

Research article

# EFFECTS OF SYSTEMATIC DESENSITIZATION AND STUDY BEHAVIOUR TECHNIQUES ON THE REDUCTION OF TEST PHOBIA AMONG IN-SCHOOL ADOLESCENTS IN ABIA STATE.

FLORENCE E. OTTA AND CELESTINA A. OGAZIE

E-mail: [elejeotta@gmail.com](mailto:elejeotta@gmail.com)



OPEN ACCESS

This work is licensed under a [Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/).

---

## ABSTRACT

This study investigated the effects of the systematic Desensitization [SD] and Study Behaviour Techniques [SBT] in the reduction of test phobia among in-school adolescents in Abia State. Five research questions and five hypotheses were formulated to guide the study. The study was quasi-experimental study which adopted 3 x 2 factorial designs. The sample size consisted of sixty senior secondary two subjects selected through stratification and random selection. The researchers developed 30-item test phobia diagnostic questionnaire [TPQD] administered to the subjects. T-test and Analysis of covariance [ANCOVA] were used for data analysis. The result of the study shows that the SD and SBT treatment group had therapy effects both at the post and follow up stages. Based on the result, recommendations were made among others that; all levels of education should have a functional Guidance and Counselling unit managed by trained counsellors in order to help effectively diagnose and treat students with maladaptive behaviours using these techniques in schools; and teachers should be oriented toward how to handle phobic students and refer them to the Counsellors. **Copyright © WJER, all right reserved.**

**Keywords:** Desensitization, Study Behaviour, Phobia, In- school adolescents.

---

## INTRODUCTION.

The word Phobia is derived from Greek word Phoebus, which means “Fear” or “Panic”, but phobia is more than this since all peoples experience fear or terror. Phobia is an irrational or unreasonable fear of

something. Adolescents with phobia realise that their fear is irrational but often facing, or even thinking about facing the fear situation brings a panic attack or severe anxiety. However, failures in Senior Secondary School Certificate (SSCE), General Certificate of Education [GCE], Joint Admission and Matriculation Board [JAMB], and aptitude tests could be problems arising from phobia.

Phobia as defined by Fiszpatrick [1999] is a group of symptoms brought on by feared objects or situation. For him, it is any objectively unfounded morbid dread or fear that arouses a state of panic, Test phobia according to Signit [2004], is defined as an abnormal-persistence irrational fear of taking tests/Examination. Examination or test plays a vital role in assessing the abilities of Students. It can also help to analyse the strengths and weakness of Students. It helps in the evaluation of different aspects related to teaching learning processes. Phobia is specific and each phobia has a particular name an example include: Aqua-phobia – irrational fear of water or sea, Acrophobia – irrational fear of height, Photophobia - irrational fear of light, test or Examination taking phobia – irrational fear of taking test or Examination and so on.

However, Bulk [2000] pointed out testphobia symptoms as; shortness of the breath, blankness, increased heartbeat sweat on the palms, restlessness among others. Phobic students engage in drug use to get rid of fear and sometimes most of them end up as drop-outs, while those of them that managed to complete their studies remain drug addicts. As a result of test phobia, an individual may not be able to meet up with the educational challenges and may end up with failure to graduate from one academic level to another. In order to cope, the student may adopt some forms of examination misconduct such as; Impersonation, sorting, bringing in some foreign materials into the examination hall among others.

The two counselling techniques applied in this study were Systematic Desensitization [SD] and Study behaviour Techniques [SBT] and both of them are behavioural modification techniques. SD technique was developed by Joseph Wolpe. It aims at the alleviation of maladaptive anxiety. It involves pairing relaxation with imagining scenes depicting situations that the client indicated cause the feeling of anxiety. The therapist usually operates on the assumption that if the client is taught to relax while imagining anxiety provoking scenes, he will feel less anxious and the real life situation will cause the client much less discomfort. This is based on the premise that relaxation and anxiety can not be manifested simultaneously. Study Behaviour Technique was propounded by Robinson in 1946. It is based on the idea of increasing Students engagement with text as students actively consume information in an effort to answer generated key questions regarding the subject content. However, we have various study behaviour techniques namely; Brain storm groups study technique, Robinson's SQ3R study technique, Repetition study technique, the creative study technique among others. In this study, the SQ3R technique by Robinson was applied.

The SQ3R stands for **S** =Survey, **Q** =Question, **3R** =Read, Recite and Re-view. SQ3R helps to improve student's acquisition of important materials, develop deeper encoding on information, encourage more thorough cues for retention, and provide a permanent storage device for later review which helps students to remember what they read.

### **Empirical Studies on Study Behaviour technique:**

Various studies have been conducted using Study Behaviour technique and most of the result explained that SBT skill has significant importance in the acquisition of knowledge and competence. The technique is popular among Secondary School students and is one of the most intensively used techniques of study.

Robinson [1970] conducted a study of the effectiveness of the method with a how to study class at Ohio State University. He gave the students a pre-test, had them practice the test materials, using the SQ3R method, and then gave them a post-test. Student's scores increased on both comprehension and reading rate. Their ability to predict questions was tested, the average number of errors on the first quiz was 15 but the second quiz average was only 6.

Several studies have also been conducted using Systematic desensitization technique and most of the results explain that systematic desensitization is effective in phobia reduction and other anxiety disorders. Dully et al, [2005] carried out research using Systematic desensitization for a person with Schizophrenia. This case study reports the effect of treatment of a specific phobia and associated avoidance on the Psychotic symptoms of a patient with medication resistant schizophrenia. The treatment of the specific phobia and agoraphobia followed a traditional systematic desensitization procedure. The successful treatment of the phobia led to improvements

in psychotic symptoms. Previously, the client had only a limited response to a number of antipsychotic medications including clozapine but responded well to a traditional systematic desensitization programme that produced positive consequences for the psychotic symptomatology. Over the years, researchers like Sullivan [2002]; Osisioma [2001] and Malville, [1977] have carried out researches on phobic disorders and anxiety-related problems and attested to the effectiveness of this technique in managing other behaviours and anxiety problems. It is therefore in view of this that this study sets to investigate the effects of systematic desensitization [SD] and Study behaviour techniques [SBT] on the reduction of test/examination phobia among in-school adolescents.

## **Purpose of the Study.**

The major purpose of this study is to determine the effects of systematic desensitization and Study behaviour techniques in the reduction of test phobia among in-school adolescent. Specifically, The study determines the effects of Systematic Desensitization in reducing test phobia among in school adolescents; determines the effects of Study Behaviour Technique in the reduction of test phobia, determines the relative effect of the two counselling therapies SD and SBT in the reduction of test phobia and finally, determines the level of retention of these techniques after treatment.

## **Research Questions**

The following research questions were posed to guide the study:

1. What is the effect of Systematic desensitization technique on reducing test phobia among in school adolescent?
2. What is the effect of SBT on reducing test phobia among in-school adolescents?
3. What is the relative effect of the two behaviour modification techniques [SBT and S/D] on reducing test phobia among in school Adolescents?
4. To what extent is the effect of S/D technique retained two months after treatment.
5. To what extent is the effect of SBT retained two months after treatment.

## **Research Hypotheses**

The five null hypotheses formulated were;

- Ho1.** There is no significant different in the performance of students treated with systematic desensitization and those in control group using their post test scores.
- Ho2.** There is no significant difference in the performance of students treated with study behaviours technique and those in control group.
- Ho3.** There is no significant difference in the post and follow-up test scores of students treated with systematic desensitization.
- Ho4.** There is no significant difference in the post and follow-up test scores of students treated with study behaviour technique.
- Ho5.** There is no significant difference in the relative effectiveness of the two behaviour modification techniques in the reduction of test phobia among in-school adolescents.

## **Methodology.**

This study employed a 3x2 experimental factorial design. It adopted the pre-test, post-test and control group design. Through randomization, selected subjects were assigned to the two experimental groups; Systematic desensitization [S/D] and Study behaviour Technique [SBT] and control group [C]. All of them were pre-tested but only the two experimental groups [SD and SBT] received treatment on test phobia.

The study was carried out in Isuikwuato Local government Area of Abia State

The population of this study consists of 80 Senior Secondary class two [SS11] Students while the Sample consists of 60 students who indicated their phobic status based on their responses Test Phobia Diagnostic Questionnaire [TPDQ] which was administered to them.

The TPDQ which was developed by the researchers was used to screen out these phobic students. This went along with the English Language achievement test [EAT] and the Mathematics performance test [MPT] which serves as criteria for academic performance. The Instrument contained 30 items. This instrument was made up of two sections. A and B sections. A involved personal data of the respondents such as Name, Sex, Age, Class, and Date of testing while B contained items on test phobia symptoms and manifestations by the students. The highest score was 120 and the lowest scores were 30, therefore, any student who scored 70 and above was identified as test phobic. The questions were structured on a 4 point scale; strongly agree, agree, disagree and strongly disagree.

The validity of the instrument relied on the vetting by the experts in the field Experts in Guidance and Counselling, Measurement & Evaluation and Psychologist in Abia state University Uturu. They determined both the face and content validation. Based on their suggestion, five items were restructured.

A test re-test method was used to determine the reliability of this Instrument using 20 students drawn from the target population who are not part of the study sample. The students' scores from the first test were correlated with their scores after two weeks interval using the Spearman's Rank order correlation co-efficient. A reliability coefficient of 0.86 was obtained

Using the assistance of the class teacher the instrument was administered to the clients. The clients were taught how to fill it; collections were made at the end of 30mins. The data obtained from the study were statistically analyzed to determine the effects of the independent variables [S/D and SBT] and that of the dependent variables [test phobia on adolescents] the analysis of covariance [ANCOVA] was used to correct initial mean differences and to compare the pre-test and post test measures.

### Research questions 1.

1. **What is the effect of Systematic desensitization technique on reducing test phobia among in school adolescents?**

**Pre-test, Post-test, mean scores and mean loss of students treated with S/D and SBT.**

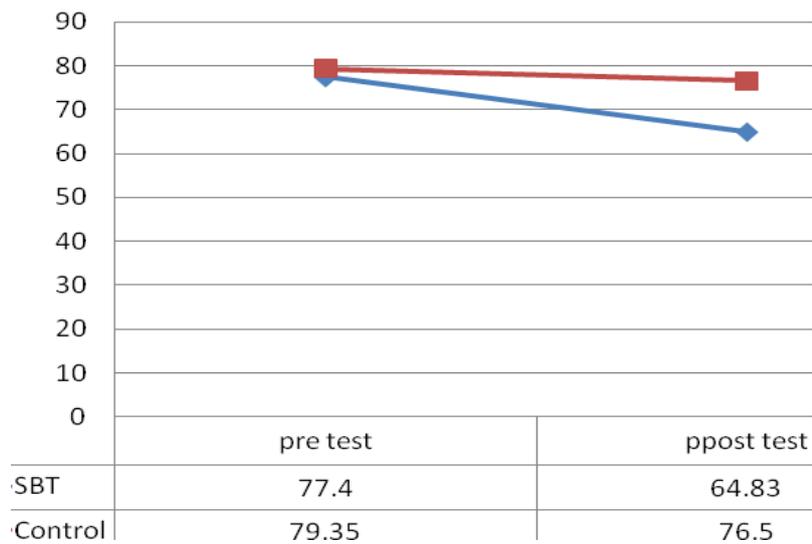
Treatment	No	Pre test	Post test	Follow up	Mean diff	Remark
S/D	20	78.8	62.50	63.45	16.3	Effective
SBT	20	77.4	64.83	65.50	12.57	Effective
Control	20	79.35	74.83	76.50	2.8	

This table presents the effectiveness of S/D and SBT 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.

### Research questions 2.

1. **What is the effect of SBT on reducing test phobia among in-school adolescents?**

The research question 2 and hypotheses 2 sought to find out the effectiveness of study behaviour technique in reducing test phobia among in-School adolescents. However, the figure above reveals that with the mean score of 77.4 and a post test mean score of 64.83 of students who received treatment, there is a mean difference of 12.57, which indicate that SBT is effective in reducing, test phobia among in-school adolescents. In conclusion, there exist a significant different between post scores of students who receive SBT and those of the control group.

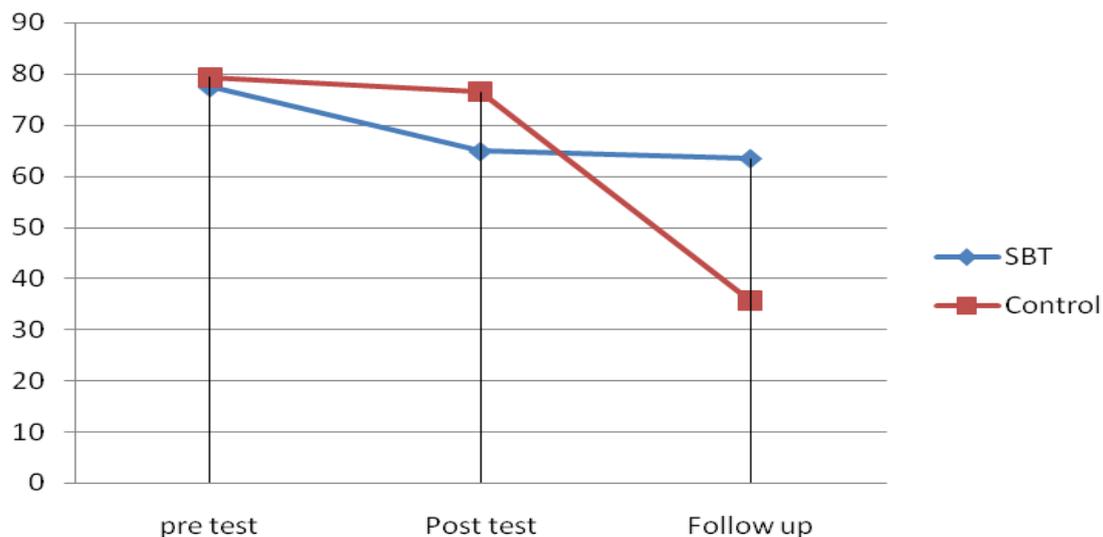


**Researcher question 3 and Hypotheses 5** sought to find out to what extent the effects of systematic desensitization technique is retained two months after treatment and also the relative effectiveness of the two counselling techniques retained two months after treatment.

Techniques	No	Post test	Follow up	Mean diff	Remark
S/D	20	62.50	63.45	+0.95	Stable
SBT	20	64.83	65.72	+0.67	Stable

From the table above, the study reveals that the effects of the two counselling techniques are retained two months after treatment, while S/D showed most effective, SBT was more stable after two months. As a result of this, the fifth Null hypothesis was rejected and the researchers conclude that there is significant reduction in the student’s test phobia after receiving desensitization and study behaviour techniques.

Research question 5 and Hypotheses 4 sought to find out to what extent the Study behaviour technique in reducing test phobia is retained in two months after treatment and the differences in the post and follow up test scores of students treated with it.



The Figure above reveals that with the post test mean score s of 64.83 and follow up mean scores of 65.72 and mean difference of -0.67, that SBT is stable in its effectiveness two months after treatment, therefore , there is significant difference in the post and retention test scores of the students who received SBT training. In the same vein, the forth Null hypotheses is rejected, therefore, the researchers conclude that there is significant difference in the post and retention test scores of the student who received study behaviour training.

A null hypothesis 5 says that there is no significant difference on the relative effectiveness of the two counselling techniques on the reducing test phobia among in-school adolescents.

### **ANCOVA analysis of Students testing the effectiveness of S/D and SBT treatment models.**

Source of Variation	Sum of Square	df	Mean of square	Cal. f	Crit.f	P0.05
Pre test	1551.471	1	1551.471	8.33	2.75	
therapy	58671.111	3	19557.04	1858.49		
Error	789.233	75	10.523			0.05
Total	59472.887	79				

The table reveals that at 0.05 level of significance, 3df numerator and 79 df denominator, therefore, the fifth null hypothesis is rejected and the researchers conclude that there is significant reduction in the student’s test phobia after receiving desensitization and study behaviour techniques.

### **Discussions of the Findings.**

The first finding was that S/D is effective in the reduction of test phobia among in school Adolescents .The finding is in agreement with John and Sechrest [1986] and Capafons et al [1998] who discussed that S/D has higher reduction of phobia than the control group at post test session.

Furthermore, explanation of the findings correlated with the view of Mann and Piorkowski [2006] that S/D responded more than those that were treated using only role playing. Research also indicated that S/D is effective in the treatment of anxiety disorders such as fear, anxiety, and phobia among others.

The result of the findings also proved that SBT is effective in the management of fear anxiety and other anxiety related problems. In the findings, the pre-test mean score of 77.4 and post test mean score of 64.85 of students on SBT is effective in reducing test phobia. This shows indication of test phobia reduction among in in-school adolescents. In the same vein, the study confirmed earlier study of Dickson et al [2004], and Clark et al [1984] that SBT was effective in the treatment of in-school adolescents. Control group showed little or no effect at post test stage. It was also found out that S/D was retained two months after treatment and the effectiveness of the two behavioural modification techniques are retained two months after treatment. Out of the two, S/D was most effective. The finding of the work is also in agreement with the findings of Paul [1966] where S/D was consistently superior to either attention placebo or insight oriented technique and at 2years follow up.

In line with the above findings, the result of the present study indicates that the effect of the treatment was mostly evident on the SD group than on Study behaviour Technique group. This corresponds with what Shean [1986] and Plane [2000] opined on the applicability of desensitization.

### **Conclusions**

Based on the findings of this study, the following conclusions are made;

1. The high scores shown by the clients indicate the presence of test phobia among in-school adolescents.
2. The irrational fear can be reduced with S/D and SBT techniques.
3. Both techniques showed therapy effects but in varied degree and the effects can be retained.

## **Recommendations.**

Based on the findings of the study, the following recommendations are made,

1. All levels of education should have a functional guidance and counselling unit managed by a professional Counsellor in order to help effectively diagnose and treat students with maladaptive behaviours in schools, especially test phobia. The researcher stressed more on the implementation of the above suggestion on the primary school, pupil so that there will be follow up in other levels.
2. The government should establish community counselling centres where adolescents can interact freely with counsellors and be trained in the use of behaviour modification skills. This will enable them to render effective assistance to children with behaviour problems.
3. The Ministry of education through the counselling unit and school welfare development should organize workshops, seminars targeted at training and re-training counsellors and teachers in the use of behaviour modification techniques. This will enable them to render effective assistance to children with behaviour problems.
4. Counsellor should apply SD and SBT on test phobic clients as they have been proved to be effective on it.

## **REFERENCES**

- [1] Burk, [2002] test phobia on steroids: My view. Dodge City Daily Globe. June 4, 10.
- [2] Clump M.A, Bauer,H. & Bradley, C. [2002]. The extent to which Psychology students read textbooks. A multiple class analysis of reading across the Psychology curriculum. *Journal of Instructional Psychology*, 31, 227 – 232.
- [3] Dickinson,D.J.&O' Connell, [2004] Effects of quality and quantity of study on student grades. *Journal of Educational Research*, 83,227 -231.
- [4] Dudley, R., Dixon, J. & Turkington, D. [2005]. CBT for a person with Schizophrenia. *Journal of Behaviour and Cognitive Psychology*: 33[2] 249-254
- [5] Fitzpatrick [1999] phobia symptoms, risk factors and treatment. *Journal of Mental Health*[3], 104-11
- [6] Paul, H.L. [1996]. *Insight Versus Desensitization in Psychotherapy: An experiment in anxiety reduction*. Stanford: Stanford University Press
- [7] Piane, G. [2000]. Contingency contracting and systematic desensitization for heroin addicts in methadone maintenance programs. *Journal of Proactive drugs*. 32[3], 311-319.
- [8] Sheane, G. [1986]. *Dimensions in Abnormal Psychology*. Revised and enlarged edition. Chicago: Rand Mc Nally College Publishing Co.
- [9] Signit, s.[2004]. Taking a test fear? New York; American board of neuro Linguistic programming [ABNLP] June 7, 11-17