings of unease and fear, which is the result of an extreme fear of failure as well as memory interruption, particularly concerning phonological processing. Examination anxiety slows down the mind by suppressing clear thought and confusing it to make the problem-solving process more complex. It causes detrimental effects to some somatic processes that can lead to tachycardia, sweating, muscle, tension and also affect respiration. This study will focus on the effectiveness of cognitive restructuring therapy and test-taking skills training to fill these gaps in managing examination anxiety among undergraduates in Southwestern Nigeria.

In Nigeria, education is seen as a tool for national transformation which justifies the huge investment in education by parents and government. Regrettably, it has been observed that, there is urgent need to reach, teach, guide, orientate undergraduates generally on examination anxiety because of their poor performance due to anxiety they experience during examinations. All these could be guided and reduced through Cognitive Restructuring Therapy and Test-Taking Skills Training.

Although, several researches have sought ways to manage examination anxiety among undergraduates, only a few have adopted psychological interventions in this regards. It is on this premise that this study seeks to employ the effectiveness of Cognitive Restructuring Therapy and Test-Taking Skills Training in the management of examination anxiety among undergraduates in Southwestern Nigeria.

1.3 Purpose of the Study

The general purpose of this study was to examine the effect of Cognitive Restructuring Therapy and Test-Taking Skills Training in management of examination anxiety among undergraduates in Southwestern Nigeria. Specifically, this study sought to:

- Examine if there is a significant main effect of treaments on the management of examination anxiety among participants.
- Determine which of the two therapies (that is, Cognitive Restructuring Therapy and Test-Taking Skills Training) is more effective in fostering management of examination anxiety among participants.
- Determine if there is a significant interaction effect of treatment and gender on the management of examination anxiety among participants.
- Investigate whether there is a significant interaction effect of treatment and field of study on the management of examination anxiety among participants.
- Investigate if there is a significant interaction effect of gender and field of study on the management of examination anxiety among participants.
- Examine whether there is significant three-way interaction effect of treatment, gender and field of study on the management of examination anxiety among the participants.

1.4 Significance of the Study

The expected results of this study will be of immense benefit to the participants (undergraduates who were experiencing examination anxiety), parents, counsellors, lecturers, educational psychologists, future researchers, and add to existing literatures. To the participants, the research will be of advantage to them as a proper development of cognitive restructuring therapy will serve as a stronghold on which the examination anxiety will be managed among the undergraduates who encountered series of problems because of the cognitive distortions about examination which often leads to poor academic performance. The examination anxiety will be reduced and there would be improvement in their performance through the skills embedded in the training.

The study will go a long way in reducing ever increasing drop-out rate and poor academics performance of undergraduates. The undergraduates through the proper development of cognitive restructuring therapy will begin to have a better understanding of how to manage their emotion when examination is approaching, during and after, and help them to assimilate and confront any field of study irrespective of the attached difficulty.

The findings of this study will be added to knowledge in the area of educational and counselling psychology, especially the use of cognitive restructuring therapy in handling problems related to examination anxiety.

The parents will benefit from this study for their expenditure or investments on their children would not go down the drain as the children would be experiencing good performance in their courses after being exposed to test-taking skills. Thus, the parents would be proud of them as the good results would bring good job and lead to promoting the family honour.

The test-taking skills will serve as a credible tool to counsellors who are interested in managing examination anxiety of undergraduates and improve their performance.

Also, the research output shall be of great benefit to educationists and psychologists, guidance counselors and parents because it would be a source of knowledge on the relevance of psychology in handling students' problems such as lack of study skills to maintain good and positive study habits and test-taking skills for the examination in order to have good performance and at the same time a scientific and systematic approach to the treatment of examination anxiety that may be attributed to students' academic performance.

Furthermore, for emerging scholars especially those in the field of psychology would benefit immensely from the study because it would be an example of research work that shows systematic way of dealing with examination anxiety among undergraduates. It would

serve as a reference material to consult; recommendations from the study and suggestions could also be a research topic for future studies.

1.5 Scope of the Study

This study concentrated on the use of Cognitive Restructuring Therapy and Test-Taking Skills Training in the management of examination anxiety among undergraduates in Southwestern Nigeria. Participants in this study consisted of 200 level undergraduates drawn from three federal Universities in Southwestern Nigeria which consists of Oyo, Ogun, Ondo, Lagos, Ekiti and Osun States from Faculties of Science and Humanity. The Universities are: University of Ibadan, Obafemi Awolowo University and Federal University, Oye-Ekiti. The scope also concentrated on the gender (male and female) and field of study (Humanity and Science) of the participants.

1.6 Operational Definition of Terms

The following terms were defined as they were used in this study;

Examination Anxiety: It refers to a strong negative emotional reaction those university undergraduate experiences before, during and after an examination.

Cognitive Restructuring Therapy: It is a psychotherapeutic process of identifying and disputing irrational and maladaptive thoughts known as cognitive distortions, such as all or nothing thinking, magical thinking, filtering, over-generalization, magnification and emotional reasoning, which are commonly, associated with many mental health disorders.

Field of study: This refers to particular branch of study or sphere of activity or interest of a student in the university.

Undergraduate: A student at a university who has not yet earned a bachelor's or equivalent degree**.**

Test-Taking Skills Training: These are cognitive skills that enable students to undergo any test-taking situation in an appropriate manner.

Gender: The state of being male or female that is typically used with reference to social and cultural differences rather than biological ones.

CHAPTER TWO
LITERATURE REVIEW

Introduction

The literature pertinent to this study was reviewed in two parts. The first is the theoretical background while the second is the empirical literature. This chapter deals with the review of relevant literature that provide a thorough review of current research related to examination anxiety, undergraduates, the two interventions (Cognitive Restructuring Therapy and Test-Taking Skills Training). The purpose of this review is to examine the literature that clarifies the relationship between the variables under investigation. In line with this, the following sub-headings were considered;

2.1 Theoretical Framework

2.1.1 Concept of Anxiety

Everyone experiences anxiety from time to time and it is a natural and common reaction to man's life difficulties. For some people, however, anxiety becomes a chronic problem as they experience high levels of anxiety with disturbing regularity. Anxiety disorders are a class of disorders marked by feeling of excessive apprehension and anxiety. Although, anxiety can be a positive, motivating force, its effect can also be debilitating; if left untreated, chronic anxiety may eventually impair a person's health. Anxiety disorders as a whole are common in the general population. Horney (1937), a neo-Feudian renowned for her work on anxiety, considered it as a motivating force, an intra-psychic urge and a signal of distress. Freud (1937) sees anxiety as the result of constant conflict among the id, Ego and superego. The result of constant conflict among id, ego and superego and called all forms of behaviour associated with anxiety neurotic. Freud called anxiety, emotional pain (Kaplan and Sadola, 2000) and he believes that anxiety is the price paid for civilization.

Anxiety is a familiar emotion which is caused by a perceived danger or threat to individuals (Hockenbury, 2010). The word anxiety is originated from "to vex or trouble" which means presence of psychological stress that cause feelings of worry, dread and apprehension (Bouras, 2007). Thus, anxiety is referred to as a psychological and physiological state which consists of emotional, somatic, cognitive and behavioural components (Seligman, Walker and Rosenhan, 2010). Anxiety, again, is assumed to be a natural and ordinary response to a stressful agent, assisting someone in handling a difficult condition by means of encouraging the individual to get adapted to the problem.

The criteria for the normal or abnormality of anxiety can be determined by its severity

and causes (Baker, 2009). Anxiety is considered as an appropriate and consistent response that occurs regularly in individual's life across all communities. Lack of anxiety or high anxiety can cause problems and leads to considerable risks. On the other hand, moderate anxiety can motivate people to manage their problems and be a success in life (Abolghasemi, Mehrabizadeh-Honarman, Najarian and Shalerkan, 2004).

Anxiety is an unpleasant state of inner turmoil, often accompanied by nervous behaviour such as pacing back and forth somatic complaints and rumination. It is the subjectively unpleasant feelings of dread over anticipated events, such as the feelings of imminent death and anxiety is not the same as fear, which is a response to a real or perceived immediate threat (Davidson and Gerald, 2008). According to American Psychiatric Association (2013), anxiety is the expectation of future threat and it is a feeling of worry, fear and uneasiness usually generalized and unfocused as an overreaction to a situation that is only subjectively seen as menacing.

Bouras and Holt (2007) say it is often accompanied by tension, restlessness, fatigue and problems in concentration. Anxiety can be appropriate, but when it is too much and continues too long, the individual may suffer from an anxiety disorder (APA, 2013). Anxiety is distinguished from fear, which is an appropriate cognitive and emotional response to a perceive threat and is also related to the specific behaviours of flight-or-fight responses, defensive or escape. Anxiety occurs in situations only perceived as uncontrollable or unavoidable but not realistically so.

Sawyer and Sawyer (2005) describe anxiety as a future-oriented mood state in which one is ready or prepared to attempt to cope with uncoming negative events and that it is a distinction between future and present dangers which divided anxiety and fear. Schutz et al (2011) also describe anxiety as an agony, dread, terror, and apprehension. Anxiety can be described as the mental state that results from a difficult situation for which the subject has insufficient coping skills. People facing anxiety may withdraw from situations which have provoked anxiety in the past.

There are different types of anxiety which are: existential anxiety which occur when a person faces amongst an existential crisis or having feelings that nothing has a real existence. Stranger anxiety and social anxiety are caused when people are apprehensive around strangers or other people in general. This type of anxiety is common among young people and may persist to adulthood if not treated early, it is not the fear of the people but the fact that they may be judged negatively and it varies in degree and severity.

Another type of anxiety is examination anxiety this is common among students in schools, colleges and Universities. Anxiety can be either a short term known as state or long term known as trait. Trait anxiety reflects a stable tendency to respond with the state anxiety in the anticipation of threatening situations.

2.1.2 Concept of Examination Anxiety

Examination anxiety is a type of anxiety, which is also known as 'Test Anxiety', and it is a state of uneasiness, worry or feelings of uncertainty about an impending or ongoing evaluation programme. It is a feeling of distress or agitation which refers to the emotional reactions that students have toward examination. Examination anxiety is a combination of physiological over-arousal, tension and somatic symptoms, along with worry, dread fear of failure, and catastrophising, that occur before or during test situations (Zeidner, 1998). It is a physiological condition in which people experience extreme stress, anxiety, and discomfort during and or before taking an examination. These responses can drastically hinder an individual's ability to perform well and negatively affects their social, emotional and behavioural development and feelings about themselves and school (Salend, 2012). Highly test-anxious students score about 12 percentile points below their low anxiety peers (Hembree, 1988; Cassady and Johnson, 2001; McDonald, 2001).

Examination anxiety begins in childhood and as testing experiences increase, an individual's test anxiety levels may also increase because of compounding episodes of poor performance. Understanding students' emotional experienced during the testing process, in particular test anxiety, has long been a prone concern for researchers, educators and counsellors as examination anxiety may have a deleterious impact on the students' performance, academic success and overall well-being (Bonaccio and Reeve, 2010). Examination anxiety is a type of fear that affects people of ages and intelligence and its symptoms are rooted in the biological fight or flight response.

Educational tests are the major tools for measuring academic achievement. Although varying methods of evaluation are used in educational setting, examinations will remain the most commonly used method of assessment (Keogh and French, 2001). Zeidner (1998) observes that test anxiety has prospered in part, due to the increasing personal importance of test situations for people in modern society, making tests and their long-term significant educational, social and occupational settings have important practical implications for a person's goals and future career test anxiety is frequently reported to be a meaningful factor impacting upon test scores.

Several factors often affect students' performance on a test for example: some sort of fatigue, illness or distraction as a result of the death of a relative or friend. However, these factors are not permanent and they do not extend to all testing situations.

The Diagnostic and Statistical Manual-IV states that examination anxiety is mainly a concern over negative evaluation (DSM-IV: American Psychiatric Association (APA), 1994) and falls into the classification of "social phobia". Social phobias are defined as a marked and persistent fear of social or performance situations in which embarrassment may occur (APA, 1995; McDonald, 2001).

Examination anxiety is basically a strong emotional reaction that an individual experiences before and during an examination (Akca, 2011). Usually, situations where individuals are allowed personal evaluation is termed an evaluative situation, which will potentially result in performance efforts geared towards high standards that lead to high levels of performance. On the other hand, when placed in an evaluative situation, distress regarding normative assessment, comparative and competitive behaviors will lead to heightened anxiety and disrupt students from focusing on doing what is necessary to successfully complete the examination (Zeidner and Matthews, 2005; Van Yperen, 2007). Therefore, this is detrimental towards the performance and will erode academic achievement by affecting the subject's mental health and academic life (Zeidner, 1998; Rothman, 2004).

Over the years, as examination anxiety research has developed, varieties of definitions and descriptions of this construct have emerged. Ergene (2003) favors Spielberger's (1972) definition: Examination anxiety is an "unpleasant state characterized by feelings of tension and apprehension, worrisome thoughts and the activation of the autonomic nervous system when an individual faces evaluative achievement-demanding situations." Wine's (1971) definition is more limited; she describes examination anxiety as the tendency of people to respond to nervousness induced by the examination situation with worried negative self-centered thoughts and statements. King, Ollendick and Gullone (1991) describe examination anxiety as unpleasant emotional reactions, characterized by subjective feelings of tension, apprehension, nervousness, and uncertainty, precipitated by evaluative situations. King (1991) goes on to explain that while moderate levels of examination anxiety "may enhance a student's performance," higher levels tend to interfere with the student's optimal performance.

Zeidner (1998) defines it by stating that examination anxiety is "anxiety subjectively relating to taking examinations, including anxiety related to the threat of failing an examination and the associated negative consequences." They identify some components of

examination anxiety, including "nervousness, worry cognitions, physiological activation, fearful facial expressions, and impulses to escape." Increased heart rate and perspiration are common physiological responses of examination anxiety (Sarason, Sarason and Pierce, 1990). Perhaps it is a "low response threshold for anxiety in evaluative situations" (Ergene, 2003) that most simply characterizes examination anxiety. Examination anxiety, then, is manifested in the tendency of students to perceive threat in evaluative situations. Examination anxious students experience a reduced sense of self-efficacy, anticipate failure, and experience intense emotional reactions at the very first sign that of failure (Ergene, 2003). Such an experience is likely to be evoked when a person believes that her or his intellectual motivation and social capabilities may be affected by the examination situation (Sarason, 1990).

Majority of research have found that examination anxiety involves many negative effects including poor performance, low motivation, negative self-evaluation beliefs, and low concentration, as well as an increase in school dropout rates and general anxiety (Hancock, 2001; King, Mietz, Tinney, and Ollendick, 1995; Whitaker, Sena, Lowe and Lee, 2007). The effect of examination anxiety on motivation can also influence the success expectancy.

To sum up, the students' quality of life, whether it is psychological, emotional, physical or academic is adversely affected by examination outcomes. For instance, certain studies carried reports that some students even consider suicide due to being preoccupied with the examination (Keogh and French, 2001; Rothman, 2004).

2.1.3 Etiology of Examination Anxiety

Both the examination situation and the examination-taker can function as the source of examination anxiety (Bonaccio and Reeve, 2010). Several important domains of perceptions in the examination situation that are probably encouraging anxiety have been identified by researchers. The current literature regarding examination anxiety suggests that previous experiences of examination takers have significant influence on their perceptions, including the familiarity with the examination subject, examination difficulty and finally the intention of applying examination scores, like the use of the examination results to make important decisions like job applications (Pekrun et al., 2004; Reeve, Bonaccio and Charles, 2008; Bonaccio and Reeve, 2010).

Various literatures have found that the self-perception of the examination taker is a significant consideration that determines whether individuals who take the examinations believe that they are able to pass the standards of the examination. For example, the feeling of

whether they are adequately prepared for the examination, both perception of low self-efficacy and incompetence (Pekrun, 2006; Bonaccio and Reeve, 2010; Putwain, Woods, and Symes, 2010), low competence beliefs that predicting failure on academic evaluations and, therefore, linked to the assessment of evaluations as threatening, and also motivations derived from the fear of failure (Pekrun et al., 2007; Zeidner and Mathews, 2005; Elliot, 2005; Putwain and Daniels, 2010). Additionally, the lack of confidence, striving for flawlessness and setting excessively high performance standards or "maladaptive perfectionism" as well as low scores in emotional stability (Bonaccio and Reeve, 2010) are all causes of examination anxiety.

Parents are often angry because of their children's failing grades caused by examination anxiety especially when they place a strong emphasis on obtaining high achievement scores on examinations and assessment instead of on the effort made. Research shows that parental pressure is associated with greater worry, test irrelevant thoughts and stronger bodily symptoms relating to anxiety during an examination.

In the views of Putwain (2010) and Salend (2012), other causes of examination anxiety include fear of failure, procrastination, and previous poor test performance, as well as characteristics of test environment such as, nature of the task, time constraints, examiner characteristics, mode of administration and physical setting can affect the level of anxiety felt by the student. Putwain and Daniels (2011) examine test performance among elementary children when the teacher put pressure on the students in an attempt to create a more high stress environment. Their findings showed that students performed worse in high anxiety situations and experienced worrisome thoughts than when in a low anxiety situations.

After experiencing examination anxiety on one test, the student may become so fearful of it happening again, so becomes more anxious and upset than would normally, or even than experienced on the previous test. If the cycle continues without acknowledgement, the student may begin to feel helpless in the situation (Hembree, 1988).

Undergraduates who experience examination anxiety often have parents or siblings who have examination anxiety or other types of anxiety (Sady, 2010). Other possible causes of examination anxiety are:

- obsessive compulsive disorders;
- perfectionist tendencies and unrealistic expectations;
- negative self-esteem, self-statements and criticism;
- poor motivation or lack of confidence;

- stereotype threat;
- inadequate study and test-taking skills training;
- Poor eating, sleeping and exercising habits (Sady, 2010).

- The association of grades and personal growth causes examination anxiety
- A feeling of lack of control
- A teacher embarrassing a student
- Being placed into a course above one's ability
- Fear of alienation from parents, family and friends due to poor grades
- Timed tests and the fear of not finishing the test, even if all the problems can be done.
- Parents expectations
- Teachers pressure
- Peers' expectations
- Self-expectations
- Stress provoking examination environment
- Home sickness
- Poor study habits and skills
- Poor test-taking skills

2.1.4 Some Myths about Examination Anxiety

These are commonly-held but false beliefs about examination anxiety, common misconceptions about which exaggerate and idealise reality about examination anxiety. The examination anxiety is real but these are myths that surround the concept.

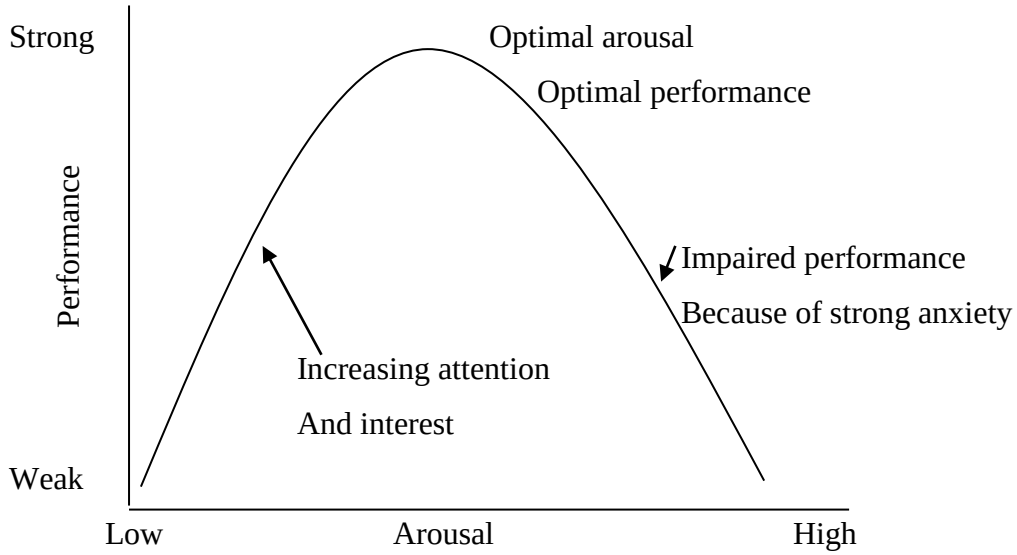
- Examination anxiety is a mental illness
- Students are born with examination anxiety
- Examination anxiety cannot be reduced
- Any level of examination anxiety is bad.
- All students who are not prepared have examination anxiety.
- Students with examination anxiety cannot learn mathematics
- Students who are well prepared will not have examination anxiety.
- Very intelligent students and students taking high-level courses, such as calculus, do not have examination anxiety.
- Attending class and doing homework should reduce all the examination anxiety.

- Being told to relax during an examination will make one relax.
- Doing nothing about the examination anxiety will make it go away.
- Reducing examination anxiety will guarantee better grades (Nolting, 2000).

2.1.5 Examination Anxiety and Level of Arousal

Examination anxiety occurs when the level of arousal rises to the point that impairs performance. Horwitz, Horwitz and Cope (1986) define anxiety as the subjective feeling of tension, apprehension, nervousness and worry associated with an arousal of the autonomic nervous system. This definition shows that some sort of mild arousal is very crucial for better performance in any human activity, but when this arousal becomes so excessive and interferes with performance in examination, it becomes an indisposition that lowers the achievement (Coon and Mittere, 2010). In 1908, the Yerkes-Dodson law claimed that human performance at any task varies with arousal in a predictable parabolic curve. At low arousal individuals are inactive and perform poorly but as the arousal rises, the performance rises as well, however, there is a particular point which the increasing arousal actually decreases performance.

The law states that human beings seek out an optimal level of arousal such that, too low arousal brings boredom while too high arousal leads to stress. The law predicts a u-shaped function between arousal (anxiety) and performance and assumes that both low and high levels of arousal (anxiety) produce minimum performance while a moderate level results in maximum performance. This arousal can be high at times of excitement or panic.



The Hebbian Version of the Yerkes-Dodson Law (Diamond, Campbell, Park, Halonen and Zoladz, 2007)

The explanation is given here about the distinction between natural fear and anxiety which is often ignored or confused in some literature. Some researchers regard fear and anxiety as two similar or related concepts on a continuum in which anxiety represents a stronger form of fear, but the fact is that the two have entirely different origins, causes and consequences although they share some signs or symptoms (Sideeq, 2015). Worry is one of the symptoms that are common to fear and anxiety. Bruhn (1990) affirms that anxiety occurs when worry leads to extended periods of introspection and social withdrawal and hinders rather than stimulates learning and that anxiety occurs when worry becomes so self-satisfying, that it promotes a pattern of helplessness.

Sideeq (2015) states in his study that Goonan (2003) argues that anxiety entails more than normal worry about a test as it is a specific anxiety disorder that involves excessive amounts of concern, worry and fear of negative evaluation during or in anticipation of performance or evaluative situations.

2.1.6 Components of Examination Anxiety

There are two components of examination anxiety, they are worry and emotionality. Worry is a cognitive component which concerns about one's achievement for the consequence of failure. It reflects the debilitating thoughts and concerns the test-taker has before or during the test. As a result, individuals who are test-anxious become more obsessed with the implications and consequences of failure to meet situational challenges rather than

rationally focusing on completing the task in an orderly manner (Zeidner, 1998). Worry contributes more in examination anxiety than emotionality (Zamir and Hina, 2013). Worry causes the individual to focus on negative thoughts that distract from the task at hand.

Emotionality is a self-perceived arousal or the reactions of automatic nervous system. It is also seen as a physiological component of examination anxiety whereby an individual experiences tense muscles, raised heart rate, the feeling of sickness. Emotionality component is sometimes called tension and referred to the heightened physiological symptoms stemming from arousal of the autonomic nervous system and associated affective responses. It means that the individual shows high levels of several different symptoms related to examination anxiety that can be seen through physiological responses experienced during situations where they are being evaluated such as an examination. Emotionality is a distinct part of examination anxiety and when an individual displays high emotionality it means that it is mostly associated with declining performance. However, the two components can be distinguished since worry is more correlated with academic performance than emotionality (Liebert and Morris, 1967). Worry is cognitive distress that has effects on tests while emotionality is the affective distress on physical reactions as fear of tests.

According to Sarason (1984), there are four components of examination anxiety: worry, test-irrelevant thinking, tension and bodily symptoms. Worry, cognitive interference, emotionality and lack of self-confidence are other four components of examination anxiety mentioned by Unrul and Lowe (2010). Putwain, Connors and Symes (2010) also state other facets of examination anxiety, they are cognitive facet which refers to the negative thoughts, the physiological affective facet which manifests by feelings of muscle tension, shaking etc., and the last one, the behavioural components which is expressed by the presence of poor study skills and test-taking behaviours and inattentiveness, or distraction during examinations. Worry and emotionality are the major components of examination anxiety.

2.1.7 Signs and Symptoms of Examination Anxiety

Symptoms of examination anxiety range from moderate to severe. Students who exhibit moderate symptoms are still able to perform relatively well on examinations while students with severe anxiety will often experience panic attacks. Common physical symptoms include: headache, upset stomach, feeling of fear, feelings of dread, and shortness of breath, sweating, pacing or fidgeting, crying, racing thoughts and blanking out.

During states of excitement or stress, the body releases adrenaline. Adrenaline is known to cause physical symptoms that accompany examination anxiety, such as increased

heart rate, sweating and rapid breathing. Having adrenaline is a good thing for it is helpful when dealing with stressful situations, ensuring alertness and preparation (Lyness and Darcy, 2012). While for some people the symptoms are difficult or impossible to handle, making it impossible to focus on examination.

In humans, anxiety symptoms are distributed along a continuum and different symptom levels of anxiety predict outcomes. Again, the degree to which an anxiety response is developed is based on the probability of bad things happening in the environment and the individual's ability to cope with them. In testing situation, it might be failing examination grade that prevents the student from being admitted to a post-secondary institution. A person's beliefs about their own competencies are a form of self-knowledge, which plays an important role in analysing situations that might be threatening. A person having a feeling of low competence about his/her abilities is likely to anticipate negative outcomes such as failure; evaluative situations are perceived by students as more threatening (Putwain, Woods and Symes, 2010).

Examination anxiety has typically the relatively permanent features of anxiety with cognitive, behavioural and physiological signs and symptoms which can be classified as:

(a) Physiological over arousal which is often termed emotionality. Somatic signs include headaches, stomach aches, nausea, diarrhea, excessive sweating, shortness of breath, light-headedness or fainting, rapid heartbeat and dry mouth. Examination anxiety can also lead to panic attacks, in which the student may have a sudden intense fear, difficulty breathing. Tics, recurrent localised pain, flushing of the skin, muscle tension, sleeping problems, vomiting, and enuresis.

(b) Worry and dread: known as maladaptive cognitions. This includes catastrophic expectations of gloom and doom, fear of failure, random thoughts, feeling of inadequacy, self-condemnation, negative self-talk, frustration and comparing oneself unfavourably to others.

(c) Cognitive and behaviourals: This is poor concentration going blank, freezing, confusion and poor organisation. The inability to concentrate leads to impaired performance on examinations. Fidgeting during or outright avoidance of the examination. Students often report blanking out even though they have studied sufficiently for the examination. Motor restlessness, task avoidance, rapid speech erratic behaviour, irritability, withdrawal, perfectionism, lack of participation, failure to complete tasks, seeking easy tasks, attention problems, over-sensitivity, difficulty solving problems, cognitive dysfunctions, distortions, deficiencies.

(d) Emotional: This is low self-esteem, depression, anger and a feeling of hopelessness (Cherry and Kendra, 2012).

1. Before the examination: Block or freeze when studying, irritability, headaches, inability to concentrate, sweating, boredom, sense of hopelessness, changes in sleep and appetite never feel prepared even after studying, working about examination days in advance.
2. During the examination: fainting, sweating, sweating palms, dry mouth, trembling, hand shaking, confusion and panic, feeling thirsty, watching the hall, lecturer or the clock, nausea, going blank or having mental blocks, forgetting what being studied, teeth grinding, frequent crying spells.
3. After examination: depression, blaming oneself, anger, guilt, remembering materials after leaving the examination hall, finds careless mistakes after examination, mock indifference.

The symptoms and signs can lead to interference with the basic thinking processes which can lead to poor performance in tests, short-term or long term learning impairment and low test performance.

What makes examination anxiety provoking is:

- The most anxious people tend to be the one's who are least prepared. But occasionally they are the high achievers for whom only the top grades will do.
- Examinations vary in their intentions, and the fact that they are often only revealed at the time of the examination, makes them unpredictable. Lack of predictability and control are sure to make most people feel anxious and this is a fact of life not simply examinations.
- Preparations for other kinds of assignments often require different skills. An essay, for example, relies more on the ability to locate information and rephrase it in one's words. Examination is more a test of memory and problem solving (Putwain et al, 2010).

2.1.8 Examination Anxiety among Undergraduates

The Undergraduates are subjected to an increasing number of examinations, tests and assessments right from the day they enter University to the day they graduate from the University. The outcomes of the examinations, tests, and assessments are used to measure the students' knowledge and skills in important academic courses. Based on their performance on

the examinations, important decisions are taken regarding educational opportunities scholarships and promotion. The outcomes of some of these examinations may not be a clear picture to the students' knowledge because of examination anxiety and while some students face these examination with average degree of nervousness, some students find it difficult to adjust very well to the examination conditions and as a result experiences moderate to severe uneasiness, apprehension, or nervousness, which could be detrimental to their performance in such examination (Arogundade, 2012).

Erkan (1991) investigates the relationship between examination anxiety scores, student's study habits, achievement motivation and their achievement in the University entrance examination. Results of the study support the previous studies and points at a negative significant relationship between examination anxiety scores and examination performance. Besides, results revealed that high-test anxious students had ineffective study habits. The human success is counted according to few standard sets designed by some other humans and the burden to be succeeded is emphasised upon people from all ages in the educational patterns. Examinations are the pressure nowadays for Undergraduates because of the restlessness and disturbance in their behaviour before attempting the examinations which seems difficult to the students. The problem reaches its hype when the high-anxious students cannot pay attention before attempt and sometimes the preparation went in vain due to lack of confidence, examination fever and poor performance because of the threat. The pressure of anxiety fads out all traits of knowledge in the crucial situation and badly affects the academic performance, self-respect and health too.

Hancock (2001) studies the effects of students' examination anxiety and teacher's evaluation practices on students' achievement and motivation at post secondary level and found that students with high anxiety level performed poorly and were less motivated to learn. The modern education system heavily utilizes examinations as the main means of assessment, evaluation and comparison. This, however, causes some students to be very distressed by the negative experience of examination taking that they are not able to reach their potentialities. The entire examination experience for these students becomes excruciatingly painful, with their self-esteem and motivation put under threat. Students who repeatedly experience examination failures or low-examination performances despite putting in much effort commonly feel shame, stupidity, and incompetence (Sarason, 1980; Rothman, 2004).

The undergraduates suffering from the examination anxiety always make attempt to drop out of the University (Shazia and Quaratul, 2013). According to Cizek and Burg (2006),

the Undergraduates suffering with examination anxiety cannot perform well in the standardised tests and their shattered personality can't help them to come up with good or desired outcome which results in dropping out of school. Potentially, unstable and confused students cannot get good grades and they face a lot of hurdles to get admitted in colleges; in completion of their degree and even their cognitive abilities. According to Yerkes-Dodson law, an optimal level of arousal is necessary for a candidate to best complete a task such as an examination, performance or competitive event. But, when the anxiety or level of arousal exceeds that optimum, the result is a decline in the performance of the students. Thus, the Undergraduates who have consistent examination anxiety may likely perform poorly in their examinations.

Benjamin, McKeachie, Lin and Holinger (1981) design a study to investigate the effects of test anxiety and study skills on academic performance. Results indicated that high test anxious students reported spending more time on studying in all phases of the course. In other words, Benjamin et.al.'s (1981) result replicated the results of Culler and Holahan (1980).

Research investigating test anxiety and study skills was particularly interested in how these variables predicted academic performance. These studies showed that test anxiety and poor academic achievement is also related and thus, it was not the only cognitive interference or worry component of the test anxiety that caused poor performance, but also study skills did play an important role together with test anxiety-(Benjamin et.al, 1981; Culler and Holahan, 1980; Dendato and Diener, 1986).

Birenbaum (2007) proposes two models in explaining the causes of examination anxiety in students. They are: the interference model which states that high test anxious students are plagued with worry and distracting thought that interfere with their ability to retrieve information during a test and skill-deficit model which states that high test anxious students' problems occur before the test, in the form of inadequate learning that results in poor performance. Thus, examination anxiety is simply an emotion that results from an awareness of being unprepared for the test. Sharma (2002) notes that a student with high test anxiety experiences threat loss perception in higher degree, poor study skills, and negative non-productive attitude towards academic work as compared to the low test anxious students and as a result the former student tends to fail more than succeed in examination.

Arogundade (2012) in his study identifies three categories of examination-anxious students, they are those who do not have adequate study and examination preparations strategies, realise that deficiency, know they are not well prepared for testing situation and

are worried; those who have adequate strategies in their repertoire and use them but become distracted during examination and those who mistakenly believe they have adequate strategies, do poorly on tests and anxiously wonder why.

Undergraduates who have examination anxiety also have a higher risk of developing depression, and often experience demoralisation (Cunningham, 2008). All over the world and at all levels of academic pursuit, academic examinations and tests are inevitable and unavoidable for any student who desires to progress in his studies. Recently, the rate of poor academic performance of many University students is alarming, this is not to say that all the students involved are dull or mentally unfit for study, but for examination anxiety which has made many of them to perform below expectation in their various tests and examinations irrespective of their levels and faculties.

Some of the behavioural manifestations of examination anxiety among undergraduates includes but not limited to the feelings of wanting to cry; leaving the test taking room in order not to take the test, feeling of anger or helpless and shaky hands. If this experience persists, it can constitute a serious problem that can affect academic performance of the individuals involved, hence the need to pay attention to it. It is upon this premise that this study is investigating the effect of cognitive restructuring therapy and test-taking skills in the management of examination anxiety among undergraduates in Southwestern Nigeria.

Several studies have identified various factors such as gender (Zaheri, Shahoe and Zaheril, 2012), age (Healy, 2009), study habit (Ergene, 2011) and course load (Sansgury and Kavika Sail, 2006) as major factors influencing examination anxiety among undergraduates.

2.1.9 Test-Taking Skills Training

Test-Taking Skills Training is a different, but related skill based training and several studies have provided evidence for its effectiveness in improving academic performance. A meta-analysis of test-taking skills training for elementary, middle and high school students results in significant improvements on achievement test scores (Samson, 2001). The Test-Taking Skills Training has improved academic performance for college students and disabled students (Harris, 2012). Test-Taking Skills Training, in comparison, to cognitive behavioural cognitive has appeared to be one of the most effective methods of improving academic performance across tiers of education.

Test-Taking Skills Training is the ability to effectively use the specific skills for testing (Turkoglu, Doganay and Yildirim, 2000). The skills are learning and planning study,

library use, note taking, course participation, preparation for examinations, motivation, preparation for courses, effective reading, writing, health and nutrition, and listening skills.

Test-Taking Skills Training intervention is for students on how to control test anxiety and promote their abilities and academic achievement. It assists anxious students to distinguish, recover and increase their test-taking skills. It can improve students' cognitive processes which affect the organisation, processing and retrieval of information. Through the Test-Taking Skills Training, students will be able to learn various tips and strategies across the study habits and test-taking skills activities to improve their study abilities and academic achievement (Dodeen, 2009).

The use of Test-Taking Skills Training is significantly different from other forms of teacher-run learning processes (Gettinger and Selbert, 2002). Effective study requires interest, the decision to learn and using of Test-Taking Skills Training. Students who experience academic problems compared to competent students, do not use any study skills to the reading activities, therefore, they face difficulty in understanding the academic texts (Gettinger and Selbert, 2002).

According to the recent research, students who are experiencing high test-anxiety can largely benefit from Test-Taking Skills Training which is designed for the improvement of testing. Test-Taking Skills Training is a cognitive deficit-based model which is targeted at enhancing various cognitive activities that influence the organisation, processing, and retrieval of information, but training in test-taking skills fail explicitly to deal with a certain cognitive occurrence of examination anxiety (Spielberger and Vagg, 1995). Instead, it is intended to boost other cognitive treatments. It is required that students use some of the test-taking skills in doing their homework or in preparing for examinations, but it seems that the teachers usually give a little time in dealing with such skills and instructions for successful reading (Gettinger and Selbert, 2002). Masterman (2005) believes that, test-taking skills training can help to strengthen active learning, but for students at the secondary school level, learning is a routine job without any key role in making their identities. They have not become active learner since they have everything already available for them. They make no specific efforts to search for new information because they are less motivated to learn.

Only students who use the Test-Taking Skills Training and have learned to become independent are motivated to pursue their studies at higher institutions and consequently become potentially prepared to take up responsibility for learning and its results. In addition, as their positive attitudes are reinforced, their motivation and inspiration to keep on working will increase which will eventually lead to higher self-esteem (Masterman, 2005). Academic

performance is positively affected by test-taking skills (Williford, Chapman and Kahrig, 2001). Thus, it is needed to provide regular test-taking skills interventions to the students in general and in particular to boost their self-regulation in learning.

Test-Taking Skills Training is cognitive skills that enable students to undergo test-taking situation in an appropriate manner, and to know what to do before, during and after the test (Dodeen, 2009). Test-taking skills are part of social skills programme developed by group of researchers as early as 1966 and again in 1974, the Joint Committee of the American Psychological Association, American Educational Research Association and the National Council on Measurement in Education has deemed it essential that examinees be given the strategy to maximize their tests scores, to improve learning in students by making them aware of metacognitive skills, learning strategies and learning styles. These skills help students to translate their knowledge from classroom learning to answering and responding to questions when taking tests. Test-Taking Skills Training positively affect students' test-taking competency and hence impact upon their academic achievement. Test-Taking Skills Training are transferable skills (Sefcik, Bice and Prerost, 2013), where once acquire, students may be enabled to use these skills across a variety of subjects and within different settings and conditions. Moreover, most Test-Taking Skills Training are useful in a students practical life where they may benefit their effective use of time ability to set priorities, ability to work both fast and accurately and to make sure ideas become directly evident. Test-Taking Skills Training is related to the attitudes students may hold with regards to specific subjects (Dodeen, 2009). Test-Taking Skills Training can be effectively used as a means of improving grades.

Currently, examinations are employed as a universal tool for decision making in most societies, and individuals are evaluated according to their achievement on these tests. As a result, a major concern for students and teachers worldwide is the ability to perform better on tests (Alfraidan and Alkhalaf, 2012). Apart from ability to perform, students' performance on tests is also affected by psychological, cognitive and personal factors which may include: level of related anxiety, attitudes towards a specific subject, attitude towards tests; and test-taking skills. Test-taking skills can be developed and achieved by teaching students in a systematic manner similar to that applied in the acquisition of any other set of skills.

Every student needs to know much about test-taking because students are required to take more tests throughout their school and career lives than ever before and so it is very important to learn the skills, tips and strategies that will enable them to handle all types of tests. As much as most students dislike it, they will take many, many tests while in school.

Tests may consist of true or false questions, multiple choice questions, essays or it could be an examination using combination of different questions. It is imperative for a person to have great skills for test-taking. There are several techniques that could be used before; during or after a test to make sure the tests score reflects one true knowledge of the subjects. Being good at taking tests is not something that comes naturally; there are several different learning styles categories in which people fall into visual, aural, verbal, physical, logical, social and solitary.

The first step in developing better Test-Taking Skills Training is to analyse one's individual situation to decide exactly which areas need to be improved upon. In general, one should work to improve the strategies and skills, learn to manage the time and organise the notes better and look over the past tests and use them to learn where improvements may be needed.

Test-Taking Strategies

The university examinations are a fact of life and the only time an examination should be a trial is when there is no preparation for it (Trener, 2011).

Before the Test: Start preparing for the examinations the first day of class by reading the syllabus carefully to find out when the examinations will be, how many there will be and how much they are weighed in grade. Plan reviews as parts of regular weekly study schedule and review quarterly rather than just at examination time; read to cover the lecture notes and ask this will retain information better and get less fatigued; turn the main points into questions and check to see if the answers come quickly and correctly; try to predict examination questions and outline the answers; flashcards may be helpful way to review in courses that have many unfamiliar terms and review the card in random order using only those terms that are difficult to remember. Be confident and prepared to take the test and exercise to keep the body healthy and mind as well. The night before the test, go to bed earlier so that one is well rested and upon waking in the morning, be sure to eat a healthy breakfast. Never go in for a test on an empty stomach as a growling tummy will cause one to lose train of thoughts.

During the test: There are some things to keep in mind when taking a test.

Always arrive early and take a moment to relax and reduce the anxiety; the brief time period will boost confidence and will help to focus the mind to think positively; listen attentively to last minute instructions given by the instructor; read the test directions very carefully and watch for details; plan how to use the allotted time, maintain a positive attitude and work on the "easiest" parts firsts, answer essay questions first if known and possible to

get maximum points and allow time for the more difficult parts; find out if there is penalty for incorrect responses, if not, make educated guesses but avoid guessing; when answering essay questions, try to make an outline in the merging before writing, organisational, clear thinking, and good writing is important and so is neatness, make your writing legible (Treuer, 2011). Plan to finish early and have time to review to make sure that no answer is left out, proofread essays and pay attention to grammar and spelling, make sure all questions are answered; consider every test a practice session and analyse the performance because test taking is an art which needs refinement and one cannot refine the art without practice and serious evaluation (Career and Academic Success Centre, 2009).

After the Test: Attend the class if the instructor is reviewing the examination in class and look at the test to make sure that there are no grading mistakes and to understand the mistakes. Ask a classmate or teacher about it, go to the instructor if the grade is not satisfying to see if there can be make up examination or any extra credit then save the test as study material for future cumulative tests (Treuer, 2011).

Test-Taking Skills Training aims to provide techniques to assist students in comprehending examination questions and instructions so that students can easily organise and retrieve information and communicate clearly (Spielberger et al, 1978). There are some techniques which can enhance test-wiseness, they are: see the length of the test, see if some parts need more time than others, answer one item at a time, return to harder items later, Kirkland and Hollandsworth (1980) and deal with essay questions and objectives items separately. According to Naveh-Benjamin's research, rote memorisation is far less effective than a deep comprehension of processing of the materials. High-test anxious students can benefit more if their approach is more meaningful since sufficient learning and processing of the information can have a direct impact on increasing the student's knowledge achievement (Benjamin et al, 1981). In this regard, the impertinent worry, which is rooted from their anxiety and lack of competence, will be eradicated. If the student's motivations and attitudes positively changed, they can be capable of developing effective strategies for proper study (Cavington, 2000).

Furthermore, the students learn how to manage their time appropriately which includes paying attention to the suggested time schedule and properly dealing with the different items in their study in order to cope with the interfering problems and course requirements. Students, too, practised predicting what questions might be raised for text comprehension. Test-Taking Skills Training instruction is a different, but related, skill-based intervention. Multiple studies have provided evidence for its effectiveness in improving

academic performance. A meta-analysis of Test-Taking Skills Training interventions for elementary, middle and high school students resulted in significant improvements on achievement test scores, these interventions have improved academic performance for college students and disabled students (Carter et al, 2005).

Comparison to behavioural, cognitive and CBT approaches, Test-Taking Skills Training appear to be one of the most effective methods of improving academic performance across age groups. These interventions have also successfully reduced test anxiety for a variety of students. In a study of two groups of adolescents with high incidence disabilities, significant decreases in test anxiety were found for one group following a test-taking skills intervention (Carter et al, 2005).

Test busters were designed to teach study habits, study skills and test-taking skills in a group or individual format. Results showed that students reported significant decreases as well as overall significant improvements in GPA. The Test-Taking Skills Training are pay attention to directions; read the question and all answers completely; answer the question or mark it for later; match the number that is, match the question number in the test booklet to the number on the answer sheet; when you get to the end start again, return and answer previously unanswered questions; and check that every question has an answer.

In Test-Taking Skills Training, two types of skills need to perform well on a standardised test: the cognitive ability or basic skill that the test is designed to measure and the ability to demonstrate that cognitive ability or basic skill within the test situation (Harris, 2012). Test-Taking Skills Training is the skill needed by a student to demonstrate the cognitive ability that the examination is constructed to measure. This is the ability to demonstrate the knowledge already possessed (Darell, 1975).

There are two philosophies regarding the fundamental nature of knowledge. One approach is that knowledge is of an absolute nature and the student either knows or does not know an answer. The other approach contends that knowledge is of a relative nature and that the student should be expected to make relative judgements about the probabilities of correctness. The first approach contends that if the student is not certain he/she should not guess whereas the second contends that all the student can do is choose the most probable keyed answer.

The basic recommendation for improving test performance is to make the students more comfortable by eliminating the unknown aspects of the testing situation and to see the test situation as a game that must be played or a contest that should be tried. Attempt to do your best but don’t worry about mistakes, because worrying about mistakes causes lower

scores. A test should be no less fun than a game of checkers or monopoly when one knows how to play it (Harris, 2012).

Another importance of test-taking skill is the ability to differentiate between lateral (factual recall) and inferential questions. Lateral type is the look back for the answer kind because the answer can usually be found by rereading the passage. Inferential types are different and one reading usually gives as much information as needed to answer the item (Darell, 1975). Some tips on test wiseness are:

- The learning environment is an essential aspect of students' instructional programme and must not be sacrificed to introduce Test-Taking Skills Training.
- Discuss with students how to attack a problem. Some testwise people read many questions before reading the passage. Others read only one question before reading the passage. Use the learning materials already found in the classroom and test wiseness can be introduced as an intellectual skill in a test centre.
- Discuss why each wrong answer is wrong and discuss why students perform poorly on tests. The students should know what the task requires and what traps are set for the unsuspecting student.
- Provide practice items that have one ridiculous answer, one possible but not related and two possible answers but only one keyed correct in case of the objectives items. This should show students how easy it is to use partial knowledge to eliminate one option, then another, and improve one's chance at a good choice. When students cannot determine the best answer, they should employ a strategy of eliminating the unlikely responses and choosing from the remaining options. This strategy doubles the probability of a correct guess.
- Have students make tests when they write reports and help them to see testing as a logical extension of the learning environment.
- During test time, students must be taught to wait quietly when they finish a test before time is called.
- Read the instructions on a test, the directions for administration and study old tests to see what is being required of the students. Examine completed tests to see what mistakes the students make.
- Avoid creating a response bias which may lower student's scores. Do not use the same option as the right answer consistently (Darell, 1975).

Completion of the test-taking skills will help anxious students to understand what test-

taking skills are and how it could help them to cope with examination anxiety and improve their academic achievement (Motevalli, Roslan, Sulaiman, Hamzah, Hassan, and Garmjani, 2013).

2.1.10 Cognitive Restructuring Therapy

Cognitive restructuring therapy is a psychotherapeutic process of learning to identify and dispute irrational or maladaptive thoughts known as cognitive distortions, such as all or nothing thinking, imagical thinking, filtering, over-generalisation, magnification and emotional reasoning which are commonly associated with many mental health disorders.

Cognitive restructuring therapy is also a useful technique for understanding unhappy feelings and moods and for challenging the sometimes wrong "automatic beliefs" that can live behind them. It can be used to reframe the unnecessary negative thinking that we all experience from time to time. In other words, it is a cognitive behavioural therapy techniques used to identify and correct negative thinking patterns. It involves altering negative thoughts that occur in anxiety-provoking situations by replacing them with more rational beliefs. As thoughts are challenged and disputed, their ability to elicit anxiety is weakened.

The end goal of cognitive restructuring therapy is to enable people to replace stress-inducing thought habits with more accurate and less rigid thinking habits. Cognitive restructuring therapy programmes for examination anxiety typically include relaxation techniques such as deep breathing and guided imagery. Several studies have indicated that interventions based on cognitive restructuring therapy principles produce a management in examination anxiety (Dendato and Dienner, 1986; Goldfried, Linehan and Smith, 1978).

Cognitive restructuring therapy was first developed as a part of cognitive Behavioural Therapy for depression by Beck and as a part of Rational Emotive behavioural Therapy in Ellis version. It is a very powerful therapy technique which has been adapted to help people cope with all manner of stressful events and conditions. One draw back of this technique is that it is somewhat difficult for people to learn it in a self-help mode that is without the assistance of a therapist. It is easy for people to think they are doing it right when they are not and falsely conclude that the technique is of little use. It teaches us to stop trusting in our automatic tendency to accept the contents of our thoughts as being an accurate assessment of reality. The goal is to start testing each thought we have for accuracy by using A + B = C equation where A stands for an activating event, B for belief and C for consequences of the appraisal for our mood. To this equation, there are fourth and fifth letters known as D for disputing or debating thoughts while E stands for effect of replacement thoughts.

In cognitive restructuring therapy, the thoughts are written down (B), the context of the thoughts (A) and the emotional consequence of that chain of events (C). Then, think carefully to know if the thoughts may have been wrong or whether one may have unconsciously experienced a cognitive distortion and write down the findings of this analysis (D). When we are clear on what we got wrong, we rephrase or retrace the thought in a more accurate, less distorted format (E) (Gladding and Samuel, 2009).

Cognitive restructuring therapy is one of the Cognitive behavioural therapies. CBT is based on the so-called cognitive model, which links cognitions, emotions, and behaviors such that cognitions shape behaviors and emotions, and unrealistic cognitions can lead to inappropriate emotions and behaviors (Beck, 1987). CBT aims to reduce test anxiety by identifying and restructuring biased or maladaptive cognitions such as those about the inevitability and exaggerated consequences of failure (Beck, Emery, and Greenberg, 1985; Beck, 1991; Huberty and Dick, 2006). In addition, CBT programs for test anxiety typically include relaxation techniques such as deep breathing and guided imagery.

Basic research from the field of emotion studies has demonstrated that the emotional reactions of humans to a considerable extent depend upon the way we cognitively construct or interpret the situations or experiences we encounter (Murphy and Zajonc, 1993; Russel, 2003). Furthermore, the assumptions that our appraisals of a situation or stimuli are relevant to our emotional reactions, and that cognitive reappraisal (i.e. constructing a potentially emotion-eliciting situation in a way that changes its emotional impact) is a potent strategy for dealing with challenges and aversive emotions that are central in the scientific literature on coping and emotion regulation (Lazarus, 1999). When defined within the context of emotion regulation, cognitive change strategies are strategies that affect “how we appraise the situation we are in order to alter its emotional significance, either by changing how we think about the situation or about our capacity to manage the demands the situation poses”.

2.1.11 Common Types of Thought and Belief Mistakes

People attempting cognitive restructuring therapy for the first time typically are at a loss for how to correct their automatic thoughts and core beliefs. They have taken these thoughts and beliefs at face value for a long time it feels strange to take them apart. Also, people aren’t sure what sorts of mistakes they may be making with their thoughts and beliefs (Burns, 2012).

Overgeneralization is a common cognitive bias that causes people to mistakenly conclude that things are worse than they really are. Overgeneralization occurs when a person develops an exaggerated or distorted appraisal about an event or situation. “I failed to get a second interview”, says the overgeneralising depressed person, “so that must mean that I am a failure as a person”. It does not follow that failure at one event means that a person is therefore a failure at all events, but this is exactly the sort of trap into which many depressed people fall. There are a few different ways of overgeneralising:

1 The Mental Filter bias (also known as Selective Attention) occurs when someone systematically attends only to a portion of the information present in an event while forming their appraisal of that event, generally, this occurs when people learn to only take the negative information about an event seriously, and discard any positive information as irrelevant “Our vacation is ruined because of this rain!” says the depressed person, failing to pay attention to the fact that he is on vacation in the first place. “I got a C in that subject on the report card and that is terrible” says the depressed person, failing to give proper credence to the fact that she earned As and Bs in other subjects.

2 Magnification (otherwise known as Catastrophisation) bias occurs when a negative event is blown out of proportion and takes on layers of meaning it does not actually contain. “That woman looked at me funny” says the depressed person, “and that must mean that she hates me because I am ugly”. The original event is perhaps uncomfortable, but the finished catastrophised event is “terrible, awful, and unbearable”.

3 A related bias, **Minimisation,** occurs when people deflate the actual meaning of a very positive event. “It’s great that I just graduated from medical school”, says the depressed person, “but all I can think about now is those enormous loans I have to pay back”. “Besides, continues the new doctor, “I’m not really much of a doctor after all - I only passed my tests because they were being kind to me”.

4 Related to Minimisation is the Disqualifying the Positive bias, which occurs when people pay attention to positive information but then find a reason to not count it as they form their appraisals. “It is true that Johny calls me all the time and asked me out on date last week”, says the depressed person, “but he’s only doing that because someone put him up to it. Really, he doesn't like me and I'm a loser.”

5 All-or-Nothing Thinking occurs when appraisals become highly polarized. Where there were originally shades of meaning in a variety of whites, grays and blacks,

there is now only black or white, but nothing in between. “I did not get that A on the test, says the depressed person, “so that means I am a total failure” (Burns, 2012).

Another family of cognitive biases (the **Jumping to Conclusions** family) occurs when people falsely jump to conclusions (usually negative conclusions) that aren't warranted from the facts at their disposal. “It looks like a nice day outside”, says the depressed person, “but I'm sure it will start raining as soon as we decide to go for a walk.” There are a few different kinds of jumping to Conclusions biases:

1 **Labeling** occurs when you make a blanket statement that casts a negative light on someone or something, for now and all time, in the absence of evidence to make such an all-consuming statement valid. “I’m a loser”, says the depressed person, “I’ve always been a loser and I’ll always be a loser. Why do I bother at all?” The angry person has a slightly different take: “That wife of mine is a money-sucking leach! She’ll bleed me dry!”

2 **Mind Reading** occurs when you decide that you know what someone else is thinking (usually negative thoughts are attributed), and base how you react on that (often mistaken) conclusion. There is no attempt to look for evidence to support your conclusion; instead, you accept it as unquestioned truth. “Why should I bother trying to dance with one of those girls? They all hate me anyway”. By reacting as though you already know what someone thinks, you risk creating a self-fulfilling prophesy, wherein your negative response to someone else causes them to react negatively to you. If you had not reacted negatively in the first place, they would not have reacted negatively to you.

The final family of cognitive biases can be called **Emotional Reasoning** biases. When you reason emotionally, you decide that if you feel something is true, that it must be, in fact, true. Of course, this is frequently not the case. “I feel like a loser, so therefore I must be one”.

1 A variety of **Should**, **Must and Ought** biases belong in this category, which is sometimes described as “Musterbation”. When you make this variety of mistake, you create artificial and perfectionist deadlines and demands on yourself that are all but impossible (or often actually impossible) to meet. Then you punish yourself for not meeting them. “I should be more beautiful!” “I must lose weight, or no one will ever want to be with me” “I ought to be a better student”. As a consequence of failing to meet your impossible goals, you judge yourself a failure and feel shame or guilt. An alternative version of this mistake set has you holding other people to an overly high standard, “My mother should let me do whatever I want to do. It isn't right that I'm

grounded." There is no effort to justify to yourself why you or someone else needs to meet these high standards; they are simply taken for granted as a fact of life (Burns, 2012).

2 **Personalisation and Blame** is a form of emotional reasoning that occurs when you assign responsibility to yourself or to someone else that is above and beyond the actual responsibility you or they have. "My mother's new husband is the source of all evil. He tore my mother away from my father. It's his entire fault they divorced" (while failing to realize that the mother left the marriage of her own free will), or, "it's my entire fault that my father died. I should have been there for him more often", in case where the reason the father died has nothing to do with whether he was alone or not (Burns, 2012).

In cognitive restructuring, Errors of perspective can also create unnecessary pain just like errors of thinking. The standards that people hold themselves to meeting also help determine how they will experience events. People who are perfectionists hold themselves to very high, even unrealistic, standards. They are vulnerable to making the selective attention error and focusing on what is negative while ignoring or devaluing what is positive. Because their standards are higher than reasonable, and because they manage to ignore what is positive, instead focusing on what is negative, they will end up failing to meet them a fair portion of the time, and will feel bad about that failure. People whose expectations are more reasonable are likely to meet their expectations more often and to feel comparatively better. When you feel that getting a 'B' on the test is a terrible thing and means you are an inadequate human being, then you will feel depressed about getting that B. if you can instead, teach yourself to be less judgmental regarding what you do in life, you will feel less depressed when results are not perfect.

Once you understand that your fear means you are "stupid" is truly unwarranted, you can tell yourself so by writing it out on your thought records Doing so will likely help change your mood for the better. Note, however, that you have to believe the corrected responses you make; you have to know that they are true, before the exercise will help change your mood. If you write down a corrected response that you don't really believe is true, you haven't corrected anything (you're only trying to lie to yourself), and the exercise will fail. The cognitive restructuring technique is not terribly complicated in of itself. However, many people do find it difficult to identify their automatic thoughts and core beliefs properly, and also to generate good quality corrected responses to those thoughts and beliefs (Burns, 2012).

Cognitive restructuring therapy assumptions also have scientific and clinical connections to traditional cognitive therapy as originally developed by Beck, where pathological conditions to a significant extent are conceptualized as the results of persistent patterns of maladaptive or dysfunctional appraisals or other thought processes in relation to emotionally relevant stimuli or situations (Bladeburn et al, 1981) and where cognitive restructuring therapy (i.e. the modification of cognition) is seen as a central and necessary part of a therapeutic change process . In this context the general purpose of processes related to cognitive restructuring is to reconceptualize the situation in a way that facilitates mastery or coping. It should be emphasized that the focus or purpose of cognitive interventions as traditionally understood in cognitive behavioral therapies is not to teach "positive thinking" or prove to the client that their thoughts are faulty or erroneous. Instead, the focus is on helping the client to get a more realistic perspective about him- or herself and the "real" world by means of testing the client's hypotheses against logic and experiential evidence.

When discussing the cognitive change component of the Unified Treatment Protocol, stress that the kind of cognitive changes being made is likely to affect the emotional outcome. The authors identify two dimensions along which cognitive change can occur: temporal and veracity. The temporal dimension refers to whether the cognitive change process occurs before, during or after the emotion-eliciting event, and the veracity dimension refers to the degree that the reappraisal is realistic and evidence based. According to Adebule (2004), cognitive change strategies are more likely to be beneficial when they occur early in the emotion generating process, and when there are real evidence based and accurately represent the person's actual value system. The processes and concepts related to cognitive restructuring or cognitive change strategies have received a wide spread in the clinical literature during the last decades. As is often the case, this has created a significant measure of ambiguity as to what the concept really refers to. Indeed, the interventions seen in the clinical literature, but also in concepts related to more basic research (Barker, 2009), clearly entail aspects that seem to relate to somewhat different psychological processes: (a) cognitive reappraisal of emotional stimuli in unemotional or more functional terms (Barlow et al., 2011), (b) altering the focus of the cognitive processing away from self-defeating or distress-generating aspects to neutral or positive aspects, (c) replacing erroneous interpretations and cognitions with more rational ones, (d) distraction, (e) distancing etc. Furthermore, in more popularized form, positive thinking as a means to improving psychological health has seen a steady flow of published books during the last decades (Peale, 2003; Amos, 2008; Hill and Stone, 2007).

Given the theoretical link posited by cognitive theory between erroneous or maladaptive cognitions, the subjective experience of anxiety, and anxious behavior, one of the core components of cognitive behaviour therapy (CBT) for students anxiety is cognitive restructuring of anxious cognitions. This requires the students to first explicitly recognize their "self-talk" and then to understand the links between self-talk and their symptoms. Monitoring in anxiety provoking situations is often used to help a students identify specific maladaptive cognitions. Restructuring may take the form of direct discussion or guided discovery to question the validity of a thought or belief. This discussion can take several forms but a basic approach is summarized in four steps recommended by Padesky (Center for Cognitive Therapy, 1996), these include (1) asking informational questions to identify the thought and find data to test the veracity of the thought, (2) empathic listening, (3) summarizing, and (4) using synthesizing or analytical questions to help the students come to a new understanding. Of course, a purely cognitive exercise may be difficult to accomplish depending on the age and cognitive development of the students. Behavioral experiments may be particularly effective methods of cognitive restructuring in such cases.

Exposure to feared stimuli is arguably the central component in most CBTs for students' anxiety. In fact, Love,(2013) finds exposure based treatments for anxiety disorders in youth to be associated with the largest effect sizes and early exposure therapies guided by a reciprocal inhibition hypothesis paired feared stimuli (e.g., dogs, social situations, germs) with a response incompatible with anxiety - often muscle relaxation. In such an approach the students would be trained in relaxation techniques and a hierarchy of feared stimuli would be developed.

2.1.12 Theories of Examination Anxiety

Examination anxiety is one particular form of anxiety that occurs during situations which an individual's performance is being evaluated in social, academic or work settings. It is otherwise known as evaluation anxiety which is comprised of affective and cognitive components. The cognitive aspect of it is referred to by researchers as worry and considers it aversive (Borkovec, 1994). Worry occurs in reaction to either evaluation or failure-related concerns. A reliable association has been found between evaluation anxiety and performance on cognitive tasks (Matthews and Mackintosh, 2005) and several explanations have been generated to understand the interaction of evaluation anxiety and cognitive processes. Four of such theories are:

2.1.13 Cognitive Interference Theory

Proponent of cognitive interference theory, Sarason (1988) postulates that negative self-statements frequently accompany examination anxiety and may interfere with working memory processes. Especially, processing negative self-statements diverts attentional resources from on- task processing resulting in decrements in task performance. Cognitive interference theory predicts that components of the working memory subsystems are differentially affected by negative self-statements. The cognitive interference theorist says that the negative self-statements are automatically processed by the central executives meaning the central executive has fewer resources to devote to task demands phonological loan functioning is likely to be impaired by the verbal nature of self-statements. There is relationship between examination anxiety and increases in cognitive distortions. Increase in negative self-statements is associated with poorer cognitive functioning (Coy, O'Brien, Tabaczynki, Northern and Carels, 2010). Anxiety provoking instructions are found to be associated with an increase in negative self-statements. Higher levels of examination anxiety were found to predict poorer performance on phonological loop and central executive tasks, but not visuospatial sketchpad tasks. In cognitive interference theory, negative self-statements are found to almost completely mediate the relationship between examination anxiety and phonological loop performance. Weak partial mediation effects are found for cognitive interference in the examination anxiety and central executive functioning relationship, because the researchers used only a stroop task to evaluate central executive functioning. Such a limited assessment of executive functioning may contribute to an evaluation of cognitive interference theory that is limited in scope.

This theory was developed in an effort to understand how anxiety influences cognitive functioning. The proponents of CIT postulate that performance tasks can lead to an increase in examination anxiety which in turn may lead to increase in negative self-statements. The attentional resources are diverted from the task demands to process these negative self-statement which act as a form of cognitive interference and result to impaired performance on cognitive tasks. The cognitive aspect of examination anxiety is linked to an increase in apprehensive thoughts regarding how the person will be evaluated or examined by themselves or others.

Negative self-statements mediate the relationship between examination anxiety and impaired cognitive performance. Ganzer (1968) in a study discovers that those high in

examination anxiety emitted more negative self-statement than those low in examination anxiety. This line of research was expanded by Sarason and Stroops (1978) by creating the Cognitive Interference Questionnaire (CIQ), which when used showed the significant positive correlations between examination anxiety and task-relevant thoughts and task-irrelevant thoughts were found. A number of research findings support the notion that examination anxiety is a particular form of anxiety that is linked to decrements in cognitive functioning (Hunsley, 1987).

Cognitive interference theorists argue that higher levels of anxiety leads to higher levels of task-relevant and irrelevant negative self-statements which has received a high degree of empirical support. Also, it is argued that processing these thoughts diverts working memory resources from on-tasks performance, especially the verbal nature of these thoughts is thought to interference with processing other auditory information and should impair performance on measures of phonological loop functioning. However, the automatic nature of the thoughts is also associated with a decrease of central executive resources that are available for on-task processing.

Tryon (1980) proposes that examination anxiety studies have first started with Sarason and Mandler (1952) as cited in Tryon, 1980) classical study. According to CIT, anxiety provoking evaluative situations leads high-test-anxious individuals to task-irrelevant thoughts whereas these types of situations lead low-test-anxious individuals toward task relevant thoughts (Sarason, 1980). Examination anxiety literature also pointed out that emotionality dimension of the examination anxiety was less important than worry, regarding its effect on academic and examination performance (e.g. Schwarzer and Kim, 1987; Hagtvet, 1978). This study was one of the milestones for the development of cognitive interference theory.

Later, Sarason (1980, 1984) conceptualizes the examination anxiety situation as a cognitive interference situation. Sarason (1980) defines worry as "the cognitive side of the anxiety" while emotionality as "awareness of bodily arousal and tension". The CIT assumes that anxiety during examinations interferes with the student's ability to retrieve and use the knowledge one has, thus the theory emphasizes the worry component of examination anxiety.

According to the cognitive interference theory, examination anxiety parallels with a stress situation. Sarason (1984) proposes that a stress situation could be understood in terms of a call for action. He defines the term "call for action" as "a person's awareness of the need to do something about a given state of affairs". Sarason says that a call for action occurs as a

response to the challenging or threatening situations and leads a person to task-relevant or task irrelevant cognitions. Task-relevant cognitions are likely to occur when a situation or task has been self-selected and desired whereas task-irrelevant cognition occurs when the call for action is imposed on the individual (Sarason, 1984). From this point of view, tests can be seen as imposed challenges for students in educational settings. Taking an examination is not a self-selected challenge, rather, an imposed threat evaluating the students' performance. More so, task-irrelevant cognitions are more likely to occur when test taking was perceived as an imposed and uncontrollable event, this may lead students to perform poorly on a test even though they know the subject well.

Lee (1999) again examines the relationship between working memory and test anxiety and proposes that performance deficits caused by examination anxiety could be explained to the extent that students use their working memory. He said the working memory system has a finite capacity, and in an examination situation high examination anxious people have less available working memory needed for task solution. Since some portion of the high test anxious student's working memory is taken up by the worrisome thoughts they perform poorly on examinations. Results of the Lee's study also indicates that because the students had a high load on their working memory with worrisome thoughts about examination situations, they performed poorly on both time-limited visual and verbal tasks.

Cognitive interference theory was based on the bidimensional explanation of test anxiety which includes emotionality and worry dimensions. Cognitive interference theory primarily emphasized the worry component since it had more deleterious effects on test performance and academic achievement (Deffenbacher, 1978). Additionally, many cognitive and behavioral treatment methods were developed to reduce the negative effects of worrisome thoughts on test performance (Meichenbaum, 1972; Denizli, 2004). In summary, the CIT theory refers to the set of test-anxious students who knows the course material but freezes up during examinations and therefore fails to recall learned material (Hembree, 1990). Wine (1980) explaines it as students with high levels of examination anxiety tend to divide their attention between task (test-taking demands) and negative self-pre-occupation, known as worry and emotions under examination conditions and so the performance is interfered with. The poor academic performance of highly test-anxious students is seen as the consequence of the interference of negative thoughts and self-statements and emotions during the period of examination.

2.1.14 Attentional Control Theory

Attentional control theory is an alternative theoretical framework that is helpful in understanding how anxiety affects cognitive performance (Eysenck, Darakshan, Santos and Calvo, 2007). Several attempts have been made to provide a theoretical explanation for the adverse effects of anxiety on performance. The ACT has evolved over time; it was brought forth in 1979 by Eysenck, later in 1992 by Eysenck and Calvo as processing efficiency theory and recently as attentional control theory by Eysenck et al (2007) as a major development over processing efficiency theory.

Individuals in an anxious state frequently worry about the threat to a current goal and try to develop effective strategies to reduce anxiety to achieve the goal. Within the field of cognition and performance, anxiety is very important because it is often associated with adverse effects on the performance of cognitive tasks.

The processing efficiency theory (PET) was developed by Eysenk and Calvo in 1992 to explain the frequent adverse effects of anxiety on the performance of complex cognitive tasks. Here, high level of anxiety reduces the efficiency of cognitive processing and often lead to impaired performance. The most important distinction in PET is between effectiveness of PET is between effectiveness and efficiency where effectiveness refers to the quality of task performance arranged by standard behavioural measure, and efficiency refers to the relationship between effectiveness of performance and the effort of resources spent in task performance, with efficiency decreasing as more resources are invested to attain a given performance level. Negative effects of anxiety are predicted to be significantly greater on processing efficiency than on performance effectiveness. The PET has two main assumptions. The first one says anxiety according to Baddley (1986) affects the functioning of the working memory system which consist of the central executive known as an attention like limited capacity unit of the working memory system, the phonological loop which is used for verbal rehearsal material and storing it briefly and the third unit known as the visuospatial sketch pad that is used for the processing and storing of visual and spatial information.

The most affected component of working memory by anxiety is the central executive according to processing efficiency theory. The adverse effects of anxiety on performance and efficiency should be greater on tasks imposing substantial demands on the processing storage capacity of working memory especially the central executive component. Worrisome thoughts interfere with this processing and storage function and an additional load on the self-regulatory mechanism inhibiting the worrisome thoughts and producing auxiliary processing

activities. On the phonological loop the detrimental effects of anxiety are expected rather than on the visuospatial sketch pad because anxiety involves inner verbal activity rather than imagery representations (Rapee, 1993).

The PET assumption lack either precision or explanation power or both and its scope is insufficient to account for several findings.

(1) The notion that anxiety impairs the processing efficiency of the central executive contains some error because it fails to be specific on which central executive functions are most adversely affected by anxiety. Smith and Jonides (1999) argues that the central executive fulfills five functions which are: switching attention between tasks; planning subtasks to achieve a goal; selective attention and inhibition (which means focusing attention on relevant information and processes and inhibiting irrelevant ones); updating and checking the contents of working memory for time and place of appearance and it is not clear from PET if anxiety affects some or all of these functions.

(2) The effects of distracting stimuli an anxious individual is not given, and it is important since there are accumulating empirical evidence that the performance of anxious individuals is more impaired by distracting stimuli than is that of non-anxious individuals (Eysenck and Calvo, 1996).

(3) The theory focuses mainly on cognitive tasks involving neutral or non-emotional stimuli whereas the performance of anxious individuals is more affected by threat-related stimuli than that of non-anxious ones. For instance, the adverse effects of distracting stimuli are often greater when the distracting stimuli are threat-related on the performance of anxious individuals compared with non-anxious ones.

(4) The circumstances in which anxious individuals might outperform non-anxious ones not considered directly in PET and there are instances in which the high-anxious group outperformed the low-anxious group (Byrne and Eysenck, 1995).

Attentional control theory has two attentional systems and together they form the basis of central executive functioning. One system is goal-directed and is associated with deliberate, intentional control of attention while the other is stimulus-driven and is controlled primarily by automatic processes, both systems function in a state of balance, using about equal cognitive resources. Threatening conditions lead to an imbalance such that cognitive resources are diverted from the goal-directed system to the stimulus-driven system making fewer resources available for the system associated with voluntary control of attentional processes. Given that anxiety, detracts from the resources available to control attention the

ACT theorists propose that executive functions that rely on attentional control like inhibition and shifting are more likely to be adversely affected by anxiety (Eysenck et. al., 2007).

In ACT, a differentiation between processing effectiveness and processing efficiency is an important part of the theory. Effectiveness is an individual's performance on a task in terms of correct answers while efficacy refers to the degree of cognitive resources that are devoted to achieving a given level of effectiveness. ACT predicts that efficiency will always be impaired by anxiety before effectiveness. According to ACT mild anxiety may have no impact on effectiveness. ACT retains the efficiency and effectiveness distinction but it builds on PET by positing that the two interactive attentional systems share a finite level of processing resources and they both are responsible for central executive tasks. The first attentional system is thought to be top-down system that is located in the frontal regions of the brain and has been termed the anterior attentional system which functions as a goal directed system and contributes to central executive functioning by controlling voluntary attentional processes.

The second attentional system is the bottom-up subsystem and has been termed the posterior attentional system. It is thought to be driven by stimulus properties and acts to scan the environment for threatening stimuli and is responsible again for the processing and memory aspects of central executive functioning (Derryberry and Reed, 2002).

The two systems are in a balanced state of interaction under non-threat conditions but when a goal becomes threatened, the stimulus-driven system predominates over the goal-directed system. The system contributes to central executive functioning to facilitate assessment of the threat so that actions mitigate the threat can be planned and executed. The attentional resources are directed towards processing of threat-related stimuli and the shift of resources to the stimulus-driven attentional system results in a decrease of available resources that can be used by the goal-directed system for voluntary control of attention. Subsequently, the central executive functions that require voluntary control of attention operate with fewer resources and performance becomes impaired (Northern, 2010). A resemblance of a spotlight can be used to describe the attentional systems as the goal-directed system acts as an operator of the spotlight and directs the focus of attention to meaningful contextual stimuli. The system works under non-threatening situations and under threat conditions three changes occur, which are: (a) to increase the chances of detecting other threatening stimuli, the narrow focus of the spotlight becomes broader. (b) These changes comes at the cost of the luminosity of the spotlight and (c) The volitional focusing efforts of the spotlight operator is overridden by automatic attentional processes and the stimulus-driven system acts as though

automatically programmed to broadly scan the environment for threat-related stimuli.

Anxiety is considered an internally-generated threat in which worrisome thoughts act as the anxiety-inducing stimuli and that anxiety aids in threat detection. For example, anxious individuals preferentially attend to threatening stimuli and experience difficulty disengaging from threat-related stimuli (Wilson and Maclead, 2003). This indicates that individuals high in trait anxiety are more likely to have fewer resources available for control processes than persons low in trait anxiety and manipulations that increase anxiety in individuals regardless of having trait anxiety will detract from the available central resources (Northern, 2010).

ACT theory represents a significant step forward from PET in that it predicts which central executive functions should be more impaired and the researchers have identified the specific central executive functions of inhibition and shifting as more prone to the effects of anxiety because they require more voluntary attentional resources. That is, deliberate control is required during inhibition tasks to suppress semi-automatic responses. To disengage from a cognitive set, the shifting function requires deliberate control and generates a plant to engage in a new cognitive set, and engage in the new cognitive set. In a reversed relationship, the cognitive set requires primarily the information processing and memory functions of the central executive. Voluntary control is thought to be necessary with updating tasks in that it is needed to consciously change between the demands of the mental task and remembering a piece of information that is presented at the end of the mental task, but the degree of voluntary control in this process is substantially less than with inhibition and shifting. Performance updating tasks should not be impaired by decreases in the available resources for controlled attentional control in the context of anxiety and cognitive performance; it is not designed to apply to all effects of anxiety on the cognitive system but builds on the strengths and addressing the limitations of PET. The ACT development is much influenced by the theoretical ideas and empirical research of researchers like (Derryberry and Reed, 2002; Russo, Fose and Dutton, 2002).

The effects of anxiety on attentional processes are of fundamental importance on how anxiety affects performance within ACT. Assumption of Power and Dalgeish (1997) is that anxiety is experienced when a current goal is threatened and threat to a current goal causes attention to be allocated to detect its source and how to respond.

Anxiety impairs attentional control which is a key function of the central executive and anxious individuals preferentially allocate attentional resources to worrisome thoughts known as threat-related stimuli or task-irrelevant distractors. Sarason (1998) posits that high levels to worry are often associated with low levels of performance but there are studies that

show that high anxious participants reported significantly more worry than low-anxious ones but they are not differ in performance. This pattern could occur because worry impairs efficiency more than performance effectiveness.

Miyake, Friedman, Emerson, Witzki, Howerter and Wager (2000) use a latent-variable analysis to identify the basic control functions of the central executive, basing their selection of tasks on lower level functions proposed for the central executive. Miyake et al (2000), identify three major functions of the ACT as inhibition, shifting and updating. Inhibitions one's ability to deliberately inhibit dominant, automatic, or proponent responses when necessary and it involves the use of attentional control to resist disruption or interference from task-irrelevant stimuli or responses. The function of the inhibition is extended by Friedman and Miyake (2004) when they found that the function was used through the use of latent-variable analysis, when resisting distractor interference as well as when inhibiting proponent responses, suggesting that it involves maintaining task goals when confronted by environmental task-irrelevant stimuli or responses. The function of inhibition is a general one involving executive control. Nigg (2000) comes up with four types of effortful inhibition: interference control, cognitive inhibition, behavioural inhibition and oculomotor inhibition, they can be conceptually separate but three of them seem to involve the same underlying inhibition function. The inhibition function involves using of attentional control in a restraining way to prevent attentional resources being allocated to task-irrelevant stimuli and responses making it a direct relevance to ACT. There is evidence that anxiety impairs the functioning of the inhibition function (Derakshan and Eysenck, 2009) and high anxious individual were more susceptible to distraction than were low-anxious individuals. Miyake (2000) identifies an anti-saccade task in which a visual cue is presented to the left or the right of the fixation point and the instructions are to make an eye movement to the opposite side of the visual cue as rapidly as possible. The main dependent variable of interest is the latency of the first saccade to the correct side and there is also the pro-saccade task known as a control task in which the instructions are to fixative the cue when it appears. The adverse effects of anxiety in terms of latency of the first correct saccade should be present with the anti-saccade task but not the pro-saccade.

The effects of anxiety on the anti-saccade task using emotional cues have been investigated on and Garner, Ainsworth, Gould, Gardner and Baldwin (2009) use negative and neutral cues. The result of the research shows that the high-anxious group made significant more eye-movement errors than the low-anxious group on anti-saccade trials regardless of cue type. The inhibition function involves using attentional control in a negative way to

prevent attentional resources being allocated to task-irrelevant stimuli and responses (Friendman and Miyake, 2004). It is impaired also when task demands on the central executive are high.

The shifting function involves the using of attentional control in a positive way to shift the allocation of attention to maintain focus on task-irrelevant stimuli. The effects of anxiety on the shifting function can be assessed by tracking eye movement on tasks on which it is possible to specify how visual attention should shift over time. High anxiety has been found to be associated with impaired use of the shifting function and attentional control on a basket ball shooting task as revealed by the pattern of eye movements (Wilson, Vine and Wood, 2009). The shifting function is of direct relevance attentional control theory and it has been theoretical predicted that the functioning of the shifting function should also be impaired when task demands on the central executive are high. Miyake et al (2000) reports that performance on task-switching paradigms loads are highly on the shifting function. The anxiety impairs the shifting function which is task switching and the effect would be greater in high – complexity than in low-complexity tasks because overall demands on attentional control are higher in high than in low complexity tasks and that the effects of state anxiety would be greater in the absence of cues than in their presence.

The updating function is used to update and monitor the information currently within working memory and is important for various short-term memory tasks. Updating is the third function of the central executive and is identified by Miyake et al (2000). The updating function involves the transient storage of information rather than being directly concerned with attentional control, the effects of anxiety on updating should be weaker than those on inhibition and shifting.

The parts of the brains that are most associated with the inhibition and shifting functions of the central executive are similar to those associated with the goal-directed attentional system (Miller and Cohen, 2001). Collette and Linden (2002) conclude that some prefrontal areas of the brain are systematically activated by a large range of variable executive tasks and suggested that inhibition shifting and updating functions of the central executive are involved in general executive processes. The three functions of the central executive are partially separable but are also partially interdependent in their functioning as they all rely to some extent on the resources of the central executive or top-down attentional system. So, the demands on one function may reduce the processing resources of the central executive available for the other functions.

Based on his seminal research, Wine (1971) develops an attentional theory to explain how test anxiety affects the performance. He proposed that test anxious people get interfered .during test taking by being preoccupied with worry, self-criticism and somatic concerns whereas low test anxious people attend only task-relevant thoughts. In other words, test anxious person who worries during test taking divide their attention between worry and the task; they perform poorly since a difficult task requires full attention. There are two main groups of attentional theories that attempt to explain compromised performance in pressured situations. The first group of the theories is the explicitly monitoring theories. Here, when a person is expected to perform a specific skill, the pressure may cause an increased self-consciousness and inward focus, which can disrupt their ability to successfully perform that task. Thinking about the steps procedures can inhibit one's ability to execute a task. A study by Gray (2002) for example find that base-ball players put into the high pressure condition had increased errors, and an increased ability to recall details like the direction their bat was moving. This means that the pressured players were monitoring themselves more, which impacted their ability to successfully hit the ball.

The second group of theories is the distraction theories. The theories state that high pressure environments create a dual-task situation, in which the person's attention is divided between the task at hand and unhelpful thoughts about the situation and possible negative consequences of poor performance. Attention is an important part of working memory which is the system that actively holds several pieces of relevant information in the mind while inhibiting irrelevant information. Working memory has a limited capacity, and the addition of stress and anxiety reduces the resources available to focus on relevant information. In situations in which individuals need to concentrate their attention on a specific task, emotional stimuli can divert their attention to a greater degree than non-emotional stimuli. Emotional stimuli will often dominate a person's thoughts, and any attempt to suppress them will require additional working memory resources and when working memory divides resources between the aversive cognitions and the task-relevant material, then the person's ability to use the relevant information on a test will suffer.

People who suffer from examination anxiety are more likely to experience negative cognitions while in evaluative situations. Examination anxious persons have been found to bias their attention towards threatening and anxiety-related stimuli more than non-emotional stimuli. Research has found that tasks that rely heavily on working memory are the ones that suffer the most during pressure. Short falls in performance that are caused by examination anxiety seem to be related to the extent to which the student has full access to their working

memory.

In the context of academic performance, distraction theory has much support because many of the skills performed in the classroom require heavy demands on working memory. However, there are different kinds of pressure situations like monitoring pressure in which an individual's performance is impractical due to the presence of an audience and outcome pressure, in which an individual's performance is influenced by the consequences of the testing results.

Integration of Cognitive Interference Theory and Attentional Control Theory

Cognitive interference theory and attentional control theory account of how anxiety affects performance are not mutually exclusive; the theories are viewed as complimentary in their mechanistic account of how anxiety affects performance.

The CIT and ACT use the Tripartite Model of working memory to provide a mechanistic explanation of how anxiety impairs cognitive performance. The mechanistic explanation of how phonological loop functioning is impaired by anxiety is a strength of CIT, though PET and ACT logical loop functioning is likely to be impaired but they both acknowledge it. CIT provides a viable explanation of how it might occur that does not conflict with ACT. ACT also, provides solid theoretical grounding to account for central executions impairment due to anxiety, and the explanation, proffered by CIT theorists are notably vague and difficult to test, but ACT provides clarity and testability to the predictions made by CIT supporters.

The two theories made compatible predictions on (a) the notion of change in attentional system dominance which is associated with an increase in negative self-statement, (b) the loss of volitional control of attention due to the presence of anxiety may lead to an increase in negative self-statements (c) the attentional control resources being used by the individual to suppress negative self-statements (d) the change to the threat-oriented attentional system could lead to more resources being allocated to attending to and processing negative self-statements, (e) that negative self-statements may be negatively associated with attentional control.

The CIT and ACT are complementary and not competing each other by these explanations: (a) anxiety may lead to a shift in attentional systems which results in less attentional control which again may lead to either an increase in negative self-statements or more attentional resources being automatically diverted to processing existing negative self-statements and more processing resources are devoted to these negative self-statement

resulting in interference with phonological loop processing. Concurrently, the change in the attentional system dominance causes the deficiencies in inhibition and shifting, but not updating central executive functions.

2.1.15 Tripartite Model of Working Memory

The working memory is responsible for the short-term storage and manipulations of information (Baddeley, 2001). The working memory is comprised of three components: the phonological loop which is responsible for short-term storage of auditory information and is also comprised of two sub-components which are phonological store that maintains auditory information in memory for approximately two seconds before the auditory information begins to decay. The second sub-component of phonological loop is the articulatory control system which acts to refresh auditory information in the phonological store, the phonological store acts as an inner ear while the articulator rehearsal component acts as an inner voice.

The second component of the working memory is the visuospatial sketch pad which stores and manipulates visual information. It has separate sub-systems to maintain colour or form information and spatial information in working memory (Baddeley, 2001). The phonological loop and the visuospatial sketch pad are termed the “slave systems” because they are under the control of the central executive which is the third component of the working memory and serves two primary functions. The functions are (a) it acts as a self-regulatory mechanism that controls and distributes attentional resources in three ways: by focusing it by dividing it and by shifting it. (b) It has limited capacity to process information and has been speculated to be housed in the frontal lobe of the brain. A relationship between anxiety and impaired performance on working memory tasks has been noted (Matthews, 2005). Examination anxiety is a particular form of anxiety that has been defined as anxiety that arises under conditions of either real or imagined personal evaluations in social situations.

This working memory model has four elements or components which are the central executive that has a number of tasks such as coordination of the temporary stores of phonological and visual information known as phonological loop and visuo-spatial sketch pad respectively.

Eysenck (2007) elaborates upon the distraction theories and proposes the attentional control. The attentional control theory assumes that anxiety primarily affects attentional control, which is a key function in the central executive. Attentional control is the balance

between the two attentional systems, the goal-directed system which is influenced by the individual's goals and the stimulus-driven system stimuli. According to the attentional control theory, anxiety distrupts the balance between the two systems. The stimulus-driven system becomes stronger at the expense of the goal-directed system, thereby impairing the efficiency of the inhibition and shifting functions of the central executive. In support of this theory, there is strong evidence that anxiety largely impairs processing efficiency rather than performance effectiveness. Performance effectiveness refers to the quality of performance whereas processing efficiency refers to the amount of resources used to attain an effective performance. There is also evidence that anxiety impairs both the inhibition and the shifting function. The theory suggests that students high in test anxiety will have to allocate more resources to the task at hand than non-test anxiety students in order to achieve the same results.

Generally, people with higher working memory capacity do better on academic tasks, and change under acute pressure.

Beilock (2008) finds that pressure leads individuals with a high working memory capacity to perform worse on a complicated task, whereas individuals with a low working memory capacity got the same low results with or without pressure. This is because people with high working memory could use better but more demanding problem solving strategies in the low pressure condition, which they had to abandon in the high pressure condition. Johnson (2009) also finds that trait anxiety might have different effects on working memory than state or acute pressure situations because individual's performance on a task showed a decrease in accuracy, due to trait anxiety for individuals with low or average working memory capacity, but did not significantly decrease for individuals with high working memory.

2.1.16 Study Skills Deficit Theory

The theory accounts for the low academic performance of the highly test-anxious students in terms of a deficit or lack of knowledge of the course material due to poor study habits or other variables in addition to the meta-cognitive awareness of the insufficient knowledge at the time of taking examinations. This theory states that poor academic performance is the outcome of inadequate mastery of course material and not interference in recalling material that has been thoroughly learned, test anxiety does not cause poor academic performance but it is just an emotional reaction that accompanies the awareness of being inadequate preparation for the examinations (Musch and Broder, 1991). The theory assumes that (a) deficient study skills cause poor acquisition of information (b) deficient test-taking skills

because an awareness of poor test performance and poor preparation or the perception of poor performance may result in increased test anxiety respectively. The skills deficit theory characterises test anxiety as an indirect effect of deficient study or test-taking skills, while the poor performance appears to be a direct effect. The inadequacy of test-taking skills seem to contribute to worry cognitions experienced during testing, and such worries about the lack of adequate skills may lead to increased test anxiety.

Rather than cognitive explanations to test anxiety, some researchers specifically focused on study skills and study habits since test anxiety may be a natural reaction resulting from students' poor study skills, so the propounders (Desiderate and Koskinen, 1969) seek for whether study habits were related to test anxiety and academic achievement. Results of the study showed that, test anxiety was negatively related with college women's grades. In addition, test anxiety scores were associated with study habits, that is, high-test-anxious students presented poorer study habits than low-test-anxious students or vice versa (Denizli, 2004).

Wittmaier (1972) proposes that in addition to investigating test anxiety in relation to diverse variables, pre-test behavior of test-anxious and non-test-anxious students should also be examined. He stated that many students began to feel anxious days before an examination. According to Wittmaier (1972), test anxiety is both the cause and the result of ineffective study skills to some extent. In his correlational study, results indicated that test anxious students were likely to have less effective study habits and were more likely to delay academic tasks than were the low-anxious students. According to results of the study, Wittmaier (1972) concludes that test anxious students' poor performance is partially attributable to ineffective or unsatisfactory pre-examination behavior. Wittmaier (1972) also suggests that although test anxiety is modifiable through counseling, students' development of effective study skills should be stressed rather than assuming that their academic performance would be improved by reducing their anxiety toward examinations.

Culler and Holahan (1980) conduct another study investigating the effects of study skills on test anxiety and academic performance. They found a negative significant relationship between the mean Grade Point Average and test anxiety scores. According to Culler and Holahan these findings indicated that high-test-anxious students attempted to make up for their lack of study skills by increasing the amount of the study time. This finding was consistent with that of Wittmaier's study (1972) regarding study skills, high-test-anxious students presented lack of study skills; on the contrary, high-test-anxious students reported to have more study time than low-anxious students. Moreover, Culler and Holahan find a

significant positive correlation between Grade Point Average and study skills scores of the students. High-test-anxious students who had developed and exercised appropriate study skills performed academically better than did those with poor study skills. This finding was contradictory to the common stereotype view of test anxious student, having adequate knowledge of the subject but freezing up during test situation (Denizli, 2004).

Smith and Smith (2002) compare different theoretical models of test anxiety; the cognitive attentional theory, cognitive-skills theory and social learning theory. Cognitive-skills theory included study skills variable nearby the cognitive processes. They investigated the role of three theoretical models, in predicting academic achievement. The researchers used multiple regression analyses and found that when cognitive-attentional variables were in the equation, study skills did not predict Grade Point Average. Results indicated that study skills and cognitive-attentional variables overlapped in their prediction of Grade Point Average. It could be interpreted as, although cause cannot be determined from the results, poor study skills might have produced negative thoughts during an examination and these negative thoughts together with the poor study skills reduced the performance (Denizli, 2004).

The theory was also tested in terms of reducing test anxiety. In 1980, Tyron conducted a meta-analysis and reviewed the outcomes of the treatment methods of test anxiety. Among the various studies reviewed, regarding the effect of study skills training in reducing test anxiety, she reported that while study skills alone was sometimes effective in reducing self-reported test anxiety, study skills in combination with cue-controlled relaxation also seemed to result in anxiety management. Only three of the studies (Tyron, 1980) which used study skills training alone led to an increase in academic performance, and in one of these studies combined desensitization and study skills program was more effective in increasing grades than study skills training alone (Allen, 1971 ; as cited in Tyron, 1980). Moreover, studies combining study skills with other treatments had reported significant increases in grades over no treatment. In conclusion, study skills training combined with other treatment procedures seemed to be more effective in reducing examination anxiety than study skills alone. Hembree (1988) conducting a meta-analysis to explore the effectiveness of treatment methods of test anxiety also indicated that study skills training was not effective in reducing test anxiety unless another treatment procedure was also present.

2.1.17 State-Trait Theory

Spielberger's (1972) trait-state differentiation provides a conceptual framework for the identification and classification of the major variables in anxiety research. Trait-State theory recognizes the affective and cognitive processes that characterize anxiety, and identifies the stressors that evoke different levels of state anxiety in those who differ in trait anxiety. These variables include stress, cognitive appraisal of threat, and various psychological defenses. Trait-State furthermore recognizes the interrelationship between these variables.

Trait-State theory identifies trait anxiety, or A-trait, as a proneness to anxiety in general, and state anxiety, or A-state, as a transitory state or condition characterized by tension, apprehension, and the activation of the autonomic nervous system. Situations which elicit the evaluation of one's personal adequacy are perceived as ego-threatening, and are perceived as more threatening by persons high in A-trait than those low in A-trait. Differential levels in state anxiety have been shown to influence performance on a variety of tasks (Speilberger, Anton and Bedell, 1976). Trait-State theory holds that students high in A-trait are hyper-vigilant in scanning the environment for potential threat, resulting in selectively negative biases which further lead to distraction and thought interference (Speilberger et al., 1976; Keogh and French, 2001). Trait anxiety, then, predisposes one to habitually experience emotions that interfere with test-taking performance. If emotions resulting from testing are very specifically related to a point of time before, during, or after the testing situations, they are seen as state test emotions (Keogh, Bond, French, Richards, and Davis, 2004).

Sarason (1990) also stresses the relevance of cognitive interference and attentional factors in test anxiety. They contended that in spite of vast differences in the content of possible self-preoccupied cognitions, their commonality is that they reduce on task behavior during testing by diverting attention from relevant cues, causing the individual to misinterpret perceived cues. Anxious self-preoccupations involve a heightened concern over one's perceived inadequacies and shortcomings. The test anxious person is focused on perceived present and potential dangers and threats, and their perceived inability to cope with them. Thus, it is not the nature of the danger, but the misinterpretation of the events that causes test anxiety (Sarason, 1990). Sarason (1990) identifies the following as the cognitive events that occur in anxiety producing situations:

- The situation is perceived as difficult, challenging, and threatening.

- The individual judges him- or herself to be ineffective or inadequate in dealing with the task being confronted.
- The individual becomes primarily and exclusively focused on his or her personal inadequacy and the undesirable consequences of this inadequacy.
- Strong self-deprecatory preoccupations interfere with task-relevant cognitive activity.
- The individual fully anticipates failure and resulting loss of regard by others.

  It is self-consciousness, perceived helplessness and expectation of negative consequences that occupy the attention of the test-anxious person.

2.1.18 Gender: Etymology and Usage of Gender

Gender comes from the middle English word gendre which is a loan word from Norman-conquest-era old French and came from Latin word – genus that means type, kind or sort. They derive ultimately from a widely proto-Indo-European root which is the source of kin, kind, king and many other English words, it refers either directly to what pertains to birth or by extension, to natural, innate qualities and their consequent social distinctions e.g. gentry generation, genocide and eugenics. In modern French, it is genre which means type, kind and it is related to the Greek root gen- to produce. The word – gender, is still widely attested in the specific sense of grammatical gender. In modern English, the use of gender refers to masculinity and femininity.

The modern academic sense of the word, in the context of social roles of men and women, dates from the work of Money (1955) in Bern (1993) and was popularized and developed by the feminist movement from the 1978 onwards. The theory was that human nature is essentially epicene and social distinctions based on sex are arbitrary constructed. Matters pertaining to this theoretical process of social construction were labelled matters of gender. The popular use of gender as an alternative to sex is also widespread, though attempts are still made to preserve the distinction which is useful in principle but it is by no means widely observed and considerable variation in usage occurs at all levels. In the last two decades of the 20th century, the use of gender in academia increased greatly, outnumbering uses of sex in the Social Science. As the spread of the word in science publications are attributed to the influence of feminism, its use as a euphemism for sex is attributed to the failure to grasp the distinction made in feminist theory and the distinction has sometimes become blurred with the theory itself (David, 2004).

2.1.19 Gender Identity and Roles

Gender identity is referred to as personal identification with a particular gender and gender role in society. Woman as a term has historically been used interchangeably with reference to the female body. One's biological sex is directly tied to specific social roles and the expectations and Butler in 1990, considers the concept of being a woman to have more challenges owing not only to society's viewing women as a social category but also as a felt sense of self, a culturally conditioned or contracted subjective identity. Social identity refers to the common identification with a collectivity or social category that creates a common culture among participants concerned (Payne, Smith and Payne, 1983). An important component of the self-concept is derived from membership in social groups and categories and is demonstrated by group processes and how inter-group relationships impact significantly on individuals' self-perception and behaviours. The group's people belong to therefore provide members with the definition of who they are and how they should behave within their social sphere (Silvestri, 1996). There is problem to categorise males and females into social roles because individuals feel they have to be at one end of a linear spectrum and must identify themselves as man or woman rather than being allowed to choose a section in between. All over the world, the societies interpret biological differences between men and women to create a set of social expectations that define the behaviours that are appropriate for men and women and determine women's and men's different access to rights, resources, power in society and health behaviours (Galdas, Johnson, Percy and Ratner, 2010). These differences still favour men, creating an imbalance in power and gender inequalities within most societies. There are different norms and beliefs based on gender but there is no universal standard to a masculine or feminine role across all cultural. The social roles of men and women in relation to each other is based on the cultural norms of that society which lead to the creation of gender system which is also the basis of social patterns in many societies and include the separation of sexes and the primacy of masculine norms (Mwamwenda, 1993).

According to Foucault, he says that as sexual subjects, humans are the object of power, which is not an institution or structure, rather it is a signifier or name attributed to complex strategical situation (Hong, 2012), because of this, power is what determines individual attributes, behaviours, etc and people are a part of an ontologically and epistemologically constructed set of names and labels. Such as, being female characterise one as a woman signifies one as weak, emotional, and irrational and is incapable of actions attributed to a man. Butler (1990) says that gender and sex are more like verbs than nouns. She reasoned that her actions are limited because she is female but she said "I am not

permitted to construct my gender and sex willy-nilly because gender is politically and socially controlled.

2.1.20 Gender Fluidity

The World Health Organisation defines gender as the result of socially constructed ideas about the behaviour, actions and roles a particular sex performs and the beliefs, value and attitude taken up and exhibited by them is as per the agreeable norms of the society and the personal opinions of the person is not taken into the primary consideration of assignment of gender and imposition of gender roles as per the assigned gender. The assignment of gender involves taking into account the physiological and biological attributes assigned by nature followed by the imposition of the socially constructed conduct. The social label of being classified into one or the other sex is necessary for the medical stamp on birth certificates and gender is a term used to exemplify the attributes that a society or culture constitutions as masculine or feminine. Although a person's sex as male or female stands as a biological fact that is identical in any culture, what that specific sex means in reference to a person's gender role as a woman or a man in society varies cross culturally according to what things are considered to be masculine or feminine (Zoller and Ben-Chaim, 1990). The cultural traits typically coupled to a particular sex finalise the assignment of gender and biological difference which play a role in classifying either sex as interchangeable with the definition of gender within the social context. The socially constructed rules are at a cross road with the assignment of a particular gender to a person. Gender ambiguity deals with having the freedom to choose, manipulate and create a personal niche within any defined socially constructed code of conduct while gender fluidity is outlawing all the rules of cultural gender assignment. It does not accept the prevalence of the two rigidly defined genders man and woman and believes a freedom to choose any kind of gender with no rules, no defined boundaries and no fulfilling of expectations associated with any particular gender.

Gender seems to be the integral factor in examination anxiety because according to the state-trait theory, worry and emotionality determine the type of examination anxiety. Thinking styles could affect the way one perceives and reacts to people and situations and this cognition could vary across the genders.

Gender is the range of characteristics pertaining to, and differentiating between, masculinity and femininity and it depends on the context of these characteristics which may include biological sex i.e. being male or female, sex-based social structures which includes gender roles and other social roles or gender identity (David, 2000). Gender refers to a

socially and culturally constructed set of distinctions between masculine and feminine sets of behaviour that is promoted and expected by society. Gender is the psychosocial aspect of maleness and femaleness and there is no absolute distinction between sex and gender because biologically based characteristics are affected by cultural events in a persons life, be that as it may, the distinction is widely used and is a good shorthand, Fausto-Sterling, (2000). This distinction can help us to focus on the major forces contributing to the acquisition of gender identity, gender stereotypes and gender roles.

Gender identity is a conviction that one belongs to the sex of birth while gender stereotypes reflects these beliefs about the characteristics associated with male or female and gender roles, refers to culturally acceptable sexual behaviour. Cross cultural research indicates that gender roles are among the first that individuals learn and that all societies treat males differently from females. Gender or sex roles behaviour is a learned behaviour. The range of roles occupied by males and female across culture is broad. What is considered natural behaviour for each gender is based more on cultural belief than on biological necessity. From infancy, our culture teaches what it means to be a boy or a girl and from the colour of clothes to the toy being played with the messages beginning at a very early age. Young people are influenced by a barrage of messages to conform to a variety of expectations, to buy this widget and to preserve a rigid set of values that stress the differences between genders.

Sometimes, some children turn out to be an instant disappointment to their parents and it is apparent at birth that they are destined to be second-class citizens. Other children with precisely the same handicap are welcomed happily enough by their parents, but still face the prospect of entering in due cause a wider social environment which will be prejudicial to their advancement, these children are called girls. So, being born a girl is a decided liability in many societies, and in extreme cases, this failing is met with by death, from at least the first century B.C. there are records or exposure of female, infants, that is, abandoning them in the wilds (Keuls, 1985) and many female infants in parts of third world today are killed at birth. Somewhere else, the availability of more sophisticated health systems means that in some cases parents are able to detect and abort female foetus, thus pre-empting the problem. In other context, the arrival of female children is a cause of severe marital discord, largely reflecting the mother's perceived culpability in getting the sex of her progeny wrong.

Girls born in the West and in many other societies are unlikely to suffer purposeful parental attempts to murder them, and may to the contrary be treated with love and devotion,

but their prospect for equal social status to their brothers are nonetheless curtailed. Females attain on average less social power, occupational and political status than their male counterparts (Bern, 1993). Male neonates are less often disposed of by their parents, but are still more likely to die in infancy and at every other stage of their lifespan. Males are more likely to suffer host of genetic disorders and are much more likely to be involved in accidents, to suffer stress-related illnesses, to be imprisoned, to be sent off to die for their country and they die on the average of about seven years earlier than female. It is true that males achieve sociopolitical power but part of the price is that there are always other males eager to displace them and male dominated world can be a tough and destructive one.

2.1.21 Theoretical Framework

This study is anchored on the Cognitive Interference Theory (CIT) of Sarason (1984). He postulates that negative self-statements frequently accompany examination anxiety and may interfere with the working memory processes and that high level of examination anxiety was found to predict poorer performance. There is relationship between examination anxiety and increase in cognitive distortion because increase in negative self-statement is associated with poorer cognitive functioning. CIT is based on the bidimensional explanation of test anxiety which includes emotionality and worry dimensions. The poor academic performance of highly test-anxious students is seen as the consequences of the interference of negative thoughts and self-statements and emotions during the period of examination.

According to this theory, a student with high examination anxiety will have poor performance than low-anxious student because of the interference of the worries i.e. task-irrelevant thoughts (Eysenck, 1992).

2.2 Empirical Review

2.2.1 Cognitive Restructuring Therapy and Examination Anxiety

Standard Beckian Cognitive Behavioural therapy, known as Cognitive Therapy (CT) is based on the so-called cognitive model, which links cognitions, emotions and behaviours such that cognitions shape behaviours and emotions, and unrealistic cognitions can lead to inappropriate emotions and behaviours (Beck, 1987). Cognitive therapy aims to reduce examination anxiety by identifying and restructuring biased or maladaptive cognitions such as those about the inevitability and exaggerated consequences of failure (Beck, 1991; Beck, Emery and Greenberg, 1985; Huberty and Dick, 2006).

Cognitive restructuring therapy has been demonstrated since 1978 to reduce

examination anxiety (Goldfried, Linehan and Smith, 1978); it is likely taking to devote time and resources to evaluating and challenging thoughts in time, high states situations such as examination. Aysan, Thompson and Hamarat (2001) assert that stress felt from the examination can have negative physiological effects to the body like hypertension, coronary heart disease, respiratory distress syndrome and suppressed immune system functioning. To sum up, the students' quality of life, whether it is psychological, emotional, physical or academic is adversely affected by examination outcomes. For instance, certain studies carried reports that some students even consider suicide due to being preoccupied with the examination (Keogh and French, 2001; Rothman, 2004).

In addition, emotionality was found to be unrelated to performance expectations and unrelated or negatively related to actual performance (Morris and Liebert, 1970). Further, worry dimension of test anxiety was found more important than emotionality since it directly affect academic performance and performance expectations of students. Naturally, worry dimension had great attention from researchers who investigated the dynamics of test anxiety (Lee, 1999; Sarason, 1980; 1984).

In a review of studies on cognitive therapy and depression, Beck and Nanda (2006) confirm that cognitive restructuring therapy is an effective treatment for depression and is as effective as antidepressants or interpersonal or psychodynamic therapy. Their review also confirmed the effectiveness of the combination of cognitive therapy with other forms of therapy. They also affirmed that some studies have shown that cognitive therapy is effective for managing adolescents with depression. Some studies have also shown that relaxation techniques can be used to manage some mental health conditions including anxiety and depression. In the re- view of studies on anxiety, e.g. Sultanoff and Zalaquett (2000) find that drug and behaviour treatments have similar short- term effect but behavioural treatment had better long-term effects than drug treatment of anxiety disorders.

In another study, Deffenbacher (1978) examines the reactions of test anxious students during test taking. Results of the Deffenbacher's (1978) study shows that high anxiety individuals spent less time on test, experienced greater interference from anxiety, reported greater attention to worrisome thoughts, heightened physiological arousal and task generated interference. However, he did not found significant differences among high and low anxious groups regarding academic performance.

Since the researchers provided strong evidence for the debilitating effects of test anxiety on the academic performance of students, many anxiety management methods that aimed at reduce worry component of test anxiety were developed. For example, cognitive

behavior modification (Meichenbaum, 1972), attention-focusing procedures (Wine, 1971) found to be effective in reducing test anxiety. Moreover, systematic desensitization, self-controlled relaxation and desensitization, covert reinforcement and observational learning were the methods aimed primarily to reduce the emotionality symptoms of test anxiety and also found effective in reducing test anxiety.

Also, Biabangard (2003) compares the effectiveness of Lazarus multimodal therapy, Ellis Rational Emotive therapy, relaxation and placebo in decreasing students' test anxiety. Strupp (1986) confirms that psychotherapists help their clients develop awareness and bring about changes in their behavior, feeling and thinking. This is also supported by Coon (2000) who finds out that positive change in behavior are facilitated by using behavioural techniques. Moreover, Passer and Smith (2003) also confirm that much has been learnt about the effectiveness of the various therapeutic approaches. The management of students' anxiety in Mathematics in the cognitive-restructuring training compared to their counterparts in the control group could be attributed to the content of cognitive restructuring treatment package. Hassan and Okatahi (1990); Locke, Myrers and Herr (1993); Wright and Beck (1994); Feltham and Horton (2001); Hemberg, Roth and Winnie (2002) and others reported the efficacy of Cognitive restructuring therapy in the treatment of anxiety in Mathematics over the control group who had no such treatments.

Furthermore, Blackburn, Bishop, Glen, Whalley, and Christie (1981) investigate the efficacy of cognitive therapy and pharmacotherapy each alone and in combination in the treatment of depression. They found that cognitive therapy was superior to drug treatment in general practice, the antidepressant drug group did less well in both hospital and general practice, and the combination treatment was superior to drug treatment. Some other researches that involve meta-analyses of the effects of cognitive therapy in treating depression (Glo-aguen, Cottraux, Cucherat, and Blackburn, 1998) find that cognitive therapy was superior to no treatment or placebo; cognitive therapy is as effective as interpersonal or brief psychodynamic therapy in managing depression. They also found that cognitive therapy is as effective as and even more effective than pharmacotherapy in managing mild to moderate unipolar depression.

Consistently, Chapell and Overton (1998) investigate the relationship between test anxiety and logical reasoning performance of adolescents. Results indicated that low test anxiety is related to more advance reasoning performance than high test anxiety.

Miller and Cohen (2010) want to utilize the knowledge that teachers are a primary support for students, thus training teachers to deliver the model as part of their classroom

curriculum. Children and their parents rated the child's anxiety symptoms pre- and post-intervention. Teachers rated their perceived ability to follow the protocol at the end of each treatment session. Benefits of this approach include a creative use of time and resources in implementing a treatment approach for childhood anxiety. Children who participated in the Test-Wiseness Strategies model reported a "trend toward symptoms management" of anxiety at a higher rate than the control participants (Miller and Cohen, 2010). Parent report did not show significant differences between groups. Teachers who participated in training reported an increased ability to recognize symptoms of anxiety in children, and an enjoyment in teaching the material. Teachers felt that children were able to "normalize' their anxiety as compared to their peers and have a more common language to their feelings and experiences. The majority of students found the relaxation exercises helpful and could name at least one strategy that was useful in reducing fear. Miller and Cohen (2010) research suggests that primary intervention for childhood anxiety can be implemented within the classroom (Miller et al., 2010). Exercises such as relaxation and imagery were reviewed in the training sessions, with a focus on ways teachers can assist children to "refocus" their mindset to reduce intrusive thoughts and anxiety producing conditions.

In terms of treatment efficacy, Silverman et al (2008) review reveal that Cognitive Restructuring Therapy in general demonstrated positive outcomes. About 50% of the treated youth no longer meet diagnostic criteria for their targeted anxiety disorder and report managements in anxiety symptoms that are robust across youth and parent ratings. Positive outcomes have been demonstrated at post treatment and generally maintained at follow-up. Positive outcomes were demonstrated when CRT were delivered to the individual child, to the child and his or her parents (usually mothers), and to the child and his or her peers, with generally no statistically significant differences between treatment approaches.

2.2.2 Test-taking Skills Training and Examination Anxiety

The combined effect of Test-Taking Skills Training and behavioural therapies can be traced in the superiority of a multitude of attacks on the inter-connected problems of examination anxiety and deficient preparation. Therefore, test-taking skills training may be a crucial element of any programme of examination anxiety intervention (Dendato and Diener, 1986). There are various types of training programmes to boost Test-Taking Skills Training which offers strategies for effective test and time management (Wachelkan and Katz, 1999). According to the research, Test-Taking Skills Training only does not work efficiently to

decrease anxiety or enhance academic progress (Hembree, 1985). The combination of Test-Taking Skills Training and cognitive restructuring therapy is more effective and efficient than using only test-taking skills training to reduce examination anxiety (Motevalli, Roslan, Sulaiman, Hassan and Garmjani, 2013; Hembree, 1988). Integrative literature review showed that the highest effects sizes for examination anxiety management were observed when Test-Taking Skills Training was combined with behavioural therapies. Therefore, examination anxiety can considerably be reduced if test-taking skills training are combined with behavioural therapies or cognitive behavioural procedures then test anxiety decreases from 0.8 to 1.2 standard deviations in pre-college and high school students respectively. Regarding the examination performance, Hembree's (1985) meta-analysis indicates that test-taking skills training alone can boost examination scores by 0.39 standard deviations in post secondary populations when it is combined with cognitive restructuring or systematic desensitisation, performance was increased by close to twice as much, about three quarter of a standard deviation.

Additionally, studies have shown that attitudes towards tests in general affect student achievement (Peng, 2005). Test-taking skills training are related to the motivation to learn and to the attitudes students may hold with regards to specific subjects (Dodeen, 2009). Test-taking skills training can be effectively used to help examinees eliminate any feelings of tension and anxiety that may interfere with their ability to communicate what they know in a test situation (Austin, Patridge, Bikner and Wadkington, 1995). Therefore, improving students testing skills is likely to indirectly improve students' achievement. According to Peng (2005), students with test-taking skills improved attitudes towards tests, demonstrated lower levels of anxiety, and achieved better results. Even students familiar with the subject matter may do poorly in tests due to poor test-taking skills training (Sweetman, 2002). Some researchers argue that test-taking skills are as important as having the knowledge or information to answer the test questions (Langerquist, 1982). However, this does not mean that these skills can replace knowledge of the materials or the preparation for the test, but rather, it means that having such skills helps students improve their scores and performance (Dodeen, Abdelfattah and Alshumranni, 2014).

Binenbaum and Feldman (1998), according to Dodeen (2009) study student attitudes towards both open-ended and multiple choice test formats, and learning and test-taking skills training. Their results indicated that students with good test-taking skills training prefer the open-ended format over that of multiple choice and high anxious students tended to prefer the multiple choice format over the constructed-response format. Also, Eggleston (1988) studies

relationship between students' attitudes towards test and their achievement and found that attitudes towards tests may cause underachievement.

Test-taking Skills Training can improve students test-taking, but it will not always lead to better academic performance and higher scores because academic performance improves gradually. There is evidence that although academic performance of students with moderate to low examination anxiety can be improved only study counselling but little evidence confirms its effectiveness in enhancing the grade points average of the high test anxious students (Motevalli et al 2013).

According to Walker and Masterman (2006), learning skills are the constituents of learning strategy that include the skills of reading, writing, finding and organising information, while learning strategy refers to the process of selecting and organising the skills of the learner. Some researchers also assert that the key components required for successful learning are to develop learning and memory techniques, learn the study strategies, use the skills related to reading (SQ3R method), write essays, take notes and make outlines and learn how to manage (Fender-Scarr, 2003). The use of study skills is different from other forms of teacher-run learning processes (Gettinger and Seiber, 2002).

Effective study requires intention and the decision to learn and apply knowledge related to test-taking skills training. Students who experience academic problems compared to competent students, do not use any test-taking skills training to their reading activities, therefore, they faced difficulty in understanding the academic texts (Gettinger and Seibert, 2002). It is required that the students use some of the study skills in doing their homework or in preparing for examinations, but it seems that the teachers usually give a little time in dealing with such skills and instructions for successful reading (Gettinger and Seibert, 2002). Masterman (2005) believes that, study skills can help to strengthen active learning, but for students at the secondary school level, learning is a routine job without any key role in making their identities. They have not become active learner since they have everything already available for them and they make no specific effort to search for new information because they are less motivated to learn.

Students who are suffering from high test-anxiety that have poor test-taking skills can largely benefit from test-taking skills training which are designed for the improvement of such skills. Test-taking skills training is a cognitive deficit based model which is targeted at enhancing various cognitive activities that influence the organisation, processing, and retrieving of information e.g. test-taking skills training and study habits, but training in study skills fails explicitly to deal with a certain cognitive occurrence of test-anxiety (Vagg and

James, 1995). Test-taking skills training is intended to boost other cognitive treatments.

Ergene (2003) in his meta-analysis of 56 test anxiety studies classifies treatment approaches as behavioural, cognitive, cognitive-behavioural and skills training while Ergene found cognitive and behavioural approaches to be effective when used alone, skill alone approaches were only minimally successful. Ergene (2003) also analysed the effectiveness of various delivery systems for test anxiety management.

Recently, Ergene (2003) conducts a meta- analysis to investigate the effective interventions on test anxiety management and he reported consistent results with Tyron (1980) and Hembree (1988). In the study, combined therapies with test-taking skills training were found to have highest effectiveness in test anxiety management. Other approaches were the various cognitive and behavioral therapies and test-taking skills training alone.

In conclusion, literature clearly indicates that lack of test-taking skills training is strongly related with test anxiety (Benjamin et. al., 1981; Culler and Holahan, 1980). However, although the test anxious students gained adequate test-taking skills training, the worry and emotionality symptoms block them to use these skills effectively during test taking (Ergene, 2003). These results also supported the cognitive interference model's proposition that although the students know the subject well, they fall in task-irrelevant thoughts and distracted from the main task (Lee, 1999; Sarason, 1984). Hence, test-taking skills training seem to be one of the important variables preventing students from becoming test-anxious. In addition, if students cultivate test anxiety, test-taking skills training combined with other treatment methods would decrease their anxiety and help them to increase their grades (Ergene, 2003; Denizli, 2004).

Only students who use the test-taking skills training and have learned to become independent are motivated to pursue their studies at higher institutions and consequently, become potentially prepared to take up responsibility for learning and its results. In addition, as their positive attitudes are reinforced, their motivation and inspiration to keen on working will increase which will eventually lead to higher self-esteem (Masterman, 2005). Academic performance is positively affected by study skills (Williford, Chapman and Kahrig, 2001) and it is needed to provide regular test-taking skills training to the students in general to reduce the examination anxiety, this way, their self-regulation in learning can be boosted.

2.2.3 Gender and Examination Anxiety

It is widely claimed that gender, which is connected to many developmental trends, affects the growth and exposure of anxiety in evaluative encounters (Basso, Gallagher,

Mikusa and Rueter, 2011). In the middle years of elementary school, gender differences in test anxiety start to appear, and constantly female students tend to have higher test anxiety levels compared to male students since elementary school through high school and college (Hembree, 1988; Zeidner, 1998). The prevalence of anxiety disorders in women has clearly increased, and compared to men are two times more likely to develop the disease (Basso et al., 2011).

According to Hodge, McCormic, and Elliot (1997), for instance, explore the level of test anxiety in a large group of adolescents as they approached their last examination. He found that most of the students, especially girls, were encountering a high level of distress during this time, and variables like poor socio-economic condition and the perception of academic competence makes them to be most vulnerable to these negative states. Birke (2001) in assertion of aforementioned studies, finds that female students mentioned elevated levels of anxiety and depression and also devalue their academic competence, while male students showed a reversed trend and overvalued their competency (Locker and Cropley, 2004). Consistent with previous research, some other studies also showed that both female undergraduate and graduate students experience more test anxiety than male counterparts in spite of having higher GPAs than male students (Chapell et al, 2005).

Rouxel (2000) presents evidence that sex differences in anxiety in Mathematics exist because boys are faster at retrieving basic time and mental energy on the other operations necessary to obtain necessary solution than girls. The studies of Bornstein (1995) cited in Preis and Biggs (2001) also agree with the findings in this study as they found out that male students had higher anxiety in Mathematics than did the females. Likewise the study of Hembree (1980) which agreed with this present study as it showed that female students exhibited more test anxiety than males. However, the findings of this study did not support the findings of Arogundade (2012) who finds no significant difference between the scores of male and female students on the instruments developed for measuring attitudes towards Mathematics and science oriented students respectively. This can be supported with the submission of Azadeh (2012) that identical scores for boys and girls were indicative of the same level of anxiety. Moreover, the study of Adebule (2004) on gender difference on a locally standardized anxiety rating scale in Mathematics also disagreed with the result of this study as it concluded that there is no significant difference between the scores of male and female students on the anxiety in Mathematics scale in relation to statistical significance. In addition, the studies of Lusser (1996) is also inconsistent with the findings of this study as it failed to find a significant relationship between gender and anxiety in Mathematics stating

that Mathematics background had to be considered. Nevertheless, the use of gender as a moderating variable in this present study is significant despite the great disparities among researchers on its significance to anxiety in Mathematics.

The relationship between gender and levels of test anxiety has been investigated for decades, and to this date no consensus has been reached. For example, Haynes, Mullins and Stein (2004) report no significant differences in test anxiety levels in male and female college students; however they identify different factors affecting male and female levels of test anxiety. More specifically, test anxiety levels for males were significantly related to their general test anxiety and Acceptance and Commitment Therapy (ACT) Mathematics scores. On the other hand, females' test anxiety was most strongly affected by their perceived Mathematics ability, perceptions of college Mathematics teachers' teaching ability, as well as general test anxiety and ACT Mathematics scores (Haynes et al., 2004). Dew, Galassi and Galassi (1983) claim that while difference in test anxiety between genders may exist, the difference is very small and insignificant. Some studies report that female college students experience significantly more test anxiety than their male counterparts (Betz, 1978; Khatoon and Mahmood, 2010; Malinsky, Ross, Pannells, and McJunkin, 2006). However, the inconsistencies regarding the effects of gender on test anxiety are present even in these findings.

More specifically, while Betz (1978) demonstrates that females reported higher level of test anxiety than males in two of three samples participating in the study, the results in the third cohort were in the opposite direction. The third group, where females reported slightly lower test anxiety levels than males, consisted of students enrolled in more advanced, college Mathematics course. This implies that student Mathematics preparedness level is one of the facets affecting the relationship between gender and test anxiety. This is further supported by Brush (1978) who reports higher test anxiety levels for women than men when the Mathematics background of participants was not controlled. However, for a sample of men and women with similar Mathematics backgrounds, there was no significant difference in the test anxiety experienced by these subjects. In addition, the results of Betz' (1978) study, combined with findings of Dew et al. (1983), lead to a belief that gender differences in test anxiety are related to other factors affecting these experiences. Unfortunately, there seems to be a lack of consensus when it comes to the relationship between test anxiety and the numerous factors affecting it. Contrary to the findings of Resnick et al. (1982) report no significant difference in test anxiety levels of males and females within different levels of Mathematics courses starting from Precalculus to more advanced courses. This may be

explained by the fact that students, both male and female, at this level of Mathematics have all had a significant amount of Mathematics courses in high school; therefore these results could be seen as being consistent if one assumes that by being in this class, the Mathematics background of participants was actually controlled.

Richardson and Suinn (1972) indicate that women report more test anxiety than men. Their findings are in agreement with research of Liabre and Suarez (1985) and Woodward (2004) that suggest that test anxiety is more specific in women than it is in men. Hembree (1990) findings support the belief that female students, regardless of grade, report higher test anxiety levels than male students. However, outcomes are not accompanied by expected more negative attitudes toward Mathematics, poorer performance, nor avoidance behavior of female students. This contradiction may be explained by Hembree's (1970) assumption that females may be more willing than males to admit their anxiety, in which case their higher levels are no more than a reflection of societal mores;" and "females may cope with anxiety better." (1990). That gender affects test anxiety in combination with other factors is also evident in Wigfield and Meece's (1988) study. While there was no significant difference in test anxiety in male and female elementary and secondary school students, female students did acknowledge more negative reactions toward Mathematics. These negative reactions may be one of the causes of differences in Mathematics avoidance behavior of males and females, as well as test anxiety in later years, especially in college. Similar to these results is the report by Malinsky (2006) that states that no significant differences in test anxiety levels of males and females were noted in early grades, but females experienced more test anxiety in college. These research outcomes imply that future research may investigate possible causes of test anxiety in the transition period between early grades and college. Differences in test anxiety levels as a function of gender are also affected by other aspects of life, such as social desirability. While overall scores on test anxiety measures did not differ significantly for females and males, test anxiety levels for males seems to be highly correlated with measures of social desirability (Zettle and Houghton, 1998). Furthermore, gender was also found to moderate the relationship between test anxiety and Mathematics performance (Miller and Bichsel, 2004). Test anxiety levels are predictive of female performance in basic and applied Mathematics tasks, while they were only a statistically significant predictor in basic Mathematics tasks for males (Miller and Bichsel, 2004). This further strengthens the proposition that gender needs to be seen as a function of multiple factors, and not as a uni-faceted predictor of test anxiety.

2.2.4 Field of study and Examination Anxiety

Most studies conducted on students' faculty and test anxiety among undergraduates found out that science student, especially those whose field of study fell among health care profession display a high level of test anxiety when compared with their counterparts. Henning, Sydney and Shaw (1998) reported that pharmacy students are more prone to test anxiety than the other groups. In another study, within another cultural context, Waterworth (2003) reports that students in nursing department exhibited high level of test anxiety than those in the other departments that are not in the medical line. Another study conducted by Everson (1993) provides more empirical support for the claim and supports the findings of current research that the students from science background suffer more due to test anxiety than students from Humanity background. They compared levels of test anxiety in students of English, Mathematics, Physical science and Social science. Test anxiety scores and perceptions of subject matter difficulty correlated, independently of the particular subject and the test demands. Analysis of covariance indicated that physical Science elicited the highest levels of self reported evaluative anxiety, after controlling for perceptions of difficulty and test demands (Everson, Tobias, Hartman, and Gourgey, 1993). There were few literatures on students' faculty and test anxiety. However, the study conducted by Henning et al. (1998) and Waterworth (2003) indicate that science students displayed a higher level of test anxiety when compared with students from other faculties.

A strong relationship between test anxiety and number of years of high school Mathematics was reported (Betz, 1978; Royse and Rompf, 1992). More specifically, students who took fewer Mathematics courses in high school exhibited higher levels of test anxiety and were less likely to take more Mathematics courses (Hembree, 1990). Betz (1978) considers three groups of students enrolled in courses involving different levels of Mathematics. The first cohort of students was enrolled in the most basic Mathematics course offered at the University and it presented a review of high school Mathematics. These students had less than three years of Mathematics in high school or their placement scores indicated low level of preparedness for general education mathematics course. The second group consisted of students enrolled in a more advanced Mathematics course, Precalculus, designated for students planning to major in STEM (science, technology, engineering, medicine) disciplines. Also, the third group of students was enrolled in an introductory, general education psychology course, and it consisted of students enrolled in a variety of Mathematics courses. It was demonstrated that test anxiety levels and years of high school Mathematics were correlated regardless of what Mathematics course students were enrolled

in the college (Betz, 1978). Examining and comparing levels of test anxiety of males and females for all three groups did not reveal any significant differences. This implies that years of high school Mathematics, as a predictor of test anxiety, may not be related to gender.

Higher number of years of high school Mathematics is inversely related to time period without Mathematics for college students. Due to a significant influence of time period without enrolling in a Mathematics course on students' Mathematics avoidance behavior, Mathematics performance, and test anxiety in college, it is evident that high school Mathematics preparation needs to be emphasized and if necessary, improved. More Mathematics courses taken in high school would imply that less time would pass between the last high school and first college Mathematics course, which in turn may have a positive effect on student Mathematics performance and test anxiety in college.

2.3 Conceptual Model for the Study

A conceptual model can be defined as an integration of ideals in concise manner in such a way that people derive their feel how things work (Esere, 2002).

The model for this study consists of the independent variables (Cognitive Restructuring Therapy and Test-Taking Skills Training) to be manipulated by the researcher to affirm their effectiveness or otherwise on the dependent variables (Examination Anxiety).

Some factors affecting the effects of the independent variables on the dependent variables, these variables are called intervening variables. The intervening variables are factors inherent in the participants that are unobserved which may affect the outcome of the treatment. These variables are divided into two: endogenous variables and exogenous variables. The endogenous variables refer to those factors inherent in the individual such as age, gender, emotional intelligence while exogenous variables include factors like socio economic status, lecturer behaviour, field of study.

These variables intervened between independent variables and dependent variable and made an impact on the dependent variables. Thus the researcher manipulated the independent variables to ascertain their effectiveness on the dependent variables (presumed effect). The researcher determined the impact of the independent variables on dependent variables through the instruments that were used in the study.

The behavioural equation S-O-R represents the complete interaction of various variables in the study.

S-Stimulus (i.e. the independent variables)

O-Organismic and environmental (i.e. the intervening variables inherent in the organism)

R-Response (i.e. the dependent variables that are the resultant effects of independent variables)

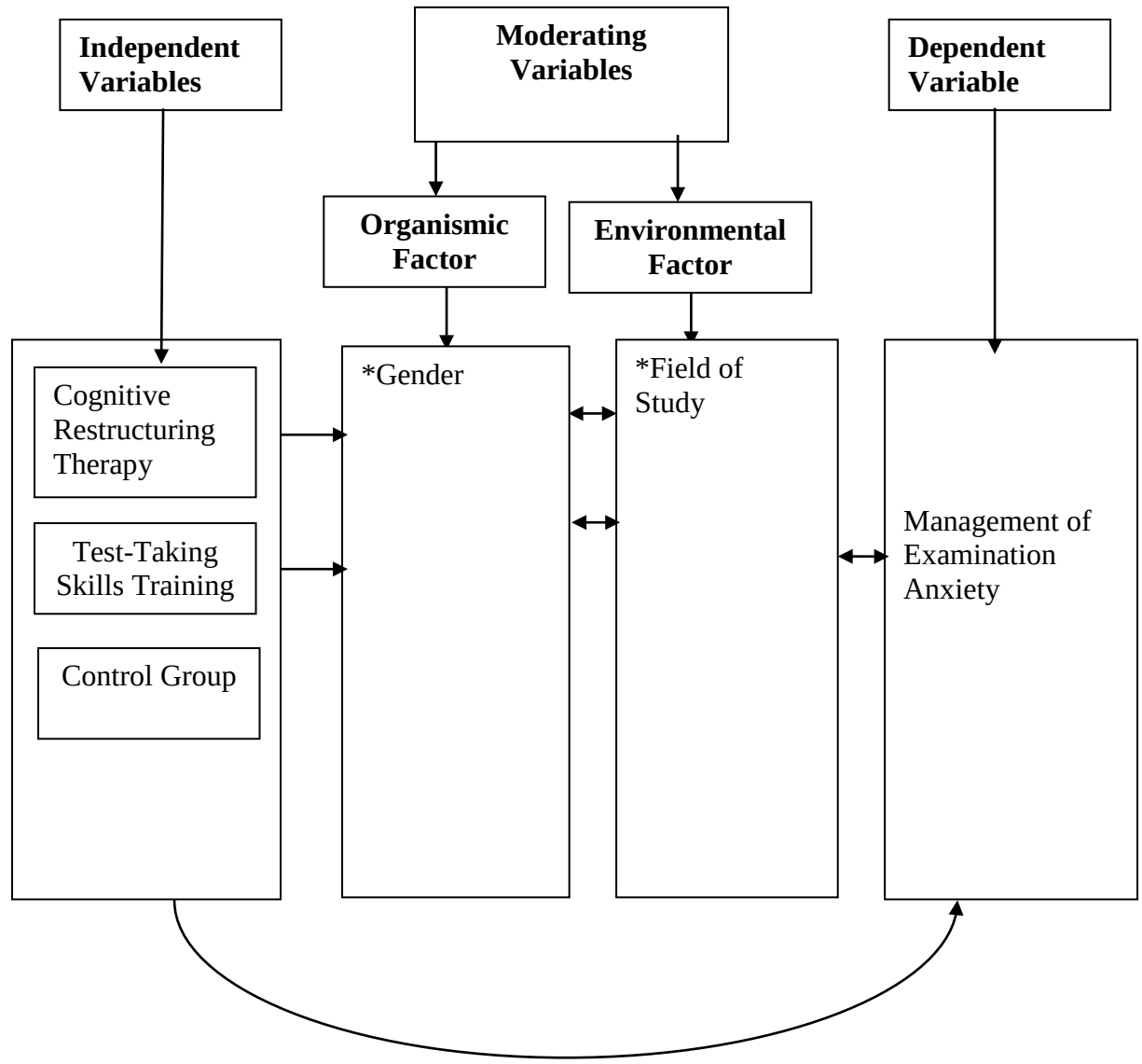


Figure 2.5: Conceptual Framework for the Study

2.4 Hypotheses

The following hypotheses were developed and tested at 0.05 alpha levels.

1. There will be no significant main effect of treatments on examination anxiety of undergraduates.
2. There will be no significant main effect of gender on examination anxiety of undergraduates.
3. There will be no significant main effect of field of study on examination anxiety of undergraduates.
4. There will be no significant interactive effect of treatments and gender on examination anxiety of undergraduates.
5. There will be no significant interactive effect of treatments and field of study on examination anxiety of undergraduates.
6. There will be no significant interactive effect of gender and field of study on examination anxiety of undergraduates.
7. There will be no significant interactive effect of treatments, gender and field of study on examination anxiety of undergraduates.

CHAPTER THREE

METHODOLOGY

This chapter focuses on the explanation of how the study was carried out, it covers the following sub-headings: the research design, the population of the study, the sample and sampling techniques, the instrumentation, procedure for data collection and the method of data analysis of the study.

3.1 Research Design

This study adopted pretest-posttest, control group quasi- experimental design with a 3x2x2 factorial matrix. The 3 in the matrix represents the treatments which comprises the two experimental groups and the control group. It is labelled A1 and A2 representing the experimental groups and A3 representing the control group which is arranged in the first column. The second column is the gender of the participants, represented as B1 for male and B2 for female. The third column is the second moderating variable, which is the field of study of the participants. It is represented as C2 for Humanity (Arts, Education, Social Science and Law), C1 for Science (Basic Science, Medicine, Agricultural and Engineering).

Table 3.1: 3x2x2 Factorial Matrix for the management of Examination Anxiety

Treatment Packages	**Field of Study**				**Total**
	B1 Male		**B2 Female**		
	Science (C1)	**Humanity (C2)**	**Science (C1)**	**Humanity (C2)**	
CRT (A1)	12	16	6	14	48
TTST (A2)	10	14	6	10	40
Control (A3)	8	15	5	10	38
Total	30	45	17	34	126

Key:
CRT-Cognitive Restructuring Therapy, TTST – Test-Taking Skills Training
A1 – Cognitive Restructuring Therapy
A2 – Test-Taking Skills Training
A3 – Control Group
B1 – Male
B2 – Female
C1 – Science (Basic Science, Medicine, Agric and Engineering)
C2 – Humanity (Arts, Education, Social Science and Law)

3.2 Population

The population for the study comprised the eighty-eight thousand, eight hundred and thirty-one (88,831) undergraduates in the six Federal Universities in Southwestern Nigeria (NUC Website, 2015). Southwestern Nigeria is one of the geo-political zones in Nigeria. The zone has six states namely, Ekiti, Lagos, Ogun, Ondo, Osun and Oyo States. It is majorly a Yoruba speaking area, although there are different dialects within the states. Each of the six states has higher institutions, particularly universities. There are federal, state and private universities.

In Nigeria, the total number of accredited universities by National Universities Commission is one hundred and thirty-eight universities as at April, 2015 in which forty (40) universities are federal universities, thirty-nine (39) state universities and fifty-nine (59) private universities. In Southwestern Nigeria, the total numbers of accredited Universities by National Universities Commission are thirty-five (35) universities. Six (6) federal universities, nine (9) state universities and twenty (20) private universities.

The federal universities in Southwestern Nigeria accredited by National Universities Commission are: University of Ibadan, Ibadan; Obafemi Awolowo University, Ile-Ife, Federal University of Agriculture, Abeokuta, Federal University, Oye-Ekiti, University of Lagos, Akoka and Federal University of Technology, Akure. The population of undergraduates in these Universities is presented in Appendix IV.

The target population comprised the 200 level or second year undergraduates from the Faculties of Humanity and Science in the six Federal Universities in Southwestern Nigeria. They were seven thousand, seven hundred and twenty-nine (7,729) in number. The second year undergraduates were chosen for the study because they have done at least two semester examinations, they still have a lot of tests and examinations to write and they are still accumulating the Grade Point Average in their different courses and this may cause them to experience examination anxiety.

3.3 Sample and Sampling Techniques

This research adopted stratified random sampling technique in selecting the universities from six federal universities in Southwestern Nigeria. Three universities were selected because they offer a wide range of courses in both Science and Humanity which was the major criteria for this study, (Federal University of Technology, Akure is a technology school where Humanity courses are not offered, Federal University of Agriculture, Abeokuta is known for agricultural sciences and has no Humanity courses). The universities were

Obafemi Awolowo University, Ile-Ife (OAU), University of Ibadan, Ibadan (U.I.) and Federal University, Oye-Ekiti (FUOYE). These Universities were further randomly assigned into three experimental groups (University of Ibadan (U.I.) and Obafemi Awolowo University, Ile-Ife (OAU) and (Federal University, Oye-Ekiti).

Undergraduates for the study were selected through screening test using Anxiety Test Inventory (ATI). The scale was administered to some two hundred level undergraduates in Science and Humanity faculties. A sample size of one hundred and eighty (180) was drawn from the population for this study: sixty (60) students each from the various departments in the faculties of Humanity (Arts, Education, Social Science and Law) and Science (Basic Science, Medicine, Agricultural and Engineering) from the three selected federal universities, through multistage random sampling technique. The participants were then assigned into the experimental groups. Participants whose scores were between 50% and 80% were selected for the study from the three Universities. Out of one hundred and eighty (180) participants selected for the study only one hundred and twenty-six (126) participants completed the training programme. Seventy-five (59.5%) of the participants were males while Fifty-one (40.5%) were females, Fourty (32.5%) were between 16-20 years of age, seventy-one (55.6%) between 21-25 years of age, while fifteen (11.0%) participants were 26 years and above.

3.4 Inclusion and Exclusion Criteria

The following criteria were used in selecting the undergraduates for the study.

- They were 200 level students.
- They scored between 50% -80% on test anxiety scale.
- They were registered students of the University from Science and Humanity faculties.
- They have written at least three University examinations.
- They volunteered to participate by signing the consent form presented by the researcher.
- The undergraduates that scored low marks from the anxiety test inventory for screening test were excluded from the study.

3.5 Instrumentation

The instruments that were used for the collection of data are: Anxiety Test Inventory (ATI) by Sokan (1998) and Revised Test Anxiety Scale (RTAS) by Benson, Moulin-Julian, Schwarzer, Seipp, and El-Zahhar, (1992).

The instrument for the study comprised of two sections. Section A, and B. Section A: elicits demographic information like sex, religion, academic level, faculty and gender. Section B comprised of two scales (Revised Test Anxiety Scale, and Anxiety Test Inventory).

Revised Test Anxiety Scale (RTAS)

The Revised Test Anxiety Scale is an 18 items self-report scale designed to measure the trait test anxiety. It is combination of items from the Test Anxiety Inventory of Spielberger (1980) and the Reactions to Tests Inventory of Sarason (1984). The main authors are Benson, Moulin-Julian, Schwarzer, Seipp and El-Zahhar (1992). The items are to measure anxiety proneness to examinations and evaluative situations. The scale has two components of test anxiety namely worry and emotionality. It is also used to determine the degree of test anxiety, and it is based on the evidence that test anxiety is composed of test-relevant and test-irrelevant thinking and bodily symptoms. Items are rated on a four-point likert scale.

Responses to the items vary from strongly disagree to strongly agree with a minimum score of 18 and maximum of 72, the greater the score, the stronger the degree of test anxiety. The reliability coefficients are cronbach alpha = 0.88 and a stable four-factor structure has been established for the RTAS, (Benson, et al., 1992). The four subscales are: tension, worry, bodily sensations, and test-irrelevant thinking. The tension factor contains four items that assess feelings of muscle tension (e.g., “I get a headache during an important test”). The worry factor contains five items that assess the presence of worrying thoughts (e.g., “During tests I find myself thinking about the consequences of failing”). The bodily symptoms factor contains five items that assess physiological aspects of anxiety (e.g., “I sometimes find myself trembling before or during tests”). Finally, test-irrelevant thinking consists of four items that measure the frequency and intensity of thoughts that are unrelated to the task (e.g., “I think about current events during a test”). It is adopted for this study and scored as 1 for strongly disagree, 2 for somewhat disagree, 3 for somewhat agree and 4 for strongly agree. The score is calculated in percentages e.g. a score of 72 is 100% and any score is converted to a percentage. A score of 50% and above suggests anxiety disorder while a score below 50% suggests the reverse. The RTAs was completed twice by each participant during the study. The first time (pre-test) occurred after the participants received the instructions and the

participants also completed this scale immediately following the completion of the interventions (post-test) to determine if the interventions instructions were effective in reducing the examination anxiety of the participants. It has been used before by Nigerian researchers like Akinsola and Nwajei (2013), Owolabi and Dahunsi (2014). The RTAs is used by researchers internationally e.g. Papantoniou, Moraitou and Filippidou (2011), Chen (2012), Fayand, Gargari and Sarandi (2013) are few examples. At the end of the pilot study of research instrument, the reliability coefficient was established by using Cronbach alpha, it was found to be 0.98.

Anxiety Test Inventory (ATI) (Screening Instrument)

The Anxiety Test Inventory by Sokan (1998) is made up of two tests; the General Anxiety Test and the Examination Anxiety Test. For this study, the Examination Anxiety Test was used and it consists of 18 items to test for the examination anxiety level of an individual. The test validation was done by its administration on 800 undergraduates and Polytechnic students. Nominal ranking of subjects' response was done in percentages. Test scores were then subjected to analysis using the Pearson Product Moment Correlation Coefficient. The reliability coefficient for the Examination Anxiety Test was 0.725, and the split-half reliability coefficient was 0.682. The test items were constructed in simple language thereby ensuring its face validity. It is a 'True' or 'False' answer format, any 'True' response is scored as 1 while a 'False' response is scored as 0. The score is calculated in percentages e.g. a score of 18 is 100%, and any fraction of 18 is converted to a percentage. A high index of score suggests anxiety disorder while a low index suggests the reverse. At the end of the pilot study, the reliability coefficient was 0.74. It is also adopted for this study and used to recruit participants into two experimental groups.

3.6 Procedure for Data Collection

3.6.1 Quantitative Data

A letter of introduction was obtained from the Department of Counselling and Human Development Studies, University of Ibadan to the selected Universities for the study. The researcher sought the permission of the university authorities and the departments that were used for the study. The Head of Departments introduced the researcher to the students.

The researcher conducted eight (8) training sessions in each of the Universities for the participants. Before the commencement of the training, the researcher had a brief discussion with the participants, by way of introducing the steps involved in the therapies as well as the

objectives of the training. The participants were encouraged to ask questions where necessary and were advised to conduct themselves in an appropriate manner suitable for the training process.

Selected participants from the three treatment groups received training on Cognitive Restructuring Therapy, Test-Taking Skills Training and Control group respectively as outlined. These participants were further enjoined to cooperate during the training to see that the objectives of the research were achieved. There were daily evaluation to know the efficacy of the treatment and adequate arrangement was made in organising a suitable venue for the training sessions. The researcher made provision for motivating the participants and ensured consistency and maximum cooperation of the participants. Also, the well-behaved participants in the experimental groups were appreciated.

3.6.2 Qualitative Data

In conjunction with the administration of questionnaire on the selected participants, this study collected qualitative data using five Focus Group Discussions (FGDs) to bridge gaps and provide information that could not be covered or provided for in the instruments. The approved procedure for FGD was followed in this study. For qualitative data, ten students were selected from the study participants. Note = See Appendix III

3.7 Data Analysis

Analysis of Covariance (ANCOVA) was the major statistical tool used in this study to analyse data generated from the responses of participants after responding to the adopted Revised Test Anxiety Scale (RTAS). The ANCOVA analysis was postulated by Fisher (1951) and was designed to test the significance of the differences between the means of experimental groups after taking into account initial differences among the groups and the correlation of the initial measures and the dependent variable (Kerlinger, 2000). It was used to analyse the data in this study so as to ascertain the efficacy of the treatments on the experimental groups and to take into account the correlation between the pre-treatment and post-treatment scores of the participants to check whether there is a significant difference between the groups after controlling for variance explained by a covariate. A covariate is known as a continuous variable that correlates with the dependent variable and the covariate in this study is the pre-test scores of the participants. Scheffe Post-Hoc test was used in the significant differences among various treatment groups. A content analysis of the qualitative data collected through the FGDs in this study was qualitatively analyzed to complement

quantitative data collected. FGDs revealed that lack of adequate preparation for examination, procrastination, poor test-taking skills can cause examination anxiety. Poor motivation and lack of confidence, fear of failure, previous poor test performance and examiner characteristics may aggravate examination anxiety.

3.8 Control of Extraneous Variables

Extraneous variables are those factors or attributes that may affect the outcome of the experimental study aside from the intervention strategies employed. The researcher guided against effects of such variables through the following:

- The participants for the study were screened to certify that they meet the inclusion criteria for this study.
- The three selected universities from the Southwest were randomly assigned into treatment conditions to avoid selection bias.
- The 3x2x2 factorial matrix was strictly adhered to.
- Other extraneous variables were also taken care of by means of statistical control, through the use of Analysis of Covariance (ANCOVA).
- The Scheffe Post-Hoc analysis was used to show the significant differences among various treatment groups.

3.9 Management of Examination Anxiety Packages

Objectives of the therapeutic programmes: The Goals of the General Treatment

The general objectives of the programmes were to reduce the examination anxiety among undergraduates.

i. Identify examination anxiety as a problem that comes with many consequences
ii. Provide methods to help them reduce and cope with examination anxiety
iii. Experimentally determine the efficacy of Cognitive Restructuring Therapy and Test-taking Skills Training in management of examination anxiety among Undergraduates
iv. Become aware of the etiology, signs and symptoms of examination anxiety
v. Redefine their thinking or thoughts that can lead to feelings of examination anxiety to realistic thinking.

Experimental Group One (Cognitive Restructuring Therapy)

Session One: General orientation, familiarisation, establishment of rapport and administration of instrument to obtain pretest scores.

Session Two: The concept of examination anxiety.

Session Three: Concept of CRT

Session Four: Identification of problematic cognitions known as automatic thoughts (ATs) and its relevance to examination anxiety.

Session Five: Identification of irrational beliefs on examination.

Session Six: Rational disputation of automatic thoughts.

Session Seven: Development of a rational rebuttal to the automatic thoughts.

Session Eight: Post-test administration.

Session Nine: Overall review, post experiment test administration and conclusion.

Experimental Group Two (Test-Taking Skills) Training

Session One: General orientation, familiarisation/establishment of rapport, and administration of instrument to obtain pretest scores.

Session Two: Concept of anxiety and examination anxiety.

Session Three: Skill deficit model.

Session Four: Test-taking Skills Training

Session Five: Test-taking Skills tips

Session Six: Test-taking strategies

Session Seven: Test-taking skills – Test wiseness.

Session Eight: Revision of all activities in the previous sessions and post-test, administration.

Session Nine: Overview, Post-experiment test administration and conclusion

Control Group: Skills Acquisition

Session One: Administration of pre-test instrument, using Anxiety Test Inventory

Session Two: General introduction and establishment of rapport.

Session Three: Description of various skills.

Session Four: Methods of acquiring skills.

Session Five: Reasons for skills acquisition

Session Six: Benefits of skills acquisition

Session Seven: Negative effects of not acquiring skills

Session Eight: Revision of all activities in the previous sessions and post-test administration and conclusion.

Note: (See Appendix 1).

CHAPTER FOUR

RESULT

This chapter presents the results and summary of findings. The study investigated the effect of Cognitive Restructuring Therapy and Test-Taking Skills Training in management of examination anxiety among undergraduates in Southwestern Nigeria. This is based on the analysis of the seven hypotheses formulated for the study. The outcome of the study further determined the acceptance or rejection of the formulated hypotheses. The data were analysed using simple percentage and Analysis of Covariance (ANCOVA) statistical method. The results are presented below.

4.1 Analysis of Demographic Information of the Participants

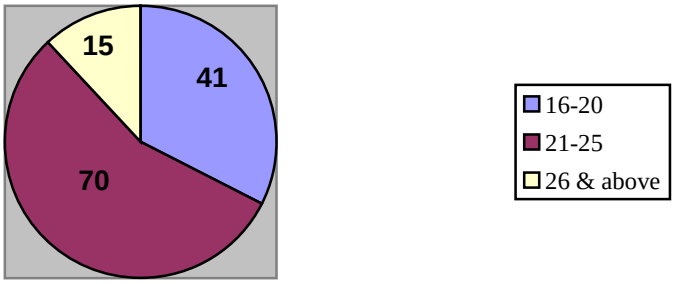


Figure 4.1: Distribution of Respondents based on Age

Age: Forty-one (41) participants were between age 16-20 (32.5%), seventy (70) participants were 21-25 (55.6%) and fifteen (15) were 26 and above (11.9%)

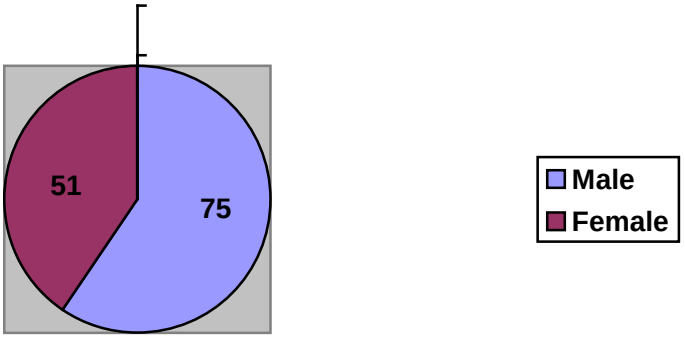


Figure 4.2: Distribution of Respondents based on Gender

Gender: Seventy-five (75) which is 59.5% of the participants were male while fifty-one (51), 40.5% were female.

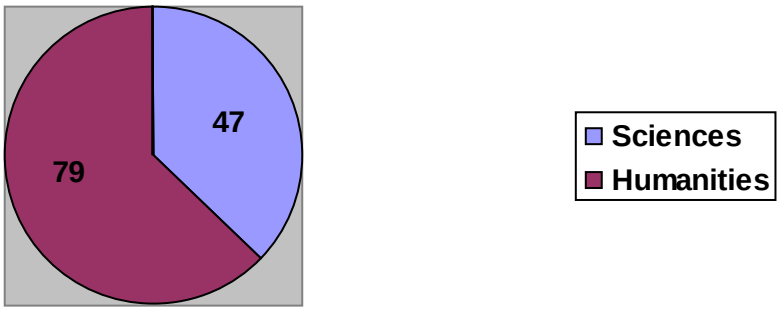


Figure 4.4: Distribution of Respondents based on Field of study

Field of study: The forty-seven (47) 38.1% of the participants were from Science faculty while seventy-nine (79) were of Humanity Faculty 61.9%.

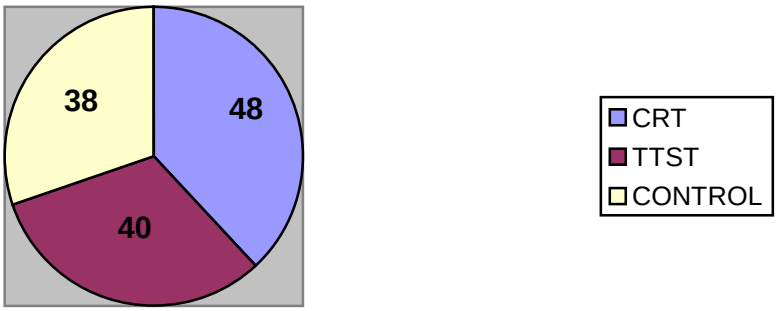


Figure 4.5: Distribution of Respondents based on Treatment

Treatment: Fourty-eight (48) 38.1% of the respondents were in CRT, forty (40) 31.7% were in TTST and thirty-eight (38) 30.2% of the respondents were in control group.

Variables	**Gender**		**Age**			**Field of study**	
	M	F	16-20	21-25	26 and above	Science	Humanity
Number	75	51	41	70	15	47	79
Percentage	59.5%	40.5%	32.5%	55.6%	11.0%	38.1%	61.9%

4.2 Analysis of Hypotheses

Hypothesis One: There will be no significant main effect of treatment on management of examination anxiety among undergraduates.

Table 4.1: Summary of Analysis of Covariance (ANCOVA) Showing the Significant main and interactive Effect of Treatment Groups, Field of study and Gender on Management of Examination Anxiety among Undergraduates

Source	Sum of Squares	Df	Mean Square	F	Sig.	Partial η^2	Remark
Corrected Model	18633.362[a]	12	1552.780	79.535	.000	.894	
Intercept	46.373	1	46.373	2.375	.126	.021	
Pretest	1687.799	1	1687.799	86.451	.000	.433	
Treatment	14863.926	2	7431.963	380.672	.000	.871	S
Field of study	.824	1	.824	.042	.838	.000	NS
Gender	.078	1	.078	.004	.950	.000	NS
Treatment x Field of study	6.154	2	3.077	.158	.854	.003	NS
Treatment x gender	9.699	2	4.849	.248	.780	.004	NS
Field of study x gender	.311	1	.311	.016	.900	.000	NS
Treatment x field of study x gender	18.565	2	9.282	.475	.623	.008	NS
Error	2206.130	113	19.523				
Total	193926.000	126					
Corrected Total	20839.492	125					

R Squared = .894 (Adjusted R Squared = .883)
* Significant at 0.05

Table 4.1 indicated that there was significant main effect of treatment on the management of examination anxiety ($F_{(2,113)}$ =380.672, P<.05, partial n = .871). This implies that there was a significant effect of the treatment on the groups' tests scores on management of examination anxiety among undergraduates. Therefore, null hypothesis that was earlier stated that there is no significant main effect of treatment on the management of examination anxiety among undergraduates was rejected. The table further showed the contributing effect of size of 88.3%. To further illuminate readers' understanding regarding the margin of differences between the treatment groups and the control group, a Scheffe Post-hoc pairwise

analysis that shows the comparison of the adjusted mean was computed and the result is as shown in the Table 4.2

Table 4.2: Scheffe Post-hoc Pairwise Analysis showing the Significant Differences among the various Treatment Groups and the Control Group in Management of Examination Anxiety

Treatment Groups	**N**	**Subset for Alpha = 0.05**		
		1	**2**	**3**
Test-Taking Skills Training	40	26.5250		
Cognitive Restructuring Therapy	48		32.2292	
Control	38			54.2632
Significant		1.000	1.000	1.000

From the Table 4.2 the experimental group 1 TTST (mean = 26.53) was more potent in management of examination anxiety compared to the experimental group two CRT (mean = 32.23) and the control group (mean = 54.26). This implies that TTST was more potent in reducing examination anxiety than CRT. The coefficient of determination (Adjusted R^2 = 88.3) overall shows that the differences that exist in the group account for 88.3% in the variation of management of examination anxiety among undergraduates in Southwestern Nigeria.

Table 4.3: Estimated Marginal Means

Trtgroup	**Mean**	**Std. Error**	**95% Confidence Interval**	
			Lower Bound	**Upper Bound**
CRT	31.505[a]	.689	30.149	32.870
TTST	27.186[a]	.736	25.728	28.645
Control	54.624[a]	.776	53.086	56.163
Gender				
Male	37.745[a]	.524	36.706	38.784
Female	37.798[a]	.661	36.489	39.108
Field of Study				
Science	37.859[a]	.675	36.521	39.196
Humanity	37.685[a]	.509	36.677	38.693

Hypothesis Two: There will be no significant main effect of field of study on the management of examination anxiety among undergraduates.

Table 4.1 revealed that there was no significant main effect of field of study on the management of examination anxiety among undergraduates. ($F_{(1,113)} = .042 > .05$, partial $\eta^2 =$ 000). Hence, the earlier stated null hypothesis was accepted. This implies that there was no significant difference in management of examination anxiety among undergraduates in Science and those in Humanity. Table 4.3 further revealed that the mean score of Science students (estimated mean score = 37.86) while that of Humanity (estimated mean = 37.67). The Science had higher anxiety compared to Humanity but the difference was not significant.

Hypothesis Three: There will be no significant main effect of gender on the management of examination anxiety among undergraduates.

Table 4.1 revealed that there was no significant main effect of gender on management of examination anxiety among undergraduates ($F_{(1,113)} = .004 > .05$, partial $\eta^2 = 000$). Hence, the earlier stated null hypothesis was accepted. This implies that there was no significant difference in management of examination anxiety of male and female undergraduates. Table 4.3 further revealed that the mean score of male undergraduates (estimated mean = 37.75) while that of female (estimated mean 37.80). The female undergraduates have higher anxiety compared to male undergraduates but the difference was not significant.

Hypothesis Four: There will be no significant interaction effect of treatment and field of study on the management of examination anxiety among undergraduates.

Table 4.1 revealed that there was no significant interaction effect of treatment and field of study on management of examination anxiety among undergraduates. ($F_{(2,113)} = .158 > .05$, partial $\eta^2 = .003$). Hence, the earlier stated null hypothesis was accepted. This implies that field of study did not significantly moderate the effectiveness of treatment in reducing examination anxiety among undergraduates.

Hypothesis Five: There will be no significant interaction effect of treatment and gender on the management of examination anxiety among undergraduates.

Table 4.1 revealed that there was no significant interaction effect of treatment and gender on management of examination anxiety among undergraduates ($F_{(2,113)} = .248 > .05$, partial $\eta^2 = .004$). Hence, the earlier stated null hypothesis was accepted. This implies that gender did not significantly moderate the effectiveness of treatment in reducing examination anxiety among undergraduates.

Hypothesis Six: There will be no significant interaction effect of field of study and gender on the management of examination anxiety among undergraduates.

Table 4.1 revealed that there was no significant interaction effect of gender and field of study on management of examination anxiety among undergraduates. ($F_{(1,113)} = .016 > .05$, partial $\eta^2 = .000$). Hence, the earlier stated null hypothesis was accepted. This implies field of study and gender did not significantly reduce examination anxiety among undergraduates.

Hypothesis Seven: There will be no significant interaction effect of treatment, field of study and gender on the management of examination anxiety among undergraduates.

Table 4.1 revealed that there was no significant interaction effect of treatment, gender and field of study on management of examination anxiety among undergraduates. ($F_{(2,113)} = .475 > .05$, partial $\eta^2 = .008$). Hence, the earlier stated null hypothesis was accepted. This shows that treatment, field of study and gender had no significant moderating effect on the management of examination anxiety among undergraduates.

4.3 Summary of the Findings

The findings of this study are summarised as follows:

1. The main effect of treatment on the management of examination anxiety among undergraduates was significant.
2. There was no significant main effect of field of study on the management of examination anxiety among undergraduates.
3. The main effect of gender on the management of examination anxiety among undergraduates was not significant.
4. There was no significant interactive effect of treatment and field of study on the management of examination anxiety among undergraduates.
5. There was no significant interactive effect of treatment and gender on the management of examination anxiety among undergraduates.
6. The interactive effect of field of study and gender on the management of examination anxiety among undergraduates was not significant.
7. The three-way interactive effect of treatment, field of study and gender on the management of examination anxiety among undergraduates was not significant.

CHAPTER FIVE

DISCUSSION, CONCLUSION AND RECOMMENDATIONS

This chapter presents the discussion of the findings based on the seven null hypotheses formulated for the study. Conclusion was drawn and recommendations were made based on the findings on the study. In addition, the limitations of the study, contribution to knowledge and suggestion for further studies are provided in this chapter.

5.1 Discussion of the Findings

This study investigated the psychotherapeutic effects of Cognitive Restructuring Therapy and Test-Taking Skills Training on the management of examination anxiety among undergraduates. The hypotheses were tested at 0.05 level of significance using Analysis of Covariance to analyse the data collected and the findings are discussed as follows:

Hypothesis One

There will be no significant main effect of treatments on examination anxiety among undergraduates.

This hypothesis was rejected because the result in Table 4.1 revealed that there is a significant main effect of treatments on the management of examination anxiety among undergraduates in Southwestern Nigeria. This connotes that Cognitive Restructuring Therapy (CRT) and Test-Taking Skills Training (TTST) were effective in the management of examination anxiety among undergraduates. Both treatments were effective, Table 4.2 clearly showed the marginal difference between the interventions. It was however indicated that the group treated with Test-Taking Skills Training had reduced examination anxiety more than the group treated with Cognitive Restructuring Therapy as revealed in their mean scores. The mean scores of participants in TTST group (26.53) showed they benefitted more in the training programme than those in CRT group (32.23).

Test Taking Skills Training was more effective in reducing examination anxiety of undergraduates in this study than Cognitive Restructuring Therapy because the goal of Test-Taking Skills Training is to provide techniques to assist students in comprehending examination questions and instructions which make students to easily organize and retrieve information and communication clearly (Spielberger et al., 1978). Through the training, the participants were made to understand the concept of examination anxiety which is the problem, its causes and effects on their performance. They were assisted to bring to fore the signs and symptoms of examination anxiety, how it can be reduced and obtained good results

especially with the use of TTST. The participants were taught that Test-Taking Skills can help to translate their knowledge from classroom learning to answering and responding to questions when taking tests. This corroborates the findings of Sweetnam (2002) that reported the effectiveness of Test-Taking Skills Training in improving students' scores on examination. Similarly, Abdelmabood and Dodeen (2005) reports that Test-Taking Skills Training improves students' attitudes toward examinations and decreased anxiety. This study is also in line with the findings of Carraway (1987) who reported that Test-Taking Skills Training decreases examination anxiety and increased examination scores. The study is of the view that the present study corroborates these past studies because irrespective of the study setting or population, Test-Taking Skills Training as an intervention programme reduced examination anxiety.

The finding affirmed that CRT was effective in helping students to identify and correct negative thinking patterns when it comes to examination and it involves altering negative automatic thoughts that occur in examination situations by replacing them with more rational beliefs. As their thoughts are challenged and disputed, their ability to elicit examination anxiety is weakened. The undergraduates (the participants) were trained to identify problematic cognitions known as automatic thoughts which are negative views of the self, world or future based upon already existing beliefs about examination, world or oneself, identify the cognitive distortion, rationalise the automatic thoughts and develop a rational rebuttal to the automatic thoughts. The goal of CRT is to help clients change their negative self-thoughts or statements which can cause emotional distress and interfere with performance negatively. Mood repair strategies are implemented in hopes of contributing to a cessation of the negative self-statements or thoughts. The participants were helped to understand what lies behind negative thoughts and that it may undermine their performance. This finding is consistent with the studies of Busari (2012), Fayand, Gargari and Sarandi (2013), Morgan and Schmidt (2012) and Akinsola and Nwajei (2013). They reported significant efficacy of the use of Cognitive Restructuring Therapy Programme in the management of examination anxiety. These past studies are crucial to developing a body of knowledge about what works for the management of examination anxiety.

Students who have examination anxiety may experience emotional or physical distress, difficulty in concentrating and emotional worry (Birjandi and Alema, 2010). Examination anxious students are found to perform about 12 percent below their non-anxious peers (Hembree, 1988). Ziedner (1998) says these categories of students tend to be easily distracted during a test, experience difficulty with comprehending relatively simple

instructions and have trouble organising or recalling relevant information. There is a trend therefore toward greater management in examination anxiety with the use of CRT and TTST.

This result is complemented qualitatively with the Focus Group Discussions (FGDs) result which highlighted that examination anxiety can be overcome and reduced if there is therapy, intervention or training that can be given to stop the negative feelings and thoughts. Participants again noted that examination anxiety can be overcome or reduced by making positive and encouraging statements toward the examination. This report is in line with the goal of Cognitive Restructuring Therapy which is to overcome negative thinking and help to approach situations in a more positive frame of mind.

Some participants after accepting that they do experience examination anxiety due to lack of preparation, poor study habits, parental influence, peer pressure, lateness to the examination centre and the fact that they do not know where in particular the questions are coming from in the course material were of the opinion that if they are taught on how to answer series of questions as they ought to, the problem would be reduced and their skills on how to answer questions would improve. This corroborates with the findings of Austin, Patridge, Bitmer and Vandlington (1995) that states that Test-Taking Skills Training can be effectively used to help students eliminate any feeling of tension and anxiety that may interfere with their ability to communicate what they know in an examination setting and is likely to indirectly improve their achievement.

Hypothesis Two

There will be no significant main effects of field of study on the management of examination anxiety among undergraduates.

Hypothesis two was accepted because there was no significant main effect of field of study on the management of examination anxiety among undergraduates. This simply means that there was no statistical difference in the examination anxiety of students in Science and Humanity. In a similar study, Oladipo and Ogungbamila (2013) investigated the relationship between examination anxiety and faculty of study, the results showed that students' examination anxiety has no significant relationship with the faculty of study. This means that irrespective of students' field of study, that is, either Science or Humanity, did not increase or decrease their apprehension level towards examination anxiety.

The possible explanation for this result is the fact that the participants used in this study displayed a similar attitude irrespective of their faculties towards examination. Also, Okorodudu and Ossai (2012) in their findings say there was no significant relationship

between field of study and examination anxiety. This is so because of the trend among the students, nowadays, they are not adequately prepared for examinations or major tests because of addiction to the internet, watching of football by the boys, pinging and the likes, this makes them have less time for their studies and they wait till the last minute before studying for the examination and this is likely to make them experience some kind of examination anxiety.

The findings of this study showed that examination anxiety is experienced by all students irrespective of their faculties or field of study. However, Henning, Sidney and Shaw (1998) and Waterworth (2003) indicated that science students displayed higher level of examination anxiety when compared with students from other faculties. This contradicts the finding of this study as it revealed that examination anxiety is bound to occur irrespective of students' field of study.

Qualitatively the position of the Focus Group Discussion, participants is in two ways. Some of the participants believed that there is no relationship between field of study and examination anxiety among undergraduates but, a participant from OAU (FGD) group noted that some courses are more demanding, time consuming and the work load are too much and gave example of medicine and law.

Another FGD participant from U.I. noted according to his words "*I was an art student from secondary school but I found myself in science faculty"* this has made him to be experiencing examination anxiety any time there is examination or major test.

Other FGD participant held that *"irrespective of the field of study, students will experience examination anxiety."* This corroborates with the quantitative findings of this study.

Hypothesis Three

There will be no significant main effect of gender on the management of examination anxiety among undergraduates.

This hypothesis was accepted because Table 4.1 revealed that there was no significant main effect of gender on management of examination anxiety among undergraduates. This implies that there was no difference in examination anxiety of female undergraduates and male undergraduates. This finding is in line with Arogundade (2012) who found that difference between male and female participants in his study on examination anxiety was not significant. This also corroborates with the findings of Yousefi, Mansor, Inhari, Redzuan, Talib and Kumar (2009) and Azadeh (2012) stated that examination anxiety does not vary with gender.

The mean score in Table 4.3 revealed that male undergraduate scored low (37.75) while female scored high (37.80). This shows that male undergraduates have lower examination anxiety compared to female undergraduates but the difference was not significant. This finding contradicts the previous studies of Charoller (2006) where the males showed more anxiety than the females. This result supports some previous findings that say females tend to be more anxious than males, e.g. Eman, Dogar, Khalid and Haider (2012).

However, the findings of this study is contrary to the finding of Saima, Imtiaz, Memona and Nighat (2012) that reported that there was a significant difference between examination anxiety of females and males. In their opinion, the female students experienced significantly higher level of examination anxiety than their male counterparts because female students appear to be more prone to examination anxiety due to their nature that encourages them to be more expressive. Women, again when they are determined to prove their worth in academics are likely to experience examination anxiety, especially when the society discouraged their right to higher education and when they are being made intellectually inferior to men.

Other researches that are in contrary to the findings of this study are Day and Wingstone (2003), Pomerantz, Albermatt and Saxon (2002), Misra and McKean (2012), Audet (2004), Brown, Ralph and Breamber (2012). Faizaneh, Roonak and Hayeda (2012) also found that examination anxiety occurs in female more than in male students because male students are more defensive in admitting anxiety and seen it as a threat to their masculinity (Flender, Zoolensky and Schmidt, 2004).

The reason for the finding of this study that says there was no significant difference between male and female participants in the report of their examination anxiety may be because males and females are given equal opportunity and similar examination condition to proof their competencies.

The qualitative data in this study agrees with the finding that there was no difference between male and female students when it comes to examination anxiety. The statements obtained from both genders exposed the same types of symptoms and signs with the same level of severity and frequency.

The participants confirmed that male and female students are affected by examination anxiety. But few participants agreed with the popular research finding that females are more affected than males because of their nature physiologically and emotionally, they are more susceptible to fear and anxiety compared to males noted by FGD participants in U.I. The main explanation for the difference is the difference in the socialisation patterns of both

genders and females experience more pressure to succeed in school than males, Saima et al (2012).

Hypothesis Four

There will be no significant interactive effect of treatment and field of study on the management of examination anxiety among undergraduates.

The above stated null hypothesis was accepted implying that there was no significant interactive effect of treatment and field of study on the management of examination anxiety among the undergraduates. This is to say that the field of study did not moderate the effect of the treatment on the examination anxiety of the undergraduates. This is in agreement with the findings of Oladipo and Ogungbamila (2013) and Okorodudu and Ossai (2012). They are of the opinion that examination anxiety has nothing to do with a student's faculty or field of study. However, Henning, Sydney and Show (1998) say in their studies that science students displayed a higher level of examination anxiety when compared with students from other faculties. In this study, the result of the findings revealed that examination anxiety is bound to occur irrespective of the faculty or field of study of the students.

The finding contradicts the result of Sansgiry and Kavita (2006) who worked on examination anxiety among pharmaceutical undergraduates, reported that the students showed a higher level of examination anxiety when compared with students in other levels.

The qualitative reports are in line with the finding of this study. Some FGD participants believed that students experience examination anxiety irrespective of their field of study, while some are in contrary to this report. An example is a student of Medical Rehabilitation Department from O.A.U. a participant of the FGD, who said "*I don't know of other departments but as far as my department is concerned, it is very related because if a course is been failed in the college, the student stands a chance of repeating the whole year or even ask to withdraw from the college*." This submission agrees with Sangiry and Kavita (2006) result.

Hypothesis Five

There will be no interactive effect of treatment and gender on the management of examination anxiety among undergraduates.

The result in Table 4.1 showed that there is no significant interactive effect of treatment and gender on the management of examination anxiety among undergraduates. Therefore, the null hypothesis was accepted. This simply means that gender did not

significantly moderate the effect of treatment on the examination anxiety of undergraduates. Several researches have proven that females tend to be more affected by examination anxiety than males (Hong, 2012). Misra and McKean (2012) found that female students showed higher levels of examination anxiety than male students despite the fact that they managed time better than male students.

The possible reason why gender could not moderate the effect of treatment on the examination anxiety of undergraduates could be that males and females are given equal opportunity and similar examination condition to proof their competencies (Arogundade, 2012). Fiore (2003) findings indicate that there is no overall significant difference in the level of examination anxiety according to gender difference. This is in line with the findings of this study. This is to indicate that gender is not the only variable that causes significant differences in examination anxiety.

Hypothesis Six

There will be no significant interactive effect of field of study and gender on the management of examination anxiety among undergraduates.

The result in Table 4.1 showed that there was no significant interactive effect of gender and field of study on the examination anxiety among undergraduates. Therefore the null hypothesis is accepted. This finding corresponds with the findings of Okorodudu and Ossai (2012) of whose report showed there is no interaction between gender and field of study in examination anxiety. In their study, they discovered that gender and field of study of the students did not significantly affect the relationship between examination anxiety and performance in the psychology course.

Hypothesis Seven

There will be no significant interaction effect of treatment, gender and field of study on management of examination anxiety among undergraduates.

This hypothesis was accepted because there was no significant interactive effect of treatment, gender and field of study. Although, Table 4.1 showed clearly that there was a significant effect of treatment on the examination anxiety among undergraduates, however gender and field of study did not moderate the effect of the treatment on the management of examination anxiety among Undergraduates.

Several studies have proven the individual effect of treatment on examination anxiety (Busari, 2012; Akinsola and Nwajei, 2013; Sweetnam, 2002), gender on examination anxiety

(Arogundade, 2012; Azadeh, 2012) and field of study on examination anxiety (Oladipo and Ogungbamila, 2013; Waterworth, 2003). However, it still remains a challenge to establish a three-way interactive effect of treatment, gender and field of study on the management of examination anxiety among Undergraduates because the present study could not reach any past study on the interactive effect of CRT and TTST, gender and field of study on the management of examination anxiety irrespective of the population used.

A possible explanation to the finding of this study could be that Undergraduates who are experiencing examination anxiety are faced with heightened levels of examination anxiety which may interfere with their ability to think clearly and perform well in examinations. Furthermore, there is no policy in place by any faculty or department on how to guide the students to prepare very well for examinations or major tests and to counsel the students on the adverse effects of examination anxiety on their academic performance. These students irrespective of their gender and their various fields of study experience similar issues or problems in the environment and have expectations from friends, parents, lecturers, government of the day and society at large.

This may account for the non-significance of gender and field of study on the management of examination anxiety among undergraduates, allowing just the main effect of treatment on the management of examination anxiety among undergraduates.

5.2 Conclusion from Findings

This study focused on the management of examination anxiety among undergraduates in Southwestern Nigeria through Cognitive Restructuring Therapy and Test-Taking Skills Training. Gender and field of study were the moderating variables. The participants in this study underwent some training sessions especially those in the experimental groups while the participants in the control group were exposed to a topic which has no relevance to this study. The required data was collected and analysed revealing the outcome of the study. Based on the findings of this study, the following conclusions were drawn:

Cognitive Restructuring Therapy and Test-Taking Skills Training were effective in the management of examination anxiety among undergraduates. By implication, a proper application of the principles underlying these interventions should produce a similar result. However, Test-Taking Skills Training was more potent in reducing the examination anxiety among undergraduates than Cognitive Restructuring Therapy.

This study further discovered that gender and field of study had no significant effect in reducing examination anxiety among undergraduates.

5.3 Implication of the Findings for Counselling Practice

There are several implications from the result of this study. The findings have proven that Cognitive Restructuring Therapy and Test-Taking Skills Training are effective in the management of examination anxiety among undergraduates. This means examination anxiety can be reduced among Undergraduates which in turn prevents or reduces poor academic performance. Examination anxiety of any population of interest could be reduced if intervention strategies can be selected properly. Thus the institution or school counsellors or counsellor can reduce any type of anxiety in people effectively if efficacious strategies were used or employed. The findings of this study have implications for institutions, schools or general counsellors, teachers, lecturers, students and other researchers.

University students who are faced with examination anxiety have difficulty in reading and understanding the questions on the examination paper. They cannot organize their thoughts and they do poorly on the examination even when the material is known to them. They are faced with mental blocking which can lead to going blank on questions and as soon as the examination is over, they remember the correct answers. Usually, there is a conflict between the expectations of students prior to their entry into the university and their examination experience in school. Due to anxiety associated with examination in the university, some examination anxious students are destablised mentally, physically and psychologically which has led to poor academic performance on their studies and most times are withdrawn from the University.

Several studies have proven the efficacy of Test-Taking Skills Training in helping the undergraduates manage their examination anxiety. Several studies have it that in a learning setting, field of study is not sufficient in determining the level of examination anxiety of an individual but their level of interest in their field of study is an important determinant of success.

Gender and field of study could not moderate the effect of treatment in this study even though there was main effect of treatment on examination anxiety. This means that certain organismic factors may not mediate between some intervention strategies like Cognitive Restructuring Therapy and Test-Taking Skills Training and examination anxiety in some population of participants. Other factors apart from the ones examined in this study can be responsible for examination anxiety among students.

Further implication of the study is that, it provides the basic information necessary for identifying causes of examination anxiety among undergraduates to lecturers, counsellors and

educational psychologist and also equips the practitioners as regards the knowledge of conceptualising students' challenges and adequately manages the problem using Cognitive Restructuring Therapy and Test-Taking Skills Training.

5.4 Recommendations

The following recommendations are given based on the findings of this study.

The tools of Cognitive Restructuring Therapy and Test-Taking Skills Training strategies can be utilised to manage examination anxiety among Undergraduates, as their effectiveness have been established in this study. The Undergraduates who are challenged with examination anxiety can personally undergo such training for effective problem management. The counselling centres or the youth friendly centres in the various Universities should make use of these psychological interventions maximally to help reduce the problem of examination anxiety among Undergraduates. Parents should be well informed on the need to reduce home pressures that could cause their children/wards examination anxiety in schools. The lecturers/teachers should familiarise the students with the format of the examination and type of rating, the teachers should be aware of test validity and test what is taught. They should also maintain a positive, effective climate during class hour and also before the examination. Universities and all other educators should employ different media that can facilitate the programme to manage examination anxiety the students may face in their studies.

Government can use the findings of this study to plan different programmes and provide a good and conducive environment to enable the students to adapt easily to examination anxiety they are passing through and to cope effectively during examinations and major tests. Educational psychologists could employ Cognitive Restructuring Therapy and Test-Taking Skills Training individually or jointly to help undergraduates that are passing through examination anxiety. Educational psychologists, school counsellors and institution counsellors could organise academic seminars in and outside campus and other faculty or departmental programmes so as to sensitise the students on how to recognise the signs and symptoms of examination anxiety and what to do to reduce it. The two counselling techniques used in this study can be used or adopted concurrently. The future researchers could make use of ideas relating to examination anxiety from this study as it laid procedure for future studies.

The examination anxious students should be recognised and trained to improve their academic performance. Family and educational institutions should provide counselling to

students to assist them in managing their examination anxiety because examination anxiety leads to academic failure and declines the drive towards concentration. The students mental health may be improved by using support strategies like counselling, behavioural therapy teach life skills programmes, study skills training, self-instructional training, positive thinking relaxation training and mental stimulation. The students should be informed about the nature of courses, obligations and period of semester for the successful completion of their courses.

5.5 Contributions to Knowledge

It is believed that this study has contributed to knowledge in the following ways:

- It has ascertained the efficacy of Cognitive Restructuring Therapy and Test-Taking Skills Training strategies in the management of examination anxiety among undergraduates.
- The finding has proved the superiority of Test-Taking Skills Training to Cognitive Restructuring Therapy in the management of examination anxiety among undergraduates.
- The study has proved to the educational psychologists that examination anxiety among Undergraduates can be reduced with the proper selection and application of psychological intervention.
- The study outlined the prevalence and causes of examination anxiety and how these factors can affect undergraduates in all the Universities in Southwestern Nigeria.
- This study has contributed theoretically and methodologically to the understanding of Cognitive Restructuring Therapy and Test-Taking Skills Training interventions.
- This study has filled a research gap which sought for the need to adopt some psychological interventions to manage examination anxiety among undergraduates.

Additionally, contrary to widely known facts that female students are more affected by examination anxiety, this study has shown that both female and male students are affected by examination anxiety.

This study has also widened the knowledge of educational psychologist on the examination anxiety among undergraduates on the fact that irrespective of the faculty or field of study of the students, they will experience examination anxiety.

This study employed experimental approach other researchers can subsequently employ survey approach towards the management of examination anxiety among undergraduates.

5.6 Suggestions for Further Study

Examination anxiety is a continuous issue in the educational settings and undergraduates in the University especially will always encounter it. This study has given insight for further research work in the area of examination anxiety. It is an important study which should cover a wider scope than what the researcher did in this study. It is suggested that a replica of this study should be carried out in other geo-political zones in Nigeria to confirm the results obtained in this study. Other factors that can influence examination anxiety such as examination validity, time limit, examination technique, examination format, length, examination or testing environment and clarity of examination instruction could be examined. Academic self-efficacy may also be a very good moderator in future research. The findings of this study can also be revalidated by reconducting the same research using the same target population after a period of time.

5.7 Limitations of the Study

A limitation of the current study can be found in the facts that it does not assess the direct relationship between examination anxiety and academic achievement of undergraduates. The major challenge experienced by the researcher was sustaining the participants for the eight sessions of the training because majority of the participants were not consistent for the training stating that they had to attend tutorials in preparation for their examinations. It required a lot of persuasion to have the participants attend the training session. Fund was another limitation in this study, the cost of travellings, making calls, sending short messages to participants before and after every session.

Despite these limitations, the results of this study are very valid because it serves as foundation upon which other researches can be carried out.

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TREATMENT PACKAGES

The treatment packages were held in eight sessions and once a week for each treatment groups for duration of 60 minutes each per session. These groups are experimental group one (Cognitive Restructuring Therapy), experimental group two (Test-Taking Skills Training) and the Control group. The groups comprise of 200 level undergraduates who have high examination anxiety and were not using medication or therapy to treat examination anxiety, in three federal Universities in Southwestern Nigeria.

Experimental Group 1 – Cognitive Restructuring Therapy

Session 1

Topic: Pre-test administration

The purpose of this session was to create a good climate for discussion and to administer the Revised Test Anxiety Scale (RTAS) and to know the participants entry characteristics and to assure participants of confidentiality.

Activity:

Step 1: Introduction and pre-test administration

- The researcher warmly welcomed the participants into the programme. Participants were informed that they would be having 8 sessions of 60 minutes each for a period of eight weeks.
- The researcher explained the reason for the programme and the benefit attached at the end of the programme.
- The researcher also explained the rules guiding the conduct of the programme and what was expected of the participants.
- The researcher administered the pre-test instruments to the participants.

Step 2: Closing Remarks

- The participants were commended for their cooperation.
- They were reminded of the time and venue for the next session.

Session 2

Topic: The concept of examination anxiety.

Objectives: At the end of the session, the participants were able to:

- know the meaning of examination anxiety
- know its relevance to their performance and achievement.

Activity:

- The participants were welcomed warmly.
- The researcher explained the meaning of examination anxiety:

Anxiety is an emotional and behavioural disorder caused by the activation of sympathetic nervous system. In education domain, high level of anxiety is often experienced by students during performance related exercises such as examinations. Academic examination and school work are considered to be the most stressful events of students' life. Inefficient study, night study before examinations, lack of review and revision of study materials, emotional factors and negative or irrationals are some of the causes of examination anxiety.

Although, some level of anxiety among students is essential to achieve success in examination, too much of it can have adverse effect on their performances. In students, high level of anxiety could have an impact on working memory, reasoning abilities, self-esteem, academic performance and achievement. Considering the seriousness of examination anxiety in students it is imperative to systematically understand the contributing factors, only then, the effective interventions like applying cognitive restructuring can be used to mentally prepare the students towards better academic performances. The students are educated on the concept of faulty thinking and new ways and ideas are generated to develop a positive way or outlook of self-experiences and environment. The students learn to apply cognitive restructuring therapy so that negatively distorted thoughts underlying the anxiety can be corrected and replaced with more logical and adaptive thinking. Many students have been conducted to ascertain the efficacy of cognitive therapy for anxiety.

Step 4: The researcher entertained questions and contribution from the participants.

As a take home assignment, participants were asked to write out what they understand by examination anxiety.

Step 5: Closing Remarks

- The researcher commended the participants for their cooperation.
- The participants were reminded to do their homework.
- They were intimated also with the time and venue for the next session.

Session 3

Topic: The Cognitive Restructuring Therapy

Objectives: At the end of the session, the participants were able to:

- know the meaning of Cognitive Restructuring Therapy
- know its relevance to examination anxiety management

Step 1: The concept of cognitive restructuring therapy.

Cognitive restructuring therapy is a psychotherapeutic process of learning to identify and dispute irrational or maladaptive thoughts known as cognitive distortions such as all-or-nothing thinking, magical thinking, filtering, over-generalisation, magnification and emotional reasoning which are commonly associated with many mental health disorders.

Cognitive restructuring therapy is a useful technique for understanding unhappy feelings and moods and for challenging the sometimes wrong automatic beliefs that can lie behind them. It can be used to reframe the unnecessary negative thinking that we all experience from time to time. Very high anxiety level is unpleasant as well as bad moods; they can reduce the quality of one's performance and undermine one's relationships with others. Cognitive restructuring helps to change the negative or distorted thinking that often lies behind these moods and it help in approaching the situations in a more positive frame of mind.

Cognitive restructuring is a core part of Cognitive Behavioural therapy (BT), which is one of the most effective psychological treatments for common problems like depression and anxiety disorders.

Step 2: Identify the different therapeutic steps of cognitive restructuring.

The different therapeutic steps of cognitive restructuring are:

- Identification of problemic cognition known as "automatic thoughts' (ATs) which are dysfunctional or negative view of the self, world, or future based upon already existing beliefs about oneself, world or the future
- Identification of the cognitive distortions in the automatic thoughts.
- Rational disputation of automatic thought.
- Development of a rational rebuttal to the automatic thoughts.

In cognitive restructuring therapy, our thoughts are written down (B), the context of the thoughts (A) and the emotional consequence of that chain of events (C). Then, we think carefully about whether our thoughts have been wrong, or whether we may have unconsciously experienced a cognitive distortion and write down the findings of this analysis

(D), when we are cleared on what we got wrong, we rephrase or restate our thoughts in a more accurate, less distorted format as (E).

Automatic thoughts reflects our reaction to a given event e.g. examination anxiety while care beliefs describes our general expectations and identify about ourselves and the world.

Step 3: Its relevance to examination anxiety management in students.

Cognitive restructuring therapy has been used to help individuals experiencing a variety of anxiety disorders. When utilising cognitive restructuring therapy, the emphasis is on two central notions:

1. thoughts affect human emotion as well as behaviour and
2. Irrational beliefs are mainly responsible for a wide range of disorders.

The rationale used in cognitive restructuring therapy attempts to strengthen the client's belief that (1) self-talk can influence performance and (2) in particular self-defeating thoughts or negative self-statements can cause emotional distress and interfere with performance. It has been used successfully to treat a wide variety of conditions.

Step 4: Closing Remark

- The researcher commended the participants for their cooperation.
- They were told the time and venue for the next session.

Session 4

Topic: Identification of problematic cognitions known as "automatic thoughts" (ATs) which are dysfunctional. (To create a negative self-talk list).

Objectives: At the end of the session, the participants were able to:

- identify the types of automatic thoughts
- How to make a list of negative self-talk.

Activity:

Step 1: Identification of automatic thoughts.

This is to create a negative self-talk list. There are six types of automatic thoughts. They are

a. Self-evaluated thoughts.
b. Thoughts about the evaluation of others.
c. Evaluative thoughts about the other person with whom they are interacting.
d. Thoughts about coping strategies and behavioural plans.
e. Thoughts of avoidance

f. Any other thoughts that were not categorized.

Write down the natural reactions you experienced when you are anxious i.e. “automatic thoughts” especially before and during examinations. The first step of cognitive restructuring is to monitor the context of our thoughts (A), our thoughts (B) and the emotional consequence of the chain of events (C) on a thought record or chart containing columns where each component can be recorded separately. It is very important to write things down in order to put a handle on them. Thoughts are much easier to manipulate and examine when pinned down on paper.

Step 2: Closing remarks.

- The researcher commended the participants for their time and cooperation.
- The participants were asked to write out what they understand by identification of automatic thoughts as take home assignment.
- The researcher asked the participants to ask questions and contribute.
- The time and venue for the next session was made known to the participants.

Session 5

Topic: Identification of irrational beliefs.

Objectives: At the end of the session, the participants were able to identify irrational beliefs.

Activity:

Step 1:

- Participants were welcomed warmly.
- The researcher reviewed the assignment with the participants.
- The researcher also explained the identification of irrational beliefs to the participants as thus.

Step 2: Identification of the cognitive distortions in the automatic thoughts.

Unhelpful thinking in the form of dysfunctional beliefs or cognitive distortions is just like any other automatically occurring bad habit, with a practice and effort; people can become more aware of what is happening in their minds and change how they are thinking for the better.

Cognitive restructuring is also known as cognitive reframing and it is a technique that can help people to identify, challenge and alter stress-inducing thought patterns and beliefs.

The next step here is to look for characteristics patterns of cognitive distortion or dysfunctional beliefs.

Do certain types of situations always tend to trigger certain negative or pressurizing thought patterns? Are you a black and white thinker when it comes to certain topics? Do you typically experience anger or sadness in response to examination anxiety? Think carefully about what sorts of thinking mistakes you might be making and write these finding down in the thought record under the disputing column or field.

When disputing thoughts, it helps to ask these questions:

- Are my thoughts on the examination accurate?
- What objective evidence or facts are there to support my view?
- What alternative views are there of the examination?
- Am I underestimating my ability to cope with the examination?
- What is the worst that can happen if my view of examination is correct?
- What actions can I take to influence the examination?
- What is the worst thing that could happen to me or my family?

Step 3: Closing remarks.

- The participants were commended for their cooperation.
- The researcher reminded them to do their homework.
- As to take home assignments, the participants were asked to explain what irrational beliefs means.

Session 6

Topic: Rational disputation of automatic thoughts.

Objectives: The following objectives were expected to be achieved at the end of this session.

- The participants were able to explain the meaning of rational disputation of automatic thoughts.
- They were also able to know how to develop coping statements.

Activity:

Step 1:

The participants were again welcomed warmly and their homework was reviewed.

Step 2:

Rational disputation of automatic thoughts is a way of developing coping statement that will restate the original beliefs so that they are more accurate and less distorted. This can be done by rewriting the original thoughts in effective thought column. Write down new ways of thinking or more helpful beliefs that lead to a new approach to dealing with the

activation events. Management of examination anxiety by changing your thinking. Here, you look objectively at what happened, and write down specific comment that led to the automatic thoughts. Identify fair and balanced thoughts.

At this stage you look at both sides of the situation and must have the information you need to take a fair, balanced view of the situation.

Step 3:

Six ways to change our thinking:

1. By practicing noticing when one is having a cognitive distortion that is negative thoughts.
2. Tracking the accuracy of the thought.
3. Behaviourally testing the thoughts.
4. Evaluating the evidence for against the thought.
5. By mindfulness meditation.
6. Self-compassion.

Step 4: Closing remarks

- As a take home assignment, participants were asked to identify and list ways of changing our thinking.
- The researcher commended the participants for their cooperation.
- The participants were reminded of their homework.
- They were intimated with the time and venue for the next session

Session 7

Topic: Development of a rational rebuttal to the automatic thoughts.

Objectives: At the end of the session, the following should be attained:

- The participants were able to understand the rational rebuttal to the automatic thoughts.

Activity

Step 1:

The participants were appreciated for coming and their homework was reviewed by the researcher.

Step 2:

The researcher explained the development of rational rebuttal to the automatic thoughts as way of practicing coping statements. The participants were asked to compose a positive statement to replace the negative thoughts.

Step 3: Closing remarks

- The participants were given homework to write out the positive statement to replace their negative thoughts.
- The researcher commended the participants for coming and their cooperation.
- The participants were reminded to do their homework.
- The time and venue for the next session was announced to the participants.

Session 8

Topic: Repeating coping statement

Activity:

Step 1:

Going through the practicing coping statements to see if the anxiousness is still there. Practicing replacement of thoughts again and going through the six ways of changing the thinking again.

Step 2: Closing remarks

- The participants were commended for their cooperation.
- The participants were encouraged to practice more at their leisure time.
- The time and venue of the next session was announced to the participants.

Session 9

Topic: Overall review, post-experiment test administration and conclusions.

Objectives: At the end of the session, the participants were able to:

- Summarize their experience based on what they have benefited from the various skills they have learnt since the commencement of the programme.
- Respond to the post-test instruments.

Activity:

Step 1:

- The participants were warmly welcomed and the home work was reviewed together with the researcher.

- This was an interactive session between the researcher and participants to ascertain the effect of the therapeutic programme. The researcher had a quick review of previous lessons, assignments, commended and appreciated the participants for their cooperation throughout the session and administers the post-test to them.
- The participants were encouraged to utilize effectively the skills they have acquired via the intervention programme.

Experimental Group 2 (Test-Taking Skills Training)

Session 1

Topic: General Orientation, familiarization, establishment of rapport and administration of instruments to obtain pre-test scores.

Activity:

Step 1

The purpose of this session is to administer the Revised Test Anxiety Scale (RTAS) to the participants to know their entry characteristics and to assure participants of confidentiality.

Step 2:

- The researcher warmly welcomed the participants into the programme. The participants were informed that they would be having 8 sessions of 60 minutes each for a period of eight weeks.
- The researcher explained the reason for the programme and what the participants stood to benefit at the end of the programme.
- The researcher explained the rules guiding the conduct of the programme and what was expected of the participants.
- The researcher administered the pre-test instruments to the participants.
- The participants were given a take home assignment on what are the causes of examination anxiety.

Step 3: Closing remarks

- The participants were commended for giving their time and encouraged them to do their homework.
- The participants were also reminded of the time and venue for the next session.

Session 2

Topic: Concept of anxiety and examination anxiety

Objectives: At the end of the session, the participants were able to:

- know the concept of anxiety
- understand the meaning of examination anxiety

Activity:

Step 1:

- The participants were welcomed warmly.
- The researcher reviewed the assignment with the participants.
- The researcher explained anxiety and meaning of examination anxiety to the participants as thus:

Step 2:

Every student experiences fluctuations in anxiety that is developmentally adaptive but some students experience excessive, maladaptive anxiety that impairs functioning at home as well as school. Maladaptive anxiety can be characterized as an internalizing disorder. Internalizing disorders are those in which debilitating emotional problems are directed toward the self such as withdrawal, depression and anxiety (Kazdin, 2003). Externalizing disorders are those in which observable problem behaviours are directed towards the environment, such as hyperactivity, aggression, or oppositional behaviours. Both classes of disorders can manifest in an anxious person.

Internalizing disorders are more difficult to observe and tend to cause fewer classroom disturbance, they often go unnoticed by lecturers and other authority figures.

Mild anxiety is a normal response to stressful situations, but anxiety becomes problematic when it is excessive and affects life satisfaction. Because anxiety is an internalizing problem, it is more difficult to directly observe than externalizing problems and less likely to be referred.

School is an influential setting in which students build foundations in academic learning and socialization. It is one of the most stressful environments for many students and school stresses can further provoke anxiety. Identifying school related elements that contribute to anxiety could be beneficial as anxiety disorders are costly for schools and society as well as students. Considering the time spent in school and its significant effects on students' academic, behavioural and social development, it is imperative that schools take advantage of their influence by providing prevention and intervention programmes.

Step 3: Examination Anxiety

Individual who experience significant anxiety during evaluation situations, specifically tests, may be struggling with examination anxiety. Examination anxiety is defined as the phenomenological, physiological, and behavioural reactions that occur when an individual is distressed about the possible outcomes on a test or other evaluative situation. Between 25 to 40 percent of students experience examination anxiety and students can suffer low self-esteem and have stress induced symptoms as a result of examination anxiety.

Generally, examination anxiety is characterized as a tridimensional construct including maladaptive cognitive, physiological and behavioural responses. This trial is reflected in the difficulties individuals report during testing situations. Students state they are often preoccupied with worries about work evaluation, expectations of failure and feeling of threat, self-depreciated and low self-efficacy.

Research has shown that the effects of test anxiety are wide spread, particularly in regards to school difficulties and students with high test anxiety often perform poorly in evaluated situations. These performance deficits may be reflected in measuring such as classroom grades and tests, standardized tests and retention rates. The performance deficits of test-anxious students may provide an invalid measure of achievement as test anxiety may confound their true performance ability.

Step 4: Closing Remarks

- The participants were asked to explain the meaning of examination anxiety.
- The researcher commended the participants for their cooperation.
- The participants were intimated with the time and venue of the next session.

Session 3

Topic: Study Deficit Model

Objectives: At the end of the session, the participants were able to:

- understand the study deficit model

Activity:

Step 1

- The participants were welcomed warmly.
- The researcher reviewed the assignment with the participants.
- The researcher explained the skills deficit model to the participants.

Step 2:

Study Deficit Model

Rather than cognitive explanations to test anxiety, some researchers specifically focused on test-taking skills and study habits since test anxiety may be a natural reaction resulting from students' poor study skills. Desiderate and Koskinen (1969) sought for whether study habits were related to test anxiety and academic achievement. Results of the study showed that, test anxiety was negatively related with students' grades. That is, high-test anxious students presented poorer study habits than low-test-anxious students or vice-versa. In another study, high test-anxious students presented lack of test-taking skills and those students who had developed and exercised appropriate test-taking skills performed academically better than did those with poor study skills. Wittmaier suggests that test anxiety is modifiable through counselling but students' development of effective test-taking skills should be stressed rather than assuming that their academic performance would be improved by reducing their anxiety toward examinations.

Step 4: Closing Remarks

- The participants were asked to explain the meaning of skills deficit model.
- The participants were commended for their time and cooperation.
- The time and venue of the next session was announced to the participants.

Session 4

Topic: Test-Taking Skills Training

Objectives: At the end of the session, the participants were able to:

- know the meaning of test taking skills training
- know the importance of test-taking skills training

Activity

Step 1:

Test-taking skills training aim to provide techniques to assist students in comprehending examination questions and instructions. Test-taking skills training can help students to easily organize and retrieve information and communicate clearly. There are some techniques under it which can enhance test-wiseness. They are: see the length of the test, see if some parts need more time than others, answer one item at a time, return to harder items later and deal with easy questions and objectives items separately.

In test-taking skills training, rote memorization is for less effective than a deep

comprehension of processing of the materials.

Test-taking skills training which is sometimes refers to as ‘test-wiseness’ are the skills needed by a student to demonstrate the cognitive ability that the examination is constructed to measure.

Step 2:

Test-taking skills training are necessary for students to demonstrate what they have learnt, whether we approve it or not, standardized tests will continue to be used to evaluate school programmes. The norms for standardized tests are derived from grown of students who have many of the requisite test-taking skills training. If the students want to compete without the requisite skills training, their performance will appear deceivingly low.

In test-taking skills training the administrator of the test should be sure that the examiners understand the tasks involved in taking the test: what kinds of responses are to be made and on what answer sheets the implication for test-taking strategy of erasures or multiplied marking or guessing.

The philosophy behind the test is to see the test situation as a game that must be played or a contest that should be tried. Attempt to do your best but don’t worry about mistakes because worrying about mistake causes lower scores.

Step 3:

- The participants were commended for their time and cooperation.
- The researcher entertained questions and contributions from the participants.
- For their take home assignment, the participants were asked to write out what they understand by test-taking skills training.
- They were intimated also with the time and venue for the next session.

Session 5:

Topic: Test-taking Tips

Objectives: At the end of the session, the participants were able to:

- know the meaning of test-taking tips
- know how to prepare for test
- Know what to do before, during and after the test.

Activity:

Step 1: Test-taking tips

These are the steps to be taken when preparing for a test before, during and after the test.

Preparing for Tests:

Attend every class:

Being in class, paying full attention, hearing instructor's comments about tests, and knowing what is expected is the first rule of successful test-taking. If a class is missed ask the instructor to find out what was missed.

Start early: that is don't wait until a test is announced, start studying from the first day of class and review all notes every day and look for test question clues in the notes, quizzes, text and homework assignments.

Plan a regular study schedule: Keep a daily and weekly study schedule for daily, weekly and major review sessions: study with purpose, without distractions in a place designed as private study area, also, equip the study area with the tools and materials needed; study actively, move around, stretch and read out loud, if possible, study with a group.

Step 2

Before the test: Bring at least two pens/pencils with good erasers, a calculator with enough batteries and any other resources allowed by the instructor, a watch to pace oneself. Keep a positive attitude throughout the whole test and try to stay relaxed and if feel nervous take a few deep breaths to relax; try to keep eyes on the paper in order not to appear to be cheating and cause unnecessary trouble; do a quick survey of the entire test to know how to efficiently budget the time.

During the test: Do the easiest problems first and don't stay on a problem that is stuck, especially when time is a factor, do the problems that have the greatest point values first; pace don't rush and read the entire question and pay attention to the details; ask the instructor for clarification if what is being asked for on the test is not understood; write legibly for the instructor to read what is written clearly; read the whole question carefully always and don't make assumptions about what the question might be; skip the question if not known and go on with the rest of the test and come back to it later, other parts of the test may have some information that will help out with that question. Don't worry if others finish before you but focus on the test in front of you; if you have time left when you are finished, look over the test and make sure that you have answered all the questions. Only change on answer if you misread and misinterpreted the questions because the first answer is usually the correct one and watch for careless mistakes and proofread the essay or short answer questions, then double check to make sure that the first and last name are on the test.

After the test: Look over and make sure that there are no grading mistakes when the test is given back; look over the test and make sure that you understand the mistakes and if not, ask

the instructor or the classmates; be sure to take notes on what the teacher wanted for an answer on the questions that was wrong, if the grade is not satisfactory go to the instructor to see if there is a make-up examination or any extra credits and save the tests as study material for future cumulative tests.

Step 3: Closing Remarks

- The participants will be commended for their time and cooperation.
- The researcher will entertain in questions and contributions from the participants.
- For their take home assignment the participants will be asked to write out what they understand by test-taking tips.
- They will be intimated also with the time and venue for the next session.

Session 6

Topic: Test-taking Strategies

Objectives: At the end of the session, the participants were able to:

- know how to answer true or false questions
- know the strategy of answering multiple-choice questions
- know the strategy of answering matching questions
- know how to answer sentence completion or fill-in-the-blank questions
- Know the guidelines for answering essay questions.

Activity

Step 1:

Guidelines for answering true or false questions:

- When the answer is not known, it can be marked true because there are generally more time questions on true-false examinations than false questions; instructors find it difficult to make a false statement look true.
- Look for any factor that will make a statement false.
- Look for extreme modifiers that tend to make the question false.
- Qualifying words tend to make a question true.
- Negative words or prefixes complicate the statement.
- Question that state a reason tends to be false.
- There is no substitute for the truth.

Guidelines for answering multiple-choice questions

- Formulate the answer before reading the options.
- Eliminate unlikely answers first.
- Select numbered answers from the middle range, not the extremes.
- Select answers that are longer and more descriptive.
- Similar answers give a clue, one of them is correct, the other is disguised.
- Watch out for not true.

Step 2

Guidelines for answering matching questions

- Examine both lists to determine the types of items and their relationship.
- Use one list as a starting point and go through the second list to find a match.
- Move through the entire list before selecting a match because a more correct answer may follow.
- Cross off items on the second list when not certain that there is a match.
- Do not guess until all absolute matches have been made because an answer may be likely eliminated that could be used for a later choice.

Guidelines for answering sentence completion or fill-in-the-blank questions.

- Concentration on the number of blanks in the sentence and the length of the space.
- Descriptive answer can be provided when the exact word or words can not be thought of.

Guidelines for essay questions

- Organize thoughts before writing
- Paraphrase the original question to form introductory statement.
- Use the principles of English composition.
- Write clearly for teachers need to be able to read it.
- Use lists or bullets wherever possible.
- Identify the verbs or words in the question that can give direction.

Step 4: Closing remarks

- The researcher entertained questions and contributions from the participants.
- As a take home assignment, the participants were asked to write out guidelines on how to answer multiple choice questions.
- The researcher commended the participants for their time and cooperation.
- The participants were reminded to do their homework.

- The time and venue for the next session was made known to the participants.

Session 7

Topic: Test-taking Skills Tips

Objectives: At the end of this session, the participants were able to:

- know some tips on test wiseness

Activity:

Step 1: Tips on discussing test wiseness with students are:

1. The learning environment is an essential aspect of student's instructional programme and must not be sacrificed to introduce test-taking skills. Use the learning materials already found in the classroom and test wiseness can be introduced as an intellectual skill in a test centre.
2. Discuss with the students how to approach (attack) a question. Some test-wise people read many questions before reading the passage. Some read only one question before reading the passage, while some read questions that require reading the passage, and then they read the passage. On problems interpreting graphs and maps, don't try to understand the passage before answering the questions.
3. Discuss why each wrong answer is wrong and discuss why students perform poorly on tests. The students should know what the task requires and what traps are set for the unsuspecting students.
4. Provide practice items that have one ridiculous answer, one possible but not related and two possible answers but only one keyed correct in case of the objectives items. This shows students how easy it is to use partial knowledge to eliminate one option, then another and improve one's chance at a good choice. When students cannot determine the best answer, they should employ a strategy of eliminating the worst responses and choosing from the remaining option. These strategies can double the probability of correct guess.
5. Have students make tests when they write reports and help them to see testing as a logical extension of the learning environment.

Step 2:

Test-taking skills instruction is a different, but related, skill-based intervention. Multiple studies have provided evidence for its effectiveness in improving academic performance. A meta-analysis of test-taking skills interventions for high schools; elementary

and middle students resulted in significant improvements on achievement test scores (Samson, 2001). The test-taking skills are:

- Pay attention to directions.
- Read the question and all answers completely.
- Answer the question or mark it for later.
- Match the numbers i.e. match the question number in the test booklet to the number on the answer sheet.
- When you get to the end starts again i.e. return and answer previously unanswered questions.
- Check that every question has an answer.

Step 3:

- The researcher will entertain questions and contribution from the participants.
- Home assignment will be given to the participants to evaluate them on what they have learnt.

Step 4: Closing Remarks

- The researcher commended the participants for their cooperation.
- The participants were reminded to do their home work.
- They were intimated also when the time and venue for the next session.

Session 8

Topic: Overall Review, Post-experiment Test Administration and Conclusions

Objectives: At the end of the session, the participants were able to:

- Summarize their experience based on what they have learned and benefitted from the various skills they have learnt since the commencement of the programme.
- Respond to the post-test instruments.

Activity:

Step 1:

- The participants were warmly welcomed and the home work was reviewed and the home work will be reviewed together with the researcher.
- The session was an interactive session between the researcher and the participants to ascertain the effect of the therapeutic programme. The researcher has a quick review of previous lessons, assignments, commended and appreciated the participants for their cooperation throughout the session and administers the post-test to them.

- The participants were encouraged to utilize effectively the skills they have learnt via the intervention programme.

Control Group

Session 1

Topic: Administration of pre-test instruments to the participants.

Step 1:

The researcher was familiarized with the members of the group. The researcher also explained to participants that the programme was mainly for research purpose only and that their support and cooperation is highly needed. The pre-test instrument was administered on the participants.

Step 2: Closing remarks

- The researcher commended the participants for their time and effort.
- The participants was reminded of the time and venue of the next session

Session 2-7: Talk on Skills Acquisition

Session 8

Topic: Administration of post-test instrument.

Objective: Administration of post-test instrument.

Step 1:

- The post-test instrument was administered after which the researcher had given some counselling talk on skills acquisition.

Step 2: Closing remarks

The researcher commended the participants for their time and effort.

APPENDIX I

UNIVERSITY OF IBADAN

FACULTY OF EDUCATION

DEPARTMENT OF GUIDANCE AND COUNSELLING

Dear Respondent,

This questionnaire is designed basically for a research purpose. It seeks to know how you would react to these statements. All information provided would be treated confidentially. Please be honest as much as possible.

SECTION A

Background Information

Instruction: Below are some statements that relates to you. Put a tick on the statement that relate to you.

Age: 16-20 [ ] 21-25 [ ] 26 and above [ ]

Gender: Male [ ] Female [ ]

Faculty: Humanity [ ] Science [ ]

Religion: Christianity [ ] Islam [ ]

University: _____

Matric No: _____ Level: _____

Phone Number: _____

E-mail Address: _____

SECTION B

Revised Examination Anxiety Scale

Directions: Please rate the following statements in regard to the examinations that you will be taking using the scale provided.

1 – Strongly Disagree

2 – Somewhat disagree

3 – Somewhat Agree

4 – Strongly Agree

S/N	Items	1	2	3	4
1	Feel very uneasy about how I will perform on these examinations.				
2	I feel very tense about these examinations.				
3	I am worrying a great deal about these examinations.				
4	I wish these examinations would not bother me so much.				
5	I am anxious about the examinations.				
6	Thinking about how I am doing on these examinations will interfere with my ability to my best on them.				
7	During the examination, I will likely think about the consequences of doing poorly.				
8	While taking the examination, I will likely think about how much brighter people are.				
9	While taking the examination, I will likely think about how difficult they are.				
10	Thoughts of doing poorly will interfere with my concentration during the examination.				
11	I will likely get a headache during the examination.				
12	My mouth will feel dry during the examination.				
13	I am trembling while thinking about the examination.				
14	I will likely think about things unrelated to the examination while taking the examination.				
15	I will likely think about current events while taking the examinations.				
16	I will likely think about being somewhere else while taking the examinations.				
17	I will likely be distracted by thoughts of upcoming events during the examinations.				
18	I think I will defeat myself while taking these examinations.				

SECTION C

ANXIETY TEST INVENTORY FOR SCREENING

Please use the following scale in providing your answers:

S/N	Items	True	False
1	I usually don't start early in preparing for examinations.		
2	While taking an important examination I perspire a great deal.		
3	During tests, I am often undecided on what question to answer.		
4	During tests, I find myself thinking of the consequences of failing.		
5	I realize I spend more time on some questions than others most of the time.		
6	After important tests, I am frequently so tense that my stomach gets upset.		
7	While taking important exam, I find myself thinking of how much brighter the other students are than I am.		
8	If I were to take an intelligent test, I would worry a great deal before taking it.		
9	During examination I find myself thinking of things unrelated to the examination.		
10	I frequently get so nervous during examination that I forget facts I really know.		
11	I usually get depressed after taking a test.		
12	I have an uneasy upset feeling before taking a final examination.		
13	I feel relaxed and confident before taking a test.		
14	When taking a test my emotional feelings do not interfere with my performance.		
15	Getting a good mark on one test does not increase my confident on another.		
16	I feel very afraid when I have to take a surprise exam.		
17	After taking a test, I always feel I could have done better than I actually did.		
18	I sometimes feel my heart beating very fast during important tests.		

APPENDIX II

CONSENT FORM

Title of Research Project: Effects of Cognitive Restructuring Therapy and Test-Taking Skills Training in the management of examination anxiety among the undergraduates in Southwestern Nigeria

Performance Sites: _____

Your School: _____

Investigator: _____

The principal investigator is Owodunni A.A. Ph.D, Department of Guidance and Counselling, Faculty of Education, University of Ibadan, Ibadan. Please direct questions to him at 08108711001 and Afolabi-Ige T.E. (08038256992).

- **Purpose of Research Project:**

  To evaluate the treatment effects on management of examination anxiety among the Undergraduates and improve their academic performance.

- **Participant Inclusion**

  200 level students in the University who have high examination anxiety and are not currently using medication or therapy to treat anxiety.

- **Number of Participants:**

  60 participants in a group.

_____

Student's name

_____ _____

Student's signature **Date**

_____ _____

Investigator **Date**

APPENDIX III

FOCUS GROUP DISCUSSION QUESTIONS ON EXAMINATION ANXIETY AMONG UNDERGRADUATES

1. What do you understand by examination anxiety as a student?
2. Do you consider examination anxiety as a serious issue? Why did you say so if yes?
3. Why are students experiencing examination anxiety?
4. How much of a concern is examination anxiety to the government, students, lecturers, parents, educational psychologists and other stakeholders in education?

5a. could you please (in detail) reflect what you usually feel before, after or during major examinations and tests?

b. In case you experience any sort of worry, stress or pain before, during or after major examinations, how can you overcome these negative feelings in the future?

c. Do you think that these negative feelings do affect your academic performance or achievement?

6. What are the consequences of examination anxiety?
7. Is there any relationship between examination anxiety and field of study?
8. Who is more affected by examination anxiety among male and female students?

Aside the factors mentioned already, are there other things to be considered as issues of examination anxiety

FOCUS GROUP DISCUSSION (FGD) ON THE MANAGEMENT OF EXAMINATION ANXIETY AMONG UNDERGRADUATES

This is my consent to participate in Focus Group Discussion on the management of examination anxiety among undergraduates.

- The purpose of the group discussion and the nature of the questions have been explained to me.
- I consent to take part in the Focus Group Discussion and to be recorded during the discussion.
- My participation is voluntary.
- I understand that I am free to leave the group at any time.
- None of my experiences or thoughts will be revealed to anyone outside this group and outside research processes, unless all identifying information is first reviewed.
- The information that I provide during the Focus Group Discussion will be grouped with answers from other members of the group so that I cannot be identified.

_____ _____

Name, Signature and Date Name and Sign of Witness

FOCUS GROUP DISCUSSION (FGD) ON THE MANAGEMENT OF EXAMINATION ANXIETY AMONG UNDERGRADUATES IN SOUTHWESTERN NIGERIA

GUIDING PRINCIPLES FOR THE GROUP

It is important to let every participants know about some ways to make the group proceed smoothly and respectively for all participants. The following are the ground rules to help established group norms:

- Confidentiality is assured.
- Only one person talks at a time.
- It is important for us to hear every one's idea and opinions.
- There are no rights or wrong answers to questions – just ideas, experiences and opinions which are related to the issue (examination anxiety).
- It is important for us to discuss all sides of the issue positively and negatively.
- It is important to males and females ideas to be equally represented and respected.

Thank you.

APPENDIX IV

Total Number of Universities in Nigeria

Universities	**Number**
Federal Universities	Forty (40)
State Universities	Thirty-nine (39)
Private Universities	Fifty-nine (59)
Total	**138**

Source: Researcher's Fieldwork

Total Number of Universities in Southwest

Universities	**Number**
Federal Universities	Six (6)
State Universities	Nine (9)
Private Universities	Twenty (20)
Total	**35**

Source: Researcher's Fieldwork

Faculty Number of Undergraduates Enrolment in Federal University, Oye-Ekiti

S/N	**Faculty**	**Number of Undergraduate Enrolment 2014/2015**
1	Engineering	482
2	Humanity and Social Science	945
3	Agriculture	349
4	Science	574
	Total	**2,450**

Source: Researcher's Field Work from FUOYE Students' Affairs Unit.

200 Level Students of FUOYE

S/N	Faculty	Number of Undergraduate Enrolment 2014/2015
1	Engineering	133
2	Humanity and Social Science	178
3	Agriculture	97
4	Science	180
	Total	**588**

Source: Researcher's Fieldwork

Faculty Number of Undergraduates Enrolment in University of Ibadan, Ibadan

S/N	Faculty	Number of Undergraduate Enrolment 2013/2014
1	Agriculture and Forestry	1291
2	Arts	1718
3	Basic Medical Science	477
4	Clinical Science	1109
5	Dentistry	192
6	Education	1502
7	Law	698
8	Pharmacy	377
9	Public Health	132
10	Science	1981
11	Technology	1253
12	Social Science	1413
13	Veterinary Medicine	394
	Total	**12,537**

Source: Researcher's Fieldwork

Target Population (200 Level)

S/N	Faculty	Number of Undergraduate Enrolment 2013/2014
1	Agriculture and Forestry	181
2	Arts	491
3	Basic Medical Science	120
4	Clinical Science	179
5	Dentistry	32
6	Education	446
7	Law	147
8	Pharmacy	91
9	Public Health	34
10	Science	457
11	Technology	257
12	Social Science	358
13	Veterinary Medicine	61
	Total	**2,854**

Source: Researcher's Field Work

Faculty Number of 200 Level Undergraduates Enrolment in Obafemi Awolowo University, Ile-Ife (2013-2014 Session)

S/N	Faculty	Number of Undergraduate Enrolment 2014/2015
1	Administration	592
2	Arts	660
3	Education	357
4	Science	574
5	Social Science	524
6	Basic Medical	148
7	Pharmacy	138
8	Technology	621
	Total	**4,283**

Source: Researcher's Field Work

Population of Undergraduates in the Federal Universities in Southwestern Nigeria

University	**Total Population**
Federal University of Oye-Ekiti (FUOYE)	2450
University of Lagos (UNILAG)	25,095
Federal University of Agriculture, Abeokuta (FUNAAB)	13,276
Federal University of Technology, Akure (FUTA)	13,041
Obafemi Awolowo University, Ile-Ife (OAU)	22,432
University of Ibadan, Ibadan (U.I.)	12,537
Total = 6 Federal Universities	88,831

Source: Researcher's Fieldwork

University	**200 Level Undergraduate**
Federal University of Oye-Ekiti (FUOYE)	588
University of Ibadan, Ibadan (U.I.)	2858
Obafemi Awolowo University, Ile-Ife (OAU)	4283
Total	7,729

Source: Researcher's Fieldwork

APPENDIX V

UNIVERSITY OF IBADAN, IBADAN, NIGERIA

STUDENT AFFAIRS DIVISION

DEAN OF STUDENT AFFAIRS
PROFESSOR A. T. P. AJUWAPE
D.V.M., M.Vet. Sci. Ph.D (Ibadan)

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22 September, 2015.

Temidayo Eniitan Afolabi-Ige,
Department of Counselling and Human Development Studies,
University of Ibadan.

RE: PERMISSION TO CARRY OUT A QUASI-EXPERIMENTAL STUDY IN THE UNIVERSITY

Your letter on the above subject dated 17 September, 2015 refers.

I write to convey approval of your request as granted by the Office of the Dean of Students.

However, you are requested to ensure compliance with the following rules and regulations guiding the conduct of such activity in the University of Ibadan.

- The right of choice of the students must be respected.
- Student information must be treated with utmost confidentiality.
- Your activities must not, in anyway, constitutes a breach of campus peace.
- Further to the above, as a student of the University, other rules as contained in chapter 5 of the Student Information Handbook are applicable.

Please note that acknowledgement of this approval signifies your obligation to full compliance and any activity beyond your specific request stands unapproved and would be treated as such. In anticipation of a full compliance, you are hereby granted official permission to conduct the experiment as scheduled.

Thank you.

22/9/15

S.O. Ojelabi
For: Deputy Registrar (Students)

Department of Counselling and
Human Development Studies,
University of Ibadan,
17th September, 2015.

The Dean,
Students' Affairs,
Obafemi Awolowo
University

Dear Sir/Ma

PERMISSION TO CARRY OUT A QUASI-EXPERIMENTAL STUDY IN THE UNIVERSITY

I, Temidayo Eniitan Afolabi-Ige, am a Ph.D student in the Department of Counselling and Human Development Studies of the University of Ibadan, with the Matric No. 92949.

I am presently on my research work which is aimed at examining the Effect of Cognitive Restructuring Therapy and Test-Taking Skills Training in the Reduction of Examination Anxiety Among Undergraduates in South-West, Nigeria. In view of this, I am to carry out this research on 200 level students of this great University of which I am expected to take a total of sixty (60) students through eight (8) sessions of training.

It is on this premise that I write to seek your permission to carry out this study on the 200 level students of this prestigious University as this will help in reducing examination anxiety in them as well as foster the timely completion of my Ph.D programme in the University of Ibadan.

I assure you sir that I shall abide by the rules and regulations of the University.

Sir, I will be very grateful if my request is granted. Thank you very much sir in anticipation for a favourable response and approval.

Yours faithfully,

Temidayo Eniitan Afolabi-Ige
Department of Counselling and Human
Development Studies
08038256992

Approved
07/10/15
DEAN, STUDENT AFFAIRS
Obafemi Awolowo University
Ile-Ife

FEDERAL UNIVERSITY OYE-EKITI

Office of the Dean of Student Affairs Division
"Home away from Home"

Tel: +234 (0)803-3701430, +234 (0)8058043075
Website: www.fuoye.edu.ng, www.students.fuoye.edu.ng
E-mail: Studentaffairs@fuoye.edu.ng

KM 3, Are/Afao Road
Oye-Ekiti, Ekiti State
Nigeria

Our Ref:.....

29th September, 2015
Date:.....

Temitayo Eniitan Afolabi-Ige,
Department of Counselling and
Human Development Studies,
University of Ibadan.
Nigeria.

Dear Ma,

RE- PERMISSION TO CARRY OUT A QUASI- EXPERIMENTAL STUDY IN THE UNIVERSITY

Please refer to your letter dated 17th September, 2015 on the above subject matter.

Considering your request, I wish to inform you that the University Management has approved your request.

Thank you for your interest in our University.

Olowookere.

Mrs. O.A Olowookere
Student Affairs Officer
For: Ag. Dean, Student Affairs

UNIVERSITY OF IBADAN, IBADAN, NIGERIA

DEPARTMENT OF GUIDANCE AND COUNSELLING

Head of Department
PROF. J. O. OSIKI
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Other Professors:
C.B.U UWAKWE
AJIBOLA O. FALAYE
S. O. SALAMI

Date: 23rd NOV, 2

The Director,
General Studies Programme,
University of Ibadan,
IBADAN.

G&C U N I B A D A N

LETTER OF INTRODUCTION

This is to certify that ABOLABI-IGE TEMIDAYO RUTH with Matric No. 92949 is one of our M.Phil/Ph.d students in the Department of Guidance and Counselling, University of Ibadan. He/She would like to collect data for his/her thesis titled: COGNITIVE RESTRUCTURING THERAPY AND TEST-TAKING SKILLS TRAINING IN THE REDUCTION OF EXAMINATION ANXIETY AMONG UNIVERSITY UNDERGRADUATES IN SOUTH-WEST, NIG.

Kindly assist him/her in any way you can.

Thank you.

Prof. J. O. Osiki,
Head of Department.

(7) ... see the attachment pls
Aderoge 03-12-15

(8) The pass ... can be released ... the researcher ... names and ... should ... on them

UNIVERSITY OF IBADAN, IBADAN, NIGERIA

DEPARTMENT OF GUIDANCE AND COUNSELLING

Head of Department
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C.B.U UWAKWE
AJIBOLA O. FALAYE
S. O. SALAMI

(9) Director For your approval sir
Aderoge 09-12-15

(6) P.O See comment 5 below for the researcher's attention 26/11/15

Date: 23rd NOV,

(11) Mr. Alimi See minute 8 Fna 09-12-15 25/11/1 12:00pm

The Director,
General Studies Programme,
University of Ibadan,
IBADAN.

(10) P.O. see comment 8 above. I approve 9/12

LETTER OF INTRODUCTION

This is to certify that ADELABU-IGE TEMIDAYO RUTH with Matric No. 92949 is one of our M.Phil/Ph.d students in the Department of Guidance and Counselling, University of Ibadan. He/She would like to collect data for his/her thesis titled: COGNITIVE RESTRUCTURING THERAPY AND TEST-TAKING SKILLS TRAINING IN THE REDUCTION OF EXAMINATION ANXIETY AMONG UNIVERSITY UNDERGRADUATES IN SOUTH-WEST, N

Kindly assist him/her in any way you can.

Thank you.

(5) The researcher need specify the kind of data to be collected and how it will be collected before any advice. P.O.

Prof. J. O. Osiki,
Head of Department.

(2) Mr. Alimi pls comment Aderoge 25-11-15

(1) What is the for accomplishing this?

(3) P.O., Pls let the Course Coordinator

(4) Cts 101 Course supervisor advice pls advise ... 25/11/15

APPENDIX VI

Ekiti

Plate 2: A Session at Federal University, Oye-Ekiti

Plate 3: The participants of FGD at Obafemi Awolowo University, Ile-Ife

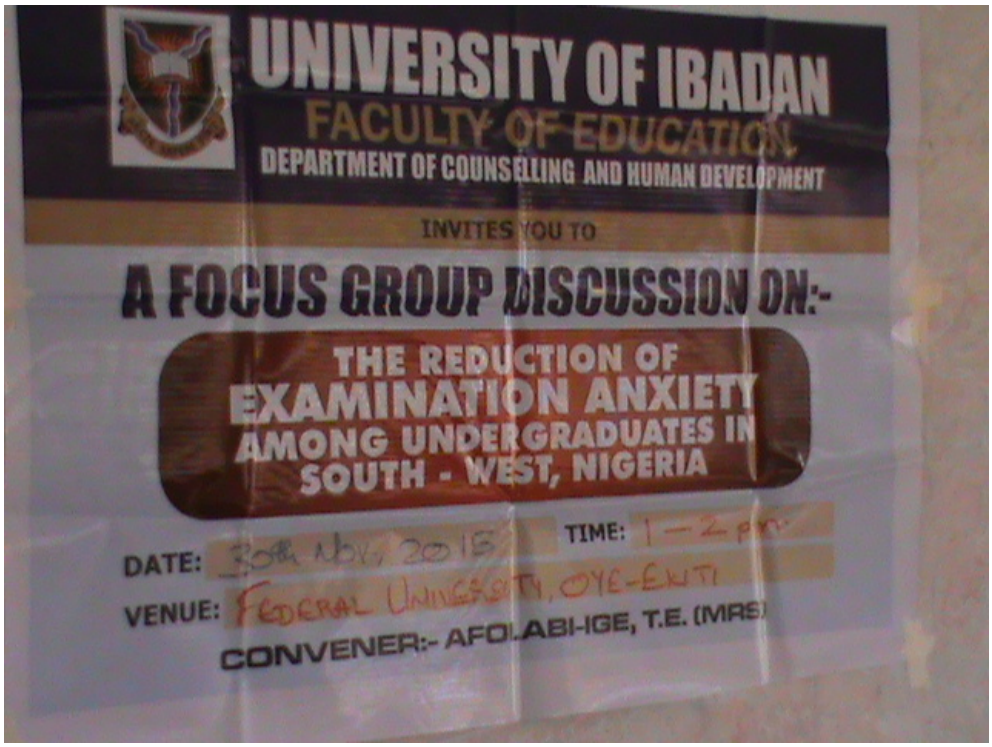

Plate 4: FGD Banner

Plate 5: Entrance of University of Ibadan, Ibadan

Plate 6: Entrance of Obafemi Awolowo University, Ile-Ife

Plate 7: A session at Obafemi Awolowo University, Ile-Ife

Plate 8: A session at University of Ibadan, Ibadan

Plate 9: A Session at University of Ibadan, Ibadan

Plate 11: A session at University of Ibadan, Ibadan

Plate 12: A session at Federal University, Oye-Ekiti