

Influence of Family Stratification on Students' Enrollment in High School Agriculture Program in Trans Nzoia Sub-County, Kenya

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Social stratification, potentially, influences the selection of subject areas by students and hence their future careers. However, little empirical evidence exists to show this influence. The purpose of the study was to determine the likelihood of parents' social stratification influencing secondary school students' enrollment in agriculture. A semi-structured questionnaire was used in data collection, and data were analyzed using correlational design. The population comprised 1174 from three students, from which a sample of 299 was selected through a simple random sampling. Descriptive statistics were used to identify the social classes of the students' families, while logistic regression was used to determine the probability of parents' social stratification influencing secondary school students' enrollment in agriculture. This research involved 248 students, 177 boys (71.37%) and 71 girls (28.63%). The results indicated that a significant majority of the students (59%, $n = 146$) came from middle-class families. Parents' level of education, home location, and social class combined were significant predictors of enrollment in agriculture subjects, $\chi^2(1) = 8.43, p < .05$. The parents' social stratification elements were likely to influence their decision to choose an agriculture subject. Students from middle-class families were more likely to enroll in agriculture than low- and high-class families. The schools should also encourage students from low- and high-class families to enroll in agriculture. Further research is needed to examine the likelihood of parental income, occupation, and gender to influence students' enrollment in agriculture.

Keywords: agricultural education, enrollment, home location, social class, social stratification.

Introduction

In the era of artificial intelligence (AI), agricultural education plays a pivotal role in advancing food security, enhancing nutritional literacy, improving agricultural productivity, fostering life skills, and promoting ecological sustainability (Lawankar et al., 2023). Agriculture extends beyond traditional farming practices; it encompasses diverse disciplines such as agronomy, agribusiness, agricultural engineering, and extension services. Through agricultural education, learners gain exposure to multiple professional pathways and acquire practical competencies essential for addressing complex, real-world challenges in food systems and environmental stewardship.

Agricultural education is mandatory in some developed countries and optional in others. In the United States, agricultural education is optional, although middle schools' agricultural education enrollment has been on the rise, resulting in likely increases in high school agricultural education enrollment (Jones et al., 2020). Agricultural education at the secondary level in China is offered by vocational high schools (Xu, 2016). Although agriculture is taught as an integrated component of living skills at the lower secondary level, it is an elective at the upper secondary level in Malaysia (Nazri, 2006).

In Africa, agriculture is treated as a technical subject that is elective in secondary schools (Chemjor, 2016). However, in countries such as Nigeria, agricultural science as a vocational subject is taught in senior secondary schools as a mandatory subject (Ammani & Ogunyika, 2011). The enrollment in agriculture subject in all senior high schools in Ghana is low, as most of the students have chosen to subscribe to science, arts, and business subjects (Boateng et al., 2023). In Uganda, the government has been pushing in the recent past to make agriculture compulsory in senior secondary schools to build the economy (Wandera, 2022). According to Mbokazi and Mokula Lebeloane (2022), the decline of qualified agricultural science teachers continues to shrink enrollment in the subject.

In Kenya, agriculture is categorized as an applied science together with subjects such as computer studies, home science, art and design, music, etc. Secondary school students are required to choose one of the subjects in the applied sciences category when they get to form three. However, most students opt to drop it after completing form two, although agricultural education is needed to boost farm productivity and alleviate poverty (Hanagriff et al., 2020; Njura et al., 2020). Additionally, despite negative attitudes toward agriculture, secondary school students recognize that opportunity exists from adopting modern farming methods and commercial agricultural enterprises (Mulei et al., 2020).

High school students that are registered in agriculture class are required to complete a year-long project that involves growing a selected crop or raising livestock. The project allows the students to apply the theoretical knowledge learned in class, thus exposing them to more practical and lasting experience for the candidates, some of whom end up becoming future farmers. Some of the possible determinants of the choice of subjects are school policy, parental guidance, peer influence, academic ability, intelligence, age, gender, ignorance, and social stratification (Owoyele & Toyobo, 2008). The negative societal views about agriculture as a career choice are prevalent and remain a barrier to enrollment in agricultural programs of study (Mukembo et al., 2017).

Social stratification is common in education, where students are ranked based on their parents' wealth, education, social class, occupation, and other socioeconomic factors (Higgins,

2019; Kanyi & Lawver, 2017). Stratification in education has been reported to immensely influence access to learning resources and opportunities. Stratification influences a student's academic journey, from childhood through to higher education, and it often determines the quality and degree of educational attainment (Traini, 2022). Understanding the changing aspects of social stratification helps in identifying the deterrents faced by resource-poor people, paving the way for policies aimed at creating a more equitable education system (Mthembu, 2024). High school students from low-income parents are likely to opt for the agriculture class since they have limited access to resources that would allow them to enroll in other applied subjects like computer engineering.

While existing literature examines the influence of social stratification variables, including gender, socioeconomic status, and ethnicity, on educational outcomes (Hebert, 2018), there remains a critical gap in understanding how these factors specifically influence the selection of applied subjects, such as agriculture, among secondary school students.

Theoretical Framework

Conflict theory argues that inequality exists in society because there is always a shortage of available valued goods and services, and therefore, there is always a struggle over the limited resources (Hayes, 2024). According to the theory, the concept of class is fundamental, where large groups of people differ from each other by the position they occupy in a society's determined system of production, by their relation to the means of production, by their role in the social group, and by the amount of wealth and power they possess (Hayes, 2024). Conflict theory is applied in this study to understand the possibility of rich and poor families influencing their children in the selection of applied sciences.

The theory indicates that rich and powerful people try to hold on to power by any means possible to control wealth and status. Therefore, society is divided into classes with differing levels of power, wealth, and status, leading to inherent structural inequality. These social classes impact students' development and outcomes. For instance, poverty impacts student motivation, biological structures of the brain, and child behaviors (Hebert, 2018). The social status of the students' families may affect their access to and use of learning resources to prepare for their future careers (Ghimire et al., 2021). The social attributes of the students, such as age, parents' level of education, parents' occupation, and wealth of parents, influenced their choice of career in agriculture or course of study (Osita, 2020). More educated parents spend more time providing academic advice to their children than less educated ones (Avvisati et al., 2010). Rich parents normally dictate the kind of subjects that they would want their children to take at school.

Parents' expectations significantly predicted course choice. Most of them influence their children to subjects like computer and business studies that are in the same category as agriculture, which would encourage them to take attractive courses at the university level (Chola et al., 2023). Moreover, most wealthy people live in urban areas (Thuat & Cu, 2024), where agriculture is hardly practiced. It is noteworthy that the stratification of socioeconomic status in this study was limited to Kenya's implied socioeconomic stratification.

Purpose and Objectives

The study aimed to establish the likelihood of parents' social stratification to influence secondary school students' enrollment in agriculture. The research objectives were

1. Identify the socioeconomic classes of extra-county schools' students' families.

2. Examine the probability of parents' social stratification to influence secondary school students' enrollment in agriculture.

Methodology

The research study was conducted in Trans-Nzoia East Sub-County in Kenya. The target population comprised students in form three grade from six extra-county high schools. The sample size was 299 students, comprised of 197 boys and 102 girls. A stratified random sampling method was used to select students for inclusion in the study. Data were collected using a semi-structured questionnaire. The instrument's reliability and validity were checked before its actual administration. Three experts and four peers in the field of agricultural and extension education from Chuka University were invited to validate the research instrument. Validity elements of importance that were examined included content validity, construct, and face validity. Before piloting the instrument, recommendations from experts and peers were considered, which included rephrasing some items and adding specific items to the questionnaire to enhance the data collected.

A pilot study was conducted prior to the actual data collection. It involved 30 students randomly selected from two high schools, St. Monica's Girls ($n = 15$) and Goseta Boys' High School ($n = 15$). The reliability of the instrument was computed using Cronbach's alpha to evaluate its internal consistency. Cronbach's alpha yielded an average coefficient of 0.80, exceeding the minimum recommended value of 0.70. Before administering the questionnaires to students, the researcher obtained approval from the university's ethics committee and a permit from the National Council of Science and Technology (NACOSTI). Subsequently, consent was also obtained from the principals of the selected schools.

Data collection and analysis were guided by a correlational research design with predictive modeling (logistic regression). Data on whether a student was registered in the agriculture subject were measured using a yes/no item. Data on the parents' level of education were collected using a multiple-choice item with three choices: below KCSE, KCSE, or above KCSE. These choices are based on a high school examination, the Kenya Certificate of Secondary Education (KCSE). Data on the student's home location were collected using an urban/rural item, and social-economic class data were collected using a three-point Likert-type item (high, middle, low).

The questionnaires were distributed to the selected schools and subsequently administered to the sampled students. Of the 299 Form Three students targeted, 248 completed and returned the instruments, yielding a response rate of 82.94%, which exceeds the minimum recommended threshold of 50% in this type of research. No systematic differences were observed between respondents and non-respondents. Data analysis was conducted using the Statistical Package for Social Sciences (SPSS). Descriptive statistics, including frequencies and percentages, were employed to summarize the socioeconomic classifications of students' families. Logistic regression analysis was then applied to assess the extent to which parental social stratification influenced students' enrollment in agriculture. Prior to modeling, key assumptions, linearity, absence of multicollinearity, adequate sample size, independence of errors, and lack of influential outliers, were verified and satisfied. The interpretation focused on odds ratios and confidence intervals for each predictor variable, namely parental education, home location, and social class.

Findings

The study sample comprised 248 students, including 177 boys (71.37%) and 71 girls (28.63%). This distribution reflects a higher proportion of male students in extra-county schools compared to female students. The observed gender disparity is largely attributable to the structural composition of schools within Trans-Nzoia East Sub-County, which hosts four boys' secondary schools and only two girls' schools. This imbalance underscores persistent inequalities in access to agricultural education between male and female students, which may further translate into unequal opportunities within the agricultural sector. Participants' ages ranged from 16 to 18 years ($M = 17.06$, $SD = 0.81$), indicating that they were at an appropriate educational level for Form Three. Regarding residential background, 116 students (46.8%) reported living in urban areas, while 132 students (53.2%) were from rural locations. These findings suggest that most students enrolled in extra-county schools originate from rural settings.

Objective One

Objective one sought to identify the socioeconomic class of the students' families because it was believed to be a major factor that was likely to influence high school students' choice of agriculture subject.

Students' Families' Social Class

Three categories of classes emerged, including low, middle, and high classes. Table 1 shows the distribution of students based on their families' social classes.

Table 1

Distribution of Students Based on the Families' Social Class (N = 248)

Class	Freq. (f)	Percent (%)
Low	50	20.2
Middle	146	58.9
High	52	21.0

Note: The percentage may not total 100 due to rounding.

As presented in Table 1, the results indicated that a significant majority of the students, 59% ($n = 146$), came from middle-class families. Students from low-class families constituted 21% ($n = 52$) of the total respondents, while those from high-class families were 20% ($n = 50$). The perception of students regarding the likely influence of social class in subject choices was assessed as shown in Table 2.

Table 2

Perception of Students on the Influence of Stratification on Enrollment in Agriculture (N = 248)

Statement ^a	<i>M</i>	<i>SD</i>
My family did not influence my decision to enroll in agriculture.	3.45	0.97
Most students from high social class families do not enroll in the agriculture subject.	3.22	1.39
A majority of students who belong to low social class families enroll in agriculture.	3.27	0.96

Note.^a Strongly Disagree = 5, Disagree = 4, Undecided = 3, Agree = 2, Strongly Agree = 1.

Many of the students were undecided when asked to indicate if their families influenced their decision to enroll or not enroll in agriculture ($M = 3.45$, $SD = 0.97$). This may have resulted from the fact that more than half of the respondents were not registered in the agriculture class. The data indicated that the students were also undecided on whether most students from high social class families enroll in the agriculture subject ($M = 3.22$, $SD = 1.39$). Based on the research data, the study failed to confirm whether most students who belong to low social class families enroll in agriculture ($M = 3.27$, $SD = 0.96$).

Enrollment in Agriculture

An analysis of the enrollment of students in the agriculture subject indicated that 40% ($n = 101$) of the students were taking the subject, while the majority ($n = 147$, 59.3%) were not studying it. The results further indicated that out of the 101 students who had enrolled in agriculture, 72 were boys and 29 were girls.

Parents' Level of Education

This research hypothesized that parents' level of education was likely to influence their children's choice of subject at school. Therefore, the participants were asked to indicate the highest level of education achieved by their parents. The results indicated that 33.87% ($n = 84$) of the respondents' parents had a college diploma, 27.82% ($n = 69$) had a college certificate, and 27.02% ($n = 69$) held a bachelor's degree. Additionally, 6.85% ($n = 17$) of the respondents indicated that their parents did not complete secondary education, 2.02% ($n = 5$) had a master's degree, and 2.02% ($n = 5$) had achieved a doctorate (Ph.D.) degree.

Objective Two

Objective two sought to examine the likelihood of parents' social stratification to influence secondary school students' enrolment in agriculture. The parents' social stratification elements that were included in the model were level of education, home location, and social class. Table 3 shows the results of the prediction.

Table 3

Logistic Regression Results for Stratification by Enrollment in Agriculture^a (N = 248)

Variable	<i>B</i>	<i>S.E.</i>	Wald χ^2	<i>p</i>	Exp(B)
Education			3.440	.632	
Education (1)	-.579	.706	.672	.412	.560
Education (2)	-.545	.715	.581	.446	.580
Education (3)	-.685	.717	.915	.339	.504
Education (4)	-1.827	1.127	2.628	.105	.161
Education (5)	.400	1.412	.080	.777	1.491
Home location (1)	.046	.288	.025	.873	1.047
Social class			25.665	.000	
Social class (1)	2.170	.477	20.697	.000	8,760

Variable	<i>B</i>	<i>S.E.</i>	Wald χ^2	<i>p</i>	Exp(<i>B</i>)
Social class (2)	1,640	.362	20.480	.000	5.156

Note: ^a 1= Yes, 2 = No; Nagelkerke $R^2 = .174$; $\chi^2 (1) = 8.43, p < .05$

As shown in Table 3, a logistic regression analysis was performed to determine the likelihood of parents' level of education, home location, and social class influencing their children's choice of the agriculture subject. The logistic model was statistically significant, $\chi^2(1) = 8.43, p < .05$. The model explained 33.0% (Nagelkerke R^2) of the variance in enrollment in agriculture and correctly classified 59.3% of cases. The social class of the parents significantly predicted the choice of agriculture subject ($p < .05$). However, home location was not individually a significant predictor of the choice of agriculture ($p = .87$). The parents' level of education was also not a significant predictor of the subject choice ($p = .63$). However, when combined, they significantly predicted enrollment in agriculture ($p < .05$).

Discussion

Most of the students taking agriculture in extra-county schools came from middle-class families. It is suggested that most of the parents in the middle-class level of socioeconomic status can afford the educational resources required to support their children's education, leading to high performance and hence admission to the extra-county schools (Katherin, 2019). Middle-class parents are also able to raise the fees charged by these schools. Middle-class parents have good jobs, and having discerned the fruits of good schooling, they are willing to invest in their children's education. Most of these parents recognize the opportunities that exist in agriculture (Mulei et al., 2020). Many students from low-class families do not manage to get good grades in the Kenya Certificate of Primary Education (KCPE) examinations to get admitted in extra-county. This is because most of them lack the basic learning resources that are needed for adequate preparation for the exam (Ghimire et al., 2021). Besides, some of those who qualify to join extra-county schools are unable to raise the school fees charged by the schools due to poverty. Therefore, these students join day schools that are close to their homes since they charge a lower amount of fees as compared to the schools at higher levels.

Fewer students from high-class families enrolled in extra-county schools; instead, most rich people opt to take their children to prestigious private secondary schools. Some wealthy families also take their children abroad for secondary and tertiary education. In the Kenyan context, students from affluent families often exhibit a negative disposition toward agriculture as a subject, reflecting similar attitudes held by their parents. This trend is largely influenced by the perception that agriculture is associated with subsistence farming and limited economic mobility, rather than modern agribusiness opportunities. Consequently, both parents and students tend to prioritize subjects perceived as gateways to prestigious careers, such as medicine, law, or engineering, while undervaluing agricultural education. This generational bias poses a challenge to efforts aimed at promoting agriculture as a viable and lucrative profession in Kenya's evolving economy and the world at large (Mukembo et al., 2017).

Over half of students in extra-county schools had opted not to take agriculture despite its importance in the economy. Many of the students were taking subjects such as business studies, home science, music, and computer studies. The students who had enrolled in the subject did it out of passion for the subject, parental influence, and teachers' advice (Owoyele & Toyobo, 2008). A few students noted that they chose the subject as they come from an agricultural region

and practiced agriculture at home. Others pointed out that the subject is a boost to raise their performance, as its exam is assumed to be a little bit easier compared to other applied subjects. The number of boys enrolled in agriculture was more than girls, as boys preferred the agriculture subject more than girls due to their involvement in agricultural activities at home (Chemjor, 2016).

Regarding parents' level of education, many of the parents had attained tertiary education, implying that they had a clear understanding of the career opportunities that exist and thus a strong basis for guiding their children into making appropriate subject choices. Most of the students from well-educated parents indicated that their parents spent more time guiding them not only in subject choices but also in academic achievement (Avvisati et al., 2010). Some of them, especially those with professional careers, guided their children on how to tackle academic tasks, supervised their learning, and motivated them to learn.

The results indicated that students from middle-class families were 8.76 times more likely to enroll in agriculture than those from low-class families. Students from high-class families were 5.16 times more likely to choose agriculture than low-class families. Social class was a significant predictor of enrollment in agriculture. Most parents from middle-class families are well educated; thus, they have a clear understanding of the career opportunities that exist in agriculture. The parents therefore encourage their children towards the selection of the agriculture subject in preparation for an agriculture-related career. This explains why many of the students who took agriculture were mostly from middle-class families. Besides, many of the extra-county schools perform well in the subject, and this motivates the parents from both middle and high classes to encourage their children to take up the subject (Manyasi et al., 2023).

Many of the students in the extra-county schools came from rural areas where, besides their parents being engaged in professional careers, they have farms. These students engaged in agricultural activities during the holidays, and this may also have motivated them to enroll in agriculture. Some of the roles they are assigned to do by their parents during the holidays include weeding, fodder cutting, pruning, grazing livestock, cleaning, sorting grains and other produce, etc. Well-educated parents are more likely to influence their children as regards subject choices. Some of them encourage or make the decision for their children on which subject to enroll in at school or college. Furthermore, most of the students would want to have a profession like their parents, or they look up to them for advice relating to careers. Since most parents in the low-class families are not well educated, they are unlikely to be knowledgeable of the opportunities that exist in agriculture and thus lack the requisite knowledge to provide viable academic advice to their children. Students from low-class families make subject selection decisions on their own or sometimes with the assistance of their teachers.

Conclusion and Recommendations

Enrollment of students in the agriculture subject in extra-county schools was more than in other applied subjects. This high enrollment may have been brought about by the availability of teaching and learning resources that exist in the schools and the motivation of the students to learn the subject (Ghimire et al., 2021). It also emerged that boys preferred agriculture to other applied subjects more than girls, as many of them participate in farming activities at home during the holidays (Chemjor, 2016). High schoolers should continuously be encouraged to take the subject due to the enormous opportunities that exist in the field and the importance of agriculture in the economy (Njura et al., 2020). Many of the students in extra-county schools in the sub-

county were from middle-class families. This may have been contributed to by the fact that high-class families opted to take their children to private schools, while most children from the lower class did not attain the entry marks or were unable to raise the fees charged in extra-county schools. The government should provide adequate teaching and learning resources in public primary schools to enable children from poor families to attain good grades for admission in extra-county schools.

The findings clearly show that most parents of students from extra-county schools are well educated. Many possess college certificates or higher, while only a small portion have less than secondary education. It is clear from the findings that social stratification is a determinant of subject selection in secondary schools. The social status of the parents determines the kind of subjects that the children choose (Avvisati et al., 2010). Among the social stratification factors of the parents, education level and home location were not significant predictors of enrollment on their own; however, social class was a significant factor. Students from middle-class families are more likely to enroll in agriculture than those from low- and high-class families.

Schools should also encourage students from low- and high-class backgrounds to enroll in agriculture to develop sufficient human resources for the agricultural sector (Manyasi et al., 2023). Extra-county schools should be encouraged to admit students from low-income families, especially those who qualify but cannot pay fees. The government should provide bursaries for these students to give them equal opportunities with their peers. This study only examined three social factors: education level, home location, and social class. Further research is needed to explore how parental income, occupation, and gender influence students' enrollment in agriculture. There is a need to investigate the likely influence of social stratification on the choice of other applied subjects, namely music, home science, computer, and business studies.

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