

**UNIVERSITY MATRICULATION EXAMINATIONS SCORES AS
CORRELATES OF GRADES OF FIRST YEAR STUDENTS OF PUBLIC
UNIVERSITIES IN EDO STATE BASED ON SEX**

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Abstract

The study examined sex differences in University Matriculation examination scores as correlates of students' first year grades in public Universities in Edo State using students' UTME, PUTME and Post-UTME aggregate scores. The study was guided by three (03) research questions and three (03) hypotheses tested at 0.05 alpha level. The study employed a correlational survey design which was based on the framework of ex-post facto. The population of the study was 22, 653 students made up first year students of 2012/2013 and 2013/2014 sessions admitted into the two Universities used for the study. The step-wise multi-stage sampling technique was adopted and a sample size of 1500 was used for the study. The data used for the study were collected with a proforma and analyzed using Pearson's (r) and the fisher's Z statistics. Findings revealed that there was no significant difference in relationship between students' UTME and PUTME scores and first year academic performance based on sex. Findings also showed that there was a significant difference in relationship between students' post-UTME aggregate scores and first year academic performance. Based on findings, it is recommended that in order to ensure that there is a correlation between University examination scores of students and their first year academic performance in our Universities the appropriate authorities and bodies in charge of University Matriculation examinations should evolve quality examinations and admission criteria, that will consistently predict students' future academic performance and it should be sex bias.

Keywords: UTME, Post UTME Scores, First year Students and Aggregate score

Introduction

University Matriculation Examination (UME) now known as Unified Tertiary Matriculation Examination (UTME) is a common entrance examination conducted annually by the Joint Admission and Matriculation Board (JAMB) of Nigeria yearly for the purpose of selecting and placing suitably qualified candidates into Nigerian Universities. The most objective way of determining if a student had learnt is by conducting test. Different countries of the world have different selection procedures for

admission into their universities. In Nigeria the prerequisite for admission is set by the National University Commission (NUC). Apart from obtaining acceptable scores in Unified Tertiary Matriculation and Post Unified Tertiary Matriculation Examinations, candidates must obtain credit level pass in at least five relevant subjects which could be obtained at not more than two sittings for most universities.

It is pertinent to say that students' academic performance in University Matriculation examinations has become basic criteria for selecting and placing suitably and qualified candidates in Nigeria Universities. Besides academic performance, sex factor has become an area of interest to researchers which in most cases has generated diverse contradictory research reports. Sex is a qualitative characteristic of a person which is connected with the body make-up as to being a male or female (Osarumwense & Egberha, 2013). Lee (2001) opines that gender is an ascribed attribute that differentiates feminine from masculine socially. Academic performance is a manifestation of knowledge, skills and concept of ideas learnt overtime. Within an academic environment it could be referred to as students' ability to demonstrate a good mastery of what he or she had learned. It is the capacity of students to study and remember facts and being able to recall such knowledge and skills when put to test, especially under examination condition. Therefore, academic performance is a scholastic standing of a student at a given moment. This scholastic standing may be exemplified in grades obtained in a course or group of courses taken.

Gender has been found to play an important role in influencing students' academic performance and activities along with different factors such intelligence, study habit, self-concept, creativity, aptitude, interest, reading culture and social-economic status. Therefore, sex differences have become an issue of interest to many scholars. Ebenwa-okoh (2010) carried out a study on the influence of gender on academic performance of students and found out that gender is not a significant predictor of academic performance. Osarumwense and Egberha (2013) opined that there is no relationship between gender and academic performance. They emphasized that performance is not caused by sexual genetic make-up but some other factors since girls have improved overtime in subject like Mathematics and that if it were genetic make-up nothing would have been done to improve the performance of girls.

Adesoji (1999) investigated the effect of mock examination results as correlates of performance in SSCE in Mathematics. His findings revealed that mock correlated with performance but gender was found not to be a predictor. Sueatha and Mayuri cited in Olanikpekun and James (2013) carried out a study on age and gender differences as factors affecting academic performance. Their finding revealed that a significant gender differences exist in students' academic performance. Oahimare (2011) also did a study on gender. The findings revealed that there is a significant difference in the performance of boys and girls in reading comprehension skills among secondary school in Zaria local Government Area of Kaduna state. Karthingeyen and Nimala (2012) did a study on achievement in English based on gender in India. Their findings revealed that the achievement of girls was higher than that of the boys. They emphasized that there exists a

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significant difference between boys and girls in English. However, in the study carried out by Kaurand Gill (1993) on sex differences in academic achievement in different subjects of rural and urban students in India. Their finding revealed that boy outperformed the girls in Mathematics, physics and science. Omirin (2007) did a study on gender issue in performance of students admitted through UME and pre degree into Nigeria Universities.

The finding of the study revealed that there was no significant difference between the academic performance of male and female students in Nigeria University. From their findings it was recommended that both male and female students should be given equal chances of admission in UME and pre degree programmes. Harker (2000) also carried out a study on gender differences in academic performance of boys and girls in schools in English Language and Mathematics in New Zealand. The findings of the study showed that performance of girls in English Language was significantly higher than that of the boys. The findings however revealed that boys achieved significantly better results than girls in Mathematics. In view of the above therefore, the conclusion of scholars over sex and academic performance varies. Thus, generalization of results in matter likes this could be very difficult.

Statement of the Problem

Over the Years, there have series of controversy on the competence of male students over their female counterpart in senior secondary certificate Examination in Mathematics and some other examinations such as matriculation examinations. However, in the subject Mathematics Johnson (2005) noted that there is no solid evidence to support that thinking. Researchers have proven that female students also do well in Mathematics. Davis-kean in science Daily (2007) said “we have known for a while now that female do as well as males on tests that measure ability in Mathematics and science” Besides, some researchers have noted that female students perform better in Mathematics than male students (Hotulainen & Schofield, 2013).

Despite the fact that many female students have been noted to possess competence in Mathematics, female students are still under represented in many science related courses in Nigeria Universities. It is in the light of this, the researcher embarked on “sexual differences in

University matriculation examinations scores as correlates of first year grades in public university in Edo State”.

Research Questions

To guide the study, the following research questions were raised.

- (1) Will there be a difference in relationship between students’ UTME scores and their first-year academic performance based on sex?
- (2) Will there be a difference in relationship between students’ PUTME scores and their first-year academic performance based on sex?

- (3) Will there be a difference in relationship between students' post UTME aggregate scores and their first year's academic performance based on sex?

To further guide the study the following related hypotheses were formulated.

- (1) There is no significant difference in relationship between students' UTME scores and their first-year academic performance based on sex.
- (2) There is no significant difference in relationship between students' PUTME scores and their first-year academic performance based on sex.
- (3) There is no significant difference in relationship between students' post UTME aggregate scores and their first-year academic performance based on sex.

Methodology

The design of the study was a correlational survey which was based on the frame work of ex-post facto as the data used were obtained from examinations already done by the students. The researcher did not have any influence on the dependent variable (Year one students' GPA) and the independent variables (UTME, PUME and post UTME aggregate scores)

Population of the study

The population of the study was 22, 653 representing the total number of students admitted into University of Benin, Benin City and Ambrose Ali University, Ekpoma in the 2012/2013 and 2013/2014 academic sessions.

Sample and Sampling Technique

A sample size of 1500 was used for the study. A step-wise multi stage sampling technique which involves various sampling stages was adopted for the study. The study adopted the step-wise multi stage sampling technique. Stage 1: A simple random sampling technique was used to select five faculties each from the two Universities used for the study. Stage 11: A simple random sampling technique was used to select three departments from each of the faculties sampled from both Universities.

Stage 111: A stratified sampling technique was used to stratify for sex in each of the departments that were selected from the ten (10) faculties sampled from both Universities.

Stage 1V: A simple random sampling technique was used to select fifteen (15) males and fifteen (15) females from each of the fifteen (15) departments that were sampled from 2012/2013 and 2013/2014 academic sessions for University of Benin, Benin City. However, for Ambrose Alli University, Ekpoma ten (10) males and ten (10) females was randomly selected from each of the fifteen (15) departments sampled from 2012/2013 and 2013/2014 academic sessions.

Research Instrument

The instrument used for the study was a proforma designed by the researcher. The instrument titled “Institution and Students Data proforma (ISDP) took cognizance of serial, name of University, department, students identification number, UTME, PUTME, post UTME aggregate scores, and students’ first year GPA.

Validity of the Instrument

The proforma (ISDP) was face-validated by three experts in Educational Measurement and Evaluation of the faculty of Education, University of Benin, Benin City.

Reliability of the Instrument

The reliability Coefficient of the proforma was not determined since it was only an instrument used for collecting data already in existence.

Method of Data Collection

The UTME, PUTME and post UTME aggregate scores and year one students’ scores were obtained from both Universities, used for the study. This was made possible by the authorities of both Universities and the help of course advisers of the students.

Method of Data Analysis

The three hypotheses were tested at 0.05 alpha level using Pearson’s product moment correlation Coefficient and fisher’s Z statistics

Results

Table 1: Pearson Product Moment Correlated and Fisher Z Statistics on difference in relationship of student’s UTME first-year academic performance based on sex

Variables	N	r	Z_r	Sig (2-tailed)	z-critical	Z-calculated
Male UTME scores on first year academic performance	750	0.48	0.500	0.191		
Female UTME scores on first year academic performance	750	0.122	2.121	0.001	1.96	0.13448

Table 1 reveals the correlation coefficients (r) of UTME scores on year one students’ academic performance based on sex and were found to be 0.048 and 0.122 for male and female respectively. These values showed that there is a positive but low relationship between students’ UTME and their first-year academic performance based on sex. The Table also revealed p-values of 0.191 and 0.001 for male and female respectively. The implication of this is that the relationship is not significant for male but however significant for female. Result in Table 1 also shows that the Z-calculated value of 1.34 is less than critical Z-value of 1.96 at alpha level of 0.05. Therefore, the null hypothesis is retained. The conclusion therefore is that there is no significant difference in relationship between students’ UTME and their first-year academic performance based on sex.

Table 2: Person Product Moment correlation and Fisher’s Statistics on Differences of Students’ Post UTME aggregate scores and First-year academic Performance

Variables	N	r	Z _r	Sig (2-tailed)	z-critical	Z-calculated
Male Post UTME aggregate scores on first year academic performance	750	0.211	0.2132	0.000		
Female Post UTME aggregate scores on first year academic performance	750	0.186	0.1923	0.000	1.96	3.980

Table 2 reveals the correlations (r) of PUTME scores on first year students’ academic performance based on sex were 0.211 and 0.186 for male and female respectively. These values showed that there is a positive but low relationship. The Table also revealed P-values of 0.00 and 0.00 for male and female respectively. The implication is that the relationship is significant for both male and female year one students. Result in Table 2 also shows that the calculated Z-value of 0.3980 is less than the critical Z-value of 1.96 at alpha level of 0.05. Therefore, the null hypothesis is retained. The conclusion is that there is no significant difference in relationship between students’ PUTME and their first-year academic performance.

Table 3: Person Product Moment correlation and Fishers’ statistics on differences of students’ Post UTME aggregate score on first year academic performance.

Variables	N	R	Z _r	Sig (2-tailed)	z-critical	z-calculated
Male Post UTME aggregate scores on first year academic performance	750	0.220	0.2237	0.000		
Female Post UTME aggregate scores on first year academic performance	750	0.373	0.3884	0.000	1.96	3.137

Table 3 reveals that the correlation coefficients (r) of post UTME aggregate scores on first year academic performance were 0.220 and 0.373 for male and female respectively. These values showed positive but low relationship between students’ post UTME aggregate scores and their first-year academic performance based on sex. Table 3 also revealed P-values of 0.00 and 0.00 for male and female respectively. It was concluded that the relationship is significant for both male and female students. Result in Table 3 shows that the calculated Z-value of 3.137 is greater than the critical Z-value of 1.96 at alpha level of 0.05. Therefore, the null hypothesis is not retained. The conclusion is that there is a significant difference in relationship of students’ post UTME aggregate scores and their first-year academic performance based on sex.

Discussion of findings

The findings of hypotheses 1 and 2 on tables 1 and 2 revealed no significant difference in relationship between students UTME, PUTME scores and their first-year academic performance based on sex. However, finding in Table 3 revealed that there is a significant difference in relationship between students' Post UTME aggregate scores and their first-year academic performance based on sex. The findings of tables 1 and 2 are consistent with the assertion of Osarumwense and Egberha (2013) who emphasized that performance is not caused by sexual genetic make-up but some other factors. This result is also in agreement with Omirin (2007) who did a research on gender issue in performance through UME and pre-degree in Nigeria Universities. The findings of the study revealed that there was no significant difference between the academic performance of male and female in Nigeria Universities. However, this result is not consistent with Oahimire (2011) who did a study on gender study on the effect of instruction in reading comprehension skills in senior secondary school students; differential ability in Zaria. The finding of the study revealed that there was a significant difference in the performance of boys and girls in reading comprehension skills among secondary school students in Zaria local government of Kaduna State. Similarly, the result revealed that boys outperformed the girls in Mathematics, Physics and Science. The result is not also in agreement with Karthingeyen and Nimala (2012) whose findings revealed that the achievement of girls in English was higher than that of the boys. They emphasized that there exists a significant difference between boys and girls in English. The result in Table 3 is supported by the research work of Olanipekun and James (2013) who investigated age and gender differences as factors affecting academic performance. The results of their study revealed that a significant difference exists in students' performance similarly, the result of the study of Kaur and Gill (1993) that carried out study on sex differences in academic achievement in different subjects of rural and urban students in India revealed that boys outperformed the girls in Mathematics and science. However, the result in Table 6 is not consistent with that of Osarumwense and Egberha (2013) who asserted that performance is not caused by genetic make-up but by other factors.

The findings of the Study revealed that:

- (1) There was no significant difference in relationship between students' UTME and PUTME scores and their first-year academic performance based on sex.
- (2) There was a significant difference in relationship between students' post UTME aggregate scores and their first-year academic performance based on sex.

Conclusion

The study investigated sex differences in University matriculation examinations scores as correlates of first year grade in public University in Edo State. The study used UTME, PUTME and port UTME aggregate scores as independent variables and first year academic performance as dependent variable. Based on the findings of the study it was

therefore concluded that there is a difference in the relationship between students' post-UTME aggregate scores and their first-year performance based on sex. Besides, it was concluded that there is no significant difference in relationship between students' UTME, PUTME and their first-year academic performance based on sex.

Recommendations

1. To ensure predictive validity of performance of students in our educational system, the appropriate authorities and bodies should evolve examinations and admission criteria which will consistently predict students' future academic achievement and should be gender bias
2. Examination bodies such JAMB, WAEC and NECO should at regular intervals undertake predictive validity studies in order to on the quality of their tests.

References

- Adesoji, F.A. (1999). Mock examination results and students' gender as correlates of performances in senior school certificate in Mathematics. *African Journal Research*, 5(2), 101-107
- Davis- Kean, P.E. (2007). The influence of parents' education and family income on child achievement. The indirect role of parental expectations and the home environment *Journal of family psychology* 19, 294-305
- Ebenuwa-Okoh, O.C. (2010). Influence of age, financial status and gender on fallacy. The Guardian newspaper, September, 13th 37
- Egberha, F. (2018). Predictive validity of University matriculation examinations of first year academic performance of students in public Universities in Edo State (Unpublished Doctoral thesis), University of Benin, Edo State.
- Hotulainen, R.H.E.& Schoolfield, N. J. (2013). Identified pre-school potential giftedness and its relation to academic achievement and self-concept at the end of finish comprehensive school. *High ability students* 14 (1), 55-70
- Johnson T. (2005). No evidence of innate gender differences in Mathematics and sciences scholars assert <http://news> service. Stanford. Edu/news/2005/February/ math-020905. Html
- Karthigeyan, K.& Nirmala, K. (2012). Academic achievement in English; Analysis is through gender lens MIEF. *Journal of educational studies. Trend and practices* 2 (2), 144-157
- Kaur, R. & Gill, T.K. (1993). Sex difference in academic achievement in different subject of rural and urban students. *Indian psychological Review*, 40(2), 20 – 24.
- Leo, J. (2001). Interstate variations in rural students' achievement and schooling conditions. Retrieved from [http://www. Criedigest. Org/2002-3/interstate.html](http://www.Criedigest.Org/2002-3/interstate.html)
- Oahimire, C.U. (2011). Effect of instruction in reading comprehension skills in senior secondary school students: Inferential ability in Zaria (unpublished M.Ed. Thesis, Ahmadu Bello University. Zaria)

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- Olanipekun S.S & James, A.Z. (2013). Gender analysis in students' entry qualification in English language in colleges of education in Kwara state. *International Journal of Secondary school* 1(5), 23-25. Retrieved on 13/06/2019 from <http://www.Science publishing group.com/j/ijsedu>
- Omirin M.S. (2007). Gender issue in the performance of students admitted through UME and pre-degree into the Nigeria Universities. *Educational Research and Review academic Journal* 2 (3), 46-48
- Osarumwense, H.J. & Egberha, F. (2013). Comparative analysis of mathematics performance of students based on sex. *Benin Journal of Gender studies* 3(1&2), 77-86.
- Sueatha, B. & Mayuri, K. (2001). A study on age and gender difference on the factors affecting high academic achievement. *Journal of Community Guidance and Research*, 18(2), 197-208