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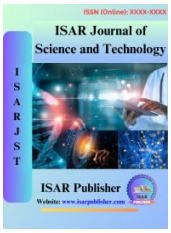

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The Entering Characteristics of Students into Senior High Schools and their impact on Academic Performance in Mathematics

Isaac Owusu-Darko*

SDA College of Education, P. O. Box 18, Asokore-Koforidua, Ghana, West Africa.

***Corresponding Author**

Isaac Owusu-Darko

SDA College of Education, P. O. Box 18, Asokore-Koforidua, Ghana, West Africa..

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Abstract: The entry characteristics of students from Junior High (early high grade) level into Senior high schools (SHS) can have many repercussions on their academic performance. Such entering characteristics such as age, weight, height, gender, formal school status (grade level of school), background status (whether day, boarding or hostel) and Entry Grade of Students can have advert effect on their academic performance. By adopting a quantitative approach to under study 166 sample students placed into Ghanaian SHS by the computerized school selection and placement system (CSSPS) in Ghana, the study variables were all tested to be significant under z-test, correlation assumptions and regression parameters. We noticed a significance effect of students entering grades and age in the model parameter estimation as moderately correlated with performance in Secondary school. Our analyses of the contrast effects of students' background as an entry characteristic reveal that, students from Villages, and cities/urban with students from towns was highly significant. We conclude that, on the average, students from towns and nearby villages are performing better in Atiwa Senior High Schools as compared to those from cities. It is recommended to stakeholders of education to consider such entry characteristics of students and place them at their most preferred schools beyond imposition. Researchers can further investigate into other variations existing among such study variables with respect to their dynamic effect on students' academic achievement.

Keywords: *Entering characteristics, academic performance, school background, school placement, students background*.

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1. INTRODUCTION

Empirical examination of the entering characteristics of students "placed" in the Ghanaian High Schools in correspondence to their academic performance is worth pursuing as it has something wealth to be studied and talk about. Such entering characteristics such as age variability, weight, height, gender, formal school status (grade level of school), background status (whether day, boarding or hostel) and Entry Grade of Students can have a positive or negative impact on their academic performance. Pupils' who finish their basic school education and had a successful performance in the Basic Education Certificate Examination (B.E.C.E) enter into Senior High Schools (SHS) with divergent characteristics, skills, adaptive behaviour, and peer relationship variables. Pupils whose parents are preoccupied with menial occupations from both urban and rural settings are considered to have difficulties in negotiating both peer-related and teacher-related adjustments in High school settings (Tong et al., 2015). Consistent with previously mentioned entering characteristics, children who come from rural settings or perhaps with social hindrances may have poorer social skills, exhibit more interfering problem behaviours, and can poorly be accepted or even rejected by peers.

Consistent evidence in the literature exists as it relates to the general self-esteem levels of various groups of students (Retnawati et al., 2018) with different entering characteristics into Senior High Schools. These findings could be interpreted in terms of social comparison theory. A review of findings on various existing entering characteristics variables affecting students' academic performance concludes with a discussion of the methodological issues that should be addressed before the social competence and affective characteristics as well as performance of children in the SHS can be understood more fully. These issues include sampling designs, heterogeneity of samples, influences of socio-demographic variables, ontological error, and the paucity of available longitudinal research on these and related questions.

According to Piaget (1935), the intellectual development of a child follows stages of which there is an exhibit of certain entry characteristics in every developmental stage of the child. These developmental stages proceed from pre-operational, operational, concrete operational and formal operational. It is believed that every child who enters into Senior High School is at least above twelve years and hence falls within the last stage of Piaget formal developmental stage. But even at this stage, certain entering characteristics single them out in terms of their attitude, aptitude and readiness to meet High School requirements and standards.

Students placed through the Computer School Selection and Placement System (CSSPS) enter the SHS with different character excitants which undoubtedly have a variable effect on their academic performance. Some students enter the placed schools with a blatant allusion of being denied a better placement and hence generate a psychological trauma leading to an adverse effect on their academic performance. A student whose dream is to attend a high class (highly graded) Senior High School but got a grade which pushes them to a less endowed schools become highly disappointed. It is an indisputable fact that, such pupils placed in High Schools enters with different academic performance characteristics which may correlate or otherwise with their performance in Senior High schools. Students who are satisfied with their placement may perform differently from those considered dissatisfied or disheartened with their placement.

Ghanaian schools can be divided into day and boarding schedules based on the abundance of facilities or the large number of students enrolled, in addition to dividing them into stages and levels. Prior to the revolution, schools only offered daycare, not higher education for children. These days, boarding is offered at many post-secondary educational institutions, including nurseries, primary schools, junior high schools, senior high schools, and other crèches. Some pupils barely comprehend when placed in a day school, having started their education at the forefront of boarding. When such an entrance trait is present, it might negatively impact pupils' ability to concentrate and function academically.

Parental occupation and background is chained to the child and hence can determine children's future career, their chance to enter school, choice of school and relative courses options and among others. Parental standard rate children alike and can dispatch them into categories that merit social prestige, class and social relationships among peers. Rating students entering characteristics in the Ghanaian High Schools could be rooted from their parents' status in terms of their occupation and background whether it have bearing or impact on students' academic performance in Senior High School (SHS).

Mathematics Education and achievement entail intricate procedures, and a wide range of variables may have a direct or indirect impact on students' academic success. Many studies have examined the association between students' attitudes and perceptions of mathematics and sociodemographic characteristics like self-concept, gender, age, home background, and location of the students as well as their accomplishment in the subject.(Owusu-Darko et al., 2014; Papanastasiou, 2002). It is important to explore the factors that contribute most to the impact of Atiwa SHS students' Academic Performance.

The bridge between Junior High School and Senior High School has been "a limit of cross-over", a transition in every child's education. Successful candidates from Junior High Schools (JHS) who wrote BECE and attained aggregate six (6) to thirty (30) are placed through Computer School Selection Placement System (CSSPS) into the next level of their Education. They go into SHS with different entering characteristics which, may or may not affect their academic performance. The problem to ponder on is whether there is an association between such identifiable entering characteristics in terms of variables like students entering grades in mathematics, students' background (rural or urban), formal school status (public or private), formal school background (day, boarding or hostel), and parental status affect students' academic performance. Is there a relationship between these exclusive entering characteristics and performance of these pupils turned students? This issue is what concerns the researcher to find out the true nature and effect of these entering characteristics in connection with students' relative performance in the SHS.

Pupils whose parents are preoccupied with menial occupations from both urban and rural settings are considered to have difficulties in negotiating both peer-related and teacher-related adjustments in High school settings and can perhaps affect their academic performance. Consistent with previous mentioned entering characteristics, children who even come from rural settings or perhaps with social hindrances may have poorer social skills, exhibit more interfering problem behaviors, and can poorly perform, be accepted or rejected by peers. Some students begin their lifetime schooling through the vanguard of boarding and hardly take in when placed in the day school. Such entering characteristic, when realized can adversely affect students focus in learning comparative to their academic performance.

Parental occupation and background is clipped to the child and can adversely determine their wards' prospect line of business or career, their opportunity to enter school, preference of school and relative course choice and among others. Parental standard rate children alike and could be transmitted into categories that worth social reputation, class and social interaction among peers. Are these children motivated by their parental status, decisions and prestige in excelling beyond their par to meet what their parents' desire from them?

It is in the light of this that the researcher deems it important to carry on research in order to investigate into the stated problem to find out the relationship between the entering characteristics and Academic Performance (AP) incurred in the Senior High Schools.

2. LETRATURE REVIEW

The Concept Definition of Academic Performance and Entering Characteristics

Kenteyky Adult Education [KYAE] (2009) report on "Fiscal Year of Managed Applications, 2009" Academic performance is described as "a procedure where a student's progress in school is measured to determine how they hold up to others in the same areas." * (p. 07). The way students approach their studies and how they manage or complete the many assignments assigned by their lecturers are referred to as their academic performance. Successful communication of what is learned is a result of one's capacity to learn, retain, and apply knowledge. Though there are many variables that affect students' academic performance, most people are aware that it mainly relates to how effectively a student is completing their assignments and studies. According to them, "the percent of registered students completing educational levels" is how academic performance is determined. The ratio of all students finishing educational levels to all students enrolled in educational programs is known as the program's academic performance. As a result, the Academic Performance Index (API) is a method used in California to assess students' academic progress and performance in order to acquire knowledge.

Bell (2010) defined academic performance in eHow (An eHow Contributor) and stated that academic performance, or a student's ability to achieve requirements set by the institution and the local

government, is the key to success in educational institutions. As the struggle for employment in the working world heats up, parents, legislators, the government, and education departments are realizing how critical it is for students to do well in school. Even if there are non-schooling routes to success in the profession, a lot of work is done to identify, evaluate, track, and assist children in their academic progress. Because they think strong academic success will lead to better career options and job security, parents are concerned about their child's academic performance. Though they have an interest in encouraging good study habits for the same reason, schools are also frequently impacted by worries about their reputation and the potential for financial aid from government agencies. Because these factors can depend on the school's overall academic performance, schools develop success metrics in order to make improvement plans.

Academic achievement used to be evaluated primarily by ear in the past (from history). Today's summation or numerical way of assessing a student's performance is a relatively new idea; the majority of assessments were performed based on the observations made by teachers. Grading schemes were first attacked for their extreme subjectivity when they were first used in America in the late Victorian era.

Tracking academic performance serves several functional goals. To promote progress and fully utilize the learning process, it is necessary to assess the areas of success and failure in a student's academic career. The findings offer a framework for discussing how well kids perform in the classroom and a uniform benchmark for all students. Performance results also make it possible for pupils to be sorted and rated on a numerically evident scale, which reduces complaints by making educators and educational institutions responsible for every grade's components.

Entering characteristics are also variables that are introduced into higher level of education that may impinge restrictions on academic performance of learners. It takes different forms in different settings of our education. (KYAE, 2009)

Aptitude and Readiness in Meeting a Desirable Learning in Senior High Schools

Additional research has demonstrated connections between students' prior education, domain-specific knowledge, and enthusiasm to study a subject—a factor that is also related to their course preference and academic readiness. However, the connection is strongest for scientific fields.(Fleckman et al., 2020; Evans, 1999). Gagne (1960) defined learners' aptitude as "the amount of time required by a learner to complete a learning task" (pg 56). Readiness on the other hand is defined by Gagne as the preparedness or willingness of a learner to learn a given learning task at a given time. He laid emphasis on how aptitude and readiness are seen as sound entering characteristics of learners moving into higher levels in the learning hierarchies. In this case, a pupil's transition from Basic School into Senior High School is a climb of the learning hierarchy in the pupil's capability learning skills in the new level they find themselves in.

The variables influencing a student's performance during their first year of study are the subject of a wealth of academic literature. As confirmed by Papanastasiou (2002), there is a substantial body of research on the relationship between mathematics achievement and socio-demographic factors like self-concept, gender, age, home background, and students' geographic location. There is also a relationship between attitudes and perceptions of students toward mathematics.

Gender issues versus Mathematics performance

When assessing a student's academic achievement, gender has a significant role. In general, men outperform women in mathematics, yet there are certain exceptions in specific fields (Farooq et al., 2008; Owusu-Darko et al., 2017; Stoet & Geary, 2018). Winston and Miller (2002) concentrated on how a student's impatience affects his own academic performance through his time-discounting behavior. There are differences in male and female patience, persistence, and tolerance when it comes to fulfilling learning standards, particularly in mathematics. Goethe (2001) discovered that poor students perform better in groups with other weak students, particularly when they are taught alongside male and female students. Regardless of gender or age, pupils do better when they are with other students of their own type. (Agyman & Nkum, 2015; Wijayanti et al., 2019). As evidenced by the Hoxby (2000) results, gender frequently produces distinct results. He discovered that students who live with exceptionally intelligent housemates earn higher scores.

Age determinant variables

It has also been discovered that a student's age has a significant impact on their academic achievement. In actual terms, younger students have a higher chance of finishing their degrees than older students, although older students often do better when full-time and part-time study status are taken into account (Scott & Smart, 2005, p. 82). However, age and having a gap year are associated. That is, the age of the student, whether young or old (maybe accepted based on mature students' entrance exams or lived at home for a number of years) before being taken into consideration for placement in the SHS following BECE. Successful secondary education is also greatly influenced by two other factors: the amount of work (three or four years of study) and the combination of study load and with students' age limit.

When a student enters SHS through the regular placement after passing the JSH Basic Education Certificate Examination, they will often be younger in their first year of study than those who take a break before beginning secondary education. Pupils who take a year out from school outperform those who advance straight through school (Birch & Miller 2007). A student's age is also associated with motivation and maturity, both of which have been demonstrated to be reliable indicators of academic success (Evans 1999). Evidence can be found in the Atiwa District, where mature students who are older than the typical age range for SHS students are occasionally housed. The Ghanaian Dairy Graphic in March 21st 2006 published a 52 year old woman who was enrolled in Akyem Sekyere Seventh-day Adventist SHS in the mentioned district in the Eastern Region of Ghana (Dairy Graphic in March 21st 2006, pg 1).

Geographical Location and background of students' Basic Education:

It is quite surprising to see students placed from urban and cities into rural communities performing unappreciatively as compared to students placed from the small towns and clustered villages in the district. According to an Australian study by Birch & Miller (2007), students from middle-class socioeconomic communities outperformed students from lower-class socioeconomic communities of the same ability level, who in turn

outperformed students from higher-class socioeconomic communities of the same ability level by a small margin. They proposed that the reason for this was that students from higher socioeconomic backgrounds attend non-government schools at a disproportionate rate. Research has indicated that children attending non-government schools in Australia (referred to as Private or Preparatory Schools in Ghana) do not achieve as well as students attending government schools when school achievement is adjusted for. (Birch & Miller, 2007).

Academic success is also occasionally linked to the ethnic background (Evans 1999; Owusu-Darko et. Al., 2023). The few Australian studies that have looked at how ethnic background affects grades have found that there isn't much of an effect on academic achievement (Birch & Miller 2004). It has been discovered that Australian students from non-English speaking backgrounds earn somewhat higher grades than those from English-speaking backgrounds. This was explained as a result of societal elements that value education highly, which increased the desire to pursue higher education (Birch and Miller 2004). According to Scott and Smart's (2005) research, Maori and Pasifika people in New Zealand had the lowest degree completion rates, even after controlling for factors relating to demographics, geography, and background study. According to certain research, a student's socioeconomic and demographic position have an impact on their ability to enroll in postsecondary education as well as their persistence and achievement in secondary school (Evans 1999).

According to certain research, some elements are unique to minority ethnic groups and kids' geographic backgrounds that have an impact on their academic achievement and have to do with how they engage with the school. Perceptions of bias and discrimination based on cultural and ethnic differences, as well as feelings of isolation, alienation, and lack of support, are some of these causes (Allen 1992). (Nora & Cabrera, 1996). While American students are the primary focus of these studies, institutional variables may also be at play in the Ghanaian environment.

Status of Basic School attended:

Scott & Smart (1999), Birch and Miller (2004), and Evans (1999) all provide helpful reviews and summaries (2005). The most significant element influencing the achievement of first-year secondary and university students is their prior academic standing at the institution they attended. Pupils that excel in elementary, middle, or high school also excel in secondary and tertiary education, accordingly (Birch & Miller, 2004).

The Ghana Education Service (GES, 2006) has divided Ghana's secondary high schools (SHS) into groups based on the availability of resources, location, topics taught, and open positions. This allows applicants to make a wider range of choices and improve their placement prospects through the Computerized School Selection and Placement System (CSSPS). The goal is to increase the number of children enrolling in schools in their local area. Public Senior High Schools in categories 'A' through 'D', Public Technical/Vocational Institutions under category 'T', and Private Senior High Schools and Technical Vocational Institutes under category 'P' were the six groups into which the schools were divided. The issue of children entering a school with specific physical qualities that may or may not be related to their academic achievement in their senior high school is not taken into consideration, regardless of the student's preferences for schools.

Ghanaian schools can arrange day and boarding schedules in addition to classifying pupils into stages and levels based on the quantity of facilities available or the sheer volume of students enrolled. During the revolutionary era, schools provided day education, with the exception of advanced levels for children. These days, boarding is offered at several tertiary institutions, including junior high school (JHS), senior high school (SHS), nursery, and primary schools. Some pupils start their education at the front of the boarding school and struggle to learn at the day school. When such an entering trait materializes, it may have a negative impact on students' learning concentration and academic achievement, particularly as they approach postsecondary education.

The evaluation of a student's academic performance also heavily depends on the entry grades or cumulative scores that they used to apply for secondary education. According to other research, there is a connection between students' prior education, domain-specific knowledge, and enthusiasm to study a subject—a connection that also exists between course preference and academic readiness (Evans, 1999; Gagne, 1960). Nonetheless, the most significant connection is seen in the fields of science and mathematics, which are virtually prerequisites for enrollment in senior high schools in Ghana.

General Review of existing Variables Affecting Academic Performance.

Every research evaluation backs up the theory that various socioeconomic, psychological, and environmental elements influence students' performance. Research studies have shown that a variety of factors, including learning abilities, have an impact on students' performance. This is because a new paradigm in education assumes that all students can and should learn at higher levels, but this paradigm should not be viewed as a limitation because other factors, such as race, gender, sex, and other sociodemographic factors, can also have an impact on students' performance. Hanzen (2000), page 48.

A few researchers even attempted to provide an explanation for the positive correlation that was found between students' academic performance, their financial situation, and their likelihood of dropping out.(Goldman et al., 2001), with particular attention to how student performance is impacted by factors such as age, background, distance from the learning location, entry-level grades, etc.

Additionally, it has been discovered that students who reside close to the university perform better than others. As stated by Soyibo et al. (1998), "High school students' level of performance is with statistically significant differences, linked to their gender, grade level, school location, school type, student type, and socio-economic background (SEB)." This further elucidates the significant influence of socioeconomic background (SEB) on student performance. Page 83

Winston et al. (2002) concentrated on how a student's impatience affects his own academic performance through his time-discounting behavior. Goethe discovered that weaker pupils perform better in groups with other weaker pupils. Students do better when they are with other students who are similar to them, according to Zajonca's 1976 study of older siblings. As evidenced by the Hoxby (2000) results, gender frequently produces distinct results. According to Sacerdote (2001), students who live with

roommates who are remarkably intelligent receive better scores.

Considering all of the factors that have been covered by other scholars, we have selected only those factors that are identifiable to senior high school students in the Atiwa district of Ghana in terms of how much these factors influence their perceived performance.

Academic Performance In Senior High Schools

Academic achievement, or a student's ability to meet the requirements set by the institution and the local government, is the primary indicator of success in any school or institution, as was previously discussed in the previous discussion, particularly in educational institutions like the SHS. There are several things that may be outside of a student's control that can hinder their ability to function academically and earn a good or high grade. Research on the connection between sociodemographic characteristics and academic achievement, for instance, has shown conflicting findings. The results of a self-report sociodemographic factor assessment done at the start of the academic year strongly predicted grade point average at the conclusion of the year, according to a study by Schultte et al. (1998). In a study by Rode & Parker (2007), academic achievement as determined by grade point average was found to be significantly correlated with three of the five components of the emotional intelligence scale that was based on the Goldman, (1995) scale.

Comprehending the origins and consequences of diverse methods that impact performance is a crucial component of Intelligence Quotient (IQ). Rode et al. (2007) went on to cite Mayer et al(1997) .'s research, which found that intelligent people can channel their positive aspirations into maintaining the energy required for high performance over extended periods of time in a secondary learning environment. Accordingly, Rode et al. (2007) reasoned that academic performance would be higher for those with high emotional intelligence. Emotional intelligence and grade point average did not strongly correlate, contrary to their hypothesis. They did discover, however, that a distinctive variance in academic success (cumulative GPA), as well as in public speaking and group behavior effectiveness, could be explained by the interplay of intelligence and conscientiousness.

Parental Background and Occupations as a Decisive Factor in Ensuring Children's Education Placement.

It is an indisputable fact that parent always wants what is best for their wards and hence wish to influence their children's decisions in their career options. Experience as it is often said is "a teacher of life". Parents thus use their experiences gained in life to guide and falter their children to choose courses that they think would help better their condition of living when they grow. Thus, some students enter into SHS with parental influence in their course options relating to their future career opportunities.

Background of students is noted to be one of the entering characteristics of students entering into Senior High Schools. Can the background of students affect the academic performance of students in the school? It is often said that ''charity begins at home''. The home background of each child one way or another affects the child's education. Every home has special hierarchical needs arranged in order of magnitude. It is in light of this that Abraham Maslow (1999) established a hierarchy of human needs consisting of a ladder of five rungs shaped in the form of a pyramid. According to Manslow (1999), 'human needs form a kind of ladder; it is necessary to climb the low rung in order to reach the highest rungs'. The base of the ladder is composed of these needs that are necessary for life to exist at all (Scott et al., 1999).

The child's desire to be educated; to such a person becomes a self-actualizing need. It is therefore not surprising that home background is very vital and relevant entering characteristic to schooling in SHS and children's relative performance in the school. When the home is poor the first need will be physiological and Education is not considered. Opportunity cost then sets in for the choice.

Parental interest in the child's education is believed to be relevant in ensuring the child's performance at school. In the home, if a parent is not interested in education, he or she will not think of investing money in the child's education. Manslow (1999), states that the anxious parent tends to be stricter, in demanding perfection from the child. This parental interest as the child entering characteristic into the SHS helps foster the child's performance.

In 1988, Manual Martinez-Pons of City University of New York researched into family Environmental process and academic achievement about three Hispanic groups in USA for his Phd Dissertation. One of the aims of his dissertation was to find out whether difference in both students academic achievement and achievement processes are related to their parents' background characteristics. The results showed that 'family background and environment could explain 56% of the variance in the students reading achievement and 56% of the variance in their Mathematics achievement (Martinez-Pons, 1989).

Mathew, (1998) of Lowe State University for his PHD dissertation looked at parents influence on academic achievement. In an Idiographic study', He found out that parents who are provided with frequent feedback about their child's academic performance or achievement along with a systematic method for managing their child's achievement, may be able to help improve the achievement of the child in interaction, (Mathew, 1988).

Sharon Fitzpatrick Ahnest of the University of Arizona, in 1990 looked at 'Motivating factor influencing students who attain valedictorian or salutatorian statuses for his Phd Dissertation. The study explored the motivational factors which influence students who attain valedictorian or salutatorian status. It was found that parents interest, encouragement, expectation and the provision of a nurturing home environment were noted to have influence on students academic performance (Ahnest, 1991).

In 1994, Philip L. Gonzales of Northern Arizona University for his Educational dissertation also looked at 'factors contributing to academic success and non-success of Mexican American elementary school children'. The study focused on the academic achievement of selected Mexican-American third, forth and fifth grades elementary school pupils in flagstaff, Arizona. His findings indicated that academic achievements, parental related self-esteem and children's perception of their mother's behavior were affected by family structure, (Gonzales, 1994).

It is common but unfortunately undocumented knowledge that parents former schools also influences the choice of school by wards and children. For instance, an Old Achimotan would love to see his or her ward enter Achimota School. For this reason, such parents would help their children in every possible way to attain the required entry grade of his/her Alma-matter.

One key indication of opportunity inequality is the degree to which economic status is passed down from one generation to the next. The way parents impact their children's education is a vital component of intergenerational mobility. In contrast to the US or the UK, a significant decision regarding the educational path to take is taken in Germany rather early on: following primary school, at the age of ten. In this work, we employ microdata analysis to examine the relationship between parents' educational attainment and their professional class, as well as the choice of secondary school and the child's future career possibilities. Six decades are covered by our analysis. We demonstrate that the educational background and professional class of parents have a significant impact on the secondary school the child attends and their subsequent academic success. For those with varied family backgrounds, we detect a small convergence over the past few decades. Additionally, we discover that male and female convergence.

One important component of intergenerational mobility is how parents affect their children's education. In contrast to the UK or the US, Germany makes a significant decision regarding the educational path to take at a relatively young age: after primary school, at the age of ten. The study by Connell et al. (1994) examines the relationship between parents' educational attainment and occupation, as well as the choice of secondary school and the child's future career possibilities, using microdata. His examination of the last 60 years shows that a child's choice of secondary track and subsequent academic success are significantly influenced by their parents' background. Later in life, there are significant differences in incomes due to the correlation between parental class and school choice (Connell & Associates, 1994).

Connell et al. (1994) deconstruct the probabilities between cohorts in order to determine if changes in the demand for education are caused by changes in parent preferences for greater education for the offspring or by changes in parent characteristics. The main conclusion drawn from this is that the rise in higher level secondary school education over the past few decades can be attributed primarily to changes in tastes rather than characteristics.

The degree to which prosperity or poverty is passed down from one generation to the next has therefore long piqued the curiosity of social scientists. Socioeconomic status, class, poverty, existing wealth, and other factors are among those that students bring with them. Economists have become very interested in this topic in recent years. Regressing certain measures of the offspring's permanent wealth on a measure of the parents' permanent income that affects their wards' career is one expanding area of economics research. According to recent findings for the US and the UK (Couch, 1994), there is less intergenerational income mobility than earlier studies had predicted. When comparing the data from the US and the UK with those from other European nations, it becomes apparent that intergenerational mobility in Europe is marginally higher than in the US and the UK. Couch, 1994).

Strong empirical evidence has been found in recent research to support the relationship between parental background and educational success (Feinstein and Symons, 1999). There are three main ways that a parent's background can affect their offspring's education when they start senior high school. First, affluent parents might be able to pay for their children to attend better schools. Second, parents who are wealthier and more educated might choose schools with greater knowledge. Third, there is a connection between the achievement on ability tests—which are a prerequisite for admission to many high-quality institutions in nations like the UK—and parental background. 1

When a selection needs to be made at a younger age, the parent's effect on the child's choice of school is probably going to be greater. The decision regarding the schools that would qualify them for a university education is a crucial step in this process.

Previous research on parents' involvement in the educational system was predicated on varying definitions or criteria of the construct (Soden & Barker, 1997). Their study examines the relationship between the documented parental participation level and the academic accomplishment (ITBS scores) of seventy first through fifth grade pupils at an elementary public charter school (PI). Data show that pupils at the charter school had a 1.2 to 1.7 times higher chance of passing the state-mandated TAKS test in grades three through five when compared to students enrolled at two area traditional public elementary schools. Statistical analyses, however, did not corroborate the notion that academic success and parental participation level were related.

In a similar vein, Dwyer et al. (2000) discovered a correlation between Year Twelve participation and parental education. Parental occupations and other related family factors are linked to participation as well. Their results showed that Year Twelve participation rates are greater for students whose parents work in the professional sector, and that non-completers were more likely to come from households where the father worked as a manual laborer rather than in a managerial or professional capacity. The correlation between noncompletion and poor family income is also present (Dwyer et al, 2000). This effect can be explained, for example, by the fact that children from lower-income homes are more likely to be low achievers in school, and that low achievement, not family income, is what keeps them from finishing (Dwyer et. al., 2004).

Performance in Basic and Senior High Schools:

The performance of pupils and Students in BECE and WASSCE respectively in Mathematics has been seasonably dissatisfactory in the light of poor performance. Some Pupils get good grades but are denied placements because of their poor performance in Mathematics as one of the elective subjects. As stated in the chief examiners report issued by The West African Examination Council (WEAC) Ghana 2008, the general comment was that, ‘‘the standard of the paper compared favourably with that of the previous years, candidates’ performance was just about average, p. 45’’. The report summarized candidates’ strength such that students show recommendable skills in approaching some of the questions in the paper especially relating to graphing. On the other hand, a report on their weakness exhibited by the candidates includes misunderstanding of concepts as well as lack of requisite skills to apply in solving questions. BECE and WASSCE 2008 report suggested remedies to schools, teachers and students. It suggested that ‘’proper tuition should be given on the basic principles of Mathematics and a lot of exercises should also be given’’.

3. **Specific Objectives**
4. **The study has the following as its specific objectives.**
5. **To investigate whether students entering characteristics into Ghanaian Senior High Schools such as students entering grades in mathematics, students' background (rural or urban), formal school status (public or private), formal school background (day, boarding or hostel), and parental outfit is a predictive to their academic performance.**
6. **To investigate whether these variables as entering characteristics of students have impact on the academic performance in their Senior High Schools placed.**

7. METHOD

The research study is descriptive in nature, with a descriptive sample survey as the primary design. Its primary goal is to describe certain phenomena that are now in existence. In relation to their academic achievement, it described the traits of pupils entering senior high schools. This was the one the researcher decided to investigate since he thought it was the most suited.

The target population consisted of all Senior High School students in the Atiwa District in the Eastern region of Ghana. This District holds three SHS, two public and one private Secondary School. The total number of Students' population at the time of the study was 1218. Of these, 541 students were in Sekyere SHS, 220 were in Atiwa SHS while the rest of 457 were in Kwabeng Anglican SHS. The researcher deems it appropriate to purposively sample Atiwa District as a case study. In Atiwa District, out of 1218 Students, 563 were females while the rest 655 were males comprising students in SHS1, SHS 2, and SHS 3 from the three respective SHS in the District. Atiwa Senior High School had 167 male and 53 number of females. In Sekyere SDA SHS, there were 324 Male students and 217 female students while Kwabeng Anglican SHS had 292 male students and 165 female students. A sample size of 166 SHS students was randomly sampled from the three main Senior High Schools in the Atiwa District for the study.

8. RESULTS AND DISCUSSION

The consecutive terminal reports of students specifying their average scores in respective subjects or courses offered in the first year of their SHS were recorded and coded for their averages. Their entry grade was also tallied with the responses of sampled questionnaires demanding their gender status, entry age, parental influences of school choices, status of formal school attended as well as background of students were also coded in the excel, SPSS and Minitab softwares for the analyses.

Table 1: The descriptive statistics analyses of the data

	N	Minimum	Maximum	Mean	Std. Deviation
AP Average Score	166	24.6	74.6	55.713	10.3962
Gender Distribution(Sex)	166	1.00	2.00	1.3133	.46522
Student's Entry Age	166	14.00	32.00	17.1988	2.59421
Day, Boarding or Hostel	166	1.00	3.00	1.5783	.72397
Formal School Status	166	1.00	2.00	1.2470	.43256
Background of Student	166	1.00	4.00	1.7771	.74976
Entry Grade of Students	166	2.00	7.00	3.9398	1.27778
Parental Influence	166	1.00	2.00	1.3373	.47424

Table 1 displays the descriptive statistics of the data collected. It could be inferred from the table that the total number of respondents randomly sampled for the data was 166. The variables considered for the distribution were Academic Performance (AP) average score of students with a minimum score of 24.6 and a maximum score of 74.6. An appreciatively mean score was noted to be 55.713 with a standard deviation of 10.40. the gender distribution of the respondents were binary response of 1(male) and 2(female) with a mean of 1.31 and a standard deviation of 0.47.

Out of the 166 respondents the minimum entry age was 14 years and the oldest among them was 32 years. The modal (mean) age was found to be 17 years with a standard deviation of 2.59. Three responses were offered for the nature of formal school attended: 1(represents day school), 2(represents boarding school), and 3(for hostel school). Majority of the respondents (mean status of the school) attended a day Basic school with a standard deviation of 0.72. Formal school status has a minimum coded response of 1(representing government schools) and 2(representing privately managed schools) with majority of the respondents attended government school (1.2) and a standard deviation of 0.43.

In the same way, background of students has minimum-maximum of 1 and 4 respectively. With this 1 represents those who were posted from Village schools, 2 for those from towns, 3 for those from the City and 4 for foreign students from Nigeria Togo and Cameroon. The background mean response was noted to be 1,78 (approximately 2 representing towns) and a standard deviation of 0.75. Hence majority of the students have their background rooted from neighbouring towns.

Out of the 166 respondents, the best entry grade in the BECE mathematics was 2 and the least of the entry grade was 7. The mean entry grade posted through CSPSS into the Atiwa schools was 3.94 (representing approximately grade 4 in mathematics), with a standard deviation of 1.27778.

Lastly, in consideration to parental influence of students on the selection of course options and parental pressure on wards, we coded 1(for No, parents do not influence them) and 2 (for Yes, parents does influence them). The mean of their response shows 1.33(approximately 1, saying that parents scarcely or don't influence them in the selection of their courses). This response has a standard deviation of 0.4742. The valid number of listwise inputted data was 166 representing 100% data entry into the analyses.

Table 2: Correlations Matrix for the Coefficient Estimation of the Study Parameters

		APA	Gender	Entry Age	Nature School	Former School	Backgr ound	Entry Grade	Parent Inf
Pearson Corr	AP Average Score	1.000	-.812	-.772	-.511	.527	-.077	-.584	.637
	Gender Dist(Sex)	-.082	1.000	-.772	-.109	-.525	.632	.583	-.015
	Student's Entry Age	-.216	-.772	1.000	.029	.075	.138	.448	-.473
	Day, Boarding or Hostel	-.511	-.109	.029	1.000	-.091	.741	-.283	-.007
	Formal School Status	.527	-.525	.075	-.091	1.000	-.091	-.104	.094
	Background of Student	-.077	.632	.138	.741	-.091	1.000	-.128	.508
	Entry Grade of Students	-.584	.583	.448	-.283	-.104	-.128	1.000	.034
	Parental Influence	.637	-.415	-.773	-.707	.494	.508	.034	1.000

Table 2 shows the Correlational Matrix for the Coefficient Estimation of the Study Parameters with respect to Gender Distribution (Sex), Student's Entry Age, and formal school attended (i.e. Day, Boarding or Hostel), Formal School Status, Background of Student, Entry Grade of Students, and Parental Influence. The correlineality of the regression parameter is specified and the significant parameters are modeled in the sub- discussed section.

We however noticed a moderately strong correlation (in a positive and negative trend) in the Pearson correlation matrix. This is a suggestive of correlation among some of the study variables.

Table 3 below shows the ANOVA table for the regression model with regression and residual sum of squares respectively, their respective difference specifying the F-statistics and relative general Significance of the model.

Table 3: ANOVA table for the Analyses.

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	1304.919	7	186.417	17.82	.049
Residual	25689.220	158	162.590		
Total	17833.243	165			

The appropriate hypotheses is given as

$$H \coloneqq \beta_1 = \beta_2 = \beta_3 \ldots = \beta_k = 0$$

Where β_i are the model parameters (predictor variables under study). Coefficient Estimation of the Study Parameters include Gender Distribution (Sex), Student's Entry Age, and formal school attended (i.e. Day, Boarding or Hostel), Formal School Status, Background of Student, Entry Grade of Students, and Parental Influence. The Model is significant at 95% (0.05) significant level since the computed P-value (0.49) is less than at least α = 0.05 level of significance. (This means that, at least one of the parameters is significant at $\alpha = 0$ level of significance)

Table 4: Coefficients Estimation for the Model parameters

Model			Unstandardized Coefficients		Standardize Coefficients		
			B	Std. Error	Beta	t	Sig.
1	(Constant)	-	72.035	7.919		9.096	.000
	Gender (Sex)	x_1	-1.789	1.836	-.080	-.974	.331
	Student's Entry Age	x_2	-.771	.322	-.193	-2.393	.018
	Day, Boarding or Hostel	x_3	.069	1.809	.005	.038	.970
	Formal School Status	x_4	-.064	1.887	-.003	-.034	.973
	Background of Student	x_5	-.750	1.721	-.054	-.436	.664
	Entry Grade of Students	x_6	-.632	.663	-.078	-.953	.034
	Parental Influence	x_7	2.311	1.722	.105	1.342	.182

a. Dependent Variable: AP Average Score (y_i)

From Table 4, the model parameter is

$$y_i = \hat{y} + e_i = b_0 + b_1x_1 + b_2x_2 + \cdots + b_kx_k + e_i.$$

Where $e_i = 0$, hence making substitution of βs, the regression model is given as

$$y_i = 72.025 - 1.789X_1 - 0.771X_2 + 0.069X_3 - 0.064X_4 - 0.750X_5 - 0.632X_6 + 2.311X_7.$$

AP Average Score = 72.0 - 1.79 Sex - 0.771 Age + 0.07 Day/Board - 0.06 Gov/Private- 0.75 Background - 0.632 Entry Grade + 2.31 Parent

Table 5: Contrast effect of study variables

Contrast	DF	Chi-Square	Pr > Chi Sq
Town vs Village	1	4.63	0.0314
Town vs City	1	3.66	0.0526
Village vs City	1	0.01	0.9215
Govt schools vs Private Sch	1	0.81	0.3673
Day vs Hostel	1	4.63	0.0314
Day vs Boarding	1	3.66	0.0556
Boarding vs Hostel	1	0.01	0.9215

Table 5 presents a test of the contrasts of each parameter estimate under a chi-square distribution (regarding three locational backgrounds and three sorts of status of former school pupil attended), as supported by the corresponding p-values.

When we compare the models' contrast for the town and village settings in the current investigation, we obtain a computed chi-square value of 4.63, which results in a p-value of Pr > Chi Sq p = 0.0314, indicating that the difference is significant. Similarly, the difference between town and city has a computed chi-square value of 3.66 and p-value of 0.0526, suggesting that it is marginally significant. The difference between the hamlet and the city is not statistically significant, as indicated by x-2.=0.01 and a higher $p-value$ of 0.9215. Furthermore, at α=0.05, none of the specific tests pertaining to the kind of previous school attended in Table 5 are significant.

9. CONCLUSION

It was found out from the study that, students who finish their Basic School and attain their (BECE) are placed through the CSPSS and enter into the SHS with certain characteristics which affect their academic performance. Such entry characteristics may include their natural given gender status (being male or female), formal school status (whether the student attended a day, Boarding or Hostel School), nature of formal school (whether the student attended government school or a privately managed school), students' background (whether the student come from a village, town, city or foreign) as well as parental pressure and influences on students' choice of courses and relative career options. It was found out that students entry age partially affect students' academic performance since its estimated parameter was found to

be significant (i.e.it parameter estimate X_2=0.069 with coefficient of standard error of estimate = 0.3224, t-test statistics=-2.39, P-value=0.018 was less than α=0.05 level of significance (P-values). It was seen that students who delayed in their placements and those who grow older before enrolling in second cycle schools have influence on their academic performance.

Coefficient Estimation of the Study Parameters reveals that, apart from the entry age of students, their entry grade into SHS as well is significant at α=0.05 level of significance with P-values estimated as 0.018 and 0.034 respectively all of which are less than (α=0.05) value. The other entry characteristic under the study (gender/Sex, Age, formal school status, nature of formal school, Background, Entry Grade, Parent) were seen to be statistically insignificance since their parameter estimation found to be more then the alpha level of significance, and hence play no important role in ensuring the academic performance of the student in the first year of their SHS (see from table 4.13 and table 4.15).

This study reaffirms the consistent estimate of Multiple Regression Model(MRM) as predictive of students academic performance based on students entering grades in mathematics, students' background (rural or urban), formal school status (public or private), formal school background (day, boarding or hostel), and parental outfit as entering characteristics into Atiwa Senior High Schools. The general analyses was considered and tested to be significant under the assumptions defined by the ANOVA. The regression model was found to be:

AP Average Score = 72.0 - 1.79 Sex - 0.771 Age + 0.07 Day/Board - 0.06

Gov/Private. - 0.75 Background - 0.632 Entry Grade + 2.31 Parent

In general, no significant effects were found for students' formal school status (public or private), formal school background (day, boarding or hostel), and parental outfit on students' Academic Performance in the Atiwa District Senior High Schools. Additionally, the study found no difference in academic achievement between genders, as demonstrated by (Zajonca, 1976).

However, we noticed a significance effect of students entering grades and age in the model parameter estimation as moderately correlated with performance in SHS1. Our analyses of the contrast effects of students' background as an entry characteristics reveals that, the contrast effect of students from Villages, and cities/Urban with students from towns was highly significant. We conclude that, on the average, students from towns and nearby villages are performing better in Atiwa Senior High Schools as compared to those from cities.

Recommendations

After careful analyses of the study, we recommend the following to GES, the SHS school administration, parents, teachers, students, and future researchers. Parents should not enforce specific programmes that only interest them in their wards to offer when enrolled in SHS. Students should however be guided in their choice of career option to have an interest in learning them to meet their set goals in life. Senior High School teachers should adhere to individual differences on the part of their students in meeting their differences rooted in students' background, their parental characteristics, formal school status attended, and any other existing indifferences. The school administration should also be careful in ensuring proper implementation of the Government policies defined to man the affairs of the school. This is because some students' entry grades in mathematics were noted to be 9 instead of a minimum placement of 6 by the CSPSS. Some of the headmasters admit students with defaulted grades and hence thwart the academic performance of not only the students but the school as a whole. It is recommended that students take their studies in SHS more seriously since the whole discussion of whether they are performing better or not centers on them irrespective of their entry characteristics into their placed schools.

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