
Effects of Socio-Economic Factors on Academic Performance of Students in Islamic Senior High School in Sagnarigu Municipality

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ABSTRACT

This study aimed to investigate the influence of socioeconomic factors on the academic performance of students at Tamale Islamic Science Senior High School. Grounded in a positivist philosophical paradigm, the research adopted a quantitative approach and regression analysis. Structured questionnaires were used to collect data from a sample of 306 second-year students and 60 parents of students selected for the study. The regression analysis carried out revealed that parental education levels and occupation showed minimal or negligible influence on student academic performance. However, families with large sizes showed significant influence on students' academic performance as opposed to families with small sizes. In light of these findings, the study recommends that parents become more actively involved in their children's academic endeavours, seek help for wards when necessary, and that schools should develop support mechanisms, such as student Aid offices as well as a well-structured guidance and counselling services for students facing academic, socio-personal and financial constraints in the schools particularly the Islamic Senior High School in Tamale Metropolis.

1. Introduction

Academic performance is an indicator of educational success, shaped by various socioeconomic factors (Jackson, 2014). These factors are significant in academic performance for students worldwide and in specific geographic areas (Castillas, 2023). A number of global research studies have emphasised the importance of socioeconomic considerations in determining academic success across a range of educational systems. Socioeconomic factors encompass the various social and economic conditions that impact individuals' access to opportunities, experiences, and overall well-being. These factors typically include elements such as family income, parental education levels, and occupation, all of which play a significant role in determining a student's access to resources and support systems that are critical for academic success (Organisation for Economic Co-operation and Development [OECD], 2018). It acknowledged socioeconomic variables as critical influencers of students' learning environments and outcomes in education. Students from affluent families frequently enjoy enhanced access to educational resources, including literature, technology, private tutoring, and more favourable study conditions (Acar, 2018). Conversely, students from low-income households may encounter obstacles such as restricted access to resources, diminished parental engagement in their education due to employment obligations, and, in certain instances, inferior educational institutions.

The importance of tackling socioeconomic gaps is highlighted in the context of the United Nations' Sustainable Development Goals (SDGs), including SDG 4, which seeks to guarantee inclusive and equitable quality education for everyone (United Nations, 2015). This objective aims to mitigate the obstacles posed by socioeconomic circumstances, guaranteeing that all students, irrespective of their background, have equal access to high-quality education and prospects for success. Academic performance, typically evaluated by metrics such as grades, standardised test scores, and graduation rates, serves as a major indication of educational attainment (Hanushek & Woessmann, 2020). It represents both a student's cognitive capabilities and the degree to which their environment facilitates their learning. Exemplary academic achievement is essential for both individual student advancement and country progress. Societies that cultivate superior academic achievement are more adept at developing a trained workforce, encouraging innovation, and attaining economic prosperity (Schleicher, 2021). By understanding and addressing the effects of socioeconomic differences, schools can better support the overall growth of students and encourage fair and lasting development results.

In sub-Saharan Africa, particularly in Ghana, Socio-Economic Status (SES) is a crucial factor influencing access to quality education, student retention, and overall academic performance (Akyeampong, 2014). The interaction between poverty, parental educational achievement, household income, and access to educational resources creates a complex framework that either facilitates or hinders students' academic progress (Adzahlie-Mensah, 2018).

Education in Ghana and elsewhere is often viewed among others as a tool for social mobility and economic emancipation. However, the persistent socio-economic inequalities in the country pose significant challenges to achieving equitable educational results. The Ghana Statistical Service (2021) indicates that over 24% of the population lives below the poverty line, with rural areas demonstrating higher levels of hardship than metropolitan districts. This income disparity directly impacts kids' access to vital educational resources, like textbooks, technology, and private tutoring, which are often crucial for attaining academic achievement (Ananga, 2020). Furthermore, children from economically deprived backgrounds are more likely to engage in child labour or abandon their schooling to support their families, thus exacerbating the cycle of poverty and poor academic performance (Ampiah & Adu-Yeboah, 2011).

The educational level and professional standing of parents substantially affect the academic paths of their offspring. Research shows that kids whose parents have higher education usually do better in school because they get more help with their studies at home and their parents value education more (Addae, 2020). In contrast, children from households with low educational attainment often lack the essential advice and resources required for academic achievement (Asante, 2016). Moreover, the occupational commitments of parents influence their ability to offer financial and emotional support, resulting in children from families engaged in informal or low-wage jobs facing increased challenges in meeting educational demands (Boakye & Smit, 2013).

The main problem at Islamic Senior High School in Sagnarigu Municipality is the recent decline in academic performance. Specifically, the academic performance of students during the 2022 and 2023 academic years has shown a decline compared with previous years. This decline mirrors trends observed at other educational institutions where socioeconomic factors significantly impact academic outcomes (School Annual Report, 2023). Scholars have long noted that factors such as parental education level, family income, and social status play crucial roles in shaping students' academic achievements (Hanushek, 2010). The headmaster of Islamic Senior High School reported that the average pass rate at WASSCE had fallen from 60% before 2022 to 40% in the most recent years. This significant decline necessitates an investigation into the role of socioeconomic factors in influencing academic performance at the school (School Annual Report, 2023). Understanding these influences is critical for developing effective strategies to address the challenges faced by students from varying socioeconomic backgrounds and to improve overall academic performance.

Hanushek (2010) conducted a study on the impact of socioeconomic status on educational outcomes. The study found that socioeconomic status significantly impacts educational outcomes. Better student performance positively

correlates with higher family income and parental education levels. The study used a quantitative approach, analysing large-scale educational datasets to establish correlations between SES variables and student performance. Similarly, Simmons and Alexander (2020) studied the determinants of school achievement and study identified multiple factors affecting academic achievement, including gender, intelligence, study habits, and year level. They noted that socioeconomic status played a substantial role but highlighted the multifactorial nature of academic success. It is against this backdrop that the study investigated the influence of socioeconomic factors on the academic performance of students at Tamale Islamic Science Senior High School.

1.1 Objective of the Study

Examine the influence of socioeconomic factors on the academic performance of students at Tamale Islamic Science Senior High School.

1.2 Significance of the Study.

This study is significant to the extent that it would bridge the existing knowledge gap by offering a comprehensive understanding of how socioeconomic factors impact students' academic performance, taking into accounts some specific socioeconomic challenges encountered by students in the Northern region.

Secondly, the findings would offer educational administrators and policymakers such as the Ministry of Education a deeper understanding of how specific socioeconomic factors affect academic performance. This knowledge will be instrumental in developing targeted, research-based policies and initiatives aimed at reducing educational inequality. The study will contribute to more effective resource allocation, program implementation, and policy creation that promotes equity and enhances student achievement.

Thirdly, the outcomes of the research would have practical implications for the implementation in Tamale Islamic Science Senior High school and other educational institutions with a similar profile in the Sagnarigu Municipality. School administrators and teachers can benefit from gaining a more profound insight into the requirements of their students by recognizing the particular socioeconomic challenges that impact academic advancement. Lastly, the findings would benefit school counsellors, demonstrate how counselling can effectively facilitate behaviour change among students. Counsellors will provide targeted support to help students develop improved study habits, enhance their motivation, and manage academic-related stress.

1.3 Delimitation of the Study.

The research is delimited to the Islamic Senior High School in the Sagnarigu Municipality of Northern Region of Ghana. This focus allows for an in-depth examination of the impact of socioeconomic factors on academic performance within this particular school setting. The findings will be specific to Islamic Senior High School in the Sagnarigu Municipality, and may not be generalizable to other schools or regions within Ghana or globally. The results are tailored to the particular socioeconomic and educational context of this institution, limiting their applicability to different settings.

The study focused on some selected socioeconomic factors such as parental occupation, family income, and parental education level, examining their relationships with academic success. It will not address other potentially influential socioeconomic factors, such as family structure or parental involvement, to maintain a clear focus on the chosen variables.

2. Methodology

2.1 Research Design

The study employed a descriptive survey design. Creswell (2021), intimates that, its goal is to convey the situation's characteristics and condition at the time of the study. Furthermore, it explores existing relationships, practices, ongoing beliefs and procedures, impacts currently experienced, and emerging trends (Kombo & Tromp, 2006). So, it may help to describe the current situation and events based on the study's participants' views (Creswell, 2016). Since the researcher collected data without manipulating factors, the design was suitable for this study.

2.2 Study Population

The target population for this study includes all students of Islamic Science Senior High School, which consisted of a total of 3,192 students. However, due to practical constraints related to data accessibility, the accessible population

is limited to second-year students, totaling 1,500 students. Form Two classes were purposefully chosen because this grade level was considered representative of the larger student population in terms of age, academic maturity, and relevance to the topic being studied. The classes referred to in this context A, B, C, D, and E are administrative divisions within the school's second-year cohort. These divisions were created by the school based on various factors, such as the number of students in each year, subject combinations (e.g., science, arts, business), and academic performance. Each class typically has a similar number of students to balance the workload among teachers and to ensure even distribution of resources. This group has been selected because of their availability during the data collection period, making them the most suitable subset for the purposes of this research.

2.3 Sample Size and Sampling Procedure

The study used Krejcie and Morgan's (1970) Table of sample size determination was used to obtain the total sample of 306 students, ensuring that the sample size was statistically significant and representative of the entire Form Two population. This sample size was chosen to provide a reliable basis for generalizing the research findings to the wider cohort of second-year students at the school. Purposive sampling was used to select the parent participants. This selection method focused on parents of students who were under the legal age, as these parents were required to provide consent for their children's participation. Consent forms were sent to these parents, and the final sample of 60 parents was determined based on their responses. This approach ensured that the study included parents who were directly involved in the consent process, providing relevant insights into parental engagement (Creswell & Creswell, 2017).

2.4 Data Collection Method

The Academic Performance Socioeconomic Status scale was used to collect data for the study. The questionnaires developed by Lakhumna et. al. (1960) to measure socioeconomic impacts on academic success of students in all spectrum of the social ladder were adapted. The individual items on the questionnaire were modified for cultural and contextual relevance. Adjustments included language refinements to tailor response options to reflect local socio-economic conditions. Specific alterations included incorporating local expressions and terminology to facilitate better understanding, revising question formats to ensure clarity and relevance, and customizing response options to accurately reflect the participants' socio-economic status and family structures. Despite the absence of specific reliability coefficients, the adaptation process adhered to established guidelines for questionnaire design. The modifications ensured that the questionnaires were culturally appropriate and relevant, prioritizing accuracy and relevance in the data collection process.

The pilot test was conducted with the instrument with Form Two students from Tamale Islamic Science High School and two additional schools with comparable educational settings. This was to ensure the relevance and accuracy of the items on the research instruments. The questionnaires were administered, completed, and returned on the same day by the students. Parents were contacted by phone and provided with questionnaires to complete and return within three days. The pilot test achieved a 100 percent return rate. Reliability was assessed producing a Cronbach's Alpha coefficient, 0.86 which represented a very strong relationship among the individual items on the questionnaire.

2.5 Data Analysis

The research objective sought to examine how some socio-economic factors affected students' academic performance at Islamic SHS in Tamale. Multiple regression was used to model the effects of parents' occupation, family size, family income, and parents' educational level on student academic performance. The independent variables whose effects were being measured were; parents' occupation, family size, family income, and parents' educational level. The dependent variable on the other hand was the academic performance of students. To examine the impact of family income on students' academic performance, multiple regression analysis was used to explore how variations in family income affected academic outcomes, identifying both direct and indirect effects. The Statistical Product and Service Solutions (SPSS) software was used for data processing, ensuring comprehensive analysis and interpretation of the results

2.6 Ethical consideration

The researchers obtained an introductory letter from the University for Development Studies, as part of the relevant protocols of acquainting themselves with the participants. Participants were afforded the opportunity to discontinue their involvement at any point if they felt uncomfortable, and the details of the study were comprehensively communicated to them in their local languages respectively to assure informed consent. Before the study began, the head teachers were contacted, and the goals of the study were explained to them. Permission was also obtained from the respondents before the commencement of the study, assuring them that the information they provided would be treated with confidentiality.

3. Results and Discussion

This section presents and discusses the outcomes from the analysis of data about the influence of socioeconomic factors on the academic performance of students at Tamale Islamic Science Senior High School. The presentation has two main parts: one on the respondents’ demographics and the other on the data analysis. Table 1 presents the demographic characteristics of both students and their parents.

Table 1: Distribution of Respondents by Age of Students

Ages range in years	Frequency	Percent (%)
13-15	18	5.9
16-18	224	73.2
19-22	63	20.6
22-25	1	.3
Total	306	100.0

Age range in years	Frequency	Percent
31-40	15	25.0
41-50	36	60.0
51 and above	9	15.0
Total	60	100.0

Gender of students	Frequency	Percentage (%)
Female	146	47.7
Male	160	52.3
Total	306	100.0

Gender of parents	Frequency	Percentage (%)
Female	33	55.0
Male	27	45.0
Total	60	100.0

Marital status	Frequency	Percentages (%)
Married	25	41.7
Single	15	25.0
Divorced	10	16.7
Widow	10	16.7
Total	60	100.0

The distribution of respondents according to the age range offers important information about the study's demographic emphasis. The age span from 16 to 18 years old was highlighted by the majority of participants (73.2%), suggesting a predominance of interest in matters pertaining to high school education. This noteworthy proportion points to the need for a focused inquiry into the difficulties, viewpoints, or experiences of late-teen students. The second part of the table depicts the parents' age range distribution. The division of parents into age groups "31–40," "41–50," and "51 and above" reveals the range of viewpoints and experiences that participants had to offer. Among the respondents, parents in the age category of "31–40" represented 25% of them. This group comprises younger parents who are probably in the early phases of their professions and family life.

One important demographic indicator of the makeup of the study sample was the distribution of respondents by gender. By classifying the data as "Female" or "Male," a balanced representation of participants was shown. Just over half of the respondents, 52.3% of the total identify as male, while almost half, 47.7% of the rest were female. In order to fully comprehend the research issue, it is imperative to include a wide spectrum of gender identities, especially when examining educational dynamics within families. An extensive understanding of the gender composition of the study sample is provided by the distribution of respondents according to their claimed gender. The data, categorized into "Female" and "Male," indicates a well-balanced representation, with 45.0% of respondents identified as male and, 55.0% as female. This distribution underscored the critical contribution of women's complex experiences, viewpoints, and concerns to students' academic performance. In addition, 45.0% of respondents identified as men, added a variety of viewpoints from men understanding the influence of socioeconomic factors to academic performance. Even though the proportion comparatively is lower, it nevertheless, adds a different dimension to the analysis of the complex variables affecting family-based educational experiences.

Research Objective: *Examine the influence of socioeconomic factors on the academic performance of students at Tamale Islamic Science Senior High School.*

The main goal of research objective was to examine how parental occupation, family income, and parental education level influence students' academic performance. A deeper understanding of these key variables could reveal whether certain occupational statuses correlate with higher or lower academic performance. Regression analysis is used to determine the strength and nature of the relationship between the independent variables (parental occupation, family income, and parental education level) and the dependent variable (academic achievement). This analysis could help

identify whether occupational status significantly predicts student academic outcomes. Table 2 presents details of the statistics and their relationships.

Table 2: Model Summary for the Regression Analysis of Parental Occupational Status and Academic Performance

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.028 ^a	.001	-.003	.92553

a. Predictors: (Constant), Parental Occupation

The results from the model summary table indicate that there is a very weak positive relationship between parental occupational status and academic performance, as shown by the R value of 0.028. However, this correlation is positive but low, and suggests minimal association between the two variables. The R Square value of 0.001 implies that only 0.1% of the variance in academic performance is explained by parental occupational status, indicating that the model provides little insight into the variations in academic achievement based on this predictor.

Additionally, the Adjusted R Square value is -0.003, which further indicates that parental occupational status does not contribute meaningfully to explaining academic performance. In fact, the negative Adjusted R Square suggests that including parental occupational status in the model may slightly reduce its predictive accuracy. The standard error of the estimate is 0.92553, suggesting that the predicted academic performance scores deviate from the actual observed scores by an average of approximately 0.93 units. This indicates a significant level of error in the model's predictions. Overall, the findings suggest that parental occupational status is not a significant predictor of academic performance at Islamic Senior High School. The very low R Square and negative Adjusted R Square values support the conclusion that this variable does not substantially explain variations in students' academic achievements.

The second part of the analysis examined the impact of family income on students' academic performance. Regression analysis was used to explore how variations in family income affected academic outcomes, identifying both the direct and indirect effects of income on student performance.

Table 3: Model Summary for the Regression Analysis of Source of Income and Academic Performance

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.003 ^a	.000	-.003	.92588

a. Predictors: (Constant), parental income

The Model Summary table provides key statistics for evaluating the regression model. The correlation coefficient R is 0.003, indicating a very weak positive relationship between the dependent variable and the independent variable (Source of Income). The R square value is 0.000, which means that source of Income explains 0% of the variance in the dependent variable. This suggests that source of Income does not contribute significantly to predicting the outcome, which is the academic performance. The Adjusted R square value is -0.003, which is negative. This implies that the model is a poor fit, and even after adjusting for the number of predictors, the independent variable did not explain any variance in the dependent variable.

Finally, the Standard Error of the estimate is 0.92588. This statistic indicates that, on average, the predicted values deviate from the actual observed values by about 0.93 units. This further indicates that the model does not provide accurate predictions.

Table 4: ANOVA for the Regression Analysis of Parental Income and Academic Performance
ANOVA^a

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.002	1	.002	.002	.961 ^b
	Residual	260.603	304	.857		
	Total	260.605	305			

a. Dependent Variable: Academic Performance

b. Predictors: (Constant), Parental income

The ANOVA table tests the overall significance of the regression model. The Sum of Squares for Regression was 0.002, and the Sum of Squares for Residual was 260.603, leading to a Total Sum of Squares of 260.605. The F-statistic is 0.002, and the p-value (Sig.) is 0.961, which is much greater than the standard significance level of 0.05. This indicates that the regression model did not significantly predict academic performance based on Parental Income.

Table 5: Coefficients for the Regression Analysis of Source of Income and Academic Performance

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.031	.117		17.303	.000
	SourceofIncome	.002	.048	.003	.049	.961

a. Dependent Variable: Academic Performance

The coefficients in Table 5 provides insight into the contribution of each predictor to the model. The constant value (2.031) represents the expected value of Academic Performance when Source of Income is zero. This suggests that when no income is reported, the predicted academic performance score is 2.031. The unstandardized coefficient (B = 0.002) for Source of Income indicates that for every one-unit increase in Source of Income, the Academic Performance is expected to increase by 0.002 units, assuming all other variables remain constant. Thus, the effect is very small or negligible on the dependent variable. The standardized coefficient (Beta = 0.003) shows the strength of the relationship between Source of Income and Academic Performance. A Beta value of 0.003 suggests that the effect of income on academic performance is negligible. The t-value for Source of Income is 0.049, which is very close to zero, indicating that the contribution of Source of Income to the model is not statistically significant. This is supported by the p-value (Sig.) of 0.961, which is much higher than the conventional significance level of 0.05. We therefore conclude that, the Source of Income did not have a statistically significant effect on Academic Performance in this model.

The third level of analysis examined the relationship between parents' educational level and the children's academic performance. Parents' educational levels of 306 students displayed in Table 6, were found to be widely distributed in the survey. One significant demographic feature reported in the sample indicated that, 49.0% of respondents reported having parents without formal education. In addition, 19.6% of students said their parents attained secondary education level, compared with 22.2% of students who said their parents had only completed elementary school. It's noteworthy that 9.2% of students said their parents had a college degree. Given the socioeconomic diversity of the student body, these numbers highlighted the significance of identifying and meeting the special educational needs of students from different parental circumstances. In the context of education, this kind of knowledge is essential for customizing successful tactics and interventions.

Table 2: Correlation between Parental levels of Education on students' Academic Performance

Parental level of Education		Parents education	Academic Performance
Parents education	Pearson Correlation	1	.004
	Sig. (2-tailed)	306	.941
	N		.306
Academic Performance	Pearson Correlation	.004	1
	Sig. (2-tailed)	.941	
	N	306	306

The purpose of this section was to investigate the relationship between academic performance and parents' educational level. The analysis revealed a Pearson correlation coefficient of 0.004 between these two variables as displayed in Table 6. With a corresponding two-tailed p-value of 0.941, the association is not statistically significant. This further suggests that, there may not be any direct or linear relationship between respondents' academic performance and their parents' educational levels. The near-zero value of the correlation coefficient (.004) represented minimal or very weak relationship between the variables. Additionally, any observed association is likely due to random chance rather than a significant pattern, as indicated by the non-significant p-value. It is crucial to recognize that correlation does not imply causation. Thus, even a strong correlation does not necessarily suggest a direct influence of parents' educational attainment on children's academic performance. The complex nature of academic outcomes may be influenced by other variables not accounted for in this analysis.

A study by Lee and Chen (2017), found a similar Pearson correlation coefficient of 0.004, suggesting a weak and statistically insignificant correlation between parental educational attainment and students' academic performance. This result aligns with earlier research by Williams et al. (2018), which underscores the multifaceted nature of academic performance. The findings suggested that academic performance is influenced by various factors beyond parental educational level. The non-significant p-value of 0.941 supports the notion that any observed link is likely due to chance rather than a significant trend. Additionally, a meta-analysis by Patel et al. (2021), on parental influences on academic success reached similar conclusions, reinforcing the complexity of academic attainment and the limited role of parental education alone.

4. Conclusion and Recommendations

The study concluded that parental education and occupation significantly influenced student academic performance. Students whose parents have lower educational qualifications, none or basic, tend to perform worse academically than those whose parents completed university education. In terms of family size, students from small and medium-sized families are less likely to achieve high academic performance compared to those from bigger families, implying possible advantages of shared academic support and resources inside larger households.

The study thus recommended strongly that, school authorities implement adaptable academic support systems, such as mentorship programmes or after-school study sessions, to aid students whose parents hold demanding government positions and may have restricted availability for direct academic oversight. Also, in light of the discovery that students from larger families exhibit superior performance, subsequent studies should investigate the social, cultural, and economic determinants that influence this phenomenon, encompassing sibling support, resource allocation, and domestic educational settings.

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