EFFECTIVENESS OF SELF-MANAGEMENT TECHNIQUE IN REDUCING TEST ANXIETY AMONG SECONDARY SCHOOL STUDENTS

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Abstract

This study investigated the effectiveness of self-management technique in reducing test anxiety among secondary school students in Oji River Local Government Area of Enugu State. Three research questions guided the study and three null hypotheses were tested at 0.05 level of significance. The study adopted quasi-experimental pre-test–post-test group design. The sample for the study was 75 and purposive sampling technique was used in choosing two schools in the area of the study. The instrument used for measuring of students' test anxiety is Test Anxiety Inventory (TAI) originally developed in 1980 by Spiel Berger but was further adapted in Nigeria by Oladimeji in 2005. Spiel Berger in 1980 obtained alpha internal consistency reliability co-efficient of 0.88. In Nigeria Oladimeji used Pearson product moment statistical technique to obtain a co-efficient of reliability of 0.79. Mean scores was used in answering the research questions and ANCOVA was used in testing the null hypotheses. The findings of the study showed that self-management was effective in reducing test anxiety among students. Recommendations included that the use of self-management technique should commence in full force in secondary schools to reduce students' test anxiety.

Keyword: Effectiveness, Self-management technique, Test anxiety.

Introduction

Tests are very significant phenomena in schooling. Secondary school students usually take several tests in the course of their schooling as the results of such are indispensable for a number of reasons. The outcomes are used to make significant decisions about students and educational programmes including determining levels of curriculum mastery, report card grades, grade level promotions, honours, and graduation. Also, educators and policy makers use test to monitor students' learning progress and to assess the effectiveness of their instruction and identify ways to improving it. The scores on tests are regarded as the sole objective of education and considered an important tool for decision making in our competitive society, with people of all ages being evaluated with respect to their achievement, skills and abilities.

Despite the important position of tests in our educational system, it appears that examinees view it as a source of threat and discomfort rather than a tool for assessing the achievement of the educational objectives. In schools, during test, most students feel shaky, sweaty, restless, fidgeting or panicking and nausea. Oresanya (2015) observed that lack of preparation contributes to students test anxiety.

Olaitan and Moroluyo (2014) argued that most often secondary school students experience test anxiety, particularly, in Nigeria where many examinations are centralised and highly competitive. For instance, examinations such as the West African School Certificate Examination (WASCE), National Examination Council (NECO), Unified Tertiary Matriculation Examination (UTME) and Post-UTME tests are highly competitive and therefore stress the acquisition of knowledge at all costs by the students.

A good number of secondary school students experience anxiety during test which in most cases lead to poor performance in school. Too much anxiety over a test situation is commonly referred to as test anxiety. Nwokolo, Mokwelu and Eneasator (2017) defined test anxiety as a psychological condition in which people (students in secondary school) experience intense fear, worry and concern during a test. It is a physiological condition in which people experience extreme stress, anxiety, and discomfort during and/or before taking a test. This type of anxiety creates significant barriers to learning and performance. Also, lower performance may arise not because of intellectual problems or poor academic preparation, but because the testing situations create a sense of threat for those experiencing test anxiety.

Many of these students experiencing test anxiety, often have to put forth extra effort in order to perform well because they are trying to manage their anxiety while performing a task. In the context of this study, test anxiety is defined as the feeling of apprehension which impair the cognitive abilities of students to perform competently in any given task.

Test anxiety is a sub type of anxiety disorder, affecting many students irrespective of race, gender, age, class and socio-economic background. Eifediyi (2015) observed that it is a common educational problem, referring to a situation when secondary school students will not feel confident about their abilities, which are reflected especially in their performance. In the opinion of Eifediyi, it is known to develop into a vicious cycle, after experiencing test anxiety, students may become so fearful, anxious and upset than they would normally had been. If the cycle continues without the students acknowledging or seeking help, the students may begin to feel helpless in examination situations. These responses can drastically hinder students' ability to perform well and negatively affect their social, emotional, behavioural and academic development of themselves and school.

Researchers such as Onyekuru and Ibegbunam (2014) in their study reported further that between 25 to 40 percent of students in colleges experiences test anxiety. In the opinion of Onyekuru and Ibegbunam, twenty percent of test-anxious students leave school before graduating because of repeated academic failures. Similarly, Farzaneh, Roonak and Hayeda (2016) in their studies on midwifery students showed that test anxiety occurs in female more than male students and this difference was significant. Michele (2016) noted that overall, females reported more test anxiety than males; and females experienced higher worry than emotionality, while males reported little difference between the two dimensions.

Several researchers explored gender differences with respect to test anxiety and found that females have higher levels of overall test anxiety than males (Cassady & Johnson, 2013). Hence, Cassady and Johnson explained that one explanation for differences in test anxiety on the basis of students' gender is that males and females feel same levels of test worry, but females have higher levels of emotionality. Zeidner (2011), on the basis of his research, concluded that difference in test anxiety scores of male and female is due to gender difference in scholastic ability. Ojediran and Oludipe (2016) noted that the different test anxiety constructs affect males and females in different ways. So, in the study of Sarafino (2011) it was found that junior students between the age of 10 to 13 experience less test anxiety than their senior students

between the ages of 14 to 18, that is test anxiety is not connected with negative characteristics in general, but it was connected with the absence of externalizing problems (hyperactivity) and with the presence of internalizing problems (anxiety and stress).

Test anxiety if untreated, can persist for years but proper interventions can decrease anxiety and improve learning. This has been a phenomenon burning in the minds of researchers such as Onyekuru and Ibegunam (2014), and Zondi (2013) seeking ways to unravel the cryptic threat posed by test anxiety. In the area of counselling psychology there are numerous counselling therapies to enhance adaptive behaviours. These therapies are developed by psychologists and are geared towards the elimination of maladaptive behaviours such as fear, avoidant disorder, agoraphobia disorder, social phobia, neurosis, personality disorder, depression, anti-social behaviour, post-traumatic stress disorder, sexual abuse recovery, drug abuse, obsessive-compulsive disorder, eating disorder, autism, bipolar, acute stress disorder, generalised anxiety disorder, panic disorder, pain management, anger and stress management and many medical conditions with psychological components. To reduce these maladaptive problems, series of treatment options are also available including exposure therapy, self-statement monitoring technique, systematic desensitization, self-management technique, flooding, aversion therapy, self-instruction technique modeling skills, solution-focused brief therapy (SFBT), stress-inoculation skills, Person-centred therapy, skill-deficit method, among others.

The self-management technique of behaviour modification originated from the work of Donald Meichenbaum in (1962) who used self-management counselling technique to help his Schzephrenic clients replace their maladaptive behaviour (maladaptive cognitions or maladaptive thought processes) with more rational and positive thoughts, particularly where they were in situations that were very challenging for them or when they were unable to control or manage themselves. Bandy and Moore (2010) defined Self-management technique as the personal application of psychological behaviour change tactics that produce a desired change in behaviour. Self-management technique refers to the ability of an individual to regulate one's emotions and resulting behaviour in ways that society considers acceptable. This includes how the individual copes with unmet wants or needs, perseveres when faced with obstacles, and sets goals for himself/herself.

Self-management technique is cognitive behavioural skills used by individuals with the help of therapists to maintain self-motivation and achieve personal goals. Initially the skills may be learned from a therapist, text or self-help book. However, the individual is responsible for using these skills in real life situation to produce the desired changes (Susan & Raymond, 2014). Self- management technique represents an individual exerting control over some aspect of his or her decision making and selected behaviour. To do this, the person must define specific behaviours related to identified goals and take appropriate actions. In the context of this work, self-management technique is defined as the capability of an individual to regulate his/her emotions and resulting behaviours in ways that society considers acceptable. More so, Bandy and Moore (2010) opined that self-management technique can help students perform better in school; can reduce delinquent behaviours, and can help individuals perform better on the job.

Lawal (2016) reported the relative effectiveness of self-management technique in reducing bullying behaviour over social skills techniques among secondary schools students in Katisna, Nigeria. Similarly, Nwoye (2018), confirmed the relative effectiveness of assertiveness training over self - management techniques on reducing behaviour problem like test anxiety among secondary school students in Aguata L.G.A of Anambra State. The study further revealed that, there was no significant difference in the relative effectiveness of assertiveness training and self-management techniques on secondary school students' behavioural problem.

Williams (2015) carried out a study on self- management and found it effective in reducing test anxiety among higher school students in Spain. Yusuf (2017) reported the relative effectiveness of self-management technique over positive reinforcement of students with test anxiety in Katisna state. Furthermore, the work Adile (20015), pointed out also the relative effectiveness of self-management technique over reality therapy in reducing test anxiety among secondary students. It is against this background that the researchers were motivated to determine the effectiveness of self-management technique in reducing test anxiety among secondary school students in Oji River LGA of Enugu State.

Statement of the Problem

The inherent position occupied by test in determining the academic progress of students make it inevitable for most secondary school students to experience test-anxiety. There is a popular saying, that "Examination is not a true test of one's ability". This is with the knowledge of the fact, that there are many extraneous factors or variables that could affect the students'

performance in a test. Test-anxiety is one of such variables. It is an internalized process within the student which might not be easily identifiable to teachers or other authorities concerned. Poor performance arises not because of intellectual problems or poor academic preparation, but testing situations create a sense of threat for those experiencing examination anxiety. Test anxiety in most cases results in frustration, which is capable of affecting the totality of the students. It has been noticed that most students plagued by this social vice may not have been exposed to appropriate counselling therapies due to the fact that most schools do not employ the services of a professional guidance counsellor.

Despite numerous effort made by previous researchers in finding a lasting solution to the problem of test anxiety among secondary school students, the problems no doubts still posed a serious challenge to guidance counsellors and other allied professional in seeing that an effective solution to the problem is realized.. To achieve this, no study known to this researchers have investigated the effectiveness of self-management technique in reducing test anxiety among secondary school students in Oji River L.G.A. of Enugu State.

Research Questions

The study was guided by the following research questions:

1. What is the difference in the pretest and posttest test anxiety mean scores of students treated with self- instruction and those who received conventional counselling?
2. What are the differences in the effectiveness of Self-management technique on male and female secondary school students' test anxiety using their pretest and posttest scores?
3. What are the differences in the effectiveness of Self-management technique on junior and senior secondary school students' test anxiety using their pretest and posttest scores?

Hypotheses

The following null hypotheses were tested at 0.05 level of significance:

1. There is no significant difference in the effect of Self-management technique in reducing secondary school students' test anxiety when compared with those in the control group who received conventional counselling using their mean scores.

2. There is no significant difference in the effectiveness of self-management technique on the test anxiety of male and female students using their posttest mean scores.
3. There is no significant difference in the effectiveness of self-management technique on the test anxiety of junior and senior students using their posttest mean scores.

Method

This study, adopted the quasi-experimental pre-test–post-test group Research Design. Donald, Lucy and Christine (2016) described quasi-experimental study as a type of experimental study that determines the effect of a treatment paradigm in a non-randomized sample. Donald, Lucy and Christine explained that quasi-experimental research design could be used in a school setting where it is not always possible to use pure experimental design which they consider as disruption of school activities. Many quasi-experimental methods are available but the one that was employed in this study is the non-randomized pre-test–post-test group design. Here, two groups of students were involved in two groups namely self-management technique (SMT) and Conventional Counselling (CC).

The sample for this study was 75 secondary school students with test anxiety. The sample comprised of junior and senior secondary school students who were identified with test anxiety from the two selected public secondary schools. A purposive sampling technique was used in selecting two secondary schools because they have the highest number of students with test anxiety. Through the Test Anxiety Inventory (TAI), secondary school students with test anxiety were identified in each school. Male and female students' scores that were above 34.77/34.37 were identified as secondary school students with test anxiety. Forty students were selected from one school, (twenty two students from the junior secondary and eighteen students from the senior secondary schools) using a simple random sampling technique by balloting method with replacement.

Also thirty five students was selected from the other school (twenty students from the junior secondary and fifteen students from the senior secondary schools) using a simple random sampling technique by balloting method with replacement. The researchers after the pre-test, the purposely selected two schools were group into two groups to, represent the experimental group 1 and group II.

The instrument that was used for the measurement of students' test anxiety is Test Anxiety Inventory (TAI) originally developed in 1980 by Spiel Berger but was further adapted in Nigeria by Oladimeji (2005). The TAI is a self-report psychometric scale which was developed to measure individual difference in test anxiety as situation – specific trait. The instrument comprises 20 statements describing different form of test anxiety on four point scale, ranging from almost never (1point), sometimes (2point), often (3point)and almost always (4point). The highest possible score on the instrument is 80 (4 x 20), while the lowest possible score is 20 (20 x 1). Based on a modified 4-point scale, the respondents would be required to report frequently if they experience specific symptoms of anxiety before, during and after examinations.

Based on TAI norms, students that score above 34.77 for male and 34.37 for female were included in the study. The researcher adopted the instrument.

Spiel Berger in 1980 obtained alpha internal consistency reliability co-efficient of 0.88. In Nigeria Oladimeji (2005) used Pearson product moment statistical technique to obtained a co-efficient of reliability of 0.79. This study adopted the Nigeria version whose reliability coefficient of 0.79 has been determined; there was no need for further reliability estimation.

Students with high scores were considered to be having test anxiety and were assigned to both the experimental group and control group. A special request was made to the schools principals for the provision of adequate and conducive counselling centre/ school hall for the administration of the questionnaire and during the period of treatment. The Test Anxiety Inventory (TAI) was administered to the students in the chosen secondary school for this study by the researchers, with the help of two research assistants who were duly briefed. The research assistants collected the Test Anxiety Inventory from the respondents and handed over to the researchers for scoring. The first administered Test Anxiety Inventory made up the pre-test scores. All responses for the twenty items on Test Anxiety Inventory were summated to yield a total score of 80. The 20 item questionnaire structures on four point scale generated the following possible scores 4x 20= 80, 3x20=60, 2x20=40 and 1x 20= 20. Students that scored above 34.37/34.77 indicated the present of test anxiety in the students.

The researchers visited the schools, solicited for the cooperation of the school principals so as to build in the programme in the schools' activities. The researchers explained the purposes

and benefits to be derivable from the treatment to the principals of the schools. After obtaining the permission, the researchers also seek the support of two guidance counsellors in the schools to assist in the study.

Prior to the commencement of the treatment, Test Anxiety Inventory (TAI) questionnaire were administered on the students in the experimental group and conventional counselling group. The tests were administered by the research assistants with the researchers monitoring the exercise, making sure that the test was taken under the same conditions and then collected the entire completed questionnaire. The treatment is designed to last for eight weeks using the normal school timetable that allocated 80 minutes for guidance and counselling. A total of eight sessions were run.

For the experimental group and conventional counselling group, self-management technique and conventional counselling were designed to last for eight weeks. Each session started with the school counsellor's introduction to the issues to be addressed in the session and samples questions to elicit students' participation in the session. After the treatment, the Test Anxiety Inventory was re-administered to the experimental groups. The instrument was disguised by reshuffling before they were re-administered. This was done on the eight week of treatment. The researchers monitored the exercise and made sure the students were under the same conditions and then, collected all completed questionnaire. The students' responses were scored and data generated were collected for statistical analysis.

The completed questionnaire was scored following the scoring instruction provided in the TAI manual. Scores that are above the Nigeria mean (34.77 for male and 34.37 for female) and general norm of 34.86 indicated high level of test anxiety and scores below this showed no problem with test anxiety. The scoring of the instrument were done in accordance with the Test Anxiety Inventory Manuel, for the scoring, Almost Always=4, Often =3, Sometime =2, and Almost Never =1.

The data related to the research questions were answered using mean and analysis of covariance (ANCOVA) was used in testing the hypotheses at 0.05 levels of significance. If the calculated F is greater than the Pvalue the null hypotheses was rejected, on the other hand, if the calculated F is less than the Pvalue the null hypotheses was accepted.

Results

Table 1: Pretest and Posttest test anxiety mean scores of students treated with self-instruction and those conventional counselling

Source of Variation	N	Pretest Mean	Posttest Mean	Lost Mean	Remark
Self-management	40	57.73	28.95	28.78	Effective
Control	35	56.18	49.83	6.35	

In table 1, it was observed that the students treated with self-management technique had pretest mean score of 57.73 and posttest mean score of 28.95 with lost mean 28.78 in their test anxiety, while the students in the control group who received conventional counselling had pretest mean score of 56.18 and posttest mean score of 49.83 with lost mean 6.35. Therefore self-management is effective in reducing the students' test anxiety.

Table 2: Pretest and Posttest test anxiety mean scores of male and female students treated with self-management technique (Norm = 34.77/34.37**)**

Source of Variation	N	Pretest Mean	Posttest Mean	Lost Mean	Remark
Male	19	60.00	28.47	31.53	More Effective
Female	21	55.67	29.38	26.29	

Table 2 reveals that the male students treated with self-management technique had pretest mean score of 60.00 and posttest mean score of 28.47 with lost mean 31.53 in their test anxiety, while the female students treated with self-management technique had pretest mean score of 55.67 and posttest mean score of 29.38 with lost mean 26.29 in their test anxiety. Self-management technique is more effective in reducing male students' test anxiety.

Table 3: Pretest and Posttest test anxiety mean scores of junior and senior students treated with self-management technique (Norm = 34.86**)**

Source of Variation	N	Pretest Mean	Posttest Mean	Lost Mean	Remark
Junior	22	55.73	28.91	26.82	
Senior	18	60.17	29.00	31.17	More Effective

Table 3 shows that the junior students treated with self-management technique had pretest mean score of 55.73 and posttest mean score of 28.91 with lost mean 26.82 in their test

anxiety, while the senior students treated with self-management technique had pretest mean score of 60.17 and posttest mean score of 29.00 with lost mean 31.17 in their test anxiety. Self-management technique is more effective in reducing senior students' test anxiety.

Table 4: ANCOVA on the test anxiety mean scores of students treated with self-management technique and those who received conventional counselling

Source of variation	SS	df	MS	Cal. F	Crit. F	P ≥ 0.05
Corrected Model	83610.897	2	4155.448			
Intercept	556.242	1	556.242			
Pretest Scores	925.739	1	925.739			
Treatment Models	7846.809	1	7846.809	332.67	3.99	S
Error	1580.375	72	23.588			
Total	119425.000	75				
Corrected Total	9891.271	74				

In table 4, it was observed that at 0.05 level of significance, 1df numerator and 74df denominator, the calculated F 332.67 is greater than the critical F 3.99. Therefore, the first null hypothesis is rejected. So, the effect of self-management technique in reducing secondary school students' test anxiety is significant when compared with those in the control group.

Table 5: ANCOVA on the posttest test anxiety mean scores of male and female students treated with self-management technique

Source of variation	SS	df	MS	Cal. F	Pvalue	P ≤ 0.05
Corrected Model	8.308	2	4.154			
Intercept	857.615	1	857.615			
pretest.	098	1	.098			
Gender	7.396	1	7.396	0.801	.377	NS
Error	341.592	37	9.232			
Total	33874.000	40				
Corrected Total	349.900	39				

Table 5 reveals that at 0.05 level of significance, 1df numerator and 39df denominator, the calculated F 0.801 with Pvalue of 0.377 which is greater than 0.05, the second null hypothesis is accepted. So, the difference in the effectiveness of self-management technique on male and female secondary school students test anxiety is not significant.

Table 6: ANCOVA on the posttest test anxiety mean scores of junior and senior students treated with self-management technique

Source of variation	SS	df	MS	Cal. F	Pvalue	P ≤ 0.05	
Corrected Model	1.185	2	.592				
Intercept	897.030	1	897.030				
Pretest	1.103	1	1.103				
Class level	0.272	1	0.272	0.029	0.866	NS	
Error	348.715	37	9.425				
Total	33874.000	40					
Corrected Total	349.900	39					

Table 6 reveals that at 0.05 level of significance, 1df numerator and 39df denominator, the calculated F 0.029 with Pvalue of 0.866 which is greater than 0.05, the fourth null hypothesis is accepted. So, the difference in the effectiveness of self-management technique on junior and senior secondary school students test anxiety is not significant.

Discussion

The findings of this study showed that self-management technique is effective in reducing secondary school students' test anxiety when compared to those in the control group. Specifically, the finding indicated that students in both experimental and control group possessed test anxiety before the commencement of the study as measured by their score on the pre-test. The finding also indicated that the magnitude of the mean difference between the experimental and control group was significant in the post-test.

Moreover, the experimental group reported a significantly decreased in their test anxiety than the control group. This may indicate that secondary school students in the treatment group gained a better understanding of their test anxiety as a result of receiving self-management

technique. This finding is consistent with prior researches that suggested that self-management technique is effective in reducing secondary school students' test anxiety (Nwoye, 2018). One reason for decrease in students' test anxiety in the experimental group over and above those in the control group might be due to the thought changing process in self-management technique. Since student might have been amazed how their thought effects their feelings and actions and as such it affected their test anxiety so much within the few weeks. This result supports the findings by Serin (2014), which portrays the differential effects of self-management technique in the reduction of test anxiety of secondary school students.

This study observed that self-management is effective in reducing both male and female students' test anxiety as well as junior and senior secondary students' test anxiety. The test of null hypothesis confirmed that the effectiveness of self -management on combating male and female student test anxiety as well as junior and senior secondary school students' test anxiety as not significant, even though there was a slight difference in the post-test mean scores. This indicated that although the present study found a little difference in the post-test mean score of students with respect to gender and class level, this difference was only marginal and not significant. Thus, the little difference in the post- test mean scores of students with respect to gender and class level in the experimental group was not due to class per se, but may be due to chance. So being either male or female, either junior or senior students actually benefitted equally from the technique.

This finding supported the work of Nwoye (2018), that self-management technique was equally effective and superior to the Control condition in improving the social skills of isolates and reducing their isolate behaviour. None of the treatment techniques was superior to the other. Also, Zeidner (2011) research concluded that difference in test anxiety scores of male and female as well as class level is due to gender and class difference in scholastic ability. Thus, it may be more anxious for female to experience test anxiety in mathematics than male. This findings support Salman (2007) whose study examined the effectiveness of group self-management guidance and bibliotherapy techniques in reducing study behaviour problems among undergraduate students of Ahmadu Bello University, Zaria with respect to gender and class level. Salman's finding showed that there was no significant difference with regard to the class level and gender of the students.

Furthermore, the non –significant age difference could be because the activities provided in self -management group treatment were designed to assist students' combat their test anxiety. This is in line with self-management technique and is accompanied by vicarious modelling, that is, observing holistically what a model does in a similarly stressful situation and noticing what happens to that model (Beck, 1998). Also, at other times, the client or the practitioner might take the role of the client in acting out the scene. Other variations include members of the group taking turns to act out one or more roles and providing feedback and support for the other actors. It would be noted that in order to provide equal assisted performance for all groups, similar contents and activities were used in all classes. The experimental group had a workshop-like environment that requires the junior and senior secondary students to openly discuss problem in their relationship as they relate to their test anxious.

Thus male and female secondary school students as well as junior and senior secondary school study had better understanding of the self -management techniques, actively participated in the lesson, and had a great reduction in their test anxiety after the treatment. Thus the effect of self-management technique on test anxiety among secondary school students with respect to gender and class level did not differ in the students used in the study. One possibility that might help explain why students' test anxiety was reduced almost equally for both junior and senior was that self-management activities were equally enriching and intense for both age types. In this study, both junior and senior students in the experimental group were prompted and given space to discuss the causes of test anxiety, and ways to reduce test anxiety. All these might have helped to reduce their test anxiety.

Conclusion

The study investigated the effectiveness of self-management technique in reducing test anxiety among secondary school students in Oji River Local Government of Enugu State. Based on the findings of the study, self-management techniques is effective in the reduction of secondary students test anxiety.

Recommendations

Based on the findings, the following recommendations are hereby made:

1. Since the use of self- management technique had proved effective in reducing test anxiety of students, seminars and workshops should be organized by State and Federal Ministries of Education for secondary school teachers and counsellors on the application of the technique for effective control of the students with noticeable test anxiety trait.
2. The government and school management should ensure adequate provision for the required instructional materials that will enhance the use of the self- management technique for improved proper conduct and good behaviour of secondary school students.

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