



## Study habits and peer pressure as determinants of senior school performance in Biology

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### ABSTRACT

The research examined the influence of study habits and peer pressure on students' academic performance in Biology in Egbeda Local Government Area, Ibadan, Oyo State, Nigeria. The research was motivated by the consistent decline in students' achievement in Biology, a core science subject essential for scientific literacy and future careers. The study employed a correlational research design with a sample of 185 Senior Secondary II (SSII) Biology students. Three instruments were utilized: the Biology Study Habits Questionnaire (BSHQ) with 30 items, the Biology Peer Pressure Questionnaire (BPPQ) with 25 items, and the Biology Performance Test (BPT) with 20 items. Based on Spearman-Brown estimates, the reliability coefficients were 0.92, 0.82, and 0.80, respectively. Data were analyzed using multiple regression analysis. The results revealed that both study habits and peer pressure significantly correlated with students' academic performance and served as significant predictors of learning outcomes. These findings highlight the critical role of psychosocial factors, such as study habits and peer pressure, in shaping students' academic performance in Biology and provide a foundation for developing more adaptive teaching strategies and curricula responsive to adolescent learning needs.

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### ABSTRAK

Penelitian ini mengkaji pengaruh kebiasaan belajar dan tekanan teman sebaya sebagai determinan terhadap prestasi akademik siswa dalam mata pelajaran Biologi di wilayah Egbeda, Ibadan, Negara Bagian Oyo, Nigeria. Latar belakang penelitian ini adalah rendahnya pencapaian akademik siswa dalam mata pelajaran Biologi, yang merupakan mata pelajaran sains inti dan berperan penting dalam literasi ilmiah serta pengembangan karier. Penelitian ini menggunakan desain korelasional dengan melibatkan 185 siswa kelas XI (SSII) sebagai sampel. Tiga instrumen digunakan, yaitu Biology Study Habits Questionnaire (BSHQ) sebanyak 30 butir, Biology Peer Pressure Questionnaire (BPPQ) sebanyak 25 butir, dan Biology Performance Test (BPT) sebanyak 20 butir. Koefisien reliabilitas masing-masing instrumen adalah 0,92, 0,82, dan 0,80 yang dihitung dengan rumus Spearman-Brown. Analisis data dilakukan menggunakan teknik regresi berganda. Hasil penelitian menunjukkan bahwa kebiasaan belajar dan tekanan teman sebaya berhubungan secara signifikan dengan prestasi akademik siswa dalam Biologi dan menjadi prediktor penting terhadap pencapaian belajar. Temuan ini menegaskan pentingnya faktor psikososial seperti kebiasaan belajar dan tekanan teman sebaya dalam memengaruhi hasil belajar biologi siswa, serta memberikan dasar bagi pengembangan strategi pembelajaran dan kurikulum yang lebih adaptif terhadap kebutuhan remaja.

**Kata Kunci:** hasil belajar biologi; kebiasaan belajar; lingkungan belajar; tekanan teman sebaya

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## INTRODUCTION

Biology is the science that studies different types of organisms, such as plants, animals, and microorganisms. Its importance in our daily lives lies in its attempt to discover the unifying principles among diverse organisms with morphological and functional inequalities. Biology enables us to understand the behavior and functioning of populations within ecosystems, including how specific sectors of the biosphere are affected by and benefit from these interactions (Adewumi & Adeoye, 2023; Adewumi & Adejoke, 2023; Ogundiwin et al., 2024).

Biology has become a subject of study for senior secondary school students and directly impacts their future career choices. It is a vital science subject that offers basic requirements for further learning of numerous science-related professional courses like medicine, agriculture, pharmacy, and nursing (Adewumi, 2024; Ahmed et al., 2022; Ogundiwin et al., 2024). Due to the importance of biology, the National Policy on Education has formulated a comprehensive curriculum for it as a teaching subject in senior secondary schools (Aithal & Aithal, 2019). The biology curriculum teaches students key biological concepts, helps them understand reproduction, growth, pollution, and health issues, and dispels superstitious beliefs through technological methods (Adewumi et al., 2024).

Despite the reliable objectives of the biology curriculum, students still find the subject difficult to understand, leading to poor and inconsistent performance in national examinations. Available statistics from the West Africa Examination Council (WAEC) and Chief Examiners' Reports reveal consistently poor performance of senior secondary school students in biology from 2017 to 2022 (Adewumi, 2024; Adewumi & Adeoye, 2023; Fasanya et al., 2024; Ogundiwin et al., 2024). This performance trend is concerning given the significance of biology in educational and professional development.

Previous research studies have shown that students' academic performance hinges on various factors, including their study habits and peer pressure (Asha & Anju, 2020; Mulaudzi, 2023; Oyasola & Adegoke, 2022). The leading causes of students' poor academic performance in science subjects, including biology, have been identified as poor teaching methods, lack of interest, peer pressure, and ineffective study habits (Adewumi & Adeoye, 2023; Ahmed et al., 2023; Akanmu & Fajemidagba, 2015; Al Husaini, 2022). Public examination is one tool used to evaluate students' academic performance, and high percentages of secondary school students continue to perform poorly in various subjects, including biology, according to reports by the country's examination boards (Bichi et al., 2019).

Studies have been carried out on similar topics at national and international levels, focusing on the two variables (study habits and peer pressure) separately. Research has examined these variables individually and about different subjects. However, not much has been done using these two variables to determine students' academic performance in Biology, specifically in the Egbeda Local Government Area, Ibadan, Oyo State, Nigeria. It is this gap that this research work stands to fill by examining how study habits and peer pressure together influence biology performance in this specific context.

Based on the identified research gap, this study addresses the following research questions: 1) What is the relationship between study habits and academic performance in Biology among secondary school students in Egbeda Local Government Area?; 2) What is the relationship between these students' peer pressure and academic performance in Biology?; and 3) What is the combined effect of study habits and peer pressure on academic performance in Biology? To guide this investigation, three research hypotheses were formulated: 1) There is no significant relationship between study habits and academic performance of students in Biology; 2) There is no significant relationship between peer pressure and academic performance of students in Biology; 3) There is no significant relationship between study habits, peer pressure and academic performance of students in Biology.

This study investigates the relationship between study habits, peer pressure, and academic performance in Biology among secondary school students in Egbeda Local Government Area, Ibadan, Oyo State, Nigeria. Specifically, the research seeks to: 1) determine the influence of study habits on students' academic performance in Biology; 2) examine the impact of peer pressure on students' academic performance in Biology; and 3) assess the combined effect of study habits and peer pressure on students' academic performance in Biology. The findings from this study will contribute to educational practices by providing insights for teachers, parents, and education stakeholders on how to support students' academic achievement in Biology better.

## LITERATURE REVIEW

### Study Habits and Their Influences on Biology Performance

A study habit is a consistent and regular pattern of learning or discovering about a specific content or topic over a regulated period. The development of study habits is typically shaped by the repeated practice of reading skills and learning behaviors over time (Ebele & Olofu, 2017). Whether beneficial or detrimental, repetition forms behavioral patterns that eventually become habits. Studying requires focus, dedication, and the deliberate effort to engage with academic material seriously. In this context, a habit refers to a frequently repeated behavior that often becomes automatic or difficult to change (Kurz et al., 2015).

Study habits represent a desired recurring pattern of learning, considering time, attitude, and method (Akwayamai et al., 2020; Kaur, 2020; Nwizuzu, 2024; Rabia et al., 2017; Sakirudeen & Sanni, 2017). These practices span all educational levels and are a foundation for academic progress (Islam, 2021). Good study habits are crucial for academic success as they create a structure that enables students to achieve long-term educational goals (Gahir et al., 2022; Mgboro et al., 2024; Shuaibu & Achimugu, 2024). They involve regular and organized study routines, leading to improved school performance.

Study habits encompass continuous involvement in learning activities (Ebele & Olofu, 2017). They are also defined as consistent behavior and attitude while acquiring knowledge (Trudel, 2019). Students who cultivate effective study habits are typically more successful academically because they adopt strategies that align with their learning goals (Hattie et al., 2023). There is a clear correlation between good study habits and students' academic performance (Rezaie et al., 2017).

Study habits can take various forms, including physical (e.g., writing, practical exercises), moral (e.g., diligence, honesty), attitudinal (e.g., motivation, mindset), social (e.g., group study etiquette), verbal (e.g., discussion and questioning), and academic (e.g., note-taking, revision planning) (Sato et al., 2019). These habits improve a student's confidence, productivity, and self-regulation (Fiorella, 2020). Students with strong study habits tend to perform better than those who lack structure in their academic routines (Tus et al., 2020).

While good study habits are foundational to high academic achievement, poor habits can lead to underperformance. Besides study habits, other factors such as peer influence can also affect student performance (Mulaudzi, 2023). Therefore, developing effective study techniques like time management and active learning is essential for academic success in subjects such as Biology.

### Peer Pressure and Its Influence on Biology Performance

The term "peer pressure" describes how other students' favorable or unfavorable opinions might affect a student's conduct, thoughts, or feelings. Peer pressure is an emotional feeling that one must do the same things as other friends of the same age, class, or social group. Peer pressure is an emotional or mental force from people belonging to the same social group (such as age, grade, or status) to act or behave like

themselves (Ezzarrouki, 2016). Peer pressure is an ability of people from the same social rank or age to influence another of the same social rank or age bracket (Menka, 2016). A precise instance is when mature adults, young adults, and children are seen doing things to be accepted by their peers. Peer pressure is commonly associated with episodes of in-school adolescents' risk-taking activities such as delinquency, drug abuse, and illicit sexual behaviours. This is because these behaviours are frequent in the company of peers (Adimora et al., 2018).

Research has shown that students under peer pressure to do well in biology might encounter favorable and unfavorable outcomes. Peer pressure can produce negative influences, where students can encourage each other to skip classes, steal, cheat, use drugs or alcohol, or become involved in other risky behaviours (Nuru et al., 2024). A negative peer influence could be seen as one of the militating forces why most students record poorly in academic performance, the reason for this is not farfetched: they spend much time in extracurricular activities. Academic priorities are often neglected; thus, academic performance is grossly affected (Filade et al., 2019).

Positively, students could be inspired to work more in class and get higher scores. There is a positive and significant relationship between peer pressure and the academic performance of in-school adolescent students (Alafiatayo et al., 2021). It has often been noted that a student's learning may be influenced by the group to which he belongs. Research from various cultural backgrounds has shown that a learner experiences the need to fit in and be accepted by the group from early childhood through puberty. Humans have an innate need to belong to a group in society. In Nigerian households and schools, peer group ties are prevalent and contribute to children's socialization and academic progress (Crockett et al., 2019; Ogunola, 2018). Educators must recognize the critical responsibilities they play in shaping students' learning experiences in the classroom. Teachers should help students develop healthy groups and inform them of the detrimental effects of peer pressure on students' academic performance.

## METHODS

This study employed a correlational research design to examine the relationship between study habits, peer pressure, and academic performance in Biology. The study was conducted in public co-educational secondary schools in Egbeda Local Government Area, Ibadan, Oyo State, Nigeria. Oyo State is divided into three senatorial districts, from which Oyo Central was randomly selected. Oyo Central comprises eleven Local Government Areas, and Egbeda Local Government Area was randomly selected using ballot papers.

The population comprised all senior secondary school two (SS2) Biology students in Egbeda Local Government Area. Sample selection followed a multi-stage sampling procedure (Rahman et al., 2022). First, Egbeda Local Government Area was selected from eleven local government areas using random sampling (balloting with replacement). Second, 10 senior secondary schools were purposively selected from the local government area based on their substantial biology student populations. From each school, 19 students were selected using the balloting technique, resulting in a total sample of 185 students used for analysis.

Three instruments developed by the researchers were used for data collection. The Biology Study Habits Questionnaire (BSHQ) is comprised of two sections. Section A collected demographic information. At the same time, Section B contained 30 items measuring students' study habits using a 4-point Likert scale ranging from Strongly Agree (4) to Strongly Disagree (1). The Biology Peer Pressure Questionnaire (BPPQ) followed a similar structure with Section A for biographical information and Section B containing 20 items rated on the same 4-point Likert scale to assess peer influence on academic behaviors. The Biology Performance Test (BPT) included Section A for student bio-data and Section B with twenty multiple-choice items with four options (A-D) covering the SS2 biology curriculum.

Face validation of the instruments was conducted by two experts from the Department of Science Education and one from the Department of Measurement and Evaluation, National Open University Abuja. The instruments were pilot tested on 30 students from Ikolaba Grammar School, Ibadan (outside the sample population). Reliability was established using Cronbach's Alpha for BSHQ (0.92) and BPPQ (0.82), while BPT reliability (0.80) was determined using the Spearman-Brown estimate (van Stiphout et al., 2023).

The researchers collected data with assistance from 10 research assistants who were subject teachers in the sampled schools. After obtaining permission from the school authorities, the researchers oriented the assistants to the study objectives and proper instrument administration procedures. Instruments were administered and collected on the spot to minimize sample attrition. Of the 190 administered questionnaires, 185 filled instruments were returned and analyzed.

Data analysis employed the Statistical Package for Social Sciences (SPSS-26.0). Data screening procedures were performed before the primary analysis to ensure data quality (Field, 2018). Three separate regression analyses were conducted to test the research hypotheses at a 0.05 significance level. The first regression analysis examined the influence of study habits on academic performance in Biology. The second regression analysis investigated the relationship between peer pressure and academic performance. The third regression analysis assessed the combined influence of study habits and peer pressure on students' academic performance in Biology. This approach enabled the determination of the predictive ability of the independent variables on the dependent variable.

## RESULTS AND DISCUSSION

This study investigated the influence of study habits and peer pressure as determinants of students' academic performance in Biology in Egbeda Local Government Area, Ibadan, Oyo State, Nigeria. In this investigation, the researchers aimed to comprehensively analyze how study habits, such as time management, reading strategies, and note-taking practices, affect students' understanding and performance in Biology. Moreover, peer pressure, a social influence among students, was examined to determine its role in shaping study behaviors and overall academic achievement. These two variables—study habits and peer pressure—were chosen because of their potential to explain the discrepancies in academic outcomes observed within this specific demographic.

Through a series of statistical analyses, the study examined whether a statistically significant relationship exists between these factors and students' performance in Biology. The findings are critical in understanding how non-cognitive factors contribute to academic outcomes and can inform future educational interventions designed to improve students' academic success in the region.

### **Statistical Analysis Showing the Significant Relationship Between the Influence of Study Habits and Students' Academic Performance in Biology**

**Table 1** presents the statistical results showing a significant relationship between the influence of study habits and students' academic performance in Biology in Egbeda Local Government Area, Ibadan, Oyo State, Nigeria. This table highlights how study habits, when practiced effectively, correlate positively with better academic performance in Biology.

**Table 1.** Regression Analysis of Study Habits and Students' Academic Performance in Biology

Model	Sum of Squares	DF	Mean Square	F	Sig	Des
Regression	35.32	1	3.875	2.91	0.02	S
Residual	5615.24	184	13.05			
Total	5650.56	185				

Note. S = Significant at  $p < 0.05$ .

Source: Processed by researchers, 2024

**Table 1** presents the regression analysis of study habits' predictive ability on the Biology academic performance in Egbeda Local Government Area, Ibadan, Oyo State, Nigeria. The result was considered significant because the exact probability value of 0.02 is less than the significance level set as a standard for hypothesis testing. The F-ratio was 2.91. This finding invalidates the null hypothesis, which posits no significant correlation between study habits and students' academic performance in Biology. Instead, it affirms that study habits significantly shape students' academic outcomes in the subject. Given this established relationship, it is equally important to examine whether peer pressure, another influential psychosocial factor, significantly impacts students' performance in Biology.

### Statistical Analysis Showing the Significant Relationship Between the Influence of Peer Pressure and Students' Academic Performance in Biology

**Table 2** shows a significant relationship between the influence of peer pressure and students' academic performance in Biology in Egbeda Local Government Area, Ibadan, Oyo State, Nigeria.

**Table 2.** Regression Analysis of Peer Pressure and Students' Academic Performance in Biology

Model	Sum of Squares	DF	Mean Square	F	Sig	Des
Regression	330.221	1	235.180	13.427	0.00	S
Residual	4127.140	184	11.281			
Total	4457.361	185				

Note. S = Significant at  $p < 0.05$ .

Source: Processed by researchers, 2024

The statistical study presented in Table 2 illustrates the predictive ability of peer pressure on the academic performance of students in Biology in Egbeda Local Government Area, Ibadan, Oyo State, Nigeria. The acquired result indicates an F-ratio of 13.427, which is accompanied by an exact probability magnitude of 0.00. The probability value of 0.00 is below the selected significance level of 0.05, which is considered the benchmark for hypothesis testing. The result was determined to be statistically significant. Consequently, the null hypothesis is rejected, positing no significant relationship between peer pressure and students' academic performance in Biology. The inference drawn is that peer pressure strongly determines the students' academic performance in Biology. Furthermore, this suggests that peer pressure substantially determines students' academic performance in Biology.

## Statistical Analysis Showing the Significant Relationship Between the Influence of Study Habits, Peer Pressure, and Students' Academic Performance in Biology

**Table 3** shows significant relationships between the influence of study habits, peer pressure, and students' academic performance in Biology in Egbeda Local Government Area, Ibadan, Oyo State, Nigeria.

**Table 3.** Regression Analysis of Study Habits, Peer Pressure, and Students' Academic Performance in Biology

Model	Sum of Squares	DF	Mean Square	F	Sig	Des
Regression	37.46	1	4.638	3.42	0.01	S
Residual	632.24	184	14.03			
Total	640.33	185				

Note. S = Significant at  $p < 0.05$ .

Source: Processed by researchers, 2024

**Table 3** presents the regression analysis of study habits and peer pressure predictive ability on the Biology academic performance of students in Egbeda Local Government Area, Ibadan, Oyo State, Nigeria. The result was considered significant because the exact probability value of 0.01 is less than the significance level set as a standard for hypothesis testing. The F-ratio was 3.42. This disproves the null hypothesis, which posits no significant correlation between study habits, peer pressure, and students' academic performance in Biology, and suggests that study habits and peer pressure significantly influence Biology students' performance. It also implies that students' study habits and peer pressure significantly influence their academic performance in biology.

## Discussion

### Influence of Study Habits on Academic Performance

The findings revealed a significant relationship between study habits and students' academic performance in Biology. This suggests that students' study habits significantly affect their academic achievements. This result aligns with numerous previous studies highlighting the critical role of effective study habits in academic success.

Several researchers have emphasized that students' study habits strongly influence academic performance, suggesting that developing good study practices is essential for achieving quality academic outcomes in Biology (Ayinde et al., 2024; Ebele & Olofu, 2017; Varghese & Pandya, 2016). Additionally, systematic literature reviews have consistently demonstrated significant relationships between study habits and student performance (Lone, 2021; Namoun & Alshanjiti, 2020).

The connection between study habits and academic performance can be explained through several mechanisms. First, effective study habits typically involve regular review of course materials, which enhances retention and understanding of biological concepts. Second, structured study routines help students manage their time efficiently, providing more comprehensive curriculum coverage. Third, active study strategies such as self-questioning, concept mapping, and practice testing have significantly improved learning outcomes in science subjects (Aldossari & Aldajani, 2021).

However, it is worth noting that our findings contradict some studies that found no significant relationship between study habits and academic achievement (Filade et al., 2019). This discrepancy might be attributed to differences in research contexts, measurement instruments, or the specific components of study habits being evaluated.

## **Influence of Peer Pressure on Academic Performance**

The study results indicate that peer pressure significantly influences students' academic performance in Biology. This finding supports previous research emphasizing the substantial impact of peer relationships on educational outcomes (Alafiatayo et al., 2021; Kenni, 2021; Olalekan, 2016).

Peer pressure can influence academic performance through various pathways. Positive peer pressure may foster a culture of academic excellence, collaborative learning, and healthy competition among students. When students surround themselves with academically motivated peers, they often develop similar attitudes toward learning and achievement. Through shared explanations and discussions, study groups and peer tutoring can enhance understanding of complex biological concepts.

Conversely, our findings differ from literature reporting negative impacts of peer pressure, where students encourage each other to engage in counterproductive behaviors such as skipping classes, cheating, substance use, or other risk-taking activities that negatively affect academic performance (González et al., 2021). This suggests that the nature and direction of peer influence in our study population might be predominantly positive or constructive.

The results highlight that peer relationships play a crucial role in academic attainment in Biology. Peer influence affects students' lives, from classroom engagement to study behaviors and personal priorities.

## **Combined Effects of Study Habits and Peer Pressure on Academic Performance**

The analysis of the third hypothesis confirmed a significant relationship between the combined effects of study habits and peer pressure on students' academic performance in Biology. This finding demonstrates that these two factors strongly affect students' academic performance in the subject.

This result corroborates assertions by several researchers who have identified study habits and peer pressure as critical determinants of academic performance (Asha & Anju, 2020; Mgboro et al., 2024; Oyasola & Adegoke, 2022). The synergistic effect of these factors suggests that effective interventions to improve academic outcomes should address both personal study practices and the social environment in which learning occurs.

The interaction between study habits and peer relationships may be significant in science subjects like Biology, which often require individual effort (memorization, practice, and conceptual understanding) and collaborative learning (discussions, laboratory work, and group projects). When positive peer influence reinforces effective study habits, students are likelier to persist through challenging content and develop a more profound understanding of biological concepts.

However, it is important to acknowledge that some studies have found no significant relationship between the combination of study habits, peer pressure, and academic achievement in Biology (Filade et al., 2019; Sletten, 2017). These contradictory findings highlight the complex nature of academic performance and suggest that additional factors may moderate or mediate these relationships in different educational contexts.

Several practical implications emerge from these findings. Schools should implement comprehensive educational interventions focused on developing practical study skills among Biology students, including structured time management, strategic note-taking, and active learning techniques that enhance content retention. Establishing structured peer mentoring systems could harness positive peer influence to improve academic outcomes in Biology by creating supportive learning communities where experienced students guide their peers through challenging concepts. Parents should be thoroughly informed about the significant role of peer relationships in their children's academic performance and provided with practical strategies to help them constructively navigate peer pressure while maintaining academic focus.

Additionally, Biology teachers could transform classroom practices by incorporating collaborative learning strategies that promote positive peer interactions and reinforce effective study habits through group projects and team-based learning activities. Despite these insights, this study has important limitations to consider, including its cross-sectional design, which prevents establishing causal relationships between the variables, and its limited geographical scope that may restrict generalizability to other educational contexts. Future research should prioritize longitudinal designs to track changes in study habits and peer relationships over time, employ mixed-methods approaches incorporating qualitative elements to provide deeper contextual insights into how these factors interact in real educational settings, and examine potential moderating variables such as socioeconomic status, parental involvement, and teacher factors that could significantly influence the relationship between study habits, peer pressure, and academic performance in Biology.

## **CONCLUSION**

This study investigated the influence of study habits and peer pressure on students' academic performance in Biology among secondary school students in Egbeda Local Government Area, Ibadan, Oyo State, Nigeria. Based on the analysis of data and testing of hypotheses, the following conclusions were drawn for the first research objective, aimed at determining the influence of study habits on students' academic performance in Biology. The findings revealed a significant relationship between study habits and academic performance, indicating that effective study habits contribute positively to students' achievement in Biology. Therefore, the null hypothesis stating no significant relationship between study habits and academic performance was rejected. The second research objective sought to examine the impact of peer pressure on students' academic performance in Biology. The results demonstrated a significant relationship between peer pressure and academic performance, confirming that peer relationships substantially influence students' performance in Biology. The null hypothesis was rejected, proposing no significant relationship between peer pressure and academic performance. The third research objective was to assess the combined effect of study habits and peer pressure on students' academic performance in Biology. The analysis revealed a significant relationship between the combined factors and academic performance, establishing that these factors create an important dynamic affecting Biology achievement. Thus, the null hypothesis was rejected, suggesting no significant relationship between the combination of study habits and peer pressure on academic performance.

These findings underscore the multidimensional nature of academic performance in Biology, highlighting that individual study practices and social influences are critical determinants of educational outcomes in the subject. Based on the findings of this study, the following recommendations are proposed for schools to implement structured programs to develop practical study skills tailored explicitly for Biology students, focusing on time management, note-taking strategies, and active learning techniques. Educational institutions should establish peer mentoring systems that harness positive peer influence to improve academic outcomes in Biology. Biology teachers should incorporate collaborative learning approaches that promote positive peer interactions while reinforcing effective study habits. Parents should be educated about the significant role of peer relationships in their children's academic performance and guided on how to help them constructively navigate peer pressure. Future research should employ longitudinal designs to track changes in study habits and peer relationships, explore potential moderating variables such as socioeconomic status and gender, and utilize mixed-methods approaches to gain deeper insights into how these factors interact in educational settings.

## AUTHOR'S NOTE

The author declares that there is no conflict of interest related to the publication of this article and emphasizes that the data and content of the article are free from plagiarism.

## REFERENCES

- Adewumi, G. S. (2024). Effect of problem-solving strategy on students' academic performance in genetic concepts in biology in senior secondary school in Kogi State, Nigeria. *Journal of Language and Culture in Education*, 2(1), 106-114.
- Adewumi, G. S., & Adejoke, A. A. (2023). Effect of two instructional strategies on students' science process skills in some selected abstract concepts in biology in Kwara State, Nigeria. *Journal of Science, Technology and Mathematics Pedagogy*, 1(1), 242-258.
- Adewumi, G. S., & Adeoye, G. A. (2023). Interaction effect of two instructional strategies and mental ability on students' achievement in genetic concepts in biology. *Journal of Science, Technology and Mathematics Pedagogy*, 1(1), 69-81.
- Adewumi, G. S., Akanbi, A. A., & Muraina, K. O. (2024). Effect of two instructional strategies on students' achievement at selected abstract concepts: a case study on Biology learning in Kwara State, Nigeria. *Journal of Pedagogy and Education Science*, 3(2), 140-151.
- Adimora, D. E., Akaneme, I. N., & Aye, E. N. (2018). Peer pressure and home environment as predictors of disruptive and risky sexual behaviours of secondary school adolescents. *African Health Sciences*, 18(2), 218-226.
- Ahmed, M. A., Lawal, A. A., & Ahmed, R. A. (2022). Influence of teachers' self-efficacy on secondary school students' self-efficacy in Biology in Ogbomoso, Nigeria. *JPBI (Jurnal Pendidikan Biologi Indonesia)*, 8(1), 58-64.
- Aithal, P. S., & Aithal, S. (2019). Analysis of higher education in Indian National education policy proposal 2019 and its implementation challenges. *International Journal of Applied Engineering and Management Letters (IJAEML)*, 3(2), 1-35.
- Akanmu, M. A., & Fajemidagba, M. O. (2015). Factors affecting students' academic performance in mathematics: A review of literature. *International Journal of Education and Research*, 5(4), 103-112.
- Akwayamai, P. J., Magdaline, G., Uzairu, D., & Jafar, S. (2020). Influence of students' study habit on academic performance in secondary school of Jalingo Local Government Area of Taraba State, Nigeria. *Hummingbird Publications Journal of African Sustainable Development (HPJASD)*, 20(2), 187-195.
- Al Husaini, Y. N. S., & Shukor, N. S. A. (2022). Factors affecting students' academic performance: A review. *Social Science Journal*, 12(6), 284-296.
- Alafiatayo, B. M., Salau, O. A., & Ebebe, D. (2021). Impact of peer pressure and time management on the academic performance of secondary school biology students in Sabon Gari Local Government Area, Kaduna State. *International Journal of Educational Benchmark*, 18(2), 1-11.
- Aldossari, A. T., & Aldajani, M. M. (2021). The effectiveness of a self-questioning strategy at developing academic achievement and critical-thinking skills among secondary-school students in Saudi Arabia. *International Journal of Learning, Teaching and Educational Research*, 20(8), 278-299.
- Asha, S. & Anju, A. R. (2020). The correlation between study habits and academic achievement of high secondary school pupils. *Universal Journal of Educational Research*. 8(12), 7359-7366.
- Ayinde, A. M., Atotileto, Z. B., Bello, Z. A., & Olanrewaju, B. Y. (2024). The impact of study habits on academic performance in biology: a study of students in Ilorin West LGA, Kwara State: the impact of study habits on academic performance in biology. *Journal of Institutional Research, Big Data Analytics and Innovation*, 1(1), 213-222.

- Bichi, A. A., Ibrahim, R. H., & Ibrahim, F. B. (2019). Assessment of students performances in biology: Implication for measurements and evaluation of learning. *Journal of Education and Learning (EduLearn)*, 13(3), 301-308.
- Crockett, L. J., Deardorff, J., Johnson, M., Irwin, C., & Petersen, A. C. (2019). Puberty education in a global context: Knowledge gaps, opportunities, and implications for policy. *Journal of Research on Adolescence*, 29(1), 177-195.
- Ebele, U. F., & Olofu, P. A. (2017). Study habit and its impact on secondary school students' academic performance in Biology in the federal capital territory, Abuja. *Educational Research and Reviews*, 12(10), 583-588.
- Ezzarrouki, A. (2016). Peer influence on academic performance. *Journal of Psychology*, 4(5), 145-157.
- Fasanya, A. G., Abdulwahab, I. O., and Adewumi. G. S. (2023). Rebranding physics education: A panacea for 21st century scientific creativity and sustainable national development. *International Journal of Contemporary Issues in Education*. 5(1), 142-149.
- Filade, B. A., Bello, A. A., Uwaoma, C. O., Anwanane, B. B., & Nwangburka, K. (2019). Peer group influence on academic performance of undergraduate students in Babcock University, Ogun State. *African Educational Research Journal*, 7(2), 81-87.
- Fiorella, L. (2020). The science of habit and its implications for student learning and well-being. *Educational Psychology Review*, 32(3), 603-625.
- Gahir, S., Sahu, S., & Sahoo, S. (2022). Relationship between study habits and academic achievement of secondary school students. *Contemporary Research in Education and English Language Teaching*, 4(1), 1-9.
- González, C., Varela, J., Sánchez, P. A., Venegas, F., & De Tezanos-Pinto, P. (2021). Students' participation in school and its relationship with antisocial behavior, academic performance and adolescent well-being. *Child Indicators Research*, 14(1), 269-282.
- Hattie, L. D., Sahlberg, C. W., & Comer, P. P. (2023). Impact of mobile learning apps on study habits and academic performance of college students in the United States: A review of literature. *Journal of Education*, 6(3), 13-22.
- Islam, M. N. (2022). Study habits, self-esteem, and academic achievement among public and private secondary school students in Bangladesh. *International Journal of Psychology and Educational Studies*, 8(3), 39-50.
- Kaur, A. (2020). A study of academic achievement in relation to study habits, peer pressure and school environment of secondary school students. *Journal of Emerging Technologies and Innovative Research (JETIR)*, 7(4), 833-842.
- Kenni, A. M. (2021). Influence of peer group on students' motivation and academic performance of chemistry students in secondary schools in Ekiti State, Nigeria. *IJO-International Journal of Educational Research*, 4(5), 61-72.
- Kurz, T., Gardner, B., Verplanken, B., & Abraham, C. (2015). Habitual behaviors or patterns of practice? Explaining and changing repetitive climate-relevant actions. *Wiley Interdisciplinary Reviews: Climate Change*, 6(1), 113-128.
- Lone, R. A. (2021). Study habits and academic performance among students: A systematic review. *International Journal of Multidisciplinary*, 6(5), 132-135.
- Menka, M. S. (2016). Effect of peer pressure on obedience/disobedience behaviour of undergraduate students. *Scholarly Research Journal for Interdisciplinary Studies*, 4(27), 3085-3090.
- Mgboro, C. U., Omebe, S. E., Achilike, B. A., & Ani, S. I. (2024). Peer group pressure, study habit and academic achievement of secondary school students. *IOSR Journal of Humanities and Social Science*, 29(10), 8-15.
- Mulaudzi, I. C. (2023). Factors affecting students' academic performance: A case study of the university context. *Journal of Social Science for Policy Implications*, 11(1), 18-26.

- Namoun, A., & Alshantqiti, A. (2020). Predicting student performance using data mining and learning analytics techniques: A systematic literature review. *Applied Sciences*, 11(1), 237-275.
- Nuru, R. A., Adamu, T. A., & Anthony, Z. S. (2024). Correlation study of attitude and academic performance in biology among secondary school students in Lere, Kaduna State. *Zaria Journal of Educational Studies (ZAJES)*, 24(1), 11-20.
- Nwizuzu, C. B. (2024). Students' study habits as correlates of academic achievement in public secondary schools in Anambra State Nigeria. *The Progress: A Journal of Multidisciplinary Studies*, 5(3), 49-58.
- Ogundiwin, O. A., Adewumi, G. S., Olabisi, O. L., & Asaju, O. A. (2024). The effect of active review strategy on student's attitude to basic science in Oyo State. *Indonesian Values and Character Education Journal*, 7(1), 25-34.
- Ogunola, A. (2018). Socialization and the Nigerian child: Context and implications. *East African Scholars Journal of Education, Humanities and Literature*, 1(1), 40-46.
- Olalekan, A. B. (2016). Influence of peer group relationship on the academic performance of students in secondary schools: A case study of selected secondary schools in Atiba Local Government Area of Oyo State. *Global Journal of Human-Social Science*, 16(4), 89-94.
- Oyasola, S. O., & Adegoke, A. I. (2022). Relationship between study habit and academic achievement of secondary school students in Oyo State. *Ilorin Journal of Education*, 42(2), 30-35.
- Rabia, M., Mubarak, N., Tallat, H., & Nasir, W. (2017). A study on study habits and academic performance of students. *International Journal of Asian Social Science*, 7(10), 891-897.
- Rahman, M. M., Tabash, M. I., Salamzadeh, A., Abduli, S., & Rahaman, M. S. (2022). Sampling techniques (probability) for quantitative social science researchers: a conceptual guidelines with examples. *Seeu Review*, 17(1), 42-51.
- Rezaie, L. H., Seyed, F. S. F., Reza M. S., Chehrzad, M. M., & Kazem N. L. E. (2017). The relationship between the study habits and the academic performance of medical sciences students. *Journal of Holistic Nursing and Midwifery*, 27(2), 65-73.
- Sakirudeen, A. O., & Sanni, K. B. (2017). Study habits and academic performance of secondary school students in mathematic: A case study of selected secondary schools in uyo local education council. *Research in Pedagogy*, 7(2), 283-297.
- Sato, T., Ellison, D. W., & Tsuda, E. (2019). Study habits and learning experiences of undergraduate students in a physical education major online kinesiology course. *Physical Educator*, 76(2), 440-466.
- Shuaibu, A., & Achimugu, L. (2024). Study habits and test anxiety as correlates of senior secondary school students' academic performance in Mathematics in Kogi State, Nigeria. *Journal of Science, Technology and Mathematics Pedagogy*, 2(2), 165-178.
- Sletten, S. R. (2017). Investigating flipped learning: Student self-regulated learning, perceptions, and achievement in an introductory biology course. *Journal of Science Education and Technology*, 26(0), 347-358.
- Trudel, R. (2019). Sustainable consumer behavior. *Consumer Psychology Review*, 2(1), 85-96.
- Tus, J., Lubo, R., Rayo, F., & Cruz, M. A. (2020). The learners' study habits and its relation on their academic performance. *International Journal of All Research Writings*, 2(6), 1-19.
- van Stiphout, L., Rolfes, J., Waardenburg, S., Kimman, M., Guinand, N., Pérez Fornos, Á., Van Rompaey, V., & van de Berg, R. (2023). Construct validity and reliability of the Bilateral Vestibulopathy Questionnaire (BVQ). *Frontiers in Neurology*, 14(1), 1-11.
- Varghese, M. G., & Pandya, S. H. E. F. A. L. I. (2016). A study on the effectiveness of brain-based learning of students of secondary level on their academic achievement in biology, study habits and stress. *International Journal of Humanities and Social Sciences*, 5(2), 103-122.