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### RESEARCH ARTICLE

#### A COMPARATIVE STUDY OF THE EFFECT OF COMPUTER BASED EXAMINATION ON TEXT ANXIETY

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#### Abstract

The use of 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 aimed to compare 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.

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#### Introduction: -

Test anxiety refers to a psychological state in which people experience extreme distress and anxiety in testing conditions. Test anxiety has been found to negatively impact students' mental health and essential academic outcomes (Aydin, 2019; Mavilidi et al., 2020), including physical health (Zhang & Qin, 2020). It also impairs learning motivation and leads to procrastination (Krispenz et al., 2019) and has been linked to anxiety disorder (Kwon et al., 2020) and high drop-out rates (Vanstone & Hicks, 2019). Test anxiety encompasses the phenomenological, physiological, and behavioral responses to evaluative situations' negative consequences (Donati et al., 2020). Test 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). It is experienced by a substantial number of students across all disciplines (Danthony et al., 2020). Test anxiety affects student's 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 an illogical condition since it can serve a motivational function.

Over the years, there has been a growing interest in research on test anxiety and student's academic performance (Balogun et al., 2017; Chapell et al., 2005; Hyseni & 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 differences in test anxiety between students from public and private tertiary institutions.

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Computer-based examination is being incorporated in Nigeria's educational system, with both public and privately-owned tertiary institutions currently adopting CBT for assessments (Ogunmakin&Osakuade,2014). The use of e-exam simplifies the assessment systems, including 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. Computer-based examination with its flexibility, efficiency, and speed is gradually becoming an acceptable standard of administering exams across institutions.

The government and private bodies are mainly proprietors of tertiary education in Nigeria(Akomolafe & Adesua, 2019). The majority of Nigeria's students are enrolled in public institutions due to its reduced cost compared to the private schools. Scholars have attempted to distinguish the public and private institutions in terms of learning resources (Lawal & Viatonu, 2017), knowledge management (Ogunbanwo et al., 2019), and academic performance (Obadara, 2012). However, the difference relating to academic performance is still unclear. However, observation suggests that the CBT system of examination is not entirely a welcomed development to some undergraduates in public and private institutions.

### The present study

Research has shown that Nigerian students experience anxiety occasioned by the recent introduction of CBT as a standard of administering examinations in all education system levels(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. This study intends to determine any difference in the association between CBT and text anxiety among first-year students in Nigeria's public and private institutions. The study's primary purpose is to compare the difference in CBT-related text anxiety between public and private tertiary school students. It is hypothesized that public students will be more anxious about CBT than their private student counterparts.

### Method: -

A cross-sectional survey design was used in this study. A total of two hundred (n=200) first-year students drawn from public and private tertiary institutions in Kogi and Benue states of Nigeria comprising males and females participated in the study. The students were generally pooled from the institution's environment and included 100level students from different faculties who took their first exam using the school's CBT assessment method.

### Measure

Text 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 by (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 (Balogun & Olanrewaju, 2016).

### Result: -

**Table 1: -**Table showing the Mean and Standard Deviation of participant's score on the difference between public and private students on CBT test anxiety.

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 the private schools (M = 1.54, SD = 0.50).

**Table 2: -**Table showing 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 the public and private tertiary institution students. There was no significant in the scores for private tertiary institution's 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 or 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 the difference between tertiary institution students (public and private) in CBT-induced text anxiety among 100level students. Firstly, consistent with previous studies (Balogun & Olanrewaju, 2016; Nwagwu & Adebayo, 2016), the finding showed that the students from both public and private tertiary institutions in Nigeria feel anxious in relation to CBT. 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 series of computer-based tests before admission, such as the UTME and Post UTME tests, respectively, the majority of the undergraduates still perceive CBT as foreign to the education system. Hence, the increase in CBT-related text anxieties. The study suggests that school management should broaden the students' perception to accommodate CBT as part of the learning assessment.

Furthermore, the t-test analysis conducted on the data revealed no statistically significant difference between public tertiary students and private tertiary students in CBT-induced text anxiety. Therefore, the result rejected our hypothesis that students in public institutions will exhibit more anxiety in response to a computer-based test. This could be explained in line with the assumption that students are afraid that CBT cannot be manipulated. This means that whether one is enrolled in public or private tertiary institutions does not buffer anxieties induced by CBT. The finding indicates the prevalent of the phenomenon in our tertiary institutions and calls for urgent interventions to curb the trend and increase test awareness.

### Conclusion: -

The study provided insight into the growing effect of computer-based tests on student's test anxiety. It is concluded that CBT triggers text anxiety. The study also revealed that test anxiety is pervasive among undergraduates from both public and private tertiary institutions. Consequently, the study results did not affirm our expectation that test anxiety will be more pronounced in public tertiary schools. However, the findings contribute to test anxiety literature by revealing test anxiety as a psychological concern that affects students in tertiary institutions regardless of the proprietor. Although, the study is challenged with certain limitations. For instance, due to the sampling method applied, caution is advised in generalizing the result. 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. Future researchers should expand the samples to include students in all levels and explore cause-effect relationships to broaden our knowledge of CBT-test anxiety relations.

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