

Effects of Behavioural Rehearsal Technique on Test Anxiety Among Secondary School Students in Orlu Lga, Imo State, Nigeria

Chinyelu Nwokolo*

Department of Guidance and Counselling Faculty of Education, Nnamdi Azikiwe University, Awka, Nigeria

Ada Anyamene

Department of Guidance and Counselling Faculty of Education, Nnamdi Azikiwe University, Awka, Nigeria

Nnanemere Gideon

ST Stephens Church, Abba, Nwangele Lga Imo State, Nigeria

Juliana Akuezulo

Department of Guidance and Counselling Faculty of Education, Nnamdi Azikiwe University, Awka, Nigeria

Abstract

Test anxiety is considered to be one of the most common and widespread emotions, with a large number of the student population suffering from excessive and overbearing levels of it. This study investigated the Effects of Behaviour Rehearsal Technique on Test Anxiety among co-educational secondary school students in Imo State. Five research questions guided the study and five hypotheses were tested at the level of 0.05 level of significance. The study was a quasi experimental research. The population for the study comprised one thousand one hundred and twelve students (1112). The sample for the study was seventy (70) students with test anxiety. Purposive sampling was used in selecting two schools in the area of the study. Test Anxiety Inventory was used in selecting thirty five (35) students each from the two sampled schools making it a total sample of 70 respondents. Mean was used in answering the research questions, while analysis of Covariance (ANCOVA) was used in testing the null hypotheses. The result revealed that behavior rehearsal technique was effective in reducing secondary school students' test anxiety. Based on the findings, it was recommended, among others that Behaviour Rehearsal technique should be utilized by Guidance Counsellors in reducing test anxiety among secondary school students in the state and the nation in general.

Keywords: Effects; Behaviour rehearsal technique; Test anxiety; Students.



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1. Introduction

1.1. Background to the Study

Test anxiety has continued to be a common experience in Nigeria including Imo State as academic achievement is increasingly used to evaluate individuals in schools. We live in a test conscious and test giving culture in which the lives of people are in part determined by their test performance. Test anxiety is a global problem, an old phenomenon in schools and Nigerian schools are not left out. As a matter of fact, many secondary students are affected by test anxiety. Davidson and Lighthall (2009) observed that test anxiety in schools had become a matter of concern to the society in general and to counsellors in their roles in modifying students' behaviours. According to (Ergene, 2008) test anxiety is a scientific construct, referring to the set of phenomenological, and behavioural responses that accompany concern about possible negative consequences or failure in an examination or in a similar evaluative situation. This has often led students to negative behavioural responses due to their concern about failure in a test or similar evaluative situations. According to Cohen (2004) many of these students usually feel uneasy, fearful and anxious as test approaches; some even go to the extent of feigning sickness. These students develop extreme fear of performing poorly on a given test. For these students, test anxiety is a major factor contributing to a variety of negative outcomes; including psychological distress, academic underachievement, academic failure, and insecurity (Hambree, 2006). In recent times, test anxiety among school children has received considerable public and research attention in countries such as Ireland, Scotland, Japan, Germany, United States of America, Canada and Nigeria. Many students may have the cognitive ability to do well in a test, but may not do so due to test anxiety. Test anxiety is an overwhelming feeling of disturbance and distress among students globally and can be a devastating problem for them because it may impair their performance and their well being later in life (Farooqi *et al.*, 2012).

Zeidner (2004) outlined three components of test anxiety to be cognitive, affective, and behavioural. The cognitive component involves worry or negative thoughts, depreciating self statements that occur during assessments and performance, inhibiting difficulties that may arise from anxiety (example problem in recalling facts, difficulty in reading and understanding questions). The affective component includes the person's appraisal of his/her physiological state such as tension, tight muscles and trembling. The behaviour component includes poor study

skills, avoidance and procrastination of work. However, John (2012) went further to say that test anxious persons are likely to have strong and chronic doubts about either producing adequate performance on examinations, being evaluated favourably by others, or being able to control their feelings so that they would not be overwhelmed by them. They are more prone to react with excessive anxiety such as worry, negative thoughts, nervousness and physiological arousal across testing situations. This proneness predisposes them to experiencing more intense levels of state anxiety which is considered as the emotional component of test anxiety in evaluative situations (Cherry, 2012). The high level of anxiety among test anxious people activates worry conditions stored up in memory and these conditions interfere with test performance. There is need to help students to overcome test anxiety.

Dewey (2007) reported that Albert Bandura's Principles of Behaviour Modification of 1977 introduced the concept of vicarious reinforcement, behaviour rehearsal to behaviour therapist for treating various behaviour problems. Behaviour rehearsal is a behaviour therapy in which a client practises new behaviour in the consulting room, often aided by demonstrations and role playing by the therapist (Davison and John, 2005). It is the acting out of behaviour to learn it and refine it as a skill. It involves clients rehearsing their social skills in the therapy session and eventually moving to real-life situations. For instance, role playing requires the client to imagine the stressful situation very vividly, but in addition to thinking about (and feeling) the stress, the client now engages in physical actions that practice what might be done to reduce tension (DeRoma, 2009). In role-playing contexts, filmed simulations are sometimes used with discussions of what is happening. 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 (Elendu, 2010; Schinke, 2009). Behaviour rehearsal is used primarily in helping the client learn new ways of responding to specific life situations. Thus, as the client watches the behaviour constantly being displayed, he learns new ways of managing specific situations.

Studies have shown that behavior rehearsal technique provide opportunities for improving participants' self management and coping as well as practical help to manage their behaviours, encourage peer learning culture and desire for excellence (Dewey, 2007).

In the light of the reported benefits of behaviour rehearsal technique in the reduction of maladaptive behaviours among secondary school students, it is therefore, important to conduct a study on the effects of behavior rehearsal technique on secondary school students' test anxiety in Imo State, Nigeria irrespective of their gender. Gender has been found to affect test anxiety significantly. This is because to the best of the researchers knowledge no study on the above had been done in the area.

1.2. Statement of the Problem

Test anxiety is a serious problem that has been discussed in many seminars and media. It has numerous negative effects on secondary school students in their academic development. Students with this problem may have erroneous perception about themselves, worry or negative thoughts, depreciating self statements, problem in recalling facts, difficulty in reading and understanding questions, tension, tight muscles, trembling, poor study skills, avoidance and procrastination of work, strong and chronic doubts about producing adequate performance on examinations. They are more prone to react with excessive anxiety such as worry, negative thoughts, nervousness and physiological arousal across testing situations.

Test anxiety is very dangerous because it deprives the individual of his or her self confidence; it makes the students have ill feeling about tests and any evaluative task. How can a student do well in a test or examination if he/she lacks a sense of self competence? How can a student concentrate fully on a particular test or examination, if he/she lacks self approvals? Test anxiety creates significant barriers to learning. Students with test anxiety can be observed either withdrawing from school or resorting to cheating in examinations in attempt to meet up with the expectations. In other words, test anxiety is detrimental to students' psychological well being which can make those suffering from it behave in an anti-social ways against the societal expectations as well as perform below expectation in any evaluative tasks. The resultant effect of this trend is evident in secondary school dropout, low academic attainment, mental distress, suicide and even death.

In a bid to tackle this problem, various treatments have been developed or applied to test anxiety. These include: behavior approaches incorporating systematic desensitization, relaxation training, biofeedback, anxiety reduction technique, anxiety management training and other behaviour technique such as cognitive approaches with rational emotive therapy, cognitive restructuring and other cognitive techniques, as well as cognitive-behaviour, and skill-deficit treatment approaches involving study skills training, test-taking skills training, other skill deficit approaches and cognitive behavioural and skill-focused treatment approaches combined (Ergene, 2008). However, most of the interventions are Western-based. In the Imo State school setting, some measures such as orientations and advice have been used, unfortunately, they are not highly effective. If this negative trend must be addressed, behavior techniques such as behavior rehearsal should be introduced, it is therefore, important to conduct a study on the effects of behaviour rehearsal technique on test anxiety reduction of secondary school students in Imo State, Nigeria.

1.3. Purpose of the Study

The main purpose of this study was to investigate the effects of Behaviour Rehearsal on test anxiety among coeducational secondary school students in Imo State Nigeria.

2. Research Question

The following research question guided the study:

1. What is the difference in the pretest and posttest test anxiety mean scores of students treated with behavioural rehearsal and those in the control group?
2. What is the difference in the pretest and posttest test anxiety mean scores of male and female students treated with behavioural rehearsal?

2.1. Hypotheses

The following null hypotheses would be tested at the 0.05 level of significance.

1. There is no significant difference in the effectiveness of behavior rehearsal technique on secondary school students' test anxiety mean scores when compared with those in the control group.
2. There is no significant difference in the effectiveness of behaviour rehearsal technique on test anxiety of male and female students.

3. Method

The study considered the secondary school students in Orlu L.G.A of Imo State who have test anxiety. Two out of twelve co-educational secondary schools in Orlu L.G.A. were used. Students in the two selected schools were tested, those that scored 40 and above were identified as having high level of test anxiety. Thirty-five students each were selected from the two schools totaling 70 students. The instrument used for data collection was a questionnaire titled Test Anxiety Inventory (TAI), originally developed by Spielberger (1997), but was revalidated for use with Nigerian Sample by Omoluabi (2003). It is a self-report psychometric scale which was developed to measure individual differences in test anxiety as a situational-specific trait. The test was one page and contained twenty items based on a 4-point rating Scale; ranging from 1 (almost never), 2 (sometimes), 3 (often) to 4 (almost always). The respondents were required to indicate how frequently they experience specific symptoms of anxiety before, during and after examinations.

The instrument served two purposes; it was administered before the experiment as pre test on both the experimental and control groups. After the training of behavior rehearsal technique in reducing test anxiety on the experimental group, the test anxiety inventory (TAI) was re-administered on both experimental and control groups. At this point, the instrument served as post-test. The re-ordering of the items in the post-test was done to reduce the incidence of the students realizing that they are being re-tested.

In other to collect data for the study, the researcher with the help of two research assistants went round the sampled secondary schools to distribute 200 copies of questionnaire (100 in each school). Each participant was given the instrument TAI to respond to the items.

The completed copies were collected on the spot. The scoring of the instrument was done in accordance with the Test Anxiety Inventory Scale: Almost always = 4 points, Often =3 points Sometimes = 2 points and Almost never=1 point. Therefore, the 20 items possible scores were $4 \times 20 = 80$, $3 \times 20 = 60$, $2 \times 20 = 40$, and $1 \times 20 = 20$. The data collected for this study were organized and analyzed in tables. Mean loss was used in answering the research questions, and analysis of covariance (ANCOVA) was used in testing the hypotheses at 0.05 levels of significance. Students that scored 40 and above were identified as having test anxiety. The results of the first administered Test Anxiety Inventory Questionnaire made up the pre-test scores. All responses for the twenty items on the Test Anxiety Inventory scale would be summated to yield a total score.

3. Results

The results of the study are presented on tables one to four.

Table-1. Pretest and Posttest Test Anxiety Mean Scores of Students Treated with Behaviour Rehearsal and Those in the Control Group

Source of Variation	N	Pretest Mean	Posttest Mean	Mean Difference	Remark
Behaviour Rehearsal	35	69.07	26.00	43.07	Effective
Control	35	64.70	52.03	12.67	

Table 1 indicated that the students treated with behaviour rehearsal technique had pretest mean score of 69.07 and posttest mean score of 26.00 with mean difference 43.07 in their test anxiety, while the students in the control group who received conventional counselling had pretest mean score of 64.70 and posttest mean score of 52.03 with mean difference 12.67. Behaviour rehearsal was effective because of the mean difference of 43.07 for those of the experimental group, while those in the control group had mean difference of 12.67. Therefore, behaviour rehearsal technique was effective in reducing the students' test anxiety.

Table-2. Pretest and Posttest Test Anxiety Mean Scores of Male and Female Students Treated with Behaviour Rehearsal

Source of Variation	N	Pretest	Posttest Mean	Mean Difference	Remark
Male	7	59.00	29.57	29.43	
Female	28	64.25	27.29	36.96	More effective

Table 4 showed that male students treated with behaviour rehearsal had pretest mean score of 59.00 and posttest mean score of 29.57 with mean difference 29.43 in their test anxiety, while the female students in the group had pretest mean score of 64.25 and posttest mean score of 27.29 with mean difference score of 36.96. Behaviour rehearsal was effective in male and female students because of the mean difference of 29.43 and 36.96 respectively, but the female students had a mean difference of 36.96. Therefore, behaviour rehearsal was more effective in reducing the female students' test anxiety than in male students.

Table-3. ANCOVA on the Posttest Test Anxiety Mean Scores of Students Treated with Behaviour Rehearsal and Those Who received Conventional Counselling

Source of Variation	SS	DF	MS	Cal. F	Crit. F	p>0.05
Corrected Model	11696.977	2	5848.488			
Intercept	92.990	1	92.990			
TAII	86.109	1	86.109			
Treatment Models	9733.285	1	9733.285	F3.99	3.99	3
Error	3056.866	.67	45.625			
Residual	131687.000	70				
Corrected Total	14753.843	69				

In table 3, it was observed that 0.05 level of significance, 1 and 69 degrees of freedom; the calculated F 213.33 was greater than the critical F 3.99. Therefore, the null hypothesis was rejected. So, the effect of behaviour rehearsal in reducing secondary school students' test anxiety was significant when compared with those in the control group.

Table-4. ANCOVA on the Posttest Test Anxiety Mean Scores of male and female Students Treated with Behaviour Rehearsal

Source of Variation	SS	DF	MS	Cal.F	Crit.F	p>0.05
Corrected Model	11.902	2	5.951			
Intercept	7.678	1	7.678			
Treatment Models	10.652	1	10.652			
TAII	.195	1	.195	0.02	4.18	NS
Error	306.098	27	11.337			
Residual	20598.000	30				
Corrected Total	318.000	29				

Table 4 showed that 0.05 level of significance, 1 and 29 degrees of freedom, the calculated F 0.02 was less than the critical F 4.18 Therefore, the null hypothesis was upheld. So, there was no significant difference in the effectiveness of behaviour rehearsal therapy in reducing test anxiety of male and female students.

5. Discussion

The finding in this study showed that behaviour rehearsal technique was effective in reducing test anxiety of secondary school students when compared with those in the control group. Specifically, the finding indicated that students in the experimental and control groups possessed test anxiety before the commencement of the study as measured by their scores 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 but not in pretest. This showed that students in the experimental and control groups had equal entry behaviour prior to the treatment contact. This in effect means that none of the two groups had an advantage of reduced test anxiety over the other before the experiment. Nonetheless, the findings indicated that test anxiety of the students in the experimental group and that of those in the control group differed significantly in the posttest. Both groups displayed a significant decrease in test anxiety after the treatment. However, the experimental group reported a significant higher decrease in test anxiety than the control group. This might indicate that students in the treatment group gained a better understanding of the ways of reducing test anxiety as a result of receiving behaviour rehearsal therapy. This finding is consistent with prior researches that suggested that behaviour rehearsal technique was effective in reducing secondary school students' test anxiety (Ahamefule, 2010; Egbuchukwu *et al.*, 2009; Henshaw and MacDavison, 2012).

One reason for the reduction in students' post- test mean scores in the experimental group over above those in the control group might be due to the effects behaviour rehearsal therapy had in the thought process of the students. This must have affected their feelings and actions and as well as their attitudes towards test/examination so much within the treatment periods. This result supported the findings by Kendrick *et al.* (2009) which portrayed the differential effects of behaviour rehearsal therapy in the reduction of secondary school students' test anxiety.

Another reason for the high decrease in test anxiety of students in the behaviour rehearsal group over and above those in the control group might be due to novelty effect. Since behavior rehearsal is new, the students might have been thrilled by its novelty and as such, it affected their test anxiety tendency so much within a few weeks. Indeed, researchers on behaviour rehearsal technique acknowledged that novelty might well influence treatment outcome and serve as a basis for insisting that new and innovative strategies can play a significant role in pattern of results related to antisocial behaviour (Kasga, 2012; Keshu, 2012). This being the case, one can reasonably argue that being a therapy that students received for the first time, it is expected to lead to significant changes. Whether these changes would be consistent over time becomes another issue for researchers.

It is important to discuss the finding that both the experimental group and control group demonstrated a decrease in test anxiety at the posttest. The significant difference observed in this study does not mean that the students in the experimental group were more brilliant or better behaved than those in the control group. Rather it is most likely to have been caused by the fact the experimental and control groups were not exposed to the same treatment package during the experiment. It might be that the behaviour rehearsal strategy did indeed largely affect the responses of the treatment group, but it is also possible that participants in the control group were also influenced by the school counselling so that they might have believed they were supposed to report a decrease in test anxiety after being counselled (Adewusi *et al.*, 2013).

6. Conclusion

The study found that behaviour rehearsal technique had significant positive effect on students' test anxiety reduction more than observed in the control group. The significant effects of behaviour rehearsal technique manifested in students' improvement in positive attitude towards test, showed the strength of this technique in helping students in their normal intact classes to have their test anxiety reduced within six weeks of participation in behaviour rehearsal strategy. The study confirmed previous researches that demonstrated positive effects of behaviour rehearsal technique.

Recommendations

Based on these, the following recommendations were made:

1. The use of behaviour rehearsal should be encouraged as it has shown to be effective in reducing secondary school students' test anxiety. Practicing school guidance and counsellors should learn to use the therapies to assist students improve in their test/ examination performances.
2. The use of behaviour rehearsal should be recommended by curriculumplanners in full force in secondary schools irrespective of students' gender and as a way of reducing students' test anxiety.
3. School guidance counsellors should form a test/examination improvement club, this club would serve as training ground for helping students to develop a healthy evaluative skills.
4. The Imo State Secondary Education Management Board should provide on the job training to practicing school guidance and counsellors on the use of behaviour rehearsal in treating test anxiety through seminar, symposia and conference.

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