ASSESSMENT OF GENDER AND AGE DIFFERENCE OF PROSPECTIVE UNIVERSITY STUDENTS' ATTITUDE TOWARDS COMPUTER-BASED TESTING IN THE UNIVERSITY OF CALABAR, NIGERIA

[1]Oqua E. Agbo & Ugbe[2], E. Bekorfema
[1]agbooqua@yahoo.com (07069418349)
[2]beshiunim@gmail.com (08030407059)
Department of Educational Foundations
University of Calabar, Calabar - Nigeria.

Abstract
This paper reports a study carried out to determine the influence of gender and age difference on prospective university students' attitude towards Computer-Based Testing (CBT) at the University of Calabar. A sample of 426 prospective tertiary institution candidates who scored 200 and above in the 2021 Unified Tertiary Matriculation Examination (UTME) examination and applied for admission to the University of Calabar was selected through simple random sampling. Data was gathered using an Attitudinal Scale of Candidate on the use of Computer Based Test (ASCCBT) a reliability coefficient which stood at .92%. Research hypothesis relating to the influence of gender and age difference of prospective university students' attitude towards Computer-Based Testing was analyzed using independent t-test, and One- way Analysis of Variance (ANOVA). The findings indicated that gender and age were significant. It was recommended among other things that equal distribution of human and material resources be made available irrespective of gender and age, for effective output during e-assessment.

Key words: *Attitude, Gender, Age difference, Computer Based Testing*

Introduction
In Nigeria, educational structures and policies at different levels are reviewed and improved on in line with the global best practices from time to time for maximum utilization of learners. That is why it has

become a norm in almost all the universities in Nigeria to administer Computer-Based Testing (CBT) to prospective university candidates who meet the requirement to be admitted for tertiary education. Certain variables do influence the performance of prospective university candidates when questions are presented on a computer such as a monitor, mouse, power supply, and others. However, attitude is one of the most prominent variables that has not been so much considered in some related studies particularly in Nigeria. Attitude is referred to as an inner psychic state influencing behavior. It can be understood in the act and words displayed by the respondents when issues are raised.

Consequently, attitudes are formed in the process of experience and their change is possible due to internal and external factors. In other words, attitude towards CBT can be referred to as the way of thinking and feeling of the students towards taking CBT.

In a study by Adeyinka & Bashorun, (2012) to examine the attitude of the students towards CBT at the University of Ilorin, Nigeria, through the use of a Computer Based Test Attitudinal Survey (CBTAS) and a focus group discussion for data collection, the results revealed that, respondents generally have a positive attitude towards CBT.

Furthermore, Balogun & Olanrewaju (2016) examined the role of computer self-efficacy and gender in CBT anxiety among a sample of Nigerian undergraduates in Ondo State, Nigeria using a cross-sectional survey design. The results showed that undergraduates who had a higher level of computer self-efficacy were less likely to experience CBT anxiety. Also, female undergraduates reported a higher level of CBT anxiety than their male counterparts.

In a related study carried out by Garas & Hassan (2018) to examine whether the use of technology-based assessment tool affects the examinations' scores of students from both sex, the study was to further ascertain whether the mode of students' testing (Computer-based or Paper-based) in an introductory level financial accounting course impacts students' scores. In doing so, the study relied on an experimental design wherein the type of examination was being controlled together with other contextual variables such as the timing of the exam, instructors, and the gender of the student using 78 students

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offering financial accounting courses in Zayed University during the summer semester. It was revealed that there is no statistically significant difference between the students' paper-based and computer-based scores. However, benchmark regression analysis revealed that males performed better than females in CBT while females outperformed males on Paper –Pencil Based Test (PBT) the paper provided evidence from the Gulf region as of how technology-based assessment is affected by gender which matter needs to be addressed by university instructors working in Middle East Universities.

On the other hand, looking at age difference, it is common belief that older people are not comfortable with new forms of technology and that they pose the use of computer than young people. This strong feeling often places older people at a deprived state because designers of computers fail to consider older people in the user group when designing computers. Also, older people are frequently not considered when opportunities for ICT training or retraining are available as compared to younger people to participate in work retraining programs to update their work skills (Kannewell & Morgan, 2013).

Lukeman and Ogechi (2012) surveyed students from ages 10-12 years studying their attitude towards computers, their use of computers within and outside school, and also the various trainings they received. The researchers observed that experience with a computer was the most important factor that affects students' attitudes." Non-users of computers expressed negative attitudes and anxiety towards it than users. They further observed that there is a greater fear surrounding threat and less knowledge about usage and operation of computers by older people as compared to younger people. Perhaps, this contradictory result could be attributed to the nature of the instrument for data collection.

Similarly, Adebowale, Adediwura, and Bada (2009) conducted a study on correlates of computer attitude among secondary school students in Lagos state Nigeria. The study which sought to find out differences in the computer attitude, computer self-efficacy, and computer anxiety among students on the basis of their age grouping revealed that age has nothing to do with computer self-efficacy but could be fingered in the difference in their computer attitude and computer anxiety. This may be as a result of the fact that older students may have had more life and

computing experience than the younger ones as the multiple comparison test indicated the difference between the old "Late adolescents" and the younger "Pre-Adolescents". This is in consonance.

Moreso, Ekuri, Agbo, and Egbai (2019) conducted a study on a causal model of some correlates of attitude towards CBT among prospective university admission candidates of the University of Calabar using accidental sampling and multiple regressions to analyses the data, the result revealed that age, gender, location, parental education and students exposure to a computer when taken together are significant predictors of attitude towards CBT. In all, -28.4% of the total effect of predictor variable was direct while 99.96% was indirect. In view of the findings, it was recommended that government and non-government agencies should assist to provide ICT gadgets in every school as well as the provision for a steady supply of power in both rural and urban schools.

Since the use of CBT has come to stay as a practicable form of assessment in the majority if not all of our higher institutions of learning for the assessment of her prospective students, the transformation to CBT is neither simple nor is cheap considering the fact that students' assessment a fundamental factor in every learning paradigm.

Although several types of researches on students' attitudes towards Computer-Based Testing (CBT) has been carried out, research assessing prospective university students' attitudes towards CBT are very few in the context of the University of Calabar, since the introduction of CBT as a measure to test and examine her prospective undergraduates. In the light of this, this study, therefore, sets out to examine gender and age differences of prospective university students' attitudes towards CBT in the University of Calabar, Nigeria.

Statement of Hypothesis
    (i)   There is no significant influence of gender" on prospective university students' attitude towards CBT.
    (ii)   Age has no significant influence on prospective university students' attitudes towards CBT.

Methodology

The study adopted a survey research design with a population size of 8520 students who chose the University of Calabar as their first choice and scored 200 and above in the 2021 Unified Tertiary Matriculation Examination (UTME). The subject used for the study was four hundred and twenty-six (426) prospective university students selected through a simple random sampling approach. An Attitudinal Scale of Candidate on the use of CBT (ASCCBT) was used to collect data. The instrument had a reliability coefficient of 0.92% through the use of split-half method of reliability and calculated using the spearman brown prophecy formula (rtt). The response of the candidates with respect to respondents' gender and age difference was analyzed using independent t-test and One- way Analysis of Variance (ANOVA) statistical techniques.

Results:

Hypothesis one: There is no significant influence of gender on prospective university students' attitude towards CBT.

The result of table 1 showed the independent t-test on the gender of prospective university students' attitude towards CBT with a total number of 158 males having a "mean score of 62.89 and a standard deviation of 6.42; and also a total number of 268 female having a mean score of 64.28 and a standard deviation of 6.28. These produced a calculated t-value of 2.200 which is greater than critical t-value of 1.965 with p-value of .028 which is less than .05 significance levels at 424 degrees of freedom." This implies that there is a significant influence of gender on prospective university students' attitudes towards CBT. This indicates that male candidates expressed a more positive attitude towards CBT than their females with a standard deviation difference of 0.14. Thus the null hypothesis is rejected.

Table 1: Results of independent t-test analysis on the influence of gender" on prospective university students' attitude towards CBT

Gender	N	$\overline{X}$	SD	t-value	p- value
Male	158	62.89	6.42	2.200	.028
Female	268	64.28	6.28		

* Significant p< 0.05, df 424, Critical t = 1.965

Hypothesis two: Age has no significant influence on prospective university students' attitudes towards CBT.

The result of table 2 showed the mean, standard deviation, and ANOVA of age on prospective university students' attitude towards CBT with a mean score of 65.40 and SD of 6.429 for ages 15 or under, ($\bar{x}$=63.70, SD 6.396) for ages 16-20 years; ($\bar{x}$ 63.71; SD 5.321) for ages 21 - 25 years; ($\bar{x}$=65.00; SD 7.047) for ages 26 - 30 and ($\bar{x}$=57.00; 10.79) for 31 and above and a total mean score of 63.77 and SD 6.361. This produces a F-value of 2.326"which is lesser than the critical F-value of 2.39 with a p-value of 0.056 which is greater than 0.05 significant levels at 4 & 421 degrees of freedom. This implies that age has no significant influence on prospective university students' attitudes toward CBT. Therefore the null hypothesis is retained and the alternative rejected.

Discussion
There is a significant influence of gender on prospective university admission candidates' attitudes towards CBT. Male students were found to express a more positive attitudes than females. This finding contradicts the finding of Adenuga, Owoyele, and Adenuga (2011) who did not find any significant difference in the groups (male & female) attitude towards CBT. Perhaps the disparity could be attributed to the location and instrument from the studies or the level of student exposure. While their studies reveal that generally both boys and girls showed a negative attitude towards CBT, Liaw (2002) disclosed that the male students had a positive perception of computers and web technology than their female counterparts. This is in line with the findings of the present study.

Table 2: Summary of "analysis of variance on the influence of age on prospective university students' attitude towards CBT is presented on the table below

Age of Candidates			N	Mean	S.D
15 or under			25	65.40	6.43
16-20			300	63.70	6.39
21-25			76	63.71	5.32
26-30			19	65.00	7.05
31-and above			6	57.00	10.79
Total			426	63.77	6.36
Source of variables	SS	Df	MS	F-value	P-value
Between Group"	371.89	4	92.974	2.326	0.056
With Group	16824.63	421	39.963		
Total	17196.53	425			

Significance at 0.05 level; df = 4, & 421; Critical F =2.39

Furthermore, Age has no significant influence on prospective university students' attitude towards CBT. This finding contradicts Adebowale et'al (2010) who noted that older students seem to have more experience in the world of computer and as such perform better in CBT than females. Although no significant difference was found in terms of interest and confidence across age group, we can safely say that interest and confidence in the usage of computer and its concern cut across age grouping most especially in the 21st century.

However, it is worth mentioning that the mean of the five age group variables in Table 2 shows a strong interest, confidence, and concern of candidates on the usage of computer where mean (x) of ages 15 or under is 65.40, mean(x) of ages 16-20 is 63.70, mean (x) of ages 21-25 is 63.71, mean(x) of ages 26-30 is 65.00 and mean (x) of ages 31 and above is 57.00. This finding also indicates that older candidates seem to have experience in computers and as such perform better in CBT.

Conclusion

Judging from the result of this study, it could be deduced that there is no significant influence of gender and age difference on prospective university students' attitude towards CBT. The implication, therefore, is the need for a more elaborate study to examine the interaction of these variables and possibly, the inclusion of more factors that may interplay to influence students' attitude towards CBT.

Recommendations

Based on the findings of this study, the following recommendations could be adduced for the purpose of improving the prospective university admission candidates' attitude towards CBT in the University of Calabar, Cross River State and Nigeria in general.

(i) Our Senior Secondary Three Mock Examinations should adopt the CBT approach in anticipation, this will give every student equal opportunity to accessibility and usability of the computer for examination purposes.

(ii) Pre-Computer Based Test seminars which emphasize what the students are expected to do before, during, and after the CBT programme should be instituted. Such seminars/courses should be practical in nature and should emphasize the acquisition and use of basic computer components like the mouse and keyboard which are the essential tool in any CBT examination or programme.

(iii) Both government and other non-governmental agencies should assist in providing ICT gadgets in every school as well as make provision for a steady supply of power in both rural and urban schools.

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