



PARENTS' SOCIO-ECONOMIC STATUS AS A PREDICTOR OF ACADEMIC PERFORMANCE OF BIOLOGY STUDENTS IN SENIOR SECONDARY SCHOOL IN OKE-ERO LOCAL GOVERNMENT AREA, KWARA STATE

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Abstract

The study investigated the parents' socio-economic status as a predictor of students' academic performance of senior secondary school biology students in Oke - Ero Local Government Area, Kwara State. Correlational research design was used. The population of the study comprises of senior secondary school biology students of the selected school. The sample consisted of 200 students from 10 senior secondary schools randomly selected for the study. Two instruments were used for the study. The instruments were, Questionnaire on Parent Social Economic Status as Predictor of Academic Performance in Biology (QPSESPAPB) and Biology Performance Test (BPT). The instruments were self-developed by the researchers for collection of data. Validity of the instruments was ascertained through face and content validity. The reliability coefficients for the two instruments were obtained 0.81 for QPSESPAPB, while that of BPT was 0.79. Four research questions guided the study and four hypotheses were formulated and tested at 0.05 level of significance. The data extracted from the field were analyzed using Multiple Regression Analysis for testing the hypotheses at 0.05 level of significant. Results drawn from the analyses indicate that parents' income, occupation and educational qualifications predict the students' academic performance in biology in public senior secondary school students in Oke-Ero LGA Kwara State. It is therefore, recommended that parents with high socio-economic status should assist the students from low social-economic status through school. Also, Parents with low educational qualifications should encourage their children to attain high qualifications.

Keywords: Socio-Economic Status, Academic performance, Biology, senior Secondary School, Students, Parent.



Introduction

Biology is defined as the study of life. The importance of Biology has been seen in different aspects of society. Adewumi et al (2023) reported the importance of Biology is shown virtually in all fields of education such as agriculture, medicine, and pharmacy etc. Biology plays a vital role in the economic development of a nation. According to Ajaja, (2018) recent advances recorded in the field of biochemistry, physiology, ecology, genetics and molecular biology, have made the subject (biology) a central focus in most human activities including solutions to the problem of food scarcity, pollution. Adewumi, (2024) opined that Biology occupies a unique position in the senior secondary school curriculum. Biology as teaching subject in senior secondary has some laudable objectives. The objectives of Biology curriculum in senior secondary schools as highlighted by Nigerian Educational Research and Development Council (NERDC, 2018) the subject was designed to enable students acquire suitable laboratory and field skills, meaningful and relevant knowledge in biology, etc.

Despite the fact, that the Biology objectives includes robust and practical goals for the comprehension of biological concepts, students still find it difficult to pass at the credit level in public examinations conducted by WAEC and NECO. The performance of students in biology at external examinations in recent times in biology is not encouraging. WAEC Chief Examiners' Reports (2018 – 2023) reported the poor performance of students in biology. Students' academic performance in the subject



(biology) at senior secondary school level in Nigeria has been persistently poor (Sodangi et al., 2022; Adewumi, 2024; Olumide et al., 2025). Several factors can contribute to poor and unsatisfactory academic performance of students in Biology; among these were large classes, method of teaching and learning, social – economic background etc. Ovansa (2017) asserted that parents income level, religion, occupation, education and family size are all socio-economic factors that can influence or predict students academic performance in biology.

Socio-economic status is the social standing of an individual in society with respect to his or her level of education, income, type of occupation and general quality of life. It also includes his or her access to goods and services in the market place. The upper-class persons are influential and powerful in their communities (Ovansa, 2017). On the other hand, people with low socio-economic statuses are seen as ‘low in prestige and power’. Indeed, the factors that determine one’s class may vary from one society to another and even within the same society. Studies have established that there is a strong relationship between social class and educational performance (Osuafor & Chukwuemeka 2023; Aashiq et al., 2023; Mariam et al., 2020; Akpa, 2020; Akachukwu et al., 2018).

Parents’ religion is one of the socio-economic factors that can predict the students’ academic performance in school. Parents’ religion can shape students beliefs, values and worldview (Evans, 2018). Parents’ religious beliefs and values may influence their attitudes towards certain scientific topics covered in biology, such as evolution, human reproduction and environmental conservation (Evans, 2018). Generally, the influence of



parents' religion on students' academic performance in biology is shaped by a combination of belief systems, parental involvement, cultural contexts and attitudes towards science.

Parents' income also influence students' academic performance. Sirin (2020) asserted that parents' income level can impact the quality of schooling available to students. Schools in higher income areas tend to have more resources, experienced teachers, smaller class sizes and better facilities compared to schools in low-income areas. Access to high quality schooling can contribute to improved academic outcomes for students from higher income families (Aashiq et al., 2023; Sirin, 2020). Omoraka (2021) noted that all children have certain needs, physical and sociological which when met contribute positively to their academic Performance. Families with low income levels are less likely to have financial issues or poor time availability to provide children with academic support.

Parent's occupation can be another factor that contributes to students' academic performance. In some family children are made to engage in hawking, subsistence farming, become housemaids or engage in other menial jobs to support their academic pursuit. Adewole (2015) had reported that in a rural community where nutritional status is relatively low and health problem are prevalent, children academic performance is greatly hindered. This assertion is again hinged on nature of parental socio-economic status. Similarly, good parenting supported by strong economic home status could enhance strong academic performance of the student (Ovansa, 2017).

Parents' educational qualification is another socio-economic factor that can influence



students' performance. Parents' educational qualification determines their status and level of effect in the society. Poor educational status has the capacity of hindering individuals from having a better knowledge of the need to prudently use in the environment (John, 2019). Education attainment varies with income levels. Parents with high educational attainment and expendable incomes are often more success in preparing their children for school because they may have access to a wide range of resources to promote and support children' schools. Children whose families are of high educational scales have a statistically far better chance of participating in Tertiary Education (Oloo, 2020; Odionye, & Ibeh (2023).

This study sought to determine the influence of socio-economic status as a predictor of academic performance of senior secondary schools biology students in Oke-ero Local Government Area, Kwara state. It is this gap that this research work stands to fill. Based on the identified research gap, this study addresses the following research objectives:

1) Examine the parents' income as a predator of students' academic performance in biology; 2) Investigate the parents' religion level as a predator of students' academic performance in biology; 3) Determine the parent's occupation as a predator of student academic performance in biology and 4) Find out the parents educational qualification as a predator of students academic performance in biology.

Research Hypotheses

The following research hypotheses were formulated to guide the study and were tested at 0.05 level of significance:

1. There is no significant relationship between parents' income and academic



performance of students in biology

2. There is no significant relationship between parents religion and academic performance of students in biology

3. There is no significant relationship between parents' occupation and academic performance of students in biology

4. There is no significant relationship between parents' educational qualification and academic performance of students in biology

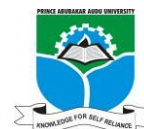
Methodology

This study employed correlation research design. This design was appropriate because the Correlation survey research is a type of research design that seeks to establish the relationship that exists between two or more variables (Nworgu, 2015). The study was carried out in public senior secondary schools in Oke-Ero local Government Area, Kwara State, Nigeria. Kwara State is divided into three senatorial districts – Kwara North, Kwara South and Kwara Central. Kwara South was randomly selected and was used for the study. Kwara South comprises of seven (7) Local Government Area. Oke-Ero Local Government Area was randomly selected with the use of ballot papers. The population of the study consists all the senior secondary school two (SS2) biology students in the Oke-Ero local government areas, Kwara State. The sample for this study consisted of 200 biology students. The sampling was done using a multi-stage sampling procedure. In the first stage, one local Government Areas was selected from the seven (7) local government areas using random sampling technique (balloting with replacement). Secondly, 10 senior secondary schools were selected from Oke-Ero Local



Government Area purposively. The reason for their selection of the schools is because they have a good number of biology students. In each of the 10 schools, a minimum of 20 students were selected purposively. The reason is because some school had higher population of students than others. From each of the ten sampled schools, 20 students were sampled using balloting technique. This ensured that every respondent had a chance of being sampled. Two instruments were developed by the researchers and used for the data collection. The instruments were, Questionnaire on Parent Social Economic Status as Predictor of Academic Performance in Biology (QSPESPAPB) and Biology Performance Test (BPT). The QSPESPAPB comprises of two Section, A and B. Section A consist of the class and school name. Section B: Contain questionnaire on parent socio-economic status. The section B contains 30 items with 4-point Likert ratings scale: SA - Strongly Agree (4), A - Agree (3), D - Disagree (2), and SA – Strongly Disagree (1). The BPT comprises of two Section, A and B. Section A consist of the bio-data of the respondent such as class and school name. Section B consisted of twenty (20) items, four (4) options (A-D) multiple choice tests.

Face and content validation of the instruments was done by two experts from Department of science education and one from Department of Measurement and Evaluation, Prince Abubakar Audu University, Anyigba, Kogi State. The researchers' trial tested on a representative sample of 30 students from Ogbo Grammer School, Omu-Aran, which is outside the sample under study. The reliability of the two instruments QSPESPAPB and BPT were established by the researchers using the Cronbach's Alpha Co-efficient. The reliability coefficient for QSPESPAPB was 0.81,



while that of BPT was 0.79 using spearman brown estimate. The researchers with the help of 10 research assistants who are subject teachers in the sampled schools administered the instrument directly to the respondents. The researchers briefly oriented the research assistants on the objectives of the study and how to administer the instruments and collect the data, having obtained the necessary permission from the school authority. The instruments were administered and collected on the spot to reduce sample mortality. The data generated from the instrument were collated by the research assistants and was inspected by the researchers and taken for analysis. A total of 200 questionnaires were administered and collected. The data extracted from the field were analyzed using Multiple Regression Analysis to test the hypotheses at 0.05 level of significant.

Results

Research Hypothesis One: There is no significant relationship between parents' income and academic performance of students in biology

Table 1. Regression Analysis of Parent Income and Students' Academic Performance in Biology

Model	Sum of Squares	DF	Mean Square	F	Sig	Des
Regression	25.12	1	4.174	3.31	0.03	S
Residual	3615.27	199	12.02			



Total 3630.39 200

$P > 0.05$

Source: Processed by researchers, 2024

Table 1 presents the regression analysis of parent income as predictive ability on the Biology academic performance of students in Oke-Ero Local Government Area, Kwara State, Nigeria students. The result was considered significant because the exact probability value of 0.03 is less than the significance level set as a standard for hypothesis testing. The F-ratio was 3.31. This disproves the null hypothesis, which posits no significant relationship between parent income and students' academic performance in Biology, and suggests that parent income had significantly relationship with students' academic performance in biology in Oke-Ero Local Government Area, Kwara State, Nigeria.

Research Hypothesis Two: There is no significant relationship between parents' religion and academic performance of students in biology

Table 2. Regression Analysis of parent religion and Students' Academic Performance in Biology

Model	Sum of Squares	DF	Mean Square	F	Sig.	Des
Regression	330.221	1	226.180	14.420	0.09	NS
Residual	2127.140	184	12.232			
Total	2457.361	185				

$P > 0.05$

Source: Processed by researchers, 2024



The result presented in Table 2 illustrates the predictive ability of parent religion on the academic performance of students in Biology in Oke-Ero Local Government Area, Kwara State, Nigeria. The acquired result indicates an F-ratio of 14.420, which is accompanied by an exact probability magnitude of 0.09. The probability value of 0.09 is above the selected significance level of 0.05, which is considered the benchmark for hypothesis testing. The result was determined to be non-significant. Consequently, the null hypothesis, which posited that there is no significant relationship between parent religion and students' academic performance in Biology, is accepted. The inference drawn is that parent religion is not a predictive factor determining the students' academic performance in Biology in Oke-Ero Local Government Area, Kwara State, Nigeria.

Research Hypothesis Three: There is no significant relationship between parents' occupation and academic performance of students in biology

Table 3. Regression Analysis of Parent Occupation and Students' Academic Performance in Biology

Model	Sum of Squares	DF	Mean Square	F	Sig.	Des
Regression	37.46	1	3.712	2.89	0.04	S
Residual	532.24	199	11.22			
Total	569.70	200				

P>0.05

Source: Processed by researchers, 2024



Table 3 presents the regression analysis parent occupation as predictive ability on the Biology academic performance of students in Oke-Ero Local Government Area, Kwara State, Nigeria. The result was considered significant because the exact probability value of 0.04 is less than the significance level set as a standard for hypothesis testing. The F-ratio was 2.89. This disproves the null hypothesis, which posits no significant relationship between parent occupation and students' academic performance in Biology, and suggests that parent occupation had significantly relation with students' performance in biology in Oke-Ero, Local Government Area, Kwara State, Nigeria.

Research Hypothesis Four: There is no significant relationship between parents' educational qualification and academic performance of students in biology

Table 4. Regression Analysis of Parent educational background and Students' Academic Performance in Biology

Model	Sum of Squares	DF	Mean Square	F	Sig.	Des
Regression	32.12	1	4.201	3.53	0.00	S
Residual	4615.21	199	13.54			
Total	4647.33	200				

P>0.05

Source: Processed by researchers, 2024

Table 4 presents the regression analysis of parent educational qualification as predictive ability on the Biology academic performance of students in Oke-Ero Local Government Area, Kwara State, Nigeria students. The result was considered significant because the



exact probability value of 0.00 is less than the significance level set as a standard for hypothesis testing. The F-ratio was 3.53. This disproves the null hypothesis, which posits no significant relationship between parent educational qualification and students' academic performance in Biology, and suggests that parent educational background had significantly relationship with students' academic performance in biology in Oke-Ero Local Government Area, Kwara State, Nigeria.

Discussion of the Findings

The findings revealed parent income had significant relationship on academic performance of student in Biology. The findings indicated that the parent income strongly affect students academic performance in biology. This finding is not in isolation to other findings on the influence of social-economic status on student academic performance. This finding is in agreement with the assertion of the scholars who claimed that the academic performance of students hinges on the parental income level (Osuafor & Chukwuemeka 2023; Ovansa, 2017; Esther et al., 2018). Therefore students' education must be supported financially in order to enhance quality and outstanding academic performance of students in the subject. The result of this study is also support the findings of Shah & Hussain (2021); Aashiq et al (2023) who concluded that students from families with average financial status performed better academically than those from below-average financial status families. The finding of this study is in contrast with the study of Gemechu (2018); Odionye & Ibeh (2023) who maintained that family income did not affect student's academic achievement

The findings of the study revealed that parent religion had no significant relationship on



students' academic performance in Biology. These findings align with study of Akachukwu et al (2018) who asserted that parental religion has no significant influence on students' academic performance in biology. But findings disagree with the study of Ilana et al (2020); Horwitz et al (2020); Tirre (2017); Lea and Pearce (2019) who asserted that religion affect student in school for it predict their academic performance. The research study findings revealed that parent occupation had significant relationship on academic performance of student in Biology. This result is also in agreement with Adedapo et al (2019); Owuor et al., 2021; Odoh et al (2017); Simatwa & Ndolo, 2022) who revealed that there is a significant relationship between parent's occupational background and the academic performance of students. The findings of the study disagree with the study of Ngare et al., (2016); Odionye & Ibeh (2023) who revealed that parental occupation did not affect student achievement.

The findings of the study revealed that parent educational qualification have significant relationship with students' academic performance in Biology in senior secondary schools.

This result in agreement with the findings of Mudassir & Abubakar (2015); Aashiq et al (2023); Aashiq et al (2023) Mariam et al (2020) revealed that parents educational qualification has effect on the children's academic achievement of students. The finding of this study is in contrast with the study of Miftahu and Melaiye (2021); Machebe and Ifelunni (2018); Shah & Hussain (2021) who admits that parents' educational qualification does not affect their children academic achievement. The reasons why parent with high qualifications influenced their children academic performance



positively, this may be as a result of encouragement and motivation they give to their children time to time, and they provide learning material for their children because of interest they have for education while the parent with low academic qualifications may deliberately show little or no interest to the education of their children and this may have negative influence on their children academic performance. The Parents with a high income are more likely to have children with good academic results in school because they have everything that their children need to succeed academically for they can afford to purchase educational materials for them.

Conclusion

This study reveals that socio-economic status predict students' academic performance in Biology in senior secondary schools. Based on the findings it can be concluded that, parents' income level, parents' occupation and parental educational qualification predict students' academic performance in Biology in senior secondary schools in Oke-Ero Local Government Area of Kwara State. While parental Religion those not have significant relationship between students academic performance of students in biology.

Recommendations

Based on the findings of the study, the researchers recommend as follows:

1. Parents with high socio-economic status should assist the students from low social-economic status through school.
2. Parents with low educational qualifications should encourage their children to attain high qualifications
3. Parents were encourage to give their children financial support because it is



considered to have major impact on students' academic performance in biology

4. Counselors should be recruited to various senior secondary schools to help guide and counsel the students from poor/weak socio-economic background

References

- Aashiq, I. Z., Zhang, Y, Tahir , H. & Anam, N. (2023). The impact of socioeconomic status on students' academic achievement. *International Journal of Novel Research in Education and Learning*. 10(4), 39-46.
- Adedapo, Olayiwola & Haliru (2019). Influence of the occupational background of parents on the academic performance of public secondary school students in the Osogbo, Osun State, Nigeria. *African Journal of International*. 1(1), 13-24
- Adewole, J.G (2015). Socio-economic determinant of consumption of soya beans products in Nigeria. *International journal of contemporary and Applied Studies of Man. Delhi India Vol 7*. Pg 60-97.
- Ajaja, O.P (2018). Concept of teaching as a study skill and effects on students performance in biology. *International journal of education science*. 3(1), 49-57.
- Akachukwu, E. E., Adimonyemma, N. R. & Igboabuchi, N. A. (2018). Influence of parents' socio-economic status on the academic achievement in biology of public senior secondary school students in Orlu lga Imo State. *British Journal of Education, Learning and Development Psychology*. 1(1), 66-73
- Akpa, J.U (2020). Influence of socio-economic status of parents on academic performance of Biology students. *International journal of education science*. 3(1), 49-57.
- Coleman T. B & Rainwater, A. (2018). The effects of home status on students' academic performance. *Nigerian Journal of Educational Psychology*. 3 (1). 83-91.
- Esther,A.E., Ruffuna, A.N., & Anastecia, I.N. (2018). Influence of parent socio-economic status on the academic achievement in biology of public senior secondary school students in Orlu LGA Imo state. *British Journal of Education, Learning and Development Psychology*. 1(1), 66- 73
- Evans, J.H.(2018). Religion and Science: Beyond the Epistemological Conflict



Narrative.” Annual Review of Sociology, 39,251-269. doi:10.1146/annurev-soc-07132-145707.

- Gemechu, A.G. (2018). Family socio-economic status effect on student’s academic achievement at college of education and behavioural sciences, Haramaya University, Eastern Ethiopia. *Journal of Teacher Education and Educators*. 7(3), 207- 222.
- Horwitz, I. & Schanabel, L, (2020). Academic heterogeneity among non- religion adolescents: New evidence using national study of youth and religion. Paper presented at the Association for the Sociology of Religion annual meeting, San Franciosco, California.
- Ilana, M. H., Benjamin, W. D. & Kathleen, M. H. (2020). Not a family matter: The effects of religionsity on academic outcomes based on evidence. *Social Science Research*. 89
- John, R.L. (2019). understanding human learning for college and universities. *Law publishers of Education Ahmadu Bello University, Zaria*.
- Lee, B. J.H., & Pearce, L. D. (2019). Understanding why religion involvement’s relationship with education varies by social class. *Journal of Research on Adolescence*. 29(2), 369-389
- Machebe C. H. & Ifelunni C. O.(2018). Influence of Parental Socio-Economic Status on academic achievement of Students in Selected Schools in Nigeria: A case Study of Enugu State. *Journal of Education and Practice* www.iiste.orgISSN 2222-1735 (Paper) ISSN 2222-288X (Online) 5(2)
- Mariam, A. S., Arooj F., Rabia N., & Abida F. (2020). Impact Of Parental Socioeconomic Status On Academic Performance Of Students: A Case Study Of Bahawalpur, Pakistan. *Journal of Economics and Economic Education Research*. 21(2)
- Mifathahu, I & Malsiye, O.R.(2021). Influence of parental socioeconomic status on students academic performance among secondary schools in Taraba Nigeria. *Journal of Social and Management Sciences*. 3(3), 2659-0131.
- Mudassir, I.U. & Abubakar N.B. (2015). The impact of parents occupation on academic performance of secondary school students in Kuala Terengganu. *Multilingual Academic Journal of Education and Social Sciences*. 3(1). DOI: 10.6007/MAJESS/v3-i1/1899.
- Odoh, U. O. & Chukwuani, A. (2017) examined the influence of parental occupation



and level of education on academic performance of accounting students in Nigeria. *Journal of the Nigerian Society for Educational Psychologists (NISEP)*.

- Odionye, N., & Ibeh, F. C.(2023). Influence of parental socioeconomic status on academic achievement of Biology students in senior secondary schools in Enugu State. *AJSTME*, 9(1), 27-32,
- Oloo, M.A. (2020). Gender disparity in student Performance in day secondary schools. Migori: Maseno University.
- Osuafor, A. & Chukwuemeka, C. V. (2023). Parental socio-economic status as A predictor of secondary school students' academic achievement In Biology In Anambra State. *Unizik Journal of Educational Research and Policy Studies*. 15 (1)
- Owuor, C.A., Simatwa M. E., & Ndolo, M.A. (2022). Influence of parental occupation on student academic performance in public secondary schools in Kenya: A case study of Homa Bay Sub Country. *International Journal of Current Research*. 14(2), 20878-20885
- Ovansa J. U (2017). Influence of socio-economic status on the academic performance of senior Secondary school students. *International Journal of Education and Evaluation ISSN 2489-0073* 3(8)
- Shah, S.O & Hussain, M.(2021). Parental occupation and its effect on the academic performance of children. *Journal of Emerging Technologies and Innovative Research*. 8(8), e576- e583.
- Simatwa, M.W. & Ngolo, M.A. (2022). Influence of parental occupation on student academic performance in public secondary school in Kenya. A case study of Homa Bay sub country. *International Journal of Current Research*. 4(1), 20878-20888
- Sirin, S. R. (2020). Socio-economic status and Academic achievement: A Meta-Analytic Review of research. *Review of Educational Research*, 75(3), 417-453.
- Tirre, W. (2017). Conscientiousness provides high school senior religious perceptions and behavior to educational, career, and leisure variables. *Counseling and Values*. 44(1), 30-39
- West Africa Examination Council(2018-2023). West Africa Examination Chief Examiner's Report. Retrieved from <http://www.waeconline.org.ng/elearning/Biology/>