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Abstract

Using computer-based tests for testing is currently trending in Nigeria's educational setting. Research has linked the phenomenon to increased test anxiety among students. The present study examined the difference between students in public and private tertiary institutions on CBT-induced test anxiety. Two hundred students pooled from public and private tertiary institutions participated in the study. Data for the research was collected using a self-report measure. The findings affirmed the prevalence of test anxiety occasioned by CBT. The t-test analysis conducted on the data revealed no statistically significant difference between public and private CBT-induced test anxiety. The findings and recommendations are discussed.

Keywords: Test anxiety, CBT, Public institution, Private institution

Introduction

Exam anxiety is one of the essential aspects of schooling that has attracted less research attention in recent years. Perhaps, almost all students experience various levels of nervousness and anxiety when faced with an exam, assessment, or performance situation. These feelings are a common and natural response for many students in preparing for exams. Exam anxiety is the experience of feeling an intense moment of fear or panic before or during an exam. It includes the psychological state of extreme distress and anxiety in examination situations. The trend is pervasive among students and has been implicated in negative academic outcomes, diminished mental health (Aydin, 2019; Mavilidi et al., 2020), physical health (Zhang & Qin, 2020), and overall student well-being. Perhaps, research contends that exam anxiety impairs learning interest and often results in procrastination (Krispenz et al., 2019). Similarly, the literature suggests that exam anxieties could be a risk factor for anxiety disorder (Kwon et al., 2020) and high drop-out rates (Vanstone & Hicks, 2019). Exam anxiety encompasses the phenomenological, physiological, and behavioral responses to evaluative situations' negative consequences (Donati et al., 2020). Exam anxiety is assumed to increase as an exam draws near (Lotz & Sparfeldt, 2017). The trend is widespread and detrimental to learning (Roos et al., 2020). Many students across all disciplines experience it (Danthony et al., 2020). Test anxiety affects students' ability to communicate knowledge during tests (Shadach et al., 2017). Although many students experience stress and anxiety before testing, certain degrees of tenseness are crucial in triggering mental alertness and preparing students to tackle the challenges presented in an exam. Most students express anxiousness following the thought of academic assessment. However, exam anxiety is not illogical since it can serve a motivational function. Extensive literature has linked exam anxiety with student's academic performance (Balogun et al., 2017; Chapell et al., 2005; Hyseni Duraku & Hoxha, 2018; Morosanova et al., 2020), mental (Dai et al., 2020; Ng & Lee, 2016; Schaefer et al., 2007), and subjective well-being (Steinmayr et al., 2018). However, the current study is focused on determining the predictive role of computer-based examination on exam anxiety.

Recently, the educational system in Nigeria is witnessing a growing trend of computer-based test at various levels of examinations. The trend has been adopted by public and privately-owned educational institutions for student assessments (Ogunmakin & Osakuade, 2014). CBT provides streamlined examination systems, including the generation, execution, evaluation, presentation, and archiving of results. This simplification saves time and money while improving reliability as information communication technology is increasingly utilized in the educational setting. With its flexibility, efficiency, and speed, the computer-based examination is gradually becoming an accepted standard for administering exams across institutions in Nigeria. However, observation suggests that the CBT examination system is not entirely a welcomed development for some undergraduates. For example, some institutions in Ebonyi State, Nigeria, have adopted CBT as a means of assessment. However, insinuations suggest that most students are not comfortable with the system, thus, prompting elevated anxiousness (Balogun & Olanrewaju, 2016; Nwagwu & Adebayo, 2016; Olufemi, 2014). Nevertheless, CBT's purpose is not to assess the student's computer literacy or familiarity but to assess the student's knowledge and competence in the course being taken. Therefore, the current study aims to examine examination-related anxieties among students in tertiary institutions in Ebonyi state based on CBT.

Hypothesis: CBT will significantly predict exam anxiety among students.

Method

A cross-sectional survey design was used in this study. The study population includes first-year students in public tertiary institutions in the Ebonyi state of Nigeria. The participants comprised males and females randomly pooled from the institution's environment. They included 100-level students from different faculties who took their first exam using the school's CBT assessment method and were approached and asked to participate in the study. Though, they were briefed on the purpose of the study and were informed that participation in the study was voluntary. One hundred and twenty-two students consented to participate and were given the study's instrument. A total of one hundred and eighteen (118) copies of the distributed instruments were adequately filled and returned, while some were not returned and others were discarded for improper filling. Thus, the 118 correctly filled instruments were subjected to statistical analysis.

Measure

Exam anxiety was measured using a modified version of the 22-item Cognitive Test Anxiety Scale developed by Cassady and Johnson (2002). It was revised and validated in Nigeria (Balogun & Olanrewaju, 2016). Items in the scale were modified to suit the current study samples. The scale contains 15 items scored on a four-point Linkert-type scale ranging from (1 = Not at all typical of me; 4 = Very typical of me). Some of the items in the scale included: "I lose sleep over worrying about the computer-based test," "During the computer-based test, I find myself thinking of the consequences of failing," "At the beginning of a computer-based test, I am so nervous that I often cannot think straight." The study adopted the procedure outline in the previous study (Balogun & Olanrewaju, 2016).

Result

Table 1: shows the mean and standard deviation scores.

Institution	N	Mean	SD
Private institution	91	1.54	0.50
Public institution	109	1.46	0.50

The above table shows the mean and standard Deviation of the score on the difference between public and private students and CBT-induced text anxiety. It indicates that public students scored slightly lower on the mean ($M = 1.46$, $SD = 0.50$) than their counterparts in private schools ($M = 1.54$, $SD = 0.50$).

Table 2: shows the *t*-test result comparing public students and private students on test anxiety.

Institution	N	Mean	SD	t	df	Sig
Private institution	91	1.54	0.50	1.147	198	253
Public institution	109	1.46	0.50			

A *t*-test was conducted to compare CBT-induced text anxiety differences between public and private tertiary institution students. There was no significant difference in the scores for private tertiary institution students ($M = 1.54$, $SD = 0.50$) and public tertiary institution students ($M = 1.46$, $SD = 0.50$) groups at $t(198) = 1.147$, $p = 253$. Indicating that there is no difference between private and public students in the anxiety occasioned by CBT. Thus, our hypothesis, which stated that public students would be more anxious about CBT than their private counterparts, is not confirmed.

Discussion

The current study aimed to examine CBE's predictive role on undergraduate exam anxiety. The simple linear regression analysis performed on the data showed that CBE significantly predicted exam anxiety among the participants. Thus, our assumption that CBE will significantly predict undergraduate exam anxiety was confirmed. Consistent with previous studies (Balogun & Olanrewaju, 2016; Nwagwu & Adebayo, 2016), the finding showed that the students in tertiary institutions in the Enugu state of Nigeria feel anxious in relation to the CBT system. This outcome could be due to the student's poor exposure to academic-related technological innovations, and the belief that the system cannot be manipulated, leading most of them to perceive CBE as anti-sorting. Accordingly, Mavilidi et al. (2020) attributed the phenomenon to anxiety-related thoughts occupying working memory resources during the exam that cannot be used for exam-related processes. Despite passing through a series of computer-based tests before admission, such as the UTME and Post UTME tests, most undergraduates still perceive CBT as foreign to the education system. Hence, the increase in CBT-related text anxieties. The finding indicates the phenomenon's prevalence in our tertiary institutions and calls for urgent interventions to curb the trend and increase test awareness. The study suggests that school management should broaden the students' perception to accommodate CBE as part of the learning assessment.

Conclusion

The study provided insight into the growing effect of computer-based tests on students' test anxiety. It is concluded that CBT triggers text anxiety. The study also revealed that test anxiety is pervasive among undergraduates from public institutions in Ebonyi state. Thus, the research finding contributes to exam anxiety literature by revealing CBE as a contemporary medium of assessment in the educational system of Nigeria that could trigger a psychological state of anxiety among students. Although, the study is challenged with certain limitations. For instance, caution is advised in generalizing the result due to the sampling method applied. Because the data collection was based on self-report, the issue of common method variance becomes a concern. Nevertheless, the study recommends that school managements adopt simulation test exercises to prepare the students for exams and provide a robust enlightenment intervention.

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