

INFLUENCE OF PARENTING STYLES ON THE STUDENT'S CHOICE OF AGRICULTURE SUBJECT IN PUBLIC SECONDARY SCHOOLS IN KEIYO NORTH SUB-COUNTY, KENYA

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Abstract

Agriculture is a key vocational subject in Kenya's secondary schools, as it equips learners with knowledge and skills for entrepreneurship, employment and further education. Despite its importance to national development, enrolment in agriculture has persistently been low in Keiyo North Sub-County. Studies suggest that parenting style shapes students' academics decisions and career pathways. This paper investigated the influence of parenting style on students' choice of agriculture subject in public secondary schools in Keiyo North Sub-County. It adopted the correlational research design. The accessible population comprised 50 career guidance teachers and 1448 form three students. A sample of 337 students and 45 teachers were selected using stratified, proportionate and simple random sampling techniques. Data was collected using structured questionnaires for both students and career guidance teachers. The face and content validity of the two instruments were established through expert judgement. The reliability of the students' questionnaire was estimated using the Cronbach Alpha method while that of the teachers was assessed using the inter-coder agreement. The reliability coefficient of the students' questionnaire was 0.890 while the teachers' questionnaire yielded a Cohen Kappa coefficient of 0.726. The paper hypothesis was tested at .05 level of significance using binary logistic regression. The findings revealed that only 45.3% of the students had chosen agriculture subject, underscoring the continued low uptake of the subject. Authoritative parenting style was predominant (67.8%) but parenting style was not a significant predictor of students' choice of agriculture subject (pseudo $R^2 = .008$, model coefficient $\chi^2(2, N = 400) = 2.280, p = .320$). The paper concludes that parenting style plays a limited role in shaping students' decisions to enroll in agriculture subject, other factors are more influential in determining students' subject choices.

Keywords: *agriculture subject, parenting style, students' choice*

Introduction

Agriculture is considered a critical sector for food security, employment and economic development across the world (Organisation for Economic Co-operation and Development [OECD], 2025). The sector contributes significantly to national economies by providing raw materials for agro-based industries, supporting rural livelihoods and promoting economic growth (Food and Agriculture Organisation [FAO], 2023). Agriculture is a key driver of development in many emerging economies because it supplies food, generates employment and supports industrialization through value chains and related services (World Bank, 2023). For example, countries such as Brazil and China derive substantial economic benefits from agricultural production, while in Sub-Saharan Africa, the sector plays a central role in poverty reduction and rural development.

In Kenya, agriculture plays a critical role in the national economy as it contributes about 21 percent of the country's Gross Domestic Product (GDP) through linkages with manufacturing, trade and services (Kenya National Bureau of Statistics [KNBS], 2024). Agriculture employs over 40 percent of the total population and more than 70 percent of the

rural population, making it the primary source of livelihood for millions of households (Central Bank of Kenya [CBK], 2023). Beyond its economic contribution, agriculture is central to food security, poverty alleviation and national development strategies. As Kenya seeks to improve food production and achieve sustainable development, strengthening human capital in the agriculture sector has become increasingly important. One of the key strategies for achieving this goal is promotion of agriculture education at various levels of the education system.

Agriculture education aims at equipping learners with knowledge, practical skills and attitudes necessary for effective participation in the agricultural sector (Ogweno et al, 2024). It encompasses the study of agricultural sciences and technologies, as well as acquisition of practical competencies in areas such as crop production, livestock management, fisheries, agricultural engineering, agribusiness and related occupations (Rahaman et al., 2021). Agricultural education enhances learners' ability to adopt modern technologies, manage agricultural enterprises efficiently and respond to emerging challenges in food production systems. Literature shows that individuals with higher levels of agriculture education are more likely to adopt innovations, improve farm productivity and contribute to agricultural modernization (Johnson & Christensen, 2022). Consequently, strengthening agriculture education is widely regarded as an essential component of strategies aimed at improving agricultural productivity and ensuring food security

Within the Kenya education system, agriculture is offered as a vocational subject in secondary schools along other elective subjects such as home science, music, foreign and sign languages. Under the 8-4-4 education systems, which is being phased out, agriculture was compulsory during the first two years of secondary school education and an elective in the third year (Konyango et al., 2015). Similarly, under the Competency Based Education (CBE) system, agriculture is compulsory at Junior school but is an elective at Senior School (Kenya Institute of Curriculum Development [KICD], 2023). Secondary school agriculture education aims at cultivating learners' interest in agriculture, developing practical skills and creating awareness of career opportunities within the sector (KICD, 2017). It is envisaged that through integration of knowledge and practical learning experiences, secondary school agriculture will contribute to development of skilled human capital necessary for agricultural transformation and rural development.

Despite the strategic importance of agriculture to Kenya's economy, enrolment in the subject at secondary school level remains relatively low. Data from the Kenya National Examination Council (KNEC) indicate that although the total number of students sitting for the Kenya Secondary School Education (KCSE) examination has steadily increased, the proportion which selects agriculture is comparatively small (KNEC, 2023). For example, in 2019, approximately 289,315 out of 699,706 candidates registered for agriculture, while in 2023, only 369,341 out of 899,453 candidates sat for the subject. These statistics suggest that a substantial proportion of students opted for other vocational subjects despite the importance of agriculture. Low enrolment in agriculture subject has also been observed in the sub counties such as Keiyo North. Data indicate that although the number of students enrolling in agriculture subject in Keiyo North has increased over time, the proportion relative to the total number of KCSE candidates remain low (KNEC, 2022, 2025).

Studies have identified a wide range of factors that influence students' choice of agriculture subject in secondary schools. These include availability of instructional materials, teaching methods, career aspirations, academic performance in the subject and peer influence (Puad et

al., 2023, Wairimu & Odero, 2022). Negative perception of agriculture as a labour intensive and low-status occupation has also been cited as a key factor that contributes to low enrolment (Manyasi et al., 2023). Additionally, learning environment and parental characteristics have also been associated with students' interest and engagement in the subject (Kanyi et al., 2026; Onganga, 2021).

Parents' characteristics play a crucial role in shaping children's attitudes, aspirations and educational choices because they serve as the primary socializing agents during childhood and adolescence (Bryan et al., 2020). Parents' characteristics refers to the set of attributes, behaviours, and socio-economic conditions of parents that shape their children's development, learning experiences and educational outcomes. These characteristics include educational values, level of education, religion, occupation, socio-economic status, degree of involvement in their children's education and parenting style (Cecalupo et al., 2026; Vargas-Rubilar et al., 2025). Studies have shown that these characteristics influence students' attitudes behaviour towards subject choices, academic aspirations and career pathways (Kim & Kim, 2021; Rammolai-Segokgo et al., 2022). It means that parenting style is among determinants of students' educational outcomes and career development.

Parenting style refers to the strategies, attitudes and behaviours parents adopt in raising their children and guiding their development ((Krishnave & Arunachalam, 2021). Scholars have categorized parenting styles into authoritative, authoritarian, permissive and neglectful (Hayek et al., 2022; Masud et al., 2021). Each is characterised by different levels of parental control, responsiveness and support. Research indicates that parenting styles influence children's motivation, self-efficacy, academic engagement and career aspirations (Muturi & Kinai, 2022). Boateng et al. (2021) argues that how a child is brought up is a major factor that influences their behaviour, academic performance and what they do in life. Spera et al. (2022) contend that parenting styles which portrayed parents' interest and encourage their children impact positively on students' attitudes towards school, classroom conduct, self-esteem, and motivation to excel in school. Puad et al. (2023) noted that authoritative parenting, which is characterised by high expectations combined with support and open communication, improved decision making and academic outcomes of adolescents.

Although a substantial body of research has examined determinants of students' subject choice in Kenyan secondary schools, existing studies have predominantly concentrated on school-based and learner-related factors such as teaching methods, availability of instructional resources, and students' attitudes toward subjects. These studies have generated considerable insights into general subject selection processes but have given limited attention to family-level influences, particularly parenting styles (Kanyi, 2026; Omwenga et al., 2021). While parental influence is occasionally acknowledged in broader discussions of career and subject choice, it is rarely conceptualized and analysed through the lens of established parenting style typologies, nor is it linked directly to the uptake of agriculture as a school subject. Consequently, the specific mechanisms through which parenting styles may encourage or discourage students from choosing agriculture subject remain insufficiently understood. This study sought to address this gap by examining the influence of parenting styles on students' choice of agriculture subject in public secondary schools in Keiyo North Sub-County, Kenya. By focusing on this underexplored intersection between family dynamics and subject selection, the study provides context-specific evidence that may inform

interventions aimed at enhancing enrolment in agriculture subject and promoting agricultural career pathways among secondary school students.

Hypothesis

HO₁: The influence of parenting style on students' choice of agriculture subject is not statistically significant.

Methodology

This study adopted the correlational research design. Correlational designs are deemed appropriate for exploring relationships between naturally occurring variables (Bhandari, 2021). The study was conducted in Keiyo North Sub County, Kenya, which is located at approximately latitude 0°10' North and longitude 35°37' East. The sub county covers an area of about 1,439.3 square kilometres and consists of four wards, namely, Kamariny, Kapchemutwa, Tambach and Emsoo (County Government of Elgeyo Marakwet, 2023). Crop and livestock farming are the main economic activities in the area. The sub county had 50 public secondary schools at the time of the study. The location was selected because agriculture is a key economic activity in the area, yet the proportion of students who select the subject has persistently been low.

The target population comprised 50 career guidance teachers and 9458 students enrolled in 50 public secondary schools in Keiyo North Sub County. The accessible population consisted of 50 career guidance teachers and 1448 form three students, as it is the class level where students choose optional vocational subjects. The sample size of students was determined using Krejcie and Morgan's (1970) formula at 95% confidence level and a 5% margin of error. The formula yielded a sample of 306 students. However, 400 students participated in the study because intact classes were used in accordance with school administrative and ethical guidelines that discourage reconstituting classes for research purposes. For the career guidance teachers, the same formula produced a sample of 45 respondents. Stratified and proportionate sampling was used to allocate respondents across school categories, while simple random sampling was applied to select teachers and classes within schools.

Data was collected using two semi-structured questionnaires administered to career guidance teachers and students. The students' questionnaire contained sections that covered parenting style and subject selection. Parenting style was measured using items adapted from Robinson et al. (1995) Parenting Style and Dimensions Instrument, which measures authoritative, authoritarian and permissive parenting practices. The teachers' questionnaire had sections for eliciting data on career guidance services, students' subject choices and parenting styles. Prior to the main study, the face and content validity of the two instruments were reviewed by experts. Reliability of the students' questionnaire was estimated using the Cronbach Alpha method. It yielded a reliability coefficient of 0.890. The reliability of the career guidance teachers' questionnaire was assessed using the inter-coder agreement procedure. Two independent coders analysed the qualitative responses to items in the instrument, and its reliability assessed using Cohen's Kappa. A Kappa coefficient of 0.726 was obtained. The two instruments were deemed reliable since their coefficients were above the 0.7 threshold recommended for educational research (Ibrahim et al., 2024).

Data collection was conducted after obtaining a research permit from the National Commission for Science Technology and Innovation (NACOSTI) and clearance from relevant Government authorities. Informed consent was obtained from the participants before

administering the questionnaires. Completed questionnaires were collected immediately after administration. The collected data were coded and analysed with the aid of the Statistical Package for Social Science (SPSS). Descriptive statistics were used to summarise parenting style and subject selection patterns. Binary logistic regression was used to establish the relationship between parenting style and students' choice of agriculture, given that the dependent variable was dichotomous (Hilbe, 2023). Prior to data analysis, diagnostic tests were conducted to ensure that assumptions of logistic regression were satisfied. Dummy variables were also created to enable regression analysis since the independent variable was categorical. Ethical principles such as consent, voluntary participation, confidentiality, anonymity and secure storage of data were observed through the study.

Results and Discussion

This paper examined the influence of parenting style on students' choice of agriculture subject. Parenting styles and students' choice of agriculture subject were determined and binary logistic regression used to establish the influence of the factor on selection of the subject.

Parenting style data was collected using 30 closed ended items, 11 measuring authoritative, 12 authoritarian and 7 permissive types. Students rated parental behaviours on a five-point Likert scale, 1 = Never to 5 = Very Often. Mean scores were computed for each parenting style and the highest mean identified as the dominant style per respondent. The dominant parenting styles were then summarised using frequencies and percentages.

Table 1: Parenting Styles (n = 400)

Parenting style	Frequency	Percentage
Authoritative	271	67.8
Authoritarian	90	22.5
Permissive	39	9.8

These results reveal that the authoritative parenting (67.8%) was dominant followed by authoritarian (22.5%) and permissive (9.8%). The predominance of authoritative parenting is consistent with global and African studies which established that supportive and autonomy-granting parenting enhances learners' academic engagement and decision-making capacity (Hanafiah et al., 2025; Ogonda & Egwurugwu, 2025). Liu et al. (2024) also found that authoritative parenting was prevalent among families. The study further noted that parenting style predicts students' school engagement and future orientation.

The findings derived from career guidance teachers' qualitative data indicated that majority (90.0%) were of the view that parenting style influences students' subject choices. The career guidance teachers attributed this perspective to three mechanisms. First, parental modelling, where students exposed to agricultural practices at home are more likely to select agriculture subject. This supports Abujaja et al. (2025) assertion that home-based agricultural experiences significantly shape students' academic preferences. Second, attitude formation, whereby parenting practices shape learners' perceptions towards agriculture. This is consistent with Drymiotou et al. (2021) view that family environments influence value development and educational aspirations. Third, behavioural transmission, where parents act as role models and primary agents of socialisation. This aligns with the Social Cognitive Career Theory, which emphasises environment influences such as family in shaping career related decisions (Makola et al., 2025).

A minority (10.0%) of the teachers were of the view that parenting style had limited influence on students' choice of agriculture subject. They attributed this perspective to urban upbringing with limited exposure to agriculture, parents' lack of agricultural knowledge and role of individual interest and academic performance. These findings are consistent with Wei's (2026) argument that although parenting style is influential, its effects are moderated by contextual factors and individual agency in educational decision making.

The study examined students' choice of agriculture subject alongside the role of career guidance and decision-making support systems in schools. The results from the career guidance teachers indicated that counselling services were offered across all class levels, with the highest concentration in Forms 1 and 2. Most (75.0%) of the schools provided career guidance once per term, suggesting limited frequency of engagement despite the complexity of students' academic and career decisions. This pattern is in tandem with evidence in other studies which noted that inadequate and irregular career guidance services constrain subject selection among secondary school learners (Aluoch, 2024; Sang, 2026).

With regard to strategies used to support subject selection, most schools reported creating awareness about post-secondary opportunities and labour market trends (71.1%), organizing career days (31.1%) and involving parents (28.9%). These findings are in tandem with those of studies which demonstrated that exposure to labour market information and parental involvement significantly enhance students' career awareness and subject choices (Ngumbi et al., 2021; Rasak et al., 2023).

The results showed that students consulted multiple stakeholders before making subject choices, with both parents (45.5%) and career guidance teachers (25.1%) being the most influential. These findings are in harmony with those of a study that highlighted the central role of parents and teachers as key decision-making agents in students' educational pathways (Wairimu & Odera, 2022). In terms of subject preference, agriculture emerged as the most selected vocational subject (45.3%), followed by business studies (26.1%). This confirms the national trends which indicate relatively high uptake of agriculture compared to other vocational subjects (Kenya National Examinations Council [KNEC], 2020; Omwenga et al., 2021).

The students' reasons for selecting agriculture subject were primarily career oriented with 59.9% indicating that it was a requirement for their intended careers, followed by good performance in the subject (19.8%). These findings support those of Nyamwange (2021) which showed that career aspirations and academic achievement were significant predictors of subject selection. Conversely, students who did not select agriculture cited lack of relevance to career pathways (43.6%) and perceived difficulty (16.8%). These results concur with those of Aluoch (2024) that students tend to avoid subjects perceived to be difficult or misaligned with their career goals.

The findings generally suggest that students' choice of agriculture is shaped by a combination of career aspirations, academic performance, exposure to guidance and counseling services social influence from parents and teachers. This is consistent with career development theories which emphasise interaction between the individual, society and institutional factors (Drymiotou et al., 2021; Micola et al., 2025).

The paper hypothesis posited that the influence of parenting style on students' choice of agriculture subject is not statistically significant. It was tested using binary logistic regression with choice of agriculture coded as a dichotomous outcome, selected/not selected. Parental style, authoritative, authoritarian and permission, was treated as a categorical predictor and dummy coded, with permissive parenting being the reference. Preliminary diagnostics confirmed that key assumptions such as independence of observations, and a dichotomous dependent variable were met.

Table 2: Results of the Binary Regression Test between Parenting Style and Choice of Agriculture Subject

Scale	B	S.E.	Wald	df	p-value	Exp(B)
Parenting style			2.257	2	.324	
Authoritative	-.458	.345	1.758	1	.185	.633
Authoritarian	-.571	.387	2.180	1	.140	.565
Constant	.258	.323	.637	1	.425	1.294

Homer and Lemeshow test = $\chi^2(1, N = 400) = .001, p = .999$
Nagelkerke Pseudo $R^2 = .008$
Classification = 55.8%

The results reveal that the Hosmer–Lemeshow goodness-of-fit test was non-significant, $\chi^2(1, N = 400) = .001, p = .999$, indicating that the model fitted the data adequately. The model explained a negligible proportion (0.8%) of variance (Nagelkerke $R^2 = .008$) and correctly classified 55.8% of cases. At the individual predictor level, neither authoritative ($B = -.458, p = .185$, Odds Ratio [OR] = 0.633) nor authoritarian ($B = -.571, p = .140, OR = 0.565$) style significantly influenced the likelihood of selecting agriculture. The overall results show that parenting style was not a significant predictor of the outcome, Wald $\chi^2 = 2.257, p = .324$. These findings confirm that variations in parenting style does not alter the probability of a student choosing agriculture subject. Consequently, the null hypothesis of the paper was accepted.

The regression results indicated that parenting style did not have a statistically significant influence on students' choice of agriculture subject. However, this finding contrasts with qualitative evidence and teachers' perceptions, which overwhelmingly suggest that parenting plays an important role in shaping subject choices. This inconsistency can be understood better through theoretical and contextual perspectives and the study limitations.

From a theoretical standpoint, insights from Sociology of Education suggest that educational decision-making is shaped by multiple interacting factors rather than a single determinant (United Nations Educational Scientific and Cultural Organisation [UNESCO], 2023; Yardav et al., 2025). While Diana Baumrind's parenting styles framework provides a useful classification of parental behaviors, studies show that parenting style alone is often insufficient to predict specific academic outcomes such as subject choice (Masud et al., 2021; Spera et al., 2022). In addition, Pierre Bourdieu's concept of cultural capital remains relevant in explaining how parental influence operates indirectly through attitudes, expectations, and exposure to opportunities rather than through direct control (Dumais & Ward, 2023; Lareau, 2021). Thus, parenting style may shape students' general academic orientation but not necessarily specific subject selection decisions such as choosing agriculture subject. The findings can further be interpreted using Social Cognitive Theory, which emphasizes the

reciprocal interaction between personal, behavioral, and environmental factors (Schunk & DiBenedetto, 2022). Students' subject choices are influenced not only by parental inputs but also by self-efficacy, peer influence, and teacher guidance. Literature has also shown that students' interest and perceived competence in a subject often outweigh parental influence when making subject choices (Mangu et al., 2024; OECD, 2022). Therefore, when such variables are not fully captured in the regression model, the independent effect of parenting style may appear statistically insignificant.

Contextual factors within Kenyan education system, particularly in rural settings such as Keiyo North Sub-County, could also help in explaining the divergence between qualitative and quantitative findings. Agriculture as a subject occupies a complex position, it is very relevant for livelihoods yet is sometimes perceived as less prestigious compared to science-oriented subjects (FAO, 2022; Ministry of Education, 2023). In such situations, parental influence may not be expressed strictly through identifiable parenting styles but through broader socio-economic considerations, career aspirations and perceptions of the subject utility. Teachers, through daily engagement with students, are more likely to observe these subtle parental influences, such as encouragement or discouragement based on perceived career outcomes (Kiplagat et al., 2023). These teacher observations may not be fully captured through structured quantitative instruments.

These findings can also be interpreted in light of the study limitations. The operationalization of parenting style may not have fully captured culturally specific parenting dynamics, thereby weakening the observed statistical relationship. Additionally, the correlational research design limits causal inference, while the regression model may have omitted important mediating variables such as peer influence, students' attitudes and school level factors.

Generally, these findings suggest that parenting style is not the sole determinant of students' choice of agriculture subject but rather part of a broader constellation of interacting influences. While the quantitative findings caution against overstating parenting style's direct effect, qualitative evidence underscores its contextual and indirect importance in subject selection.

Conclusion and Recommendations

The study concludes that the authoritative type was the dominant parenting style and agriculture was the most preferred vocational subject. It also concludes that students' choice of agriculture subject was not influenced by parenting style. The choice is largely due to its perceived relevance to future careers and performance in the subject. Students who did not choose the subject avoided it due to misalignment with career goals, perceived difficulty and limited exposure. It means that although parenting contributes significantly to socialization, it is not a decisive standalone factor in subject choice. This choice is driven by a complex interplay between individual, institutional and contextual factors.

The paper recommends that schools and education stakeholders strengthen career guidance programmes, by increasing their frequency and aligning them with labour markets information and emerging opportunities in agriculture. Schools should also enhance students' exposure to agriculture through practical experiences, career talks and partnership with agricultural institutions to reshape their perceptions of the subject. Additionally, parents should be actively involved in school-based career guidance initiatives to complement institutional efforts, even though their influence may not be directly predictive. Further,

policy makers and educators should focus on improving teaching and perception of agriculture as a viable and modern career pathway, and address concerns about subject difficulty and relevance in order to sustain interest and boost enrolment.

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