

RESEARCH PAPER

**DETERMINANTS OF STUDENTS ACADEMIC PERFORMANCE IN SENIOR HIGH SCHOOLS: A BINARY LOGIT APPROACH**

H. M. Yusif<sup>1</sup>, I. Yussuf<sup>2</sup> and A. H. S. M. Noor<sup>2</sup>

<sup>1</sup>*Dept. of Economics, KNUST, Ghana*

<sup>2</sup>*School of Economics, Faculty of Economics and Business, National University of Malaysia (UKM)*

**ABSTRACT:**

*A binary logit model is used to investigate the determinants of students' performance in the final high school examination. Questionnaires were administered to a sample of 1,129 final year students (614 boys and 515 girls) in ten senior high schools (SHSs) during the 2008/2009 academic year. Respondents were requested to provide information on their own characteristics, father characteristics and mother characteristics. The background information was then merged with the results of the examination conducted by the West African Examinations Council in May/June 2009. It was found that 55.3% qualified for post-secondary education. Empirical results revealed that academic ability and type of school attended are the most important predictors of performance in the final SHS examination. Having a father who is a farmer reduces the probability of qualifying for post secondary education by 29%.*

**Keywords:** *binary logit regression, examination, senior high school, characteristics.*

**INTRODUCTION**

Countries with low levels of numeracy and literacy will have difficulty to achieve and sustain high levels of growth (Birdsall, 1996). Education has been found to provide a mechanism for the redistribution of societal income and the welfare of its citizens (Fernandez & Rogerson 1995). It is widely believed that levels of educational attainment and human capital are an important ingredient to overall economic growth (Deininger, 2003). Unemployment tends to be inversely related to education (Becker 1975). Consequently, economists, psychologists and sociologists have studied widely the performance of pupils and students at all levels of education.

In Sub-Sahara Africa (SSA) a few studies have been undertaken regarding performance of students in schools. Glick and Sahn (2010) reported that in Senegal test performance at the end of second grade is positively affected by the level of maternal schooling. Glewwe and Jacoby (1993) found that mother's education has a significant positive impact on reading and math scores in Ghana. Currie (1977) and Heyneman (1976) argued that family background variables are less important in explaining academic performance, educational attainment, or eventual occupational placement in Uganda (SSA country) than in the industrialized societies. Glewwe and Jacoby (1993) reported that father's education had virtually no effect on

reading and math scores in Ghana. Similarly, Glick and Sahn (2010) observed that paternal schooling does not have effect on test performance at the end of second grade. In contrast, Kane (1994) reported that in the United States (industrialized country) parental education has a significant effect on high school graduation.

Indeed, it appears the findings of studies carried out to date on determinants of performance in examinations are not consistent. Therefore investigating the factors influencing performance in the SHS in Ghana becomes relevant.

#### **DATA SOURCES AND DESCRIPTIVE ANALYSIS**

The data in this study were collected through 1,500 questionnaires we administered between February and March, 2009 to the 2009 cohort of final year SHS students. Ten SHSs in the Ashanti and Brong Ahafo regions were involved. The data were screened and the sample reduced to 1,129. The questionnaire included items on student and parental characteristics. We had a large number of potential covariates for student, father and mother characteristics. Therefore, exploratory factor analysis was used for data reduction.

Out of the total sample of 1,129, the percentage composition is 54.4% boys representing 614 respondents and 45.6% girls representing 515 respondents. The predominance of males was the normal pattern expected. In order to understand better the link between socio-economic background of parents, student characteristics and academic performance, the sample schools were classified into two main groups based on academic prestige or quality. First were the standard schools, comprising the so called elite schools and moderately endowed schools. They are located mainly in urban areas with comparatively better infrastructure development (e.g. libraries and laboratories) and also attended mainly by children in the cities. Second were the less endowed schools, mainly located in rural areas and appear to be attended largely by children in the rural areas as well as low

ability students. The latter schools lack educational infrastructure such as laboratories, well stocked libraries and also experienced and trained teachers, *inter alia*.

#### **Student Characteristics**

The student characteristics included gender, relation student lives with, number of siblings, siblings or friends in university and aspirations. The data in Table 1 show that 55.4% of the total sample live with both father and mother, 27.7% live with mother only and 4.9% live with father only. This suggests that at least 32.6% of the sample population live with a single parent.

Regarding number of siblings of respondents – i.e. family size, the figures indicate that 8.3%, 16.9% and 24.2% of respondents in standard schools have one sibling, two siblings and three siblings respectively as against 2.9%, 9.2% and 18.3% for deprived schools. This suggests that in the well endowed schools students from small family sizes far exceed those in the deprived schools. In contrast, 68.8% of the sample from deprived schools have four or more siblings compared with 49.1% for the standard schools.

Also included in the background characteristics of students is the siblings/friends in university variable. This variable serves to capture peer effects on enrolments. The data reveal that 81.8% of respondents from standard schools have siblings or friends in the university compared with 41.3% of students in the deprived schools.

With regards to student aspiration, 85.7% wish to pursue university education compared with 8.7% who wish to pursue polytechnic, TTC or NTC education. Also, 2.5% want to find job. However, a critical look at the data reveals that there is a significant difference between students in the two groups of schools. In fact, 94.9% of the sample from standard schools wants to pursue university education compared with 51.3% for the sample from deprived

schools. Only 0.8% wants to attend polytechnic, TTC and NTC in standard schools as against 37.9% for students in deprived schools. In addition, 5.8% of the deprived sample wants to find job compared with 1.6% for the standard students.

**Father’s characteristics**

About father’s characteristics, the variables of interest are country of residence, educational attainments, occupation, and sector father works in. Table 2 reveals that 90.6% of fathers of respondents live in Ghana while 9.4% live abroad. Here again the total masks the differences between the standard and the deprived schools. For the standard schools 11.6% of fathers live abroad compared with 1.3% for the deprived sample.

Regarding the educational achievements of fathers, a striking difference exists between standard schools and deprived schools. In the standard schools 21.5% of respondents’ fathers

have university degree and 19.5% have polytechnic, nurse training college (NTC), teacher training college (TTC) qualifications. However, in the deprived schools fathers with university degree form 6.3% while polytechnic, NTC, TTC graduates constitute 8.7%. Also the data reveal that fathers who have JSS qualification or less constitute 26.3% of standard school respondents compared with 55.4% for the less endowed schools. This finding seems to suggest that there is a positive correlation between a parent’s educational attainment and the type of school the child attends. Highly educated fathers appear to send their children to well endowed schools than less educated fathers.

Relating to occupation, the data show that children whose fathers are senior executives and professionals form 27.6% of the sample population from standard schools as against 10.4% in deprived schools. However, children of farmers constitute 12.4% of the sample from standard schools compared with 45.8% of the

**Table 1: Description of respondents by type of school**

VARIABLE	DESCRIPTION	CATEGORY	Standard (%)	Deprived (%)	Total (%)
Respondent characteristic	Gender of respondent	0= Male	54.6	53.7	54.4
		1= Female	45.4	46.3	45.6
Relation	Relation respondent lives with	1= Father and mother	55.5	55.4	55.4
		2= father only	4.9	4.6	4.9
		3= mother only	27.0	30.4	27.7
		4= other relation	12.6	9.6	12.0
Siblings	Number of siblings Of Respondent	1= One	8.3	2.9	7.2
		2= Two	16.9	9.2	15.2
		3= Three	24.2	18.3	23.0
		4= Four or more	49.1	68.8	53.3
		5= single child	1.5	0.8	1.3
University	Siblings or friends in university	1= yes	81.8	41.3	73.2
		0= no	18.2	58.7	26.8
Aspirations	Plans of respondent after graduation	1= university education	94.9	51.3	85.7
		2=Poly/NTC/TTC			
		3= Find job	0.8	37.9	8.7
		4= Travel abroad	1.6	5.8	2.5
		5= Other	1.9	2.1	1.9
			0.8	2.9	1.2

Source: Authors’ fieldwork, 2009. NOTE: Poly is polytechnic; NTC is nurse training college; TTC is teacher training college.

sample from deprived schools. This appears to suggest that occupation of a father has influence on the type of school a child attends. Farmers are more likely to send their children to a deprived school than senior executives and professionals.

Another variable of interest is the sector a parent works. It is observed that 26.9% of fathers of the sample population work in the public sector as against 73.1% for the private sector. The predominance of respondents with parents working in the private sector is what was expected since only about 15% of Ghana's labour force is employed by government. From the angle of type of school, 30.5% of fathers of students in standard schools work in the public sector compared with 13.8% for the deprived schools. This indicates that the sector a father works in has influence on the type of school the child attends. A child who has a father working in the private sector is less likely to attend a

standard school than the child whose father works in the public school. This might be explained by the fact that a significant number of people working in the public sector have comparatively higher level of education than those in the private sector. Thus, they are able to provide quality time inputs for their children and thus enabling the children to enroll in quality schools.

#### **Mother's characteristics**

The data in Table 3 show that 3.5% of mothers live abroad compared with 9.4% of fathers (see Table 2). This seems to reflect the reality in Ghanaian society where traditionally men travel more than women, especially outside the country.

On educational attainment of mothers there seem to be a wide disparity between the standard schools and the deprived schools. Of the standard sample 7.1% have mothers with uni-

**Table 2: Description of respondents' fathers**

VARIABLE	DESCRIPTION	CATEGORY	FATHER CHARACTERISTIC		
			Standard (%)	Deprived (%)	Total (%)
Country	Country father resides in	1= Ghana	88.4	98.7	90.6
		2= Abroad	11.6	1.3	9.4
Education	Last school father attended	1= University	21.5	6.3	18.3
		2= Poly/NTC/TTC/AL	19.5	8.7	17.2
		3= SSS/OL	26.3	14.6	23.8
		4= JSS/MSLC/ below	22.1	55.4	29.2
		5= Other	10.6	15.0	11.5
Occupation	Occupation of father	1= Senior executive	9.0	2.1	7.5
		2= Professional	18.6	8.3	16.4
		3= Junior executive	3.1	1.7	2.8
		4= Trader	18.4	13.3	17.4
		5= Clerical	3.6	0.4	2.9
		6= Technical	9.1	7.1	8.7
		7= Farming/fishing	12.4	45.8	19.5
		8= Other	25.8	21.3	24.8
Sector	Sector father works	1= Public	30.5	13.8	26.9
		2= Private	69.5	86.2	73.1

Source: Authors' fieldwork, 2009. NOTE: Poly is polytechnic; NTC is nurse training college; TTC is teacher training college; AL is Advanced level; SSS is senior secondary school; OL is ordinary level; JSS is junior secondary school; MSLC is middle school leaving certificate

**Table 3: Description of respondents' mothers**

VARIABLE	DESCRIPTION	CATEGORY	Standard (%)	Deprived (%)	Total (%)	
<b>Mother Characteristic</b>	Country	Country mother resides in	1= Ghana	95.6	99.6	96.5
			2= Abroad	4.4	0.4	3.5
	Education	Last school mother attended	1= University	7.1	0.8	5.8
			2= Poly/NTC/TTC/AL	12.8	3.0	10.7
			3= SSS/OL	25.4	10.4	22.2
			4= JSS/MSLC/ below	42.1	65.4	47.0
			5= Other	12.6	20.4	14.3
	Occupation	Occupation of mother	1= Senior executive	1.6	0.0	1.2
			2= Professional	10.3	2.5	8.7
			3= Junior executive	1.9	2.5	2.0
			4= Trader	62.2	38.3	57.1
			5= Clerical	1.3	0.4	1.2
			6= Technical	0.6	0.0	0.4
			7= Farming/fishing	7.1	41.7	14.4
			8= Other	15.0	14.6	15.0
	Sector	Sector mother works	1= Public	13.7	4.2	11.7
			2= Private	86.3	95.8	88.3
				889	240	1129

Source: Authors' fieldwork, 2009.

versity degree compared with 0.8% for the deprived schools. Mothers with polytechnic, NTC, TTC qualifications form 12.8% in standard schools while the figure for deprived schools is 3%. Again, 65.4% of mothers in deprived schools have JSS qualification or less as against 42.1% for the standard schools.

About mother's occupation there is also a significant difference between the standard schools and the deprived schools. The data reveal that respondents with mothers who are senior executives constitute 1.6% of the standard sample compared with none for the deprived sample. Mothers who are professionals and traders make up 10.3% and 62.2% respectively of the standard sample as against 2.5% and 38.3% respectively for the deprived sample. Conversely, the data indicate that 41.7% of mothers of deprived respondents are farmers compared with 7.1% of mothers in standard schools who are farmers.

**Analysis of examination results**

Of the 1,129 respondents whose background data are analyzed in the section above, only 624, representing 55.3% qualified for post-secondary education while 372 (32.9%) did not qualify. About 11.8% of respondents, mainly from deprived schools, had their results withheld by the West African Examinations Council (WAEC). Table 4 shows that 65.1% of respondents in standard schools qualified for post secondary education compared with 44.6% from deprived schools. As mentioned earlier, the standard schools consist of elite and moderately endowed schools and what is more striking is that about 10.3% of respondents in the elite schools scored aggregate 10 or less (outstanding students) compared with none for the deprived schools. These findings appear to confirm Massey & Denton (1993) and Jensen & Seltzer (2000). They reported that the type of school a student attended determines her educational attainment.

### Estimation, Significance Tests and Results Estimation

To examine the factors influencing students' performance in the SHS final examination, this paper defined a binary dependent variable taking the value 1 if the individual obtained aggregate 24 or less, and 0 otherwise. We estimated three equations of the form

$$Y_i = \alpha_1 + \alpha_2 X_i + \varepsilon_i$$

Where,  $Y_i$  is an indicator that is 1 if candidate  $i$  had aggregate 24 or better and 0 otherwise.  $X_i$  is a vector of individual student and parents characteristics (described in Tables 1,2 and 3),  $\varepsilon_i$  is an independently and identically distributed error term and  $\alpha_1$  is the intercept. The coefficient vector  $\alpha_2$  provides an estimate of the impact of student and parents characteristics on the likelihood of performance in the SHS examination. In other words, for the  $i^{th}$  candidate, the corresponding element of the coefficient vector,  $\alpha_2$ , denotes the impact of particular characteristics on the likelihood of performance.

### Significance Tests

To test the overall fit or significance of a binary

logit regression some researchers have used the Hosmer and Lemeshow Test (Hosmer and Lemeshow 2000). Hosmer and Lemeshow Test is considered more robust than the traditional chi-square test, especially for small sample size. In this paper however, the sample size is big (1,129 respondents) and therefore the Omnibus Test of Model Coefficient is reported. This test uses the traditional chi-square method to test the capability of all explanatory variables in the model to predict the dependent variable. Results for the three models estimated are shown in Table 5.

The estimates show a finding of significance in all three models at the 1% level. The model coefficients show that the chi-square test statistics for testing the null hypothesis of no significant relation between the explanatory variables and the dependent variable is 681.10 with 38 degrees of freedom and a  $p$ -value of 0.000. This indicates that the null hypothesis of no significant relation between the explanatory variables and the dependent variable cannot be accepted and that there is adequate fit of the data to all three models. Thus, at least one of the explanatory variables is significantly related to the dependent variable in each model. The models are

**Table 4: Examination results of standard and deprived schools compared**

Type of school	Qualified	Not Qualified	Results With-held	Total
Standard	570 (65.1%)	305 (34.9%)	-	875 (100%)
Deprived	54 (44.6%)	67 (55.4%)	133	254 (100%)

Source: Authors' fieldwork, 2009.

**Table 5: Results of omnibus tests of model coefficients**

	Model 1			Model 2			Model 3		
	chi-sq	df	Sig.	chi-sq	df	Sig.	chi-sq	df	Sig.
Step	681.10	37	0.000	158.07	38	0.000	699.87	39	0.000
Block	681.10	37	0.000	158.07	38	0.000	699.87	39	0.000
Model	681.10	37	0.000	158.07	38	0.000	699.87	39	0.000

Source: Authors' Construction

thus considered appropriate.

We test the reliability and also assess the predictive power of the model. In this, a classification table of correct and incorrect predictions is constructed based on the predicted probability of qualifying for post secondary education. The SPSS output presented in Table 6 shows that the model’s sensitivity rate (percent of students qualified for post-secondary education and correctly predicted by the model) is 89.3% while the specificity rate (percent of students who did not qualify for post secondary education and correctly predicted by the model) is 80.4%. In total, the model predicted correctly 85.9% of cases. This shows that the model has performed well and has also proved to exhibit a high coefficient of predictive power.

In addition, a correlation matrix of the explanatory variables was constructed with the aim of identifying the occurrence of multicollinearity. It was observed that for Model 1 and Model 2 no two variables had a correlation coefficient exceeding 0.80 and thus suggesting that multicollinearity is not substantial. Consequently, there is merit to proceed with the analysis of the logistic regression results.

**Table 6: Classification table**

Observed	Predicted		% Correct
	0	1	
0	299	73	80.4
1	67	557	89.3
Overall % Correct			85.9

*NB Sensitivity=557/(557+67)%=89.3%, Specificity=299/(299+73)%=80.4%  
False positive=73/(73+557)%=11.6%, False negative=67/(67+299)%=18.3%*

According to Greene (1993) the logit model is not linear and the marginal effect of each independent variable on the dependent variable is not constant but rather depends on the value of the independent variable. Therefore, in this study, it is not possible to interpret the esti-

mated parameters as the effect of the independent variables on the dependent variable i.e. performance in the SHS examination. One approach researchers have used to analyze the effects of the explanatory variables on the dependent variable is to observe the change in the odds ratio, [Exp(B)], as the explanatory variable changes. This helps to determine the nature of the coefficients i.e. positive or negative. In some cases marginal effects are computed to determine a change in the probability that a particular event will occur. We follow Dougherty (2007) and computed the marginal effects using the formula

$$f(Z)\beta = \frac{e^{-Z}}{(1+e^{-Z})^2} \beta$$

Where  $f(Z)$  is the marginal effect of  $Z$  on the probability of the event occurring and  $\beta$  is the estimated coefficients of the logit regression.

**RESULTS AND DISCUSSION**

The results of our three binary logit regression models are presented and discussed in this section. Model 1 controls for ability variable but exclude type of school variables, Model 2 controls for type of school variables but not ability variable and Model 3 captures both ability and type of school variables.

As expected we found that ability has significant positive effect on the performance of SHS students in the final examination – i.e. the West African Senior School Certificate Examination, conducted by The West African Examinations Council. Estimates for Model 1 (in Table 7) show that for each point decrease in ability the probability of qualifying for post secondary education decreases by 14.6% and it is significant at the 1% level. The ability variable is a continuous covariate and ranges from 3 (i.e. A1, A1, A1 - very high ability) to 27 (i.e. F9, F9, F9 - very low ability). Therefore increase in the ability variable indicates decrease in ability whilst decrease in the ability variable indicates increase in ability. This explains why the logit coefficient for the ability variable is negative.

**Table 7: Regression results on performance in SHS examination-Model 1**  
Dependent variable =1 if qualified for post-secondary

VARIABLE	Coefficient	S.E.	Wald	Sig.	Exp (B)	M.E.
<b>Student Characteristics</b>						
DV representing mother only	-0.604	0.352	2.941	0.086	0.547	-0.147
DV if desire to find job	-2.353	1.141	4.256	0.039	0.095	-0.573
Ability of respondents	-0.600	0.040	224.787	0.000	0.549	-0.146
<b>Father Characteristics</b>						
DV if trader	-0.532	0.305	3.039	0.081	0.587	-0.129
DV if farmer	-1.194	0.397	9.048	0.003	0.303	-0.290
<b>Mother Characteristics</b>						
DV if senior executive	1.908	0.937	4.148	0.042	6.741	0.464
DV if professional	1.177	0.516	5.202	0.023	3.245	0.286
DV if farmer	1.450	0.483	9.006	0.003	4.264	0.353
Constant	12.505	1.346	86.259	0.000	2.698E5	

Source: Authors' fieldwork, 2009. Note: DV is dummy variable, M.E. is marginal effects

This finding suggests that ability has a significant positive effect on the likelihood of qualifying for post secondary education. Fehrman et al. (1987) has also reported similar finding in the USA.

Fehrman et al. (1987) used data from the US High School and Beyond Longitudinal Survey. The sample consisted of 28,051 students who were in their last year of high school in 1980. The study included information on ethnicity, gender, ability (measured by test scores), the socio-economic background of the parents, parental involvement, homework and time spent watching TV. They found that ability is the most important variable in explaining grades.

We also found that family structure - i.e. living with both parents or one parent has some association with performance in the final SHS examination. Table 7 shows that living with mother only compared with living with mother plus other family members reduces the likeli-

hood of qualifying for post secondary education by 14.7%. The significance level looks weak (10%) but the finding does appear to support our descriptive statistics. This finding confirms Sandefur et al. (1992) who reported that children between 14-17 years old living with one parent have 16% less probability of high school graduation. Again, Table 7 indicates that students who aspire to find job are 57.3% less likely to qualify for post secondary education compared with students who aspire to pursue university education.

About father's characteristics, Table 7 reveals that a student whose father is a farmer is 29% less likely to qualify for post secondary education compared with a student whose father is in other professions. This appears to confirm the reality in the Ghanaian context. Majority of farmers are in abject poverty (Ghana Statistical Service, 2007) and it is very likely that they invest very little time and money in their children's education.

As regards mother's characteristics, Table 7



shows that having mother who is a senior executive increases the likelihood of qualifying for post-secondary education by 46.4%. But, contrary to our expectation, the variable for mother being farmer has a positive association with performance at the SHS examination. The estimates reveal that having mother who is a farmer increases the likelihood of qualifying for post secondary education by a factor of 0.354 compared with having a mother who is hawker, maid servant etc. This finding may appear counterintuitive but there is plausible explanation for it. In Ghana, mothers who are farmers seem to have more time for good parenting which has a positive effect on students' performance. Other female workers like hawkers, maid servants may not have much time for good parenting. Indeed, this finding confirms McIntosh (2008) that children with poorly educated parents can actually do better than average if their parents have positive attitudes on the importance of school grades and further education.

Table 8 presents the results for Model 2 and indicates that gender, type of school attended and parental profession have significant effect on performance in the West African Senior School Certificate Examination (WASSCE). The estimates show that being female rather than male reduces the probability of qualifying for post secondary education by 17.3%. This finding is not surprising in the Ghanaian context and might be partly explained by cultural factors that had favoured male's education since the introduction of formal education in Ghana by the colonial masters. In all tertiary institutions, except nurse and midwifery training schools, males outnumber females. For example in KNUST, male enrolment constituted 72% (17,804) compared with 28% (6,891) for female students in the 2008/09 academic year (43<sup>rd</sup> Congregation Basic Statistics 2009). But, what should be noted is that girls with high scholastic ability enter quality SHSs in Ghana, which are positively correlated with academic performance.

**Table 8: Regression results on performance in SHS examination-Model 2**  
**Dependent variable =1 if qualified for post-secondary education**

VARIABLE	Coefficient	S.E.	Wald	Sig.	Exp (B)	M.E
DV representing gender-female	-0.711	0.156	20.750	0.000	0.491	-0.173
DV representing mother only	-0.416	0.251	2.757	0.097	0.659	-0.101
DV if desire to find job	-2.325	0.806	8.321	0.004	0.098	-0.566
DV if in elite secondary school	2.732	0.366	55.694	0.000	15.360	0.665
DV if in deprived secondary school	-0.737	0.264	7.824	0.005	0.478	-0.179
<b>Father Characteristics</b>						
DV if trader	-0.532	0.218	5.948	0.015	0.588	-0.129
DV if farmer	-0.683	0.270	6.419	0.011	0.505	-0.166
<b>Mother Characteristics</b>						
DV if professional	0.625	0.357	3.070	0.080	1.869	0.152
DV if farmer	0.712	0.342	4.346	0.037	2.038	0.173
Constant	2.386	0.858	7.735	0.005	10.874	

Source: Authors' fieldwork, 2009.

Yet again, one significant finding has to do with type of school attended. The logit regression results in Table 8 show that attending an elite school compared with a moderately endowed school increases the probability of qualifying for post secondary education by 66.5%. In contrast, but in predicted direction students who attended less endowed school are 17.9% less likely to qualify for post secondary education compared with students who attended moderately endowed school. These findings support Currie (1977) who reported a significant positive correlation between academic quality of a school and academic performance in Uganda. Conversely, these findings contradict Tobias (2003) who found that measures of high school quality have small or no impacts on the likelihood of college entry in the US.

About Model 3, the results appear to suggest that if both ability and type of school variables are controlled, the type of school variables do not matter. The estimates show that elite schools have significant positive effect on the likelihood of qualifying for post-secondary education whilst the less endowed school variable did not have the correct sign.

### CONCLUSION

This paper has examined the effects of student characteristics, father characteristics and mother characteristics on performance at the final SHS examination –i.e. WASSCE in Ghana. A binary logit model was applied to data gathered from 1,129 final year students in selected SHS. Three models were estimated. Model 1 controlled for ability variable but excluded type of school variable; Model 2 controlled for type of school variable but excluded ability variable whilst Model 3 captured both ability and type of school variables.

We found that academic ability, type of school attended, and parental occupation have significant effect on performance at the SHS final examination -i.e. WASSCE. Estimates for Model 1 showed that each point decrease in ability decreases the probability of qualifying

for post secondary education by 14.6%. Again, Model 1 showed that having a father who is a farmer decreases the likelihood of qualifying for post secondary education by 29%. We also found that a student whose mother is a senior executive is 46.4% more likely to qualify for post secondary education compared with students whose mother is in other profession.

The logit estimates for Model 2 indicate that students who attended elite school are 66.5% more likely to qualify for post secondary education compared with students who attended moderately endowed school. However, it was found that students who attended less endowed school are 17.9% less likely to qualify for post secondary education. Undoubtedly, this paper could be of great value and can offer interesting insights for shaping an effective policy that will improve educational achievements at the SHS level in Ghana.

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