

**ASSESSMENT OF TEST ANXIETY SCALE ON ACADEMIC
PERFORMANCE OF UNDERGRADUATES IN TERTIARY
INSTITUTIONS IN LAGOS STATE**

Elegbede, C. B.; Adedotun, K. O. & Udofia, I. G.

Department of Guidance and Counselling Education
Lagos State University of Education

Abstract - The study investigated an assessment of test anxiety package on students' academic performance in tertiary institutions, Lagos State. Two hypotheses were formulated to guide the focus of this work. True experimental research design was used in this work as undergraduate in Lagos State University of Education Lagos State formed population of the study. Purposive sampling technique was used to select a sample of sixty undergraduates for this study. True experimental research design was adopted for this study in order to assess the effect of test anxiety scale on undergraduates' academic performance. Two instruments, Achievement Test and Adapted Akinade's Test Anxiety Scale (ATAS) were used to generate data. Content validity was ensured and split-half method of reliability r-value of 0.89 was obtained. Data was analysed using one-way ANOVA and t-test tested at 0.05 level of significance. Findings revealed that test anxiety scale and gender contributed to differences in students' performance. The study concluded that use of test anxiety scale motivates learners to meeting set designed objectives and reduces anxiety level of test takers. The study recommended, among others, that students should be exposed to the relevant counselling services especially when confronted with difficulties in learning.

Keywords: Assessment, Test Anxiety Package, Tertiary Institution, Performance, Students

Introduction

The concept of anxiety generally is often seen as fear of aversion toward certain situations and events. In other words, it is a debilitating interaction of emotions (fear) and cognition (learning) because there is a correlation between students' feelings and their ability to understand the subject matter. Test anxiety is an undesirable reaction towards execution of evaluation. It remains one universal problem faced by students both locally and internationally. Test anxiety is a psychological condition in which students experience extreme distress and anxiety in test situations. A little anxiety during examinations is required to help students get motivated to learn. Mounting up so much of anxiety will not help a student to perform positively rather it will influence their academic performance negatively (Coon & Mitterer, 2009). Onyeizugbo (2010) was of the perception that anxiety is a feeling of worry, apprehension, nervousness or uneasiness that

occurs when a student encounters test or examination in any form and at any level.

The cognitive component is the mental activity that revolves around the testing situation. It constitutes elements such as thinking about consequences of failure, racing thoughts, negative and worrisome thoughts, problem in recalling facts, difficulty in reading and understanding questions, among others. The emotionality component is characterized by tension, fear, apprehension, and nervousness towards test or examinations, which is usually associated with somatic symptoms such as palpitation, nausea, perspiration, headaches, stomach aches, diarrhea, excessive sweating, rapid heartbeat, dry mouth, and shortness of breath (Oludipe, 2009; Jing, 2007; Sujit & Kavita, 2006). The behavioral component involves fidgeting, feeling of restlessness, among others, while the physical component is characterized by poor study skills, avoidance and procrastination of work and physical discomfort.

Students who are part of the general population are no exception to phases of anxiety. The fear faced by students when approaching a task or an examination may be viewed as anxiety. Students are faced with fear ranging from fear of failure, fear of being identified as failure, fear factors that make them tense, nervous and even take away their ability to make good use of their time. Test anxiety, like other forms of anxiety, is one of the most pervasive reactions that individuals have to stress (Omomesan, 2018; Udo, Ramsey, Reynolds-Alpert & Mallow 2004). Many factors contribute to the development of test anxiety, some of which include fear of failing, consistent thinking about consequences of failure, procrastination, poor study habit, inadequate of knowledge of course materials, consistent poor performance, past experiences and beliefs, and lack of confidence in one's ability (Kavita, 2006). Apart from that, studies have shown that students' personality dispositions may contribute to their development of test anxiety. Characteristics of the test environment such as the nature of the test, time constraints, examiner characteristics, mode of test administration and physical setting may also create test anxiety for students (Putwain, Woods & Symes, 2010).

Some degree of test anxiety is needed by students to succeed in academic endeavor. This is because minimal or moderate amount of anxiety helps the body to respond rapidly and efficiently (DePhil, Brilot & Nettle, 2011). Studies of Cassady and Johnson (2002) found that moderate cognitive test anxiety positively

correlated with examination performance. It could therefore be said that unless a student demonstrates some degree of anxiety, he/she may not prepare well for a test and perform adequately. Test anxiety, however, has debilitating effect, when it increases beyond optimal level. This can weaken students' preparation for test, making it difficult for them to comprehend relatively simple instructions, organize or recall relevant information, concentrate, and perform adequately (Cassady, 2010; Rana & Mahmood, 2010), and thus inhibit their academic performance.

The difference in performance of a high test-anxious student and a low test-anxious student is largely due to the difference in their ability to focus and pay attention on the test (Ossai, 2011). While a low test-anxious student is able to focus and pay greater attention on test, a high test-anxious student focused on internal self and the anxiety they are feeling. Therefore, high test-anxious students would perform poorly academically on a test because their attention is usually divided between themselves and the test. There is broad agreement that test anxiety is associated with lower academic performance. Chapell, Blanding, Silverstein, Takahashi, Newman, Gubi and McCann (2005) found an inverse relationship between test anxiety and academic performance. The scholars reported that high test anxiety decreases students' academic performance; Meanwhile, Barrows, Dunn and Lloyd (2013) reported a negative relationship between test anxiety and academic performance. In a related study by Adewuyi, Taiwo and Olley (2012), they found out that secondary school students with high anxiety performed poorly academically than those with low anxiety. Similarly, Akanbi (2010) who also stated that high test anxiety reduced secondary school students' academic performance in science.

In a bid to manage the continuous wide range of gaps that exists between the observed scores of respondents not exposed to those exposed to some form of packages or otherwise called treatment is needed. These treatment packages are designed to manage the anxiety level of students prevalently when exposed to examination conditions. As expected, Akinade (2007); Best and Kahn, (2006) claimed that the difference observed in the pre-test and post-test scores of students when treatment is administered on a set group can be attributed to the exposure meted. Due to the relevance of the package, timely intervention and emotional inclination of the package on the experimental group, it becomes obvious that the effect would be seen in their post-test scores.

Female learners are more prone to perform better than their male counterparts when exposed to treatment packages. The male students most times even without exposure to any package outshine the female learners especially in numeric related materials (Damil, Abel & Paradang (2019); Omomesan, 2018; Akpan & Umobong, 2013). Although gender differential plays a secondary role in students' performance, their abilities and interest too goes a long way in contributing as well. Due to the rapid nature, growth and developmental phases often experienced by the female learners, they are bound to perform better than their male counterparts as their cognitive domains levels mature swiftly too. The female students also show signs of performing well too in numeric related materials if the content is well explained in the course of teaching and learning condition and administration of treatment packages. Recent results in standardised examinations shows that female students performed better than male students in both numeric and non-numeric subjects by 65.9% in 2016, 76.3% in 2017 and 78.5% in 2018 respectively, (WAEC examiner's remark, 2019).

Under the National University Commission (NUC), students are expected to be exposed to a minimum of nine (9) courses per semester and fifteen (15) in a session especially those in Faculty of Education. The increase in these courses makes students in the faculty more susceptible to the negative effect of test anxiety unlike their counterparts in other faculties who study a pure discipline and do not have to borrow or extend their frontiers of learning. Students in faculties of education are known to under-perform in Educational Psychology, Test & Measurement, Research Methodology, and Statistics (Akinbode & Duru, 2017). From this background the study is designed to execute an Assessment of Test Anxiety Package on Tertiary Institution Students in Lagos State.

Statement of the Problem

Since early 2000s, studies have shown that the performances of students in tertiary institutions have witnessed a systemic decline across departments and faculties. These scholars identified students' phobia for tests and examinations as one of the prime causes for the decline in their performance. Anxiety being an emotional problem if not attended to professionally could be carried over by these students to real test conditions. Anxiety is a psychological imbalance often experienced by test takers and if not well managed can lead to academic failure or poor academic performance among students. Some pronounced cumulative effects of academic failure or poor performance resulting from test anxiety on

students could include withdrawal syndrome, examination phobia, delinquency, involvement in crimes, low self-esteem, depression, among others. The identified causes of test anxiety and its prevalence prompted the researchers to investigate the effect of test anxiety package on academic performance of students in tertiary institutions in the state.

Purpose of the Study

The main objective of this study was to carry out an assessment of test anxiety scale on academic performance of undergraduates in tertiary institutions in Lagos State. The specific objectives include:

1. identify the difference in test anxiety scale on academic performance of students by gender
2. justify the difference that exists in the pre-test and post-test performance of tertiary institutions' students in Lagos state

Hypotheses

H₀₁: There is no significant difference in the use of test anxiety scale on academic performance of students by gender

H₀₂: There is no significant difference in the pre-test and post-test performance of tertiary institutions' students in Lagos state

Significance of the Study

To researchers the outcome of this work would help in providing more relevant current and resourceful materials on effect of test anxiety package on students' academic performance; test developers on the other hand, would find the outcome of this study useful as it would expose them to the peculiarities and challenges often confronted by students when exposed to examination conditions; Guidance and Counseling personnel will find the outcome of this study useful in that it would afford them the opportunity of identifying and effectively administering treatment to clients who are faced with anxiety related challenges in schools.

Methods

The study adopted an experimental research design. This design type is one often used when the researcher has the ability to categorise the samples into groups of experimental and control group. A 2x2 schematic type was used for the study as represented below:

E₁: O₁₁ X₁ O₁₂ (Pretested group and treatment)

C₂: O₂₁ O₂₂ (Pretested group without treatment)

*Where O₁₁, O₂₁ – represents Pre-test measures

O₁₂, O₂₂ – represents Post-test measures

X₁ --- represents Treatment conditions

The study was carried out among students in tertiary institutions in Lagos state. The population of the study was all undergraduate students in Lagos State while the target population comprised 200 level undergraduate students in tertiary institutions in the same state. Purposive sampling technique was used to select 30 students in the Department of Guidance and Counselling from Lagos State University, Ojo and another 30 students in the Department of Educational Counselling Psychology from Lagos State University of Education, Epe, Lagos State. A sample of 60 undergraduates was used for this work respectively. The students who were captured in the study were based on their willingness to participate in the study. A self-constructed Performance Test consisting of 40 items from Educational Psychology, Test and Measurement, using a 4-option response objective format was used to generate performance. In the instrument, 20 items were designed for "Educational Psychology" and another 20 items on "Educational Test and Measurement" using Test blue print. More so, Akinade's Test Anxiety's Package - a 12-item standardised instrument was adapted for the study. Two academics in the Department of Educational Evaluation and Counselling Psychology, EECPC in University of Benin, UNIBEN determined the validity of the instrument and content validity was met. Through the use of Cronbach alpha, a reliability index value of 0.89 was derived, meaning that the instrument is suitable for use. Z and T score were used to transform the data for equity. Analysis of Variance, ANOVA, and t-test was used to analyse the data and tested at 0.05 level of significance.

Result

H₀₁: There is no significant difference in the use of test anxiety scale on academic performance of students by gender.

Table 1: t-test analysis showing the difference in use of test anxiety scale on academic performance of students by gender

Variable	N	X	SD	Df	Cal.val.	P	Decision
Male	30	3.76	0.89	38	6.782	0.000	Reject
Female	30	4.03	0.74				
Total	60						

Source: Fieldwork (2024)

The table 1 above shows that p.value of 0.000 is less than the significance level of 0.05, thus, the null hypothesis which states that there is no significant difference in the use of test anxiety package on academic performance of tertiary institution students by gender is rejected and the alternative accepted.

HO₂: There is no significant difference in the pre-test and post-test performance of tertiary institution students in Lagos state

Table 2: Analysis of variance showing difference in the pre and posttest performance of students in tertiary institution

Source of variation	Sum of square	Df	Mean squares	f-ratio	p-level
Between groups	37.3352	2	32.85		
Within groups	893.83	58	9.94	3.02	1.33
Total	931.1652	60			

Source: Fieldwork, (2024)

The result of hypothesis 2 indicates that the Analysis of Variance produced a calculated f-ratio of 3.02, which was significant since the calculated of f (3.36) is greater than the critical f (3.02). On the basis of this result, the hypothesis is rejected indicating that there is a statistically significant difference in the pre-post test score of students' performance due to the intervention.

Discussion

Meanwhile, hypothesis one reveals that there exists a significant difference in the performance of students by gender. This is in conformity with studies of Akpan and Umobong, (2013) who noted that although gender differential plays a secondary role in students' performance, their abilities and interest too goes a long way in contributing as well. Due to the rapid nature, growth and developmental phases often experienced by the female learners, they are bound to perform better than their male counterparts as their cognitive domains levels mature swiftly too. The female students also show signs of performing well in

numeric related materials if the content is well explained in the course of teaching and learning condition and administration of treatment. It can be recalled that in standardized examinations female students performed better than male students in both numeric and non-numeric subjects by 65.9% in 2016, 76.3% in 2017 and 78.5% in 2018 respectively, (WAEC examiner's remark, 2019). Moreso another probable explanation is that, "male students are more prone and exposed to some psycho-social anxiety conditions as well as stress that could disturb their minds in course of responding to examination items than their female counterparts" (Akinsanmi & Lukman, 2018; Omomesan, 2018).

The outcome of hypothesis two reveals that there is a significance difference in the pre-test and post-test performance of tertiary institution students. This outcome is in consonance with findings of Akinade (2007); Best and Kahn (2006) who claimed that the difference observed in the post-test scores can be attributed to the intervention. Due to the relevance of the package, timely intervention and emotional inclination of the package to the experimental group, it becomes obvious that the effect would definitely be seen in their post-test scores.

Conclusion

From the findings above, the study concluded that timely administration of test anxiety package goes a long way to improve performance of students; also there exists a significant difference in the academic performance of students by gender. Effective administration of this scale goes a long way to improve the achievement level of test takers especially when the participants are exposed to natural conditions.

Recommendation

This research work among others recommended the following:

1. Use of test anxiety package should be introduced to learners at all levels and categories in order to reduce failure rate in both internal and external examinations.
2. Students should be exposed to the relevant counselling services especially when confronted with difficulties in learning.
3. Students should be sensitized on the need to adopt and adapt a functional study habit method and
4. Interest and ability of learners should be considered when developing test items.

References

- Adewuyi, T.O., Taiwo, O.K. & Olley, B.O. (2012). Influence of examination anxiety and self-efficacy on academic performance among secondary school students. *Ife Psychologia*, 20, 60–68.
- Akanbi, S.T. (2010). Test anxiety as a correlate of academic performance among senior secondary school in Ogbomoso area of Oyo State. *African Journal of Educational Research*, 14, 89–97.
- Akinade, EA. (2007) Stress understanding and managing it. Pumark Publisher Limited. 23-24
- Akinbode, C.B. & Duru, O.H. (2017). An assessment of academic stress among undergraduates students in Nigeria. *Educational Research and Review*. 4(2) P. 063-070.
- Akinsanmi, E.E. & Lukman, R.A. (2018). Test anxiety, depression and academic performance assessment and management using relaxation and cognitive restructuring technique. *Psychology*, 4, 18–24.
- Akpan, I.D. & Umobong, M.E. (2013) Analysis of performance motivation and academic engagement of students in the Nigerian classroom. *Academic Journal of Interdisciplinary Studies*, 2, 385–390.
- Barrows, J., Dunn, S. & Lloyd, C.A. (2013). Anxiety, self-efficacy, and college exam grade. *Universal Journal of Education Research*, 1, 204–208.
- Best, J.W. & Kahn, J.V. (2006). *Research in education. Tenth Editions*. Boston, Allyn and Bacon Publishers.
- Cassady, J.C. & Johnson, R.E. (2002). Cognitive test anxiety and academic performance. *Contemporary Educational Psychology*, 27, 270–295.
- Chapell, M.S., Blanding, Z.B., Silverstein, M.E., Takahashi, M., Newman, B., Gubi, A. & McCann, N. (2005) Test anxiety and academic performance in undergraduate and graduate students. *Journal of Educational Psychology*, 97, 268–274.
- Coon, D. & Mitterer, J. (2009). Psychology of test anxiety. *Journey of Cengage Learning*. 28(3), 48-53.
- Daniel, B.E., Abel, J. & Paradang, C.G. (2019). Test anxiety as predictor of academic performance in biological science examination among secondary school students. *Clin Res Psychol*, 2(1):1-6.
- DePhil, M.B. Brilot, B., & Nettle D. (2011). Anxiety: An evolutionary approach. *Canadian Journal of Psychiatry*, 56, 707–715.
- Jing, H. (2007). Analysis on the relationship among test anxiety, self-concept and academic competency. *US-China Foreign Language*, 5(1), 48–51.

- Oludipe, B. (2009). Influence of test anxiety on performance levels on numerical tasks of secondary school physics students. *Academic Leadership: Online Journal*, 7, 1– 10.
- Omomesan, M.B. (2018). Effect of cognitive behaviour therapy and self-control therapies on stress management among counsellors in Lagos State Public Secondary Schools. *An unpublished Ph.D thesis of Lagos State University, Lagos State.*
- Onyeizugbo, E.U. (2010). Self-efficacy and test anxiety as correlates of academic performance. *Educational Research*, 1, 477–480.
- Ossai, M.C. (2011). Guidance and counseling implications of examination anxiety as a predictor of students' attitude towards examination malpractices. *Mediterranean Journal of Social Sciences*, 2, 85–90.
- Putwain, D.W., Woods K.A. & Symes, W. (2010). Personal and situational predictors of test anxiety of students in post-compulsory education. *British Journal of Educational Psychology*, 80, 137–160.
- Rana, R.A. & Mahmood, N. (2010). The relationship between test anxiety and academic performance. *Bulletin of Education and Research*, 32, 63–74.
- Sujit, S.S. and Kavita, S. (2006). Effect of students' perceptions of course loads on test anxiety. *American Journal of Pharmacology Education*, 70, 26–34.
- Zeidner M. (1998). *Test anxiety: The state of the Art*. New York, NY: Ple-num.