

**EFFECT OF SYSTEMATIC DESENSITIZATION ON EXAMINATION
ANXIETY AMONG JUNIOR SECONDARY SCHOOL STUDENTS IN ZARIA
METROPOLIS, KADUNA STATE, NIGERIA**

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ZARIA, NIGERIA**

APRIL, 2021

DECLARATION

I hereby declare that this Dissertation entitled “EFFECT OF SYSTEMATIC DESENSITIZATION ON EXAMINATION ANXIETY AMONG JUNIOR SECONDARY SCHOOL STUDENTS IN ZARIA METROPOLIS, KADUNA STATE, NIGERIA” has been written by me and it is a record of my research work. It has not been presented either wholly or partially for any degree or publication in any Institution.

All source cited in the text have been acknowledged and listed in the references.

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IGARA, Maryann Ujunwa

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DATE

CERTIFICATION

This dissertation entitled “EFFECT OF SYSTEMATIC DESENSITIZATION ON EXAMINATION ANXIETY AMONG JUNIOR SECONDARY SCHOOL STUDENTS IN ZARIA METROPOLIS, KADUNA STATE, NIGERIA” by IGARA, Maryann Ujunwa meets the regulations governing the award of Master in Education (Guidance and Counselling) of the Ahmadu Bello University, Zaria and was approved for its contribution to knowledge and literary presentation.

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DEDICATION

I dedicated this work to my husband Dr. E.I. IGARA

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ABSTRACT

This study examined the effect of systematic desensitization on examination anxiety among junior Secondary School Students in Zaria Metropolis Kaduna State Nigeria. Three objectives, research questions and their hypotheses were formulated to examine effect of systematic desensitization on emotional, cognitive and physical component of examination anxiety. Mean and standard deviation were used to answer research questions while paired t-test was used to test all the hypotheses at 0.05 level of significance. Quasi experimental research design was adopted for the study. Purposive random sampling was used to select two schools from the study area. The instrument for data collection was Examination Anxiety Inventory developed by Berger. This instrument was used in selecting the participants. The instrument has reliability of Cronbach Alpha of 0.85. It was revealed from the descriptive statistics that there was a reduction in examination anxiety scores both emotional, cognitive and physical component of examination anxiety as where indicated by the mean difference between the pre-test and post-test mean scores. The mean score for the emotional component was reduced from 21.57 to 14.43 given a mean difference of 7.14; the cognitive component was reduced from 21.50 to 17.14 given a mean difference of 4.36, while the physical component reduced from 12.57 to 11.07 given a mean difference of 1.50 at the end of the treatment. The 7.14, 4.36 and 1.50 of emotional cognitive and physical components of examination anxiety were regarded as the effect size of the treatment. The result from the paired t-test show that $p = 0.01$, for emotional and cognitive component while $p = 0.12$ for the physical component, the reduction was not statistically significant. It was concluded that systematic desensitization was effective on the emotional and cognitive components of examination anxiety, but not effective on the reduce the physical component of examination anxiety. It was recommended that students should be screened to identify those with examination anxiety and administer systematic desensitization by the counsellor.

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OPERATIONAL DEFINATION OF TERMS

The following terms are defined as operationally used in this study:

Systematic Desensitization: behavioural technique commonly used to treat fear, anxiety disorder and phobias.

Examination Anxiety: combination of physiological over arousal, tension and some somatic symptoms, along with worry, dread fear of failure and catastrophe that occur before or during examination situation.

Relaxation Technique: any method that helps a person to relax; to attain a state of increased calmness; or otherwise reduce level of pain, anxiety, stress or anger.

Examination Anxiety Inventory: self report psychometric scale which was developed to measure individual difference in examination anxiety as a situation specific trait.

Emotional Component of Examination Anxiety: measure of a person's emotional reactivity to a stimulus

Cognitive Component of Examination Anxiety: inability to concentrate leads to performance on examination

Physical Component of Examination Anxiety: an anxiety that lead to panic attack, in which the student may have a sudden intense fear and extreme discomfort

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Examination anxiety is one of the major problems facing students worldwide. In Africa, this problem is compounded by poor socio-economic situations. In Nigeria, students are faced with a lot of anxiety-inducing circumstances. For example, there is hunger in the land and what to eat becomes a source of anxiety to the students. Insecurity has become a major problem in Nigeria in addition to poverty. All these socio-economic and political instabilities have become a source of anxiety especially to students in Nigeria. These adversely affect the Nigeria students through their journey for academic achievement.

In Zaria Metropolis, the environment is so unconducive that many secondary school students struggle to ensure that their feeding and financial needs of their school are met. This complex situation creates a kind of examination anxiety in students because their entire life and their entire future depend on their academic achievement. Examination anxiety is well spread that between 25% and 40% of student are affected (Sady, 2010). Students who experience examination anxiety tend to be distracted easily during an examination. They also experience difficulty with comprehending relatively simple illustrations and have trouble in organizing or recalling relevant information. Students with examination anxiety have state anxiety which results in high level of nervousness specific to examination. There are two types of examination anxious students. There are those with good study habits who do not have problem encoding and organizing information but rather, have a major problem in retrieval for examination. The second categories of students have poor study habit and have problem in all the stages of processing information.

Examination anxiety has three components: the physical component, the emotional component and the cognitive component. The physical components are characterized by the students manifesting some physical symptoms like becoming nervous and jittery during an examination, developing sweat in palms during an examination; experience their heart pounding just before or during an examination and becoming nauseated that they will leave the examination hall. Students with emotional component will have panic that they avoid going to school on examination day. These students also complain of pains in their neck, back or legs during an examination. They worry whether other students finish before them and also make careless error on examination. Student with emotionality feel pushed for extra time and worry that they are doing poorly while others are doing well on examination. During examination, these students feel they have studied all the wrong things and after the examination, these students remember answers to questions they left blank. Students with cognitive component have trouble sleeping the night before the examination. They also have a loss of appetite and develop headache before examination. Students with cognitive affections cannot think clearly during an examination and have a hard time understanding and remembering directions during an examination.

The application of behavioural techniques ameliorates the symptoms of examination anxiety. Systematic desensitization is a behavioural technique commonly used to treat fear, anxiety disorder and phobia. This technique can be applied on students with examination anxiety by engaging the students with relaxation exercise and gradually exposing them to anxiety producing stimulus like examination.

The process of systematic desensitization occurs in three steps: the first step is the identification of anxiety inducing stimulus hierarchy. The second step is the learning of

relaxation or coping techniques while the third is to connect stimulus to the incompatible response or coping method by counter conditioning.

The history of systematic desensitization goes back to Wolpe in 1947 who discovered that the cat of Wits University could overcome the fear through gradual and systematic exposure. Wolpe conditioned the neurotic cat through different feeding environment. Wolpe knew that this treatment of feeding would not generalize to human and instead substitute relaxation as a treatment to relieve the anxiety symptoms. Wolpe began to have his client imagine the anxiety inducing stimulus such like the process that is done today.

Anxiety can be viewed as a form of learning or conditioning. What is learned can be unlearned. Conditioning can be reversed when a neutral stimulus (sound, sight, image or thought) is associated with frightening thought, image or experience. Systematic desensitization relaxed state and relaxation image are alternated with imaginable scenes associated with anxiety. Some students have good marks and intelligence but block, choke or freeze informal examination and do poorly. One would use systematic desensitization to allow students to mobilize their intelligence and learning in examination situation and perform well. There has been a concern among the people in Zaria Metropolis on the rising prevalence of examination anxiety among Secondary School Students.

1.2 Statement of the Problem

Examination anxiety is one of the major psychological problems among students worldwide. The effect could be frustrating and if not carefully addressed could lead to a great damage to the total well being of the students. Diminishing performance of students is caused by fears in the students before, during and after examination. It has become well known that students are susceptible to examination anxiety, leading most of them to experience poor performance in their

Junior Secondary School Certificate Examination (JSSCE) which is basic requirement for continuation to senior secondary school level of education. This has become a problem to students, counsellors, parents, teachers and the society at large. Hence, this study determined whether systematic desensitization will be used to solve the problem of examination anxiety among Junior Secondary School Students in Zaria Metropolis

1.3 Objectives of the Study

The objectives of this study are to examine:

1. the effect of systematic desensitization on the emotional component of examination anxiety.
2. the effect of systematic desensitization on the cognitive component of examination anxiety.
3. the effect of systematic desensitization on the physical component of examination anxiety.

1.4 Research Questions

The following research question was answered:

1. what is the effect of systematic desensitization on the emotional component of examination anxiety?
2. what is the effect of systematic desensitization on cognitive component of examination anxiety?
3. what is the effect of systematic desensitization on the physical component of examination anxiety?

1.5 Hypotheses

The following hypotheses were tested:

1. systematic desensitization has no significant effect on the emotional component of examination anxiety.
2. systematic desensitization has no significant effect on the cognitive component of examination anxiety.
3. systematic desensitization has no significant effect on the physical component of examination anxiety.

1.6 Basic Assumptions of the Study

On the basis of the available research evidence, the following assumptions are made for the purpose of this study.

1. systematic desensitization has significant effect on the emotional component of examination anxiety.
2. systematic desensitization has significant effect on the cognitive component of examination anxiety.
3. systematic desensitization has significant effect on the physical component of examination anxiety.

1.7 Significance of the Study

There is an increase in the prevalence of examination anxiety among secondary school students. This examination anxiety is manifested by emotional components, cognitive components and physical component.

The findings of this study will make the invigilators understand that some students under examination situation are anxious about the examinations. The invigilators will therefore ensure that they minimize the use of some expressions that are capable of inducing examination anxiety in the students who are prone for examination anxiety.

The examination officers who may also be incharge of the time table will benefit from this study by ensuring that adequate time is given before examination revisions. This will ensure that examination anxious students will enough time to prepare for the examination. Because lack of proven to be a major cause of examination anxiety.

The findings of this study can be beneficial to the researchers because they can improve on some methodological issues in other to bring about positive changes in examination anxiety especially the physical component of examination anxiety.

It is hoped that the findings of this study will be significant to students, teachers, parents, and School counselors. The teachers will benefit from the findings by identifying the students with examination anxiety. The findings of the study will also help the teachers in the choice of the best method of treatment in other to assist the students with examination anxiety.

The findings of this study will help the students to overcome examination anxiety through the application of systematic desensitization techniques. The parents will also benefit from the findings of this research because the findings will help them to have more understanding of their children who may have problems of examination anxiety.

The results of this study will help the counsellors in the best ways to guide students in developing good study skills and on how to use systematic desensitization to handle examination anxiety. It is hoped that the results of this study will help the counselling profession because it will further highlight the important roles of counsellors with regards to examination anxiety.

1.8 Scope and Delimitation of the Study

This study was carried out in Zaria Metropolis of Kaduna State and was delimited to seven secondary schools. The study was limited to Junior Secondary School two (JSS 2) students who was used for this study. The Junior Secondary School two (JSS2) students were used for

this study because they were more prone to examination anxiety than other students at different levels, since they were preparing for their Junior Secondary School Qualifying Examination. The content scope of this study was directed at the application of systematic desensitization on examination anxiety among secondary school students. This was in relation to the variable of the study. The scope covers an independent variable which is systematic desensitization and three dependent variables. These dependent variables are physical, emotional and cognitive components of examination anxiety. The study was delimited to Zaria Metropolis of Kaduna State because this study area is a good representation of Kaduna State Junior secondary school students from different socio cultural backgrounds, economic and religious affiliations attend schools in Zaria Metropolis. This was the justification for choosing Zaria Metropolis as the study area.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Introduction

This chapter presents a review of related literature related to the variables of the studies. It will be discussed under the following subtitles; Examination Anxiety, Systematic Desensitization, Theoretical Review, Empirical Review and Summary.

2.2.1 Concept of Examination Anxiety

Azuji (2015) defined ‘Examination Anxiety’ as a scientific construct referring to the phenomenological physiological and behavioral responses that accompany concern about possible negative consequences or failure at an examination or act as similar evaluative situation. Examination anxiety has been considered to include physiological over-arousal often referred to as “emotionality” along with dread, worry, and expectation of terrible failure (Ergene, 2003).

Hence, Bufka, Barlow and David (2008) see anxiety as an emotional state in which people feel uneasy, apprehensive or fearful. Spielberger (2005) viewed examination anxiety as an unpleasant state characterized by feeling of tension and apprehension, worrisome thought and activation of autonomic nervous system, when an individual faces an evaluative achievement-demanding situation. Examination anxiety could simply be defined as an excessive or unreasonable fear which leads a person to avoid participating appropriately in a given examination (Adedaju (1995) as cited in Oparanozie, 2016). Such a student could be described as an individual who is unwilling to partake with others in an appropriate way in a given examination and therefore such behavior is not acceptable to others. According to Vahey (1993), examination anxiety is a type of fear of classroom activities and a failure to participate appropriately in an academic situation.

Examination anxiety is a self – damaging factor which negatively affects the students and their performance. The student is unable to give his maximum productivity and the end result would be critical (Jayatunge, 2008). The author also in defining examination anxiety stated that it is a person who demonstrates typically low rates of examination confidence in partaking with others such as classmates in a given examination. Such child is termed phobic when repeatedly conforms to such a pattern within the environmental contexts wherein most other students maintain high level of academic/knowledge confidence.

Examination anxiety is a manifestation of high and extreme fear of failure in ones studies. Individuals manifesting anxiety over classroom/examination are termed examination anxiety. These individuals receive similar treatments from their teachers, classmates and even parents and siblings. They exhibit similar attitudes towards others and possess related characteristics in their approach towards any given class assignments, test and examinations (Ogbodo, 2001). Examination anxiety behavior is considered deficient by educationists (Vahey (1993), as in Oparanozie, 2016). The author further explained that in the school, a child who is manifesting high examination fear is educationally rejected, neglected and is unaccepted by their classmates.

As noted by Oparanozie (2016) most common characteristics of an examination anxiety student is poor performance in the participated assignments, tests and finally examinations and resorting to flimsy excuses such as bad teaching methods, teachers lack of knowledge of subject matter, difficult questions, poor timing of examinations, teacher's negative attitude towards students, clashing over girls with male teachers for boys and refusal to yield to male teacher's demand from girls and other possible excuses. Hall and Linezey (2000) in Ogbodo (2001) stated that examination anxiety is not derived from direct fear of the actual examination questions on

the paper or objects such as teachers and school among others, but that fear develops in the same way that adult anxiety and phobic disorder do and the child does not have the opportunity to develop ways of coping with problems.

Examination anxiety as a scientific construct refers to the set of phenomenological, physiological and behavioural responses that accompany concern about possible negative consequences or failure of an exam or similar evaluative situation (Ergene, 2003). A particularly low response threshold for anxiety in evaluative situations characterizes test anxious students. As a result, they tend to react with threat perceptions, reduced feelings of self-efficacy, self-derogatory conditions, anticipatory failure attributions and more intense emotional reactions and arousal at the very first sign of failure. Examination anxiety behaviour is typically evoked when a person believes that his or her intellectual, motivational and social capabilities are affected by the test situation (Sarason & Sarason (1990), in oparanozie 2016).

2.2.2 Component of Examination Anxiety

Examination anxiety has three components; the Physical component, the Emotional component and the Cognitive component. The physical components are characterized by pounding of the heart in an examination situation, sweaty palms, nausea, nervous and jittery while taking an examination. This symptom ranges from mild to severe among the students.

The second components is called the emotional component of examination anxiety, it is characterized by panic, pains in the neck, head or legs during an examination. Other symptoms of emotional component include worry, self doubt and forget fullness during examination. The third components is called the cognitive component is characterized by trouble sleeping the night before the examination, feeling of headache before an examination, loose of appetite, feeling of tightness in the chest and have trouble remember thing. Other symptoms of cognitive component

are, remembering the past failures in examinations, lose of clarity in thinking during examination and difficulty in understood an examination and remembering directions when taking an examination (Spielberger, 2012)

2.2. 3 Symptoms of Examination Anxiety

The symptoms of examination anxiety can vary considerably and range from mild to severe. Some students experience only mild symptoms of examination anxiety and are still able to do fairly well on examinations other students are nearly incapacitated by their anxiety, performing dismally on examination or experiencing panic attack before or during examination.

According to the Anxiety and Depression Association of America, Symptoms of Examination Anxiety can be physical, cognitive and emotional symptoms. (Kandra, 2021).

Physical Symptoms

Physical symptoms of examination anxiety include sweating, shaking, rapid heartbeat, dry mouth and fainting. Sometimes, these symptoms might feel like a case of “butterflies” in the stomach, but they can also be more serious symptoms of physical illness such as nausea, diarrhea or vomiting.

Cognitive Symptoms

Cognitive symptoms can include avoiding situation that involves examination. This can involve skipping class or even dropping out of school. In other cases, people might use drugs or alcohol to cope with symptoms of anxiety. According to the Anxiety and Depression Association of America (2021), other cognitive symptoms include memory problems, difficulty concentration and negative self-talk.

Emotional Symptoms

Emotional symptoms of examination anxiety can include depression, low self-esteem, anger and feeling of hopelessness. Fortunately, there are steps that students can take to alleviate these unpleasant and often times harmful symptoms by learning more about the possible causes of their examination anxiety. (Kendra, 2021).

2.2.4 Causes of Examination Anxiety

College students continue to take lots of examinations and the importance of grades coupled with the pressure to get good ones, has not diminished. Some examination anxiety can be legitimate. If students have not prepared for the examination and they are nervous, that is examination anxiety for the right reason. Perhaps it will motivate necessary behavioural changes. Mealey and Host (1992) described three other causes of examination anxiety:

1. Some students do have good study skills, do not know how to study for examination, know they are deficient and experience anxiety as a consequence. These are the students who memorize answers but cannot match them to questions, who come to examinations with a head full of facts but no sense of the big picture.
2. Then there are students whose negative self-talk distract them, making it difficult to focus before and during the examination. Often these are students who have done poorly on other examinations. They hate taking examinations and are convinced they will not do well. They read questions and quickly decide they cannot answer it, so they leave it black and then forget to come back and make a guess. These students may have fine study skills and they may have prepared for the examination but the experience is so anxiety provoking that it clouds and confuses their thinking. It has been observed that these students can provide perfectly coherent answers after the examination.

3. Finally, there are students who think they know how to study, but they are using woefully inadequate strategies. They recopy their notes word for word. They highlight long passages in the text without any real understanding of why they are highlighting them. They talk to friends who have taken the course previously and get persuaded that the examination will be easy. They cannot believe that they have done so poorly. Since they study for hours, they could not believe the possibility for their failure (Adaa, 2012).

Research shows that parental pressure is associated with greater worry, test irrelevant thoughts and stronger bodily symptoms relating to anxiety during an examination. (Putwain, et.al. (2010). causes of examination anxiety include fear of failure, procrastination and previous poor examination performance. Characteristics of the examination environment such as nature of the task, atmosphere, time constraints, examiner characteristics, mode of administration and physical setting can affect the level of anxiousness fact by the student. (Salend, 2012) .

Other causes of examination anxiety include:

Biological Causes

In stressful situation, such as before and during examination, the body releases a hormone called adrenaline, this helps prepare the body to deal with what is about to happen and is commonly referred to as the a “fight-or-flight” response. Essential, this response prepares you to either stay and deal with the stress or escape the entirely, (Chandel et al., 2020).

In a lot of cases, this adrenaline rush is actually a good thing. It helps prepare the students to deal effectively with stressful situation, ensuring that you are alert and ready. For some people, however, the symptoms of anxiety they felt can become so excessive that it makes it difficult or impossible to focus on the examination.

Mental Causes

There are many mental factors that can play a role in this condition. Students expectation are one major mental factor. For example, if a student believe that he/she will perform poorly on an exam, he/she is far more likely to become anxious before and during an examination. Examination anxiety can become a vicious cycle. After experiencing anxiety during an examination, student may become fearful of it happening again that they actually become even more anxious during the next exam. (Kendra, 2021).

2.2.5 Overcoming Examination Anxiety

Strategies to help overcome Anxiety: (Spielberger et al., 2015)

1. Avoiding the perfectionist trap:

Don't expect to be perfect. We all make mistake and that's okay, knowing you've done your best and worked hard is really all that matters, not perfection.

2. Banish the negative thoughts:

If you start to have anxious or defected thoughts, such as "I'm not good enough", or "I can't do this", push those thought away and replace them with positive thought, "I can do this", and "I studied hard", can go far in helping to manage your stress level when taking an examination. A good night sleep will help your concentration and memory. (Cleveland, 2019).

3. Make sure you're prepare:

This means studying for the examinations early until you feel comfortable with the night before. Being prepared will boost your confidence which will lessen your examination anxiety. Yusefzadeh et al., (2019).

4. Take deep breaths

If you start to feel anxious while you've take your examination, deep breath may be useful for reducing anxiety. Breathe deeply in through your nose and out through your mouth. Work through each question or problem one at a time, taking a deep breath in between each one as needed. Making sure you have given your lungs plenty of oxygen can help you focus and sense of calm. (Arlin, 2020).

2.3.1 Treatment of Examination Anxiety

Counsellors cannot cure examination anxiety, but they offer some remedies that students should be encouraged to try. Information about good study strategies should be included in every course. Sometimes that information is more persuasive that if it comes students think that nobody else falters under pressure. It is helpful for them to talk with others who experience the same problem. Counsellors can encourage students with examination anxiety by recognizing it as a real problem and by suggesting solutions. Mealey and Host (1992) asked a 100-student cohort of developmental reading students to identify things teachers do that make them feel more or less nervous during an examination, a good question for a teacher to ask students. Half of the students said it was distracting when the teacher talked during the examination, and more than half said they found it stressful when teachers walked around the examination hall and looked over their shoulders. Three-quarters said they went into examinations more confident if the material had been reviewed in class before the examination. Medication is not recommended to treat examination anxiety Instead, standard suggestion include sleep, proper nutrition, exercise, meditation, studying without stress and enacting habit to reduce stress during the examination (Downs, 2018). This focus on helping people charge both the behaviour and underlying thought that contribute to unwanted behaviours or feeling. (Kendra, 2020).

2.3.2 Prevalence of Examination Anxiety

General anxiety is one of the most common mental health problems in the United States (Benedict, 2014). Examination anxiety is more specific form of anxiety in which a person feels worried and negatively aroused when he or she begins evaluated in a formal situation (Weiner & Carton, 2011). As a result of the increased frequency of formal evaluations being used for high stake decisions (Benedict 2014) examination anxiety may be present within many students from grade school through post-secondary school levels (Benedict, 2014).

There are several different estimates for the prevalence of examination anxiety with number ranging from 10%-30% among High School students and University students (Dammar & Melendres, 2011). They found that 29.1% of the students report feeling heavily burdened by their school demand and this increasing pressure on students may have an impact on examination anxiety. In a recent meta-analysis, Nelson and Harwood (2010) found that students with learning disabilities have higher levels of examination anxiety than students without a learning disability. Some studies report a relation between age, gender, ethnic, socio-economic factors and examination anxiety rate (Putwin, et. al, 2010). For example, a study was found that the combination of gender, ethnicity, socio-economic factors accounted for 91% of the variance of examination anxiety. Several studies have found that females rate themselves as more examination anxious than males. Additively, students of a lower socio-economic background have been found to rate themselves as more examination anxious than students of a higher economic background (Putwin, et. al, 2010).

Examination anxiety disorder are common, affecting about 18 percent of adult. But only about a third of people with anxiety seek treatment, according to Anxiety and Depression Association of America. (ADAA, 2012). According to a 2010 study, examination anxiety can

affect anywhere between 10 to 40 percent of all students. That percentage has seemed to increase alongside the increase in standard testing. (McDonald, 2010). British psychological society (2012), it was found that examination anxiety is examination anxiety is more detrimental to performance for some people than others. Students with good working memory had poor examination anxiety anxiety.

2.3.3 Impact of Examination Anxiety

Some researches that were conducted on the impact of examination anxiety have reported that higher rate of examination. Although some studies have found no correlation (Benedict, 2014) when examination anxiety is present in manageable amounts, the presence of examination anxiety can act as a motivator, increasing performance (Daly, et. al, 2011), Banaccio et. al, (2011), however, found that extreme levels of examination anxiety could have a negative impact on performance. Specifically in their study on the predictive validity of examination anxiety, they found that in any amounts less than extreme, examination anxiety did not have a significant impact on cognitive examination performance such as Intelligent Quotient Examination. However, when a person experienced extreme levels of examination anxiety, his or her performance on a cognitive examination was lower compared to when he or she did not report extreme levels of anxiety. Similarly high levels of examination anxiety have shown to negatively affect performance (Bonaccchio & Reeve 2010).

Examination anxiety also can have negative academic consequences similar to the research on performance. Some studies have reported that higher level of examination anxiety can result to lower grade point average in school (Benedict, 2014). For example, (Benedict 2014) found that college students with high levels of examination anxiety had lower grade in their classes compared to students who reported low levels of examination anxiety. It has been studied

by Benedict 2014 that examination anxious students drop out of schools as a result of their academic struggles. In addition to the academic impacts, examination anxiety was found to be negatively related to self-esteem as well as mental and physical health (Damar & Mdendres, 2011). They noted that examination anxiety was correlated with depression and feeling of depression and feeling of hopelessness. High levels of examination anxiety have been linked to sickness as a result of a weakened immune system (Benedict, 2014). Further, high levels of examination anxiety have been associated with the potential for future damaging health consequences (Conley & Lehman, 2011)

2.4 Systematic Desensitization

When the South African psychiatrist, Wolpe in 1965 took up his post at Temple University in Philadelphia in 1965, he brought with him the treatment he had developed for patients with phobias. Systematic Desensitization involved a lengthy process of relaxation and gradual exposure to the object of the phobia. It was known as behavioural therapy with its concentration on learning a different response to a stimulus. It paid no attention to the patient's childhood or underlying psychological experiences and was that a radical departure from the Freudian psychologically based approach that was the established method of psychiatry in the use at the time. He brought about a sea change which sees him regularly listed as one of the top twenty most influential psychologist of the 20th century.

Systematic desensitization is a type of behavioural therapy based on the principle of classical conditioning .It was developed by Wolpe during the 1950s. The aim of this technique is to remove the fear response of a phobia. Wolpe in 1964 successfully used the method to treat an 18 year old male with a severe hand washing compulsion. Systematic desensitization is highly

effective where the problem is a lead anxiety of specific objects or situations, for example, examination anxiety (McGrath, et. al; 1990).

Studies have shown that neither relaxation nor hierarchies are necessary and that the important factor is just exposure to the feared object or situation. Systematic desensitization is based on the idea that abnormal behavior is learned. The biological approach will disagree and say we are born with a behavior and therefore it must be treated medically. Systematic desensitization only treats the observable and measureable symptoms of a phobia. It does not however treat the cause. This is a significant weakness because cognitions and emotions are often the motivators of behavior and so the treatment is only dealing with symptoms not the underlining causes.

Meaning of Systematic Desensitization – Systematic Desensitization is a behavioural Technique where by a person is gradually exposed to an anxiety – producing object, event, or place while begin engaged in some type of relaxation at the same time in order to reduce the symptoms of anxiety for example, a very common phobia is the fear of flying. Some people become very anxious when travel involves plane, while others may become extremely fearful at the thought of flying and refuse to go anywhere near a plane.

Exposure can be done in two ways:

In vitro – The client imagines exposure to the phobic stimulus

In vivo – Client is actually exposed to the phobic stimulus; Research has found that In vivo technique are more successful than In vitro (Menzies & Clarke, 1993). However, there may be practical reason why in vitro may be used.

Systematic Desensitization, also known as graduated exposure therapy is a type of cognitive behavioural therapy developed by South African Psychiatrist, Joseph Wolpe 1964. It is

used in the field of clinical psychology to help many people effectively overcome phobias and other anxiety disorders that are based on classical conditioning, and shares the same element of both cognitive psychology and applied behaviour analysis.

Three steps of Systematic Desensitization include: Establishment of the anxiety stimulus hierarchy, learning the mechanism of response following relaxation training and connecting stimulus to the incompatible response or coping method by counter conditioning. Systematic Desensitization is widely known as one of the most effective therapy technique. Wolpe found that Systematic Desensitization was successful 90% of the time when treating phobias Wolpe in 1969.

25% and 40% of students experience examination anxiety. Adolescents can suffer for low self-esteem and stress- induced symptoms as a result of examination anxiety (Deffenbacher & Hazaleus, 1985). The principle of systematic desensitization can be used by adolescents to help reduce their examination anxiety. Adolescents can practice the muscle relaxation techniques by tensing and relaxing different muscle groups. Explanation of desensitization can help to increase the effectiveness of the process. After this, students learn the relaxation techniques and they create an anxiety inducing hierarchy. For examination anxiety, these items should include not understanding directions, finishing on time or marking the answer properly.

2.4.1 Systematic Desensitization in Perspective

There have been continued debates on the application of systematic desensitization in the treatment of anxiety conditions. In 1999, it was shown that systematic desensitization is more ethical than other methods as the client is never in too much distress (Capatons, 1999). This study also indicated that systematic desensitization is based on scientific research as classical conditioning as well as other learning theories explaining how the behaviour is learnt and

unlearned. It has also showed high level of reliability all this make systematic desensitization a reliable technique. The study showed that it is useful for treating phobias but not aware that they have a problem. He also states that one major disadvantage of systematic desensitization is that it only works if a person is aware they have a problem, is willing for it be treated, and can learn to relax.

Gabriel (2013) argued that systematic desensitization is a very effective step by step approach when treating a learned phobia as it is believed by some researchers that it is operate or classical conditioning that help creates the fear or phobia, therefore, it can be unlearned with the help of relaxation technique, an individual can learn to overcome a fear or phobia. However, this researcher stated that a major limitation of systematic desensitization technique was that it is focused on changing the behaviour and not fixing the underlying cause of the anxiety. The researcher also stated that the longer a process takes the more effective it will be in long term. The author also stated that the major drawback of systematic desensitization is that it cannot be with individual with developmental disabilities (Gabriel, 2013).

The application of systematic desensitization is very suitable among Junior Secondary School students because it is cheap. It is well known that insurance does not cover much mental health problems therefore, an alternative technique like systematic desensitization should be more appropriate in the treatment of anxiety among Junior Secondary School students who depend on their parents even in the academic cost of their studies. Students can be taught how to apply this technique on their own and this saves the parents from the finance of the medical treatment of anxiety. Unlike the medical treatment of anxiety, systematic desensitization does not carry any significant side effect on the students. During the screaming process, the counselor should ensure that the students whose examination anxiety might be related to post traumatic

stress disorders are not included in this treatment method as systematic desensitization has not been shown to be effective in this condition.

2.4.2 Systematic Desensitization for Relaxation

Systematic desensitization, or desensitization therapy, is a therapy often used by counselors to help clients with anxiety, fears and phobias. The process works whether the fear is college test stress, a phobia or fear of snakes or spiders or a fear of heights. In stages, little by little, a client who has a phobia or who is very anxious becomes more comfortable with the very things or situations that make him anxious.

Here is how systematic desensitization works: Let us say that you are afraid of heights. You would be exposed to low heights first, like a single step. When you are comfortable looking around while standing on the step, you would stand on the second step-2 steps high. When comfortable, the height would be increased and so on. This would continue until you were able to stand at the top of a high building and look down without feeling anxious or afraid. With each success, the next level or situation becomes easier. (Ehibudu, 2017). There are three steps in desensitization therapy:

1. **Practicing Progressive Relaxation** – Anxious people often have trouble relaxing, and when you are relaxed, you can learn better and you are more open to suggestions. This is why, when you use self-hypnosis to overcome anxiety or for any other purpose-the first thing you do is achieve a relaxed state.
2. **Construction of an Anxiety Hierarchy** – the anxious person develops a list of anxiety inducing scenes and then rates each situation on a scale from 100 to 0. A rating of Zero

would indicate that there is no stress associated with a situation and a rating of 100 would indicate that the stress associated with that situation is unbearable!

3. Combining the Relaxation with a Mental Image of the Anxiety Producing Event

Here is an example of an Anxiety Hierarchy for Junior Secondary School Students Examination Anxiety:

Discussion of next term's subjects

Discussion the course outline in the class

You hear the teacher announce in the class that the mid-term exam will be held on in 3 weeks

You discuss the difficulty of the upcoming exam with other students

You attend a review session one week before the exam

Listening to the teacher explain what to expect on the exam – the day before the exam

You are studying with others who are in the class, the night before the exam

You hear some of the best students in the class express their concern about the difficulty of the test and their doubts about been prepared

At 10:00p.m, you realize that you are running out of time

You enter the class just before the exam, and the teacher remind everyone that ½ of your grade will be based on this exam

While reading the exam question, you realize that you do not remember learning about several of the topics

While you are taking the exam, one student leaves within 15 minutes and you hear several others coughing nervously, hyperventilation or muttering to themselves (Wolpe 1965)

2.4.3 How Does Systematic Desensitization Work

Here is a simplified version of how systematic desensitization therapy works. The clients first practices relaxing muscles, one by one. This is often done with soft music or the sound of water (rain, waterfall) in the background.

When the client can relax, he closes his eyes and visualizes the first situation on his anxiety list. He pictures himself being successful, being relaxed and uses positive self-talk to reinforce his feelings of success.

When he has mastered the first situation (mentally), he moves on to the next situation, which he initially reported was slightly more anxiety producing. When he masters this situation mentally, he moves on to the next, and so on.

One variation of this, of course, is to mentally prepare – and then to actually experience the anxiety-producing experience – successful. Each success leads to another.

The ultimate success or the goal of therapy is to face the actual situation that is causing the anxiety. In the example above, that would be the college examination or mid-term. (Cherry 2012).

In addition to systematic desensitization, another approach (to overcoming phobias & anxiety) which utilizes the same principles is simply the self-hypnosis. If you are suffering from anxiety, you might want to consider self-hypnosis. When using self-hypnosis for anxiety, you first relax

and then you receive a number of suggestions that will train your subconscious mind to be relaxed during your usual anxiety producing situations. (Ehubudu, 2017)

2.4.4 How to Use Imagination to Overcome Anxiety

Many people with panic disorders suffer from certain fears or phobias that seem to trigger their anxiety. Those who have panic disorders with agoraphobia are struggling with a fear of situations in which escape would be difficult or embarrassing. It is these intense feelings of apprehension that often lead to panic attacks. Personal worry and concern about triggers can result in many maladaptive behaviors, such as avoiding any situation that may initiate a panic attack. Fears and phobias grow stronger the more that we avoid them. In order to overcome them, it does seem natural that we would need to face them. However, coming to terms with our fears head on may feel unbearable, if not impossible to do. Imaginary desensitization is a technique that allows a person to gradually confront panic triggers by tackling them first in their imagination. (Star, 2018). The triggers or events that cause you to have panic attacks are situations that you are considered “sensitized” to, meaning that you have grown to associate these situations with fear and anxiety. For example, a fear of flying may cause a person to have high levels of anxiety, even when simply thinking about traveling in a plane. For whatever reason, the person has come to associate flying with strong emotional feelings of worry and fear. Over time we avoid the situations that we have become sensitized to. In this example, the person would no longer fly even if it meant missing out on vacations or special events. The more we avoid our anxiety, the more our fear grows and eventually a phobia may develop (Star, 2018).

In order to overcome a particular fear, you need to become “desensitized” to it, meaning that you learn to no longer associate extreme anxiety with the event or situation. The process of

getting past extreme fear often begins by engaging in the feared situation while feeling completely secure and relaxed. Imaginary desensitization allows you to do this by using your imagination and relaxation techniques to break your connection of panic with certain triggers.

2.4.5 How Desensitization Works

The first step of imaginary desensitization is to get into a completely calm and relaxed state of mind. This can be achieved through many relaxation techniques, including breathing exercises, progressive muscle relaxation, yoga, meditation, journal writing, or a combination of these strategies. Once you are feeling completely relaxed, the next step is to gradually imagine yourself in a panic-inducing situation. It is important to try to remain calm and comfortable as you visualize yourself in feared situations. If at any time you begin to feel afraid or highly anxious, envision yourself moving away from the apprehensive situation and into a more calming and serene place. By regularly practicing imaginary desensitization, you will begin to break the link between a particular event and your personal feelings of fear and anxiety. To further strengthen your desensitization, you may eventually confront your actual fears in person. It is important to face your fears through imagery first, as this will cause the least amount of anxiety and will allow you to effectively break the connection you have between panic and the particular situation. Your imagination is also where many of these associations were initially created, so it is beneficial to confront them where they began. (Star 2018)

2.4.6 Using Desensitization on Your Own

Start by making a list of varying degrees of your fear. Keep your list to between 10 to 20 situations that form a hierarchy from the least anxiety-provoking circumstances around your fear to what causes you the most anxiety. (Ehubudu, 2017) For example, here is what this list would

look like for a person who has a fear of flying:

1. Watching airplanes fly in the sky.
2. Driving to the airport with a loved one.
3. Seeing planes take off and land at the airport with a loved one.
4. Going inside of the airport and through security with a loved one.
5. Repeating numbers 2, 3, and 4 on your own.
6. Boarding a plane with a trusted companion.
7. Taking a short flight with a trusted companion by your side and available to talk to you the entire time.

This list can continue until you reach extreme feared situations, such as taking a long flight alone or flying through turbulence. Before you move on to visualizing these events, you first need to practice and have a good understanding of relaxation techniques. Determine which of these strategies work best for you and make a commitment to practicing them on a regular basis. Once you have built up your relaxation skills, it is time to use them in the process of imaginary desensitization. Set aside about 10 minutes a day to relax and another 10 to imagine your phobias. To begin, get as comfortable as you can, possibly by lying down, turning your phone off, and removing any heavy jewelry or uncomfortable clothing. Bring yourself into a relaxed state and then imagine yourself being in the very first scenario of your hierarchy. Take note of every detail around yourself. Notice the sounds, colors, and smells. Try to imagine as many details as possible. As you feel your anxiety rise, bring your mind focus back to the peaceful relaxed state. Over time, you may progress up your list, mentally going through different situations. Through the practice of desensitization, you may be able to overcome some of your worst fears. You may still feel anxious when faced with certain situations. However,

your nervousness can be greatly minimized. Remember to take it slow and always first practice through visualization before attempting it real life situations. (Ehubudu 2017)

2.5 Theoretical Review

2.5.1 Psychoanalytic Theory of Sigmund Freud

Sigmund Freud, a renowned psychologist propounded the psychoanalytic theory in Vienna. Freud's psychoanalytic theory of anxiety states that the major determinants of anxiety disorders such as examination anxiety are internal conflicts and unconscious motives (Ossai, 2013). According to Freud (19--) as cited in Ossai (2013) anxiety results from conflicts involving the id, the ego, the super-ego and the environment. Examination anxiety occurs when there is a worry or fear of suffering or a reduction of the self-image particularly in the eyes of peers (Fraeidmans, Bendas & Jacob, 1997). Neurotic anxiety generally occurs when the impulses threaten to overwhelm the ego's defenses and explode into action. Psychoanalytic theorists (Ossai, 2013), believed that neurotic anxiety stems from unconscious conflicts or discharge within the individual between unacceptable id impulses; it alerts the ego to take defensive actions against the pressures of the drive. The person fears that the expression of the drive will lead to forbidden or unacceptable actions. Ossai (2013) asserted that when these impulses come close to consciousness, anxiety is aroused and serves as a signal of potential "danger". The danger here is always evoked by examination or examination-like situations according to interference model evokes task irrelevant cognitions and negative thoughts. This may be applicable to junior secondary school students. Freud's psychoanalytic theory is relevant in the study because as anxiety originates from the threatening of impulses to overwhelm ego defenses, examination anxiety takes place when the ego is overwhelmed and explodes into action (Sansgry, 2008). This

situation is similar to the situation in which secondary school adolescents find themselves during examinations.

2.5.2 Cognitive Behavioural Theory

The proponents of Cognitive Behavioural Theory include Krumboltz, Thoresen, Michael, Meyerson and Horford in the year 1952. The proponents of this theory assert that abnormal behaviors are acquired in the same way as normal behaviour, that is, they are learned through the process of conditioning and social learning. These theorists view behavioural counselling approach as the point of interaction of heredity and environment. According to behavioural approach, behaviour is not associated with an underlying disease or mental illness as in psychoanalytic theory rather behavior is a result of learning. Behavioural counselling is a teaching process where the counsellor uses varieties of techniques to assist the client in problem resolution. The system has inbuilt mechanism that helps to access the extent of goal realization and corrections or substitution of appropriate techniques where necessary (Oparanozia 2016).

In as much as divergences exist in the specifics of behavioral viewpoint, the general agreement is that most of man's behaviors are product of learning and therefore can be unlearned. For the behavioral theorists, counselling process involves the systematic, judicious and expert arrangement of learning or relearning experiences with the use of variety of techniques to help clients learn the behaviours necessary for the solution of their problems. Counselling thus becomes a re-education or re-learning or counter-learning. A behavioural counsellor is therefore regarded as a learning specialist whose duty is to help the client unlearn his/her maladaptive behaviors by changing the specific situations that bring about the behaviour (oparanozia 2016).

The theorists of behavioural approach based their theory on the following assumptions about human nature and behaviour:

1. Human at birth has a neutral character, his/her behaviour cannot be said to be good or bad.
2. An individual interacts with his/her environment, be it physical or social environment. (The individual influence his environment and the environment influence him).
3. Apart from behaviours due to innate characteristics of the individual and maturation, all behaviors are learned.
4. The interaction with the environment is brought about by inter-play of heredity and experiences the individual is confronted with.
5. The frequency and types of reinforcement determine one's behavior. The human behaviour is to some extent predictable and to some extent unpredictable.
6. Human being is an active organism which can decide, think, create, and influence his/her environment even though the environment can as well influence him.

The behavioral counselling process involves the following six basic steps:

- a. Identification of problems
- b. Goal setting
- c. Selection of techniques
- d. Treatment
- e. Evaluation
- f. Follow-up

The counsellor should design some procedures to increase a desirable behavior or decrease the undesirable behavior using the following techniques:

- a. Relaxation
- b. Assertive training
- c. Systematic desensitization
- d. Aversion therapy
- e. Self – monitoring
- f. Modeling, role playing, reinforcement among others.

Based on the above assumptions about the nature of man and in view of the problem, the researcher is addressing examination phobia as a behavioural problem and it agrees with the assumptions of the behavioural theory that an individual interacts with his/her environment because he/she is an active organism and he influences his/her environment and his/her environment influences him. This influence could be positive or negative like in examination anxiety and all other forms of antisocial behaviour (Oparanozia, 2016).

2.5.3 Beck's Cognitive Theory of Anxiety

Cognitive theory of anxiety was developed mainly to help individuals develop more realistic and rational appraisals of themselves and the situations they encounter. A cognitive analysis of examination anxiety according to Beck (2007) is focused on the way the anxious people think about situation's and potential dangers. They submitted that individuals who suffer from generalized anxiety tend to make unrealistic appraisals of certain situations, primarily those in which the possibility of danger is remote. They also argued that the victims of examination anxiety burden themselves with task irrelevant cognitions. This kind of mental makes a person hyper vigilant, always on the lookout for signs of danger. The victims referred to can be likened to secondary school students as the case in this study.

Cognitive theorists like Ellis and Beck (2007) as cited in Ossai (2013) stressed the role of maladaptive thought patterns and beliefs. Among the most important cognitive distortion according to Ossai (2013) are tendencies to exaggerate the amount of threat in the environment and to underestimate one's resources or ability to cope with situation demands. This is consistent with Tobia (1985) as cited in Ossia (2013), believed that it is not events or problems which cause anxiety but it is the individuals' interpretation of these events that may lead to these problems. This may be likened to in-school adolescents.

The cognitive theory generally stressed that anxiety-disorder people "catastrophize" about demands and magnify them into threats, anticipate that worst will happen, and feel powerless to cope effectively and lack confidence in their ability (Sarason & Sarason, 1990). Thus, the continuous expectation of harm leads to perception of danger. The victim are always characterized with "fight" r "flight" reaction that manifest in tremors, rapid heartbeat-rate, clammy hands, muscle tensing, sweating and tense most of the time. Beck (2007) as cited in Ossai (2013) believes that anxious person's pre-occupation with danger is manifested by the continuous involuntary intrusion of outcome thoughts either visual images or verbal self-statements, whose contents involves potential physical or mental harm. Such thoughts, he added, may occur so fleeting that the person is unaware of their occurrence and merely recognizes being in a state of high anxiety.

Ossai (2013) posited that anxiety-provoking situations are brought about by several kinds of situations; when we have conflicting motives, (such as wanting to dedicate our life to helping others, yet at the same time wanting to make a lot of money), when we experience a conflict between our behavior and an inner standard, when we encounter some unusual event that we

cannot immediately understand and adjust to, when we are faced with events whose outcome is unpredictable (for example, the score we will make on an important test).

Further, Nwaimo (2006) also posited that anxiety – provoking thoughts are brought about by four major thinking errors: Catastrophising – disaster in the predicted outcome when the anxious person is anticipating danger or problems. Exaggerating: Minor mistakes or imperfections become absolute failure or fatal flaws. Over generalizing: One's difficult experiences are translated into a law governing the person's entire existence and; ignoring the positive: Overlooking all past successes, personal resources, and strengths. These types of thinking errors, in the anxious person according to Beck (2007) as cited in Nwaimo (2004) increase perceived vulnerability and so increase anxiety. The cognitive theory of anxiety has been adopted in order to explain the high test anxiety resulting from catastrophic misinterpretation of stimuli in the environment.

2.5.4 Cognitive and Emotionality Theory of Examination Anxiety by Liebert and Morris 1967

Psychologist Liebert and Morris (1967) analyzed the structure of examination anxiety given on two distinct factors: Cognitive Examination Anxiety and Emotionality. Cassidy, (2001). Emotionality means that individuals shows high level of several different symptoms related to examination anxiety that can be seen through physiological responses experienced during situation where they are being evaluated; such as an examination. (Cassidy, 2001). Some of the physical manifestation include: increased galvanic skin response or feeling of panic. (Cassidy, 2001). There is evidence that emotion is a distinct part of examination anxiety; it can be seen that when an individual displays high emotions, it means that it is mostly associated with declining performance, but only when the individual is also experiencing high level of worry.

The other factor mentioned is cognitive examination anxiety, it is mostly composed of the individual cognitive reaction to situation where they are being evaluated, in the time prior to during and after those tasks. Some of the thoughts that individual with high cognitive examination anxiety are constantly dealing with are comparing self performance to fears, excessive worry about grade and loss of self-worth. (Cassidy, 2001).

Putwain et al., (2010) found that a low academic self was associated with higher worry and tension about their abilities to do well on an examination. A students meta cognitive belief plays an important role in the maintenance of negative self-belief. Anxiety reactions can be generalized from previous, experience to lasting situation. Mandler, (1952) in Operanozie 2016.

2.5.5 Rational Emotive Behavioural Therapy (REBT)

Several treatments can be considered as variations of cognitive restructuring. Perhaps the oldest is Rational Emotive Therapy (RET), which was developed by Albert Ellis in 1962; Ellis argues that thousands of people lead unhappy lives because of their irrational beliefs. They may believe that everyone they meet must love them and approve of their actions they may believe that the world should be arranged so that they experienced only pleasure and never feel pain. Furthermore, it is important to note that it is not what happens to people that causes anxiety or depression. According to Ellis, instead, peoples debilitating responses occur when their experiences are filtered through their irrational beliefs.

Rationale emotive therapy is the term used by psychologist Albert Ellis for a new form of psychotherapy that he began calling Rational Emotive Behaviour Therapy (REBT) from 1993. Rational emotive behaviour therapy is a form of psychotherapy or cognitive therapy developed on the assumption that psychological problems often arise from people's interpretations of events in their lives rather than the events themselves and that irrational interpretations cause

psychological problems. During therapy, clients are confronted with the irrationality of their beliefs and are helped to establish a more realistic cognitive framework that allows them to interpret their experiences differently. The therapy involves challenging irrational belief systems in an extremely directive manner by explicit confrontation, suggestion, argument and various specialized procedures (Oparanozia 2016).

Rational emotive therapy is a therapy that is designed to attack individual's irrational ideals of "should" "ought" and "must" and is a comprehensive system of personality change. It is a counselling theory that is based on the fact that man is capable of thinking and behaving in both rational and irrational ways. Ellis argues that when a man thinks rationally, he increases the probability of leading a more effective and happy life than when he thinks irrationally. Ellis explains that rational emotive behavior therapy is action and results oriented psychotherapy, which teaches individuals how to identify their own self-defeating thoughts, beliefs and actions and replace them with more effective life enhancing ones.

Rational Emotive Therapy (RET) encompasses a distinctive cognitive behavior therapy. The underlying notion of this theory is that individuals who present disturbed and emotional behavior have inner thoughts causing them. Ellis explained that people form internal sentences in their head which are recurring. These are known as self-statements that are the motivating factors of irrational behaviors. The goal of Ellis rational emotive behavior therapy is to overcome the beliefs people have which are self-destructive. According to Ellis (1962) if individuals could divert themselves from troubling thoughts, they would be more rational beings. He maintained that irrational and illogical beliefs of individuals stem from the fact that they need to achieve a sense of perfection. This idea of perfection is unrealistic and is the basis for the irrational thoughts people have.

Ellis uses A-B-C-D-E-F, principles to initiate students into understanding of more optimum life styles. A is the person's "Activating experience or events", such as one failing examination or being fired from a job. B is the person's "belief system "or "self - talk". C is the "consequences" or reactions of the person that followed the action, while D stand for "disputing" the rationality or irrationality of the beliefs. The E stands for the "effective rational beliefs" which result from the disputing. While F stands for the "feelings and behaviours" which become the new final outcome.

Ellis believes that man's irrational thought leads to his undesirable behaviour, therefore using this theory in this study could help the student to see the irrationality of their thoughts that led to examination anxiety. Examination anxiety is a behavioural problem which stems from an individual's irrational and illogical thoughts about the negative experience or event that he or she went through or is going through. The disturbed individual perpetuates his/her disturbances and maintains his illogical thoughts by internal verbalization of irrational ideas and thoughts which inevitably lead to widespread neurosis which eventually results in internal verbalization and examination anxiety. The above assertion implies that if the students are helped to learn how to see things in more positive ways, to judge issues with greater accuracy and to think more rationally, the students will be less likely to adopt the irrational behaviour system and will be logical in the way they react to issues Oparanozia (2016).

2.6 Empirical Review

Finding from the data analyzed by Azuji (2015) indicate that systematic desensitization technique is effective in reducing examination anxiety among secondary school students. The finding from Azuji (2015) is in line with cheery (2012) indicating that systematic desensitization is effective in treating examination anxiety and other form of phobias. The result from the data

analyzed also show that there was a significant difference between mean score of participant in the treatment group. The calculated $f = 63.49$ systematic desensitization was therefore considered significant in reducing secondary school students examination anxiety.

Ehibudu (2017) conducted a study on the effect of systematic desensitization in the management of mathophobia among secondary school students. The result obtained from the study revealed that the application of systematic desensitization on students with mathophobia led from 81.43 (SD = 5.65) before treatment to 53.63 (SD = 6.16) after treatment. In addition, it was observed that a statistically significant difference exist in the mathophobia level of students treated with systematic desensitization and those in the control group, $p < 0.05$. This show that systematic desensitization has positive effect in the management of mathophobia among students in Khana Local Government Area of River State Nigeria. Therefore, the result show that systematic desensitization had a positive effect in the management of mathematic anxiety among students is expected as most form of phobia.

In a study by Rajiah & Saravanan (2014) 225 pharmacy student exhibited moderated to high test anxiety and were randomly placed into either experiment group ($n=21$) or a waiting list control group ($n=21$). The finding showed that there was significant reductions of examination anxiety in the experimental group compare to control group. It was concluded that systematic desensitization helps significantly in reduction scores of examination anxiety and it helped in the improvement of students (GPA) Grade Point Average.

Furthermore, Okereke (2014) carried out a study on the effectiveness of systematic desensitization in reducing examination phobia among University student of Imo State University. The design was quasi experimental, the pre-test – post-test and control group study. Simple random sampling technique was used to select 60 students. These students were selected

from three different department from the school. Students were assigned into group assertive training, systematic desensitization and control group. Examination Phobia Test Instrument (EPTI) were analyzed using statistical data collected were analyzed using statistical mean and ANCOVA. Based on the analysis it was discovered that systematic technique was effective in reducing examination phobia.

Ossai, (2013) revealed that examination anxiety have no significant influence on the student's test anxiety. The data was subjected to t-test analysis. The calculated t-value of 0.476 was lower than the t-critical value of no significant influence of study skill on test anxiety of the students. Suinn, (2013) experimented with short term approaches totaling two hours and four hours of desensitization session for the reduction of examination anxiety. He reported examination anxiety to have occurred among groups. Owens, (2012) carried out negative impact of taking examination. The finding suggests that there are times when a little bit of anxiety can actually motive success. Wolpe, (1964) as cited in George, (2018) developed the method of systematic desensitization within individuals, however, several investigations have demonstrated the effectiveness of systematic desensitization in the reduction of specific anxieties or phobia with groups. Suinn, (2013) tested the rapidity with which desensitization could be accomplished. He shortened the time by shortening the anxiety hierarchy, group the questions of group delivery session as well as examining the use of audio tape delivery of service. Suinn (2013) found the effect of the combination of group and individual systematic desensitization session to be successful in the reduction of examination anxiety, as reported by college students in his study. As a result of this study, Suinn reported also that the group participating in the systematic desensitization sessions experienced a reduction in other fears. Suinn studied the effect systematic desensitization with accelerated massed desensitization, utilizing two short term

desensitization approach. He found that both groups showed statistical significant improvement in the reduction of examination anxiety.

Emery and Krumboltz (1967) as cited in Timothy (2017) designed the study to test the efficiency of reducing examination anxiety in college students by using group systematic desensitization. One group of subjects participated in systematic desensitization sessions using a standard hierarchy, whereas the second group participated in the group systematic desensitization using individual hierarchies. Both groups showed a statistically significant decreased in examination anxiety as compared with a control group.

Wolpe (1964) as cited in George (2018) work with individuals, he reported that the number of desensitization sessions required may vary from six (6) to over one hundred (100) with a mean no of session for each hierarchy to have been about ten (10). The usual duration of desensitization session vary from 15 to 30 minutes. Neither the spacing sessions nor weather the sessions where massed or widely dispersed, was stated to have affected the results of systematic desensitization (Wolpe, 1958). McLeod (2015) reported that systematic desensitization is a low process, taking an average of 6-8 sections and suggest that the longer the technique takes the more effective it is.

Gilroy et al., (2002) who examined 42 patients with arachnophobia (fear of spiders). Each patient was treated using three 45-minute systematic desensitization sessions. When examine three months and 33 months later the systematic desensitization group was less fearful than a control group (who were only taught relaxation techniques). This provides further support for systematic desensitization, as a long term treatment for phobias.

Ihli et. al (1969) found that group desensitization took longer to reduce examination anxiety than individual desensitization. The subjects in their study received two thirty –minute

sessions of training in visualization. These sessions were followed by sessions of desensitization. The average number of thirty minutes systematic desensitization sessions required to reduce examination anxiety among individuals receiving individual desensitization was 6.2 an average of 7.4 30 minutes systematic desensitization session was required to reduce Examination Anxiety among the subjects who received group desensitization. Suinn, (2013) has experimented with short-term approaches totaling two hours and 4 hours of desensitization session for the reduction of Examination Anxiety. He reported examination anxiety to have occurred among groups.

In the study conducted by Alutin (1973), it was shown that there was a difference between the pre-test and post-test scores in the expected direction with a greater reduction of examination anxiety among the participants of the experimental group than the control group. Among the individual participants of the desensitization group, the scores of twenty-six of the participants indicated a decrease in examination anxiety, as compared with eighteen, indicating a reduction in examination anxiety among the control group. This study reported that although there was a decrease in examination anxiety in the experimental group who used systematic desensitization technique, that reduction was not statistically significant when compared with the reductions in examination anxiety recorded from the control group.

Over the years, researchers like Otta & Ogazie, (2014) have carried out researches on phobia disorders and anxiety related technique in managing other behaviour and anxiety problem. The study was viewed to investigate the effect of systematic desensitization on the reduction of test phobia among in school adolescents. Therefore, the findings present the effectiveness of systematic desensitization in reducing test phobia in adolescents. It was revealed that systematic desensitization technique was more effective in reducing test phobia both at treatment and

follow-up stages. However, the treatment groups had better phobia reduction than the control group and this may be as a result of the treatment administered to the subjects. Therefore, the researchers concluded that there was significant reduction in the students' test phobia after receiving desensitization. Therefore, Otta and Ogazie, (2014) showed from the results that systematic desensitization has a positive effect at post treatment and follow-up stages.

2.7 Summary

The results of the study revealed that systematic desensitization to be a therapeutic intervention that reduces the learned link between anxiety and objects or situations that are typically fear producing. There is an agreement among scholars that examination anxiety is an excessive or unreasonable fear which leads a person to avoid participating appropriately in a given examination. Such that believe is a self damaging factor which negatively affects the students and their performance.

The study reviewed some theories such psychoanalytic theory of examination anxiety by Sigmud freud, cognitive theory of examination by Beak. The study is therefore anchored on Cognitive Behaviour Theory of(Krumboltz et. al., 1952) which has a view point that most of man's behaviour are product of learning and therefore can be unlearned. Counselling here using systematic desensitization on examination anxiety is to re-educated or a kind of providing a counter learning so to bring a desirable behaviour. Extensive reviews were carried out and no studies reported the effectiveness of systematic desensitization among junior secondary school students. It is the gab that the present study was set to fill by determining the effect of systematic desensitization on examination anxiety among junior secondary school students in Zaria Metropolis, Kaduna State, Nigeria. In addition, none of these previous studies has considered these Geo political areas chosen that was selected in this study.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter describes the procedure that was used in carrying out the study. These include; design of the study, population of the study, sample and sampling technique, instrumentation, validity of the instrument, reliability of the instrument, treatment procedure, scoring guide, procedure for data collection and procedure for data analysis.

3.2 Research Design

Quasi experimental design was used in this study. The study adopted a pre-test and post-test design. Harrington and Harrington (2006) described a quasi-experimental study as a type of experimental study that determines the effect of a treatment paradigm on a non- randomized sample. Ali (1999) expressed that a quasi-experimental design could be used in a school setting where it is not always possible to use pure experimental design which was considered as disruption of school activities. A non-randomized pre-test – post-test experimental design was used in this study.

Justification for the choice of Quasi experimental research design was that it would not be logical feasible or ethical to conduct a randomized control trial in Secondary Schools Setting because of the possible interprecaution in school activities.

3.3 Population of the Study

The population of the study consists of the entire JSS II students in Zaria metropolis Kaduna State, Nigeria. The figure of the student comprised seven thousand eight hundred and sixty two (7,862) students from two Junior Secondary Schools in Zaria metropolis. This was obtained from planning research and statistic unit, Kaduna State Ministry of Education, 2019.

These two schools were used for the study because of their strategic location in Zaria metropolis. In these two schools also, the students are from different cultural, socio-economic and religious background.

Table 3.1: Distribution of Participants by School

S/N	SCHOOL	LGA	JSS II	
			M	F
1.	Alhudahuda College	Zaria	825	—
2.	Barewa College	Zaria	309	—
3.	Govt. Commercial College	Sabo Gari	44	88
4.	Govt. Sec Sch. Gyallesu	Zaria	285	116
5.	Govt. Girls Sec Sch. Chindit junior	Sabo Gari	—	400
6.	Govt. Girls Sec Sch. (WTC) Zaria	Zaria	—	292
7.	Govt. Junior Sec Sch. Tudun Wada	Zaria	600	650
8.	Govt. Sec Sch. Chindit junior	Sabo Gari	450	—
9.	Govt. Girls Sec Sch. D/Bauchi Junior	Sabo Gari	—	600
10.	Govt. Sec Sch. Muchia Junior	Sabo Gari	382	439
11.	Govt. Sec Sch. Zaria Junior	Zaria	857	—
12.	Govt. Junior Sec Sch. Chikaji	Sabo Gari	430	305
13.	Govt. Sec Sch. Kofan Doka	Zaria	351	244
14.	Govt. Sec Sch. Aminu Junior	Sabon	568	277

Source: Zaria Enrollment Unit (2019)

The justification for choosing two schools is to minimize the number of participants because it is believed that fewer the number the better the outcome of the counselling technique. The justification for choosing the selected schools is their strategic locations within Zaria

Metropolis. In these two schools, students are from different socio-economic, socio-cultural and religious affiliations attend schools in the chosen two schools.

3.4 Sample and Sampling Technique

The sample of the study was fourteen (14) JSS II student from two secondary schools in Zaria Metropolis. Purposive sampling technique was used to draw two schools from the study area. Examination Anxiety Inventory was used to select fourteen (14) students from the two selected schools. A bench mark of 53 was used to determine students with or without examination anxiety. Those who scored 53 and above were selected for the study. The students that scored 53 marks and above were fourteen (14) and they formed the sample for the study.

3.5 Instrumentation

The instrument that was used for this study was Examination Anxiety Inventory (EAI) originally developed by Berger in 1980. It was revalidated in Nigeria by Omoluabi in 1993. Perform psychometric center (PPC) in (1997) and further revalidated by some researchers in 2004 (Egbochukwu & Obadon, 2005) and Azuji (2015). This Scale is useful for many different socio-economic background and it is suitable for students in junior secondary schools. The Inventory is used in research projects and various Journal articles used it in conducting and comparing different ethnic group, age groups and in determining the effect size in treatment interventions. (Speilberger, 2012). This Scale measure anxiety present and anxiety absent in a statement. The anxiety absent question represent the absent of anxiety in a statement like “I feel secure”. Anxiety present question represent the present of anxiety in a statement like “I feel worried”. (Speilberger, 1994).

Examination Anxiety Inventory has been used extensively in Nigeria. The examination anxiety inventory is a self-report psychometric Scale which was developed to

measure individual difference in examination anxiety as a situation-specific trait. Based on Spielberger inventory, the respondents were asked to report how frequently they experience specific symptoms of anxiety before, during and after examination. In addition to measuring individual differences in anxiety proneness in examination situation. The examination anxiety inventory subscale assesses worry and emotionality as major component of examination anxiety (Spielberger, 1980). Examination Anxiety Inventory has a 4 point Linkert scale. It has a rating response of Almost never, Sometimes, Often and Almost always. It consist of 20 items and a signed weight of 4,3,2 and 1 respectively. Items 1 to 8 measures the cognitive components of examination anxiety, item 9 to 16 measures the emotional components of examination anxiety while item 17 to 20 measures the physical components of examination anxiety. The students were required to indicate their response on 4 point scale showing their degree of agreement or otherwise to each statement. The Examination Anxiety Inventory was used during the pre-test and post-test.

3.5.1 Scoring Guide

Scoring was done according to the scoring instruction provided in the Examination Anxiety Inventory as shown below: there are three components of Examination Anxiety – Cognitive Component, Emotional Component and Physical Component. The Inventory contains 20 items. The items that belong to Cognitive Component are from 1-8; Emotional Component are from 9-16; and Physical Components are from 17-20. The Examination Anxiety Inventory scores range from 20 to 80 with higher Scores indicating higher levels of anxiety. The scale reads as follows: Low Scores indicate a mild form of examination anxiety whereas median scores indicate a moderate form of examination: Anxiety and high scores indicate a form of

Examination Anxiety. (Spielberger, Charles., Sydeman, Sumner 1994) (Spielberger, C. & Sydeman, 1994).

Add all the scores in all statements

Scores ranged from 20 to 80

A low score (20 to 29) indicates that you do not suffer from Examination Anxiety.

Extremely low (close to 20), a little more anxiety may be healthy to keep focused to get blood flowing during examination. Scores between 30 to 53 indicate that although the student exhibit some of the characteristics of examination anxiety, the level of stress and tension is probably healthy.

Scores over 53 suggest that the student is experiencing an unhealthy level of examination anxiety. The counsellor should evaluate the reason for the stress and identify strategies for compensation.

3.5.2 Validity

The instrument, Examination Anxiety Inventory was originally developed by Berger in 1980 but revalidated in Nigeria by Omoluabi in 1993 and perform Psychometric Center in 1997. The instrument was revalidated using content validity. Copies of Examination Anxiety Inventory, research questions, hypotheses and objective of the study were given to three lectures in the department of Educational Psychology and Counselling for their perusal and comments. This was done to ensure that, the items of scales elicit the desired information the instrument are expected to provide. One professor and two doctors in the Department of Educational Psychology and Counselling were involved in the validation. Their observations, comments and corrections have been effected on the instruments.

Some of the suggestions and corrections raised include the insertion of omitted word like “I can’t” on item 7 of the cognitive component of the Examination Anxiety Inventory, replacement “I worry” also in the Examination Anxiety Inventory. The researcher considered all the suggestions and corrections offered and affected the charges on the instrument.

3.5.3 Reliability of the Instrument

To determine the reliability of the instrument, a pilot-test was conducted with four students chosen from a secondary school in Zaria Metropolis who were not part of the study. The data were collected from the questionnaire and analyzed using Cronbach Alpha. Cronbach Alpha was used to measure the internal consistency coefficient of the questionnaire on the Examination Anxiety Inventory. The rationale for the use of Cronbach Alpha is informed the items had no right or wrong answers as they were not scored dichotomously. Again, it is considered appropriate as it ensures the homogeneity of item on the questionnaire. The reliability coefficient of the questionnaire was 0.85. This was an indication that the instrument was reliable. Similarly, good psychometric properties have been reported as regards to Examination Anxiety Inventory. Coefficient alpha of 0.92, and higher have been reported for Examination Anxiety Inventory total score Berger, (1980). Additionally, Examination Anxiety Inventory has good internal consistency reliability among samples of Secondary School Students. Coefficient alpha of 0.88 and 0.90 respectively have been reported for both male and female samples. Test score stability over 2-4 weeks test-retest interval ranged from 0.80 to 0.81 for examination Anxiety Inventory Berger, 1980). The coefficient of reliability obtained from Nigeria samples ranges from 0.73 to 0.79 (Omoluabi, 1993).

3.5.4 Procedure for Data Collection

The procedure commenced from the time the researcher collected an introductory letter from the Department of Educational Psychology and Counselling Ahmadu Bello University, Zaria, introduced herself to the Director Research, Planning and Statistic Unit. Ministry of Education, Kaduna State, who gave the researcher an approval letter to present to the school principals for permission to conduct the research. The experimental training took place in the schools. On the training day, the researcher explained the aims and objectives of systematic desensitization to the school guidance and counsellor who served as research assistants. There were two research assistants a male and a female, each of them had Bachelor of Education (B.Ed) in Guidance and Counselling. The two research assistants were staff of the school where the research was conducted. Similarly, in the second school, there were two research assistants a male and a female, each of them had Bachelor of Education (B.Ed) in Guidance and Counselling and also staff of the school. The researcher adopted face to face method of instrument administration which was done during their free periods, which was relative to each school. This was done through the use of research assistants. The questionnaire sheet was collected immediately after filling by the respondents and was handed to the researcher for collation and scoring.

3.5.5 Treatment Procedure

The researcher obtained the consent of the school principals for carrying on with the research. The experimental training took place at the schools. On the training day the researcher explained the aims and objectives of systematic desensitization to the students. The students were asked to list all the anxiety inducing stimulus they encounter before, during and after an examination. The researcher asked the students to arrange the listed stimuli into hierarchy

starting from the stimulus they think affects them least in their anxiety and end the list with the stimulus that give them greatest anxiety. The researcher then told the students that the list they have formed is called an anxiety inducing hierarchy.

The researcher then taught the students relaxation method. Deep breathing method as a type of relaxation was explained to the students. The researcher demonstrated the relaxation technique and observe students to practice it on their own. The researcher explained to the students the purpose of connecting anxiety inducing stimuli to relaxation technique. In other to demonstrate this, the least anxiety inducing stimulus was selected and the method of connecting this stimulus with relaxation technique demonstrated. The students was assisted to practice this procedure on their own.

This stage continued until the selected anxiety inducing stimulus was no longer capable of inducing any anxiety in the students. Then, the next anxiety inducing stimulus in the hierarchy that follows the least was selected. The same process was repeated until the highest anxiety inducing stimulus in the hierarchy was no longer capable of inducing anxiety in students. The training programme was conducted for ten sessions of treatment. The Junior Secondary School Students, JSS II, who participated in the study were administered with examination anxiety inventory as pre-test. In each school chosen by purposive sampling, the students with high examination anxiety participated in the study. The total of 14 respondents participated in the study. The participants were engaged in systematic desensitization. There was 30 minute sessions of this systematic desensitization in a day. This was repeated twice a week for five weeks. After ten sessions of treatment, the examination anxiety inventory was re-administered on all the participants, and this was regarded as the post-test. The post-test was collated by the research assistants and was given to the researcher for statistical analysis.

3.5.1 Procedure for Data Analysis

The demographic data were presented in a tabular form. The data were presented in percentages. The data presented the sex of the participants. The data collected from the experiment were analyzed using descriptive statistics of means and standard deviation. In accordance with the research questions and hypotheses, the data were analyzed using inferential statistics of t-test. T-test was used because the aim was to compare pre-test with post-test data in order to find out if there is significant difference between their mean values. In descriptive statistics, data were organized and presented in proportionate form to describe categorical and numerical variables. Inferential statistics of t-test was used in testing hypothesis 1, 2 and 3 to determine the effect of systematic desensitization on the cognitive, emotional and physical components of examination anxiety among junior secondary school students in Zaria Metropolis. The null hypotheses were used; t-test statistics was tested at 0.05 level of significance.

CHAPTER FOUR

RESULTS AND DISCUSION

4.1 Introduction

This chapter presents the results of the study under the following sub-headings: demographic data, answers to research questions, hypotheses testing, summary of findings and discussion of the findings

4.2 Results

The results of the analyses are presented and discussed according to the null hypotheses raised in this study. The alpha level of significance for accepting or rejecting the null hypotheses guiding this research was set at 0.05.

4:2:1: Demographic Data

Table 4.2: Distribution of Participants by Gender

School	N	Gender		%
		Male	Female	
A	9	3	6	64
B	5	0	5	36
Total	14	3	11	100

N = number of students,

The result of the Table 4.2 showed a total of 14 students, 3 males and 11 females, from the two secondary schools. 9 students (64%) of the students were from school A while 5 (36%) student were from school B. In school A, there were 3 males and 6 females while in school B, there were 5 females.

4:2:2: Answers to Research Questions

Research Question One: what is the effect of systematic desensitization on the emotional component of examination anxiety?

Table 4.2: Means and Standard Deviations on the Emotional Component of Examination Anxiety

Treatment	Period	Mean	SD
Systematic Desensitization	Pre-test	21.57	2.38
	Post-test	14.43	3.48

Table 4.2 showed the mean and standard deviation of pre-test and post-test scores on examination anxiety of Junior Secondary School Students used in this study. Table 4:2 revealed that the pre-test and post-test mean scores were 21.57 ± 2.38 and 14.43 ± 3.48 respectively. This indicates that examination anxiety level reduced from 21.57 to 14.43. The mean difference (7.14) is the effect of systematic desensitization on examination anxiety among Junior Secondary School Students.

Research Question 2: what is the effect of systematic desensitization on the cognitive component of examination anxiety?

Table 4.3 Means and Standard Deviations of the Cognitive Component of Examination Anxiety

Treatment	Period	Mean	SD
Systematic Desensitization	Pre-test	21.50	1.95
	Post-test	17.14	2.57

Table 4.3 show the mean and standard deviations of pre-test and post-test scores on examination anxiety of Junior Secondary School Students used in this study. Table revealed that the pre-test and post-test mean scores were 21.50 ± 1.95 and 17.14 ± 2.57 respectively. This indicates that examination anxiety level reduced from 21.50 to 17.14. The mean difference between pre-test score (21.50) and post-test score (17.14) which is 4.36 is regarded as effect of systematic desensitization on examination among the students.

Research Question 3: What is the effect of systematic desensitization on the Physical Component of Examination Anxiety?

Table 4.4 Means and Standard Deviations of the Physical Component of Examination Anxiety

Treatment	Period	Mean	S D
Systematic Desensitization	Pre-test	12.57	2.03
	Post-test	11.07	2.89

Table 4.4 show the mean and standard deviation of pre-test and post-test scores on examination anxiety of Junior Secondary School Students used in this study. Table 4.4 revealed that the pre-test and post-test mean scores were 12.57 ± 2.03 and 11.07 ± 2.89 respectively. This indicate that examination anxiety was reduced from 12.57 to 11.07 given a mean difference of 1.50. This is the effect of the treatment.

4:2:3 Hypotheses Testing

Hypothesis One: there is no significant effect of systematic desensitization on emotional component of examination anxiety

Table 4.5: A Paired t-test Analysis on Effect of Systematic Desensitization on Emotional Component of Examination Anxiety

	N	Mean	S D	df	t	p-value
Pre-test	14	21.57	2.38	26	6.34**	0.001
Post-test	14	14.43	3.48			

** Significant, $P < 0.05$

Table 4.5 shows that the mean for pre-test = 21.57 while that of post-test is 14.43. $P = 0.001$ which is less than the alpha level of 0.05, which means that the hypothesis which says that there is no significant effect of systematic desensitization on emotional component of examination anxiety is rejected. It means that systematic desensitization is effective in reducing examination anxiety among Junior Secondary School Students.

Hypotheses Two: there is no significant effect of systematic desensitization on cognitive component of examination anxiety

Table 4.6: A Paired t-test Analysis on Effect of Systematic Desensitization on Cognitive Component of Examination Anxiety

	N	Mean	SD	df	t	p-value
Pre-test	14	21.50	1.95	26	5.11**	0.001
Post-test	14	17.14	2.57			

** Significant, $P < 0.05$

Table 4.6 shows that the mean for pre-test = 21.50 while that of post-test is 17.14. The $p = 0.001$ which is less than the alpha level of 0.05, which means that the hypothesis which says that there is no significant effect of systematic desensitization on cognitive component of

examination anxiety is rejected. It means that systematic desensitization is effective on examination anxiety among Junior Secondary School Students.

Hypotheses Three: there is no significant effect of systematic desensitization on physical component of examination anxiety.

Table 4.7: A Paired t-test Analysis on Effect of Systematic Desensitization on Physical Component of Examination Anxiety

	N	Mean	SD	df	t	p-value
Pre-test	14	12.57	2.03	26	1.61*	0.12
Post-test	14	11.07	2.89			

* Not significant, $P > 0.05$

Table 4.7 shows that the mean for pre-test = 12.57 while that of post-test is 11.07. The $p = 0.12$ which is greater than the alpha level of 0.05, which means that the hypothesis which said that there is no significant effect of systematic desensitization on physical component of examination anxiety was retained. It means that systematic desensitization is not effective in reducing the physical component of examination anxiety among Junior Secondary School Students.

4.3 Summary of Findings

The following are the findings of this study:

1. There was significant effect of systematic desensitization on emotional component of examination anxiety of Junior Secondary School students ($p = 0.001$).
2. There was significant effect of systematic desensitization on cognitive component of examination anxiety of Junior Secondary School students ($p = 0.001$).

3. There was no significant effect of systematic desensitization on physical component of examination anxiety among Junior Secondary School students ($p = 0.12$).

4.4 Discussion

The purpose of this study was to find out the effect of systematic desensitization on examination anxiety among Junior Secondary School Students. This study was based on the fact that what is learnt can be unlearned. In this regard systematic desensitization as a type of behavioural therapy was expected to reduce examination anxiety among students. It was for this reason that this study tried to find out the effect of systematic desensitization on examination anxiety among Junior Secondary School Students.

The first finding of the study showed that there was significant effect of systematic desensitization on the emotional component of examination anxiety. This result is in line with the findings of some previous studies that showed that systematic desensitization was effective in reducing examination anxiety among secondary school students. Otta & Ogazie (2014) found from their study that systematic desensitization was effective in reducing examination anxiety. They further stated that the reduction in examination anxiety continued after follow-up. In addition, the report from other studies Azuji (2015) and Cheery (2012) also showed the effectiveness of systematic desensitization in reducing examination anxiety among Secondary School Students.

The second finding of the study showed that there was significant effect of systematic desensitization on the cognitive component of examination anxiety. This finding is in line with Ehibudu, et al. (2017), who carried out a study on the effect of systematic desensitization on students with Mathematics phobia. The results of their study showed that Mathematics anxiety mean score was reduced from 81.43 at pre-test to 53.63 after systematic desensitization sessions

which resulted to 27.8 decrease in examination anxiety. These results showed that the effectiveness in systematic desensitization as applied by these researchers were twice as effective as this present study. In this present study, the mean scores from the three components of examination anxiety, emotional, cognitive and physical components were 7.14, 4.36 and 1.5 respectively. This resulted to a total 13 in the reduction of examination anxiety level in this three components.

The third finding of the study however showed that there was no significant effect of systematic desensitization on the physical component of examination anxiety. In reality, the absence of statistically significant difference in physical component of examination anxiety can be related to the items in the physical component of examination anxiety scale. For example, the items of the physical component of examination anxiety scale like, pounding of the heart, sweaty palms, feeling nauseated and jittery are more likely not to respond as much as the items in the emotional component of examination anxiety within 10 sessions of systematic desensitization programme. Likewise, the responds of the cognitive component of examination anxiety cannot also be as much, compare to the results obtained the emotional component of examination anxiety. It would be much easier to bring about a reduction in the items of emotional components like panic, careless errors, pushed for time, self doubt and in cognitive components like ability to think clearly, thinking about past failures and lose of sleep than to achieve reductions in the physical components.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presented the summary of the whole work, conclusion, recommendations and suggestions for further studies.

5.2 Summary

Chapter one presented the background to the study, statement of the problem, three objectives of the study that serves as a guide to the study were set on the effect of systematic desensitization on examination anxiety among secondary school students in Zaria Metropolis. In related to these are three research question and three research hypotheses, significance of the study were stated, basic assumptions made and finally the scope and delimitation of the study were highlighted. The objectives of the study include to determine the effect of systematic desensitization on the emotional component of examination anxiety, to determine the effect of systematic desensitization on the cognitive component of examination anxiety and to determine the effect of systematic desensitization on the physical component of examination anxiety. The research questions and hypothesis raised for the study were in line with objective of the study.

In chapter two, literature was reviewed on the concept of examination anxiety, impact of examination anxiety, prevalence of examination anxiety, treatment of examination anxiety. The concept of systematic desensitization were discussed in line with issues related to the application of systematic desensitization, how does systematic desensitization work, how to use your own imaginary desensitization, systematic desensitization for relaxation, systematic desensitization therapy. The study was based on theories, these theories include the psychoanalytic theories of

examination anxiety, cognitive theory of examination anxiety and state-trait theory of examination anxiety. These were critically reviewed as they relate to the study. Empirical studies related to the study were equally reviewed.

In chapter three, the methodology used in the conduct of the study was fully explained. A Quasi experimental research design was used for the study. Examination Anxiety Inventory questionnaire were used to collect data from the participants. The questionnaire were used as a set and presented in three sections with 20 items:

- a) Item 1-8 measures the emotional component
- b) Item 9-16 measures the cognitive component
- c) Item 17-20 measures the physical component

The questionnaire was pilot tested for reliability. The reliability result was tested at 0.85. Two secondary schools were selected from purposive sampling. Four hundred and seventy two (472) questionnaires were distributed to all the Junior Secondary School Two (JSS II) students in these two schools who met the requirement to participant in the study. The cut off point for examination anxiety score for selection of the participant was 53. This generated a total number of 14 students who scored 53 and above and this formed the sample for this study. The data collected were analyzed using descriptive statistic of means and standard deviations of the pretest and posttest score. A paired t-test was used as an inferential statistics to compare the pretest and the posttest mean scores at 0.05 level of significance.

The uniqueness of the study was:

1. The study site
2. Face to face administration of the instrument

The weakness of the study was:

1. Small sample size
2. The study used an invitro procedure in the administration of systematic desensitization
3. Number of boys
4. It is non-randomized
5. No control group

The finding of the research revealed that:

1. There was significant effect of systematic desensitization on the emotional component of examination anxiety among junior secondary school students in Zaria Metropolis Kaduna State, Nigeria ($p = 0.001$). This is because p-value (0.001) is less than the alpha level of 0.05. This finding indicate that systematic desensitization was effective on the improvement of emotional component of examination anxiety among junior secondary school students.
2. There was statistical significant effect of systematic desensitization on the cognitive component of examination anxiety among junior secondary school students in Zaria Metropolis ($p = 0.001$). This is because p-value (0.001) is less than the alpha level of 0.05. This finding implies that systematic desensitization was effective on the improvement of cognitive component of examination anxiety after receiving systematic desensitization.
3. There was no significant effect of systematic desensitization on the physical component of examination anxiety among junior secondary school students who were administer with systematic desensitization ($p = 0.12$). This is greater than the alpha level of

significance 0.05. This finding indicated that systematic desensitization was not effective on the improvement of physical component of examination anxiety among these students.

5.3 Conclusion

Based on the findings, the following conclusion is made that:

The results of the study showed that systematic desensitization had a positive change in emotional component and cognitive component of examination anxiety among Junior Secondary School Students in the study area. It is therefore concluded that emotional and cognitive components of examination anxiety by the application of systematic desensitization technique.

On the other hand, systematic desensitization did not result in a significant positive change in physical component of examination anxiety among participants. It is therefore concluded that systematic desensitization is not effective in the treatment of emotional component of examination anxiety among the participants.

5.4 Contribution to knowledge

In view of the findings of the study, the following contributions were made:

1. The study has created a better insight that a treatment technique can affect different component of examination anxiety in different ways. In this regard, systematic desensitization technique brought about significant improvement in the emotional and cognitive component of examination anxiety, but no significant improvement in the physical component.
2. This is the first study that attempt to apply systematic desensitization among junior secondary school students in Zaria Metropolis, Kaduna State.

5.5 Recommendations

These following recommendations were made based on the findings of the study:

1. In this study five weeks of systematic desensitization do not produce any significant positive change in the physical component of examination anxiety, therefore, larger session is recommended.
2. A randomized control design should be considered by future researchers do that their findings can be generalized.

5.6 Suggestions for further Studies

The following suggestion for further studies were made base on the followings:

1. Further studies should be focused on the effect of systematic desensitization among students at different levels of education.
2. Further studies should consider the use of other methods of behavioral modification techniques in reducing the physical component of examination anxiety.
3. Further studies should consider longer sessions of systematic desensitization in order to bring a significant positive change in physical component of systematic desensitization.

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Appendix I

Description of the Instrument

Description: The Examination Anxiety Inventory (EAI) is a self-report inventory designed to measure Examination Anxiety (EA) as a situation specific personality trait. The EAI consists of 20 item or statements, and the respondents indicate on a four point Likert type scale how often they experienced feeling described in each statement. The Examination Anxiety Inventory provides a measure of three components: Physical component (P), Cognitive component (C), and Emotional component (E).

Scoring: The Examination Anxiety Inventory is a brief instrument occupying one side of a page on which the 20 items are printed. The total Examination Anxiety score is based on all 20 items. Eight of the items measure the Cognitive component (C), eight measures the Emotional component(E) and four items measures the Physical component (P). Percentile ranks are calculated from the raw scores.

Reliability: Test re-test reliability for Examination Anxiety Inventory is reported for groups of high schools, Colleges, and graduate students over time period ranking from schools, colleges, and graduate students ranging from two weeks to six months. The reliability was in the range of .80-.81 for two week to one month periods with all groups. After six months, the reliability was .62.

Validity: The Relationship between the Examination Anxiety Inventory and its subscales with other anxiety measures like; Sarason's Test Anxiety Scale (TAS) Liebert & Morris Worry and Emotionality Questionnaires (WEQ), the STAI-State and Test Anxiety Scale, administered under examination stress conditions all provide evidence of convergent validity. The correlation

between the Examination Anxiety Inventory and scores obtained from this scales was sufficiently high (8.2-8.3) to suggest that the two scales measure essentially the same construct.

Norms: The Normative sample consisted of high school and college students .The Examination Anxiety Inventory is recommended for use in Research.

Appendix II

Faculty of Education,
Ahmadu Bello University,
Zaria.
20th May, 2019.

Dear Participants,

I am post-graduate student of the above mentioned Institution Conducting a research on “Effect of Systematic Desensitization among Secondary School Students in Zaria metropolis, Kaduna state”.

You are kindly requested to respond honestly to the questions. Any information you give will be treated as confidential and used specifically for purpose of this research.

Thanks for your anticipated co-operation

Yours sincerely,

IGARA, Maryann Ujunwa.

**Appendix III: INFORMATION ON STUDENT'S EXAMINATION ANXIETY
INVENTORY**

Name of Student _____

Name of School _____

Sex: Male () Female ()

Location of School _____

Appendix IV – EXAMINATION ANXIETY INVENTORY

	Item	Almost never	Sometimes	Often	Almost always
1.	I have trouble sleeping the night before an examination				
2.	I get headache Before an examination,				
3.	I lose my appetite before an examination				
4.	During an examination, my chest feels tight and I have trouble remembering things				
5.	My mind goes blank during an examination				
6.	When I am taking an examination, I think about my past failure				
7.	I can't think clearly during an examination				
8.	I have hard time understanding and remembering directions when I am taking an examination				
9.	Because of panic, I avoid going to school on an examination day				
10.	I have had pains in my neck, back or legs during an examination				
11.	I make careless errors on an examination				
12.	I worry whether other students finish before I do				
13.	I feel pushed for time when I am taking an examination				
14.	I worry that I am doing poorly on an examination and everyone else is doing well				
15.	During an examination, I feel as if I studied all the wrong things				
16.	After an examination, I remember answers to questions I either left blank or answered incorrectly				

17.	My heart pounds just before or during an examination				
18.	During an examination, my palms sweat				
19.	During an examination, I have become nauseated and had to leave the classroom				
20.	I feel nervous and jittery when I am talking an examination				

Source: Berger (1980).

N.B: Questions 1-8 on the Examination Anxiety Inventory refer to Cognitive Component, Questions 9-16 refer to Emotional Component, and 17-20 refer to Physical Component.

Appendix V: Treatment Package

WEEK ONE

DAY ONE

- A. Organize all the JSS III students in a conducive classroom
 - i. Introduce yourself by name to the students
 - ii. Introduce what you want to carry out to them
- B. Administration of the instrument to the students by the help of research assists (the teachers)
- C. Collate the questionnaire

WEEK ONE

DAY TWO

- A. Organize all the selected JSS III students in a conducive classroom
 - i. Introduce yourself by name to the students
 - ii. Ask each student to introduce themselves by name
- B. Introduce what you want to carry out to them
 - i. Define examination Anxiety
 - ii. Define systematic desensitization
 - iii. Explain Anxiety Inducing Stimuli
 - iv. Explain relaxation technique to the students
 - v. Explain how to connect relaxation technique to with anxiety inducing stimuli
 - i. Formation of Inducing hierarchy
 - ii. Ask the students to list all the things that cause them anxiety, during, before and after examination

- iii. Ask the students to arrange the least stimuli from the list to the highest anxiety inducing hierarchy
 - iv. Explain to the students that what they have just formed is anxiety inducing hierarchy
 - C. Relaxation technique
 - i. Demonstrate to the students the deep breathing method of relaxation
 - ii. Ask the students to demonstrate this procedure individually on their own.

WEEK TWO

DAY ONE

- A. Organize all the selected students in a conducive classroom
 - i. Review with the students what have been discussed in the previous meeting
 - ii. Ask the students to explain some of the concepts like the examination anxiety, systematic desensitization and relaxation technique.
- B. Explain In vitro Exposure to the students
- C. Discuss the reasons for the choice of In vitro Exposure to the students.

WEEK TWO

DAY TWO

- A. Review of the previous discussions with the students.
- B. Ask them questions based on the previous discussion
- C. The students will be asked to identify the least Examination Inducing Stimulus
- D. Ask the students to imagine how they feel if they are presented with this least Examination Induced Stimulus (Hearing the word Examination)
- E. Ask the students to perform relaxation method (Deep Breathing)

- F. Ask the students to repeat this Breathing method several times until they no longer experience the Examination Inducing Stimulus they have selected
- G. Thank the students and remind them of the next meeting

WEEK THREE

DAY ONE

- A. Review of the previous discussions with the students
- B. Ask the students if any of them is still afraid of hearing the word “Examination”
- C. If their response to the above question is no then
- D. Select the next examination anxiety inducing stimulus that follows the one that they have previously selected (hearing the area of concentration by the teachers)
- E. Ask the students to imagine their teacher giving them area of concentration for the upcoming examination
- F. Ask the students to repeat this breathing method several times until they no longer experience the examination inducing stimulus they have selected
- G. Thank the student and remind them of the next visit

WEEK THREE

DAY TWO

- A. Review of the previous discussions with the students
- B. Ask the students if any of them is still afraid when the teacher is giving them area of concentration for upcoming examination
- C. Ask the students to imagine themselves having group discussion about the examinations a day before the examination

- D. Ask the students to repeat the breathing method several times until they no longer experience the examination inducing stimulus that they have selected
- E. Thank the students and remind them of the next visit

WEEK FOUR

DAY ONE

- A. Review of the pervious discussion with the students
- B. Ask the students if any of them is still afraid of having group discussion with other students a day before the examination
- C. Ask the students to imagine themselves realizing that around 10 pm a night before the examination that they are running out of time
- D. Ask the students to repeat the breathing method several times until they no longer experience the examination inducing stimulus that they have selected
- E. Thank them and remind them of the next visit

WEEK FOUR

DAY TWO

- A. Review of the pervious discussions with the students
- B. Ask the students if any of them is still afraid of running out of time during revision a day before examination
- C. Ask the students to imagine when they are reminded by their teacher that $\frac{1}{2}$ of their grade will be based on their examination score
- D. Ask the students to repeat the breathing method several times until they no longer experience the examination inducing stimulus that they have selected
- E. Thank the students and remind them of the next visit

WEEK FIVE

DAY ONE

- A. Review of the pervious discussions with the students
- B. Ask the students if any of them is still afraid of hearing their teacher that over ½ of their grade will be based on their examination score
- C. Ask the students to imagine themselves while reading the exam questions, they realize that they do not remember learning about several of the topics.
- D. Ask the students to repeat the breathing method several times until they no longer experience the examination inducing stimulus that they have selected
- E. Thank the students and remind them of the next visit

WEEK FIVE

DAY TWO

- A. Review of the pervious discussions with the students
- B. Ask the students if any of them is still afraid of while reading the exam questions, they realize that they do not remember learning about several of the topics.
- C. Ask the students to imagine themselves while taking the examination, one students leaves within 15 minutes and they hear serve others coughing nervously, hyper ventilation or muttering to themselves
- D. Ask the students to repeat the breathing method several times until they no longer experience the examination inducing stimulus that they have selected
- E. Administration of examination anxiety inventory to the students
- F. Collate the questionnaires
- G. Thank the students for participating in the study.