

## **Influence of Fathers' Occupation on Secondary School Students' Perceptions towards Home Science in Nakuru County, Kenya**

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**Abstract:** *Home science plays a key role in equipping learners with knowledge, self-reliance skills, and ability to practice principles of good health and preserve the environment. Despite its important role, the number of secondary school students who enroll for the subject in Nakuru County has generally been low. The low enrolment has been attributed to negative perceptions among other factors. Literature shows that the fathers' occupation is among factors that influence students' perceptions towards home science. This study investigated the influence of fathers' occupation on secondary school students' perceptions towards home science in Nakuru County, Kenya. The study adopted the descriptive survey research design. The accessible population was 2043 forms two and three students in 39 public secondary schools that offer the subject. A sample of 204 students selected using stratified, proportionate and simple random sampling techniques were used to select the students and schools which participated in the study. Data was gathered using a students' questionnaire. Its face validity was checked by three experts from the department of Curriculum, Instruction and Educational Management, Egerton University. After pilot testing, the reliability of the questionnaire was estimated using the Cronbach alpha method. It yielded a reliability coefficient of 0.856, and was deemed reliable. Data was analyzed with the aid of the Statistical Package for Social Science version 25. Frequencies and percentages were used to describe and summarize qualitative data. Hypothesis was tested at the .05 alpha level using logistic binary regression. The findings showed that occupation of majority of fathers were business/manual jobs (68.3%), which was a good percentage to determine any influence to the students towards perception. The findings also showed that majority (89.9%) of students had positive perception towards learning home science. The findings further showed that fathers' occupation was not a significant predictor of perceptions. It is envisaged that the findings of the study may provide school administrators, teachers, parents, with an insight to look further on other areas that may be the cause of negative perceptions towards the subject and put in place mechanisms to stop them. Further, these findings could be used as baseline data by future researchers on perceptions towards home science.*

**Key Words:** *Fathers' Occupation, Secondary School Students, Students' Perceptions, Home Science students' perception*

### **INTRODUCTION**

Home Science is an applied and integrated science that aims at improving quality of life for the individual, family and community (Dislreet al., 2020;(Kenya Institute of Education [KIE], 2004; Kithimba et al., 2018; Nyangara, Indoshi&Othuon, 2010; Serem, 2011; Vimalkumar, 2022). The subject aims at assisting in the development of positive attitudes towards work and helps minimize health issues which affect citizens, such as cancer, diabetes, hypertension and communicable diseases (McCloat, 2019). The knowledge acquired in Home Science can also provide the impetus to the realization of the vision 2030 since it increases the self-employment opportunities and increases the knowledge on good health of

the society (Taar, et al., 2022). It also produces middle level manpower that is needed to drive Kenya's economy (Akala & Changilwa 2018).

Despite its importance, students' enrolment in home science in counties like Nakuru and national has consistently been low. As a result, the benefits of home science may not be achieved, and careers related to Home Science may be affected. The low enrolment has been attributed to students' perceptions towards home science. Perceptions play a key role in selection and learning of subjects. The students' perceptions towards home science could perhaps be due to the influence of the fathers' occupation. Studies done elsewhere have shown that fathers' occupation may influence their children's' perceptions. However, there is hardly any literature linking fathers' occupation and perceptions towards home science in secondary schools in Nakuru County.

Occupation is a person's job or profession. It is also a regular activity that a person is engaged with. In this study, fathers' occupation implied a job, or activity that a father is engaged with to earn a living. The occupations of the fathers were categorized into professional, clerical or sales job, business persons, skilled manual worker and unskilled manual worker. On the other hand, perception is the processes by which data from the environment is interpreted to allow us to make sense out of it. It is about receiving, selecting, acquiring, transforming and organizing the information supplied through our senses (Baber & Legge, 2017). Influence is when the parent, teacher or peers causes the student to change a behavior, belief, or opinion. It is assumed that the fathers may be responsible for the influence in perception of the students towards home science. Negative perceptions lead to low enrolment in the subject as envisaged in Nakuru County. This study therefore sought to investigate the influence of fathers' occupations on students' perception towards home science in Nakuru County.

## **RESEARCH METHODOLOGY**

### **Research Design**

Selection of an appropriate research design is essential since it ensures that the methods used match the objectives of an inquiry (Asenahabi, 2019). This study utilized the descriptive survey research design. The design involves collecting data at one point in time without manipulation of variables and describing it (Nardi, 2018). Aggarwal and Ranganathan (2019) contend that the design is suitable for describing characteristics of a population and exploring relationships, causes or consequences. The design was selected because the study collected data using a sample at one point in time. In addition, influence of fathers' occupation on the students' perception towards Home Science was determined without manipulation of variables.

### **Target Population**

The target population of the study was all students in public secondary schools who had enrolled for Home Science in Nakuru County, thus the school is the sampling unit. There were 39 single and co-education public secondary schools in Nakuru County which offered Home Science as an elective subject (County Director of Education [CDE], 2020, 2021). The accessible population was 2043 forms two and three students in the 39 public schools that offer Home Science. The form twos and threes were selected because they had covered a

substantial percentage of the Home Science syllabus. The form fours were not chosen because they were busy preparing for the KCSE. The form ones were also not chosen because their coverage of the Home Science syllabus was deemed inadequate. The accessible population of the study is summarized in Table 3.

Table 1

*Distribution of the Accessible population by School Category*

School category	Characteristics	Number of schools	Number of students
Single sex	Girls' only	11	673
	Boys' only	2	37
Co-education	Girls and Boys	26	1333
<b>Total population</b>		<b>39</b>	<b>2043</b>

(Source: Nakuru County Director of Education, (2022))

**Sampling Procedures and Sample Size**

This study investigated the influence of fathers' occupation on students' perception towards Home Science. Therefore, the secondary school was the sampling unit. The number of form two and three students who took part in the study was determined using Neuman's (1994) recommendation that considers 10% of a moderately large population of over 1,000 but under 10,000, as adequate. This recommendation was used to determine the sample size (204) of the students, given that their accessible population was 2043. The number of students who actually participated in the study increased from 204 to 212 because intact classes were used. Use of intact classes is in line with the Ministry of Education regulations which prohibits reconstitution of classes for research purposes (Wango, 2009).

After determining the students' sample size, strata were created as a way of ensuring that the two classes and all categories of schools were involved in the study. This involved organizing the data by class and school category (single sex and co-education). The number of students who participated in the study from each group was determined using proportionate sampling procedures. At the school level, simple random sampling was used to select those (whole classes) who participated in the study. Table 4 shows the sample sizes of the study.

Table 2

*The Sample Sizes of the Study*

School category	Characteristics	Schools sampled	Sample size
Single sex	Girls' schools	4	67
	Boys' schools	2	37
Co-education	Girls and Boys	8	100
<b>Total population</b>		<b>14</b>	<b>204</b>

**Data Collection Instruments**

The study used the Student Questionnaire (SQ) to collect data. The questionnaire was selected because it is efficient for collecting data from a large sample that is dispersed over a

wide geographical area and easy to administer (Zangirolami-Raimundo et al., 2018). The other advantage associated with it is that scoring and analyzing data generated using questionnaires is easy, especially those constructed using closed-ended items. The questionnaire had three sections; A was for eliciting the students' bio-data. The fathers' occupation data was gathered using items in section B while those on students' perception was generated using section C.

The students' questionnaire was constructed using closed-ended Likert type items based on the extent to which the respondents agreed with them (Strongly Agree, Agree, Undecided, Disagree, Strongly Disagree). The close ended items were included in the instrument because they yield uniform responses thus simplifying data coding and analysis (Sang, 2002). The items were positively and negatively phrased. According to Weijters and Baumgartner (2012) positive items give a positive connotation of a construct being measured while negative ones oppose the logic of the variable being measured. The positive and negative items were included in the instrument because they enabled categorization of perceptions as positive and negative. In addition, their inclusion helped in reducing acquiescence bias. Salazar (2015) contends that acquiescence bias occurs when people tend to agree with statements without regard for their actual content, due to laziness, indifference or automatic adaption to a response pattern.

### **Data Collection Procedures**

An introductory letter from Egerton University Graduate School was used to seek a research permit from the National Commission for Science, Technology and Innovation (NACOSTI). Once the permit was granted, the respondents were formally contacted through the County Director of Education and principals. The purpose of the study was explained to the respondents and consent to participate in it sought. The researcher set the dates and venues for administering the questionnaires in consultation with school administrators and the respondents. On the material days, the modalities of filling the questionnaires were explained to the respondents before they were administered. The questionnaires were administered and the students given 30 minutes to fill them. The filled questionnaires were collected and organized by school category, awaiting analysis.

### **Data Analysis**

The collected data was checked for completeness and errors and cleaned. A code book was prepared and used to code the data. The Statistical Package for Social Science (SPSS) was used to prepare a file and the coded data keyed into it. The students' characteristics and fathers' occupation were summarized using frequencies and percentages. Perceptions of the students were determined by categorizing responses to items in their questionnaires as negative and positive. The responses were tallied and a student's perception categorized as positive when she/he agreed with majority of the positive items but disagreed with most of the negative ones. Similarly, a student's perception was categorized as negative when she/he disagreed with most of the positive items but agreed with majority of the negative ones. The perceptions were then summarized using frequencies and percentages.

The hypothesis was tested at the .05 alpha level using the binary logistic regression. Binary regression is based on the formula

$$\ln [P/(1 - P)] = b_0 + b_1x_1$$

Where

$\ln$  is natural logarithm

$P/(1 - P)$  = Odds ratio

$P$  is probability of students having positive perceptions

$(1 - P)$  is probability of students having negative perceptions towards home science

$b_0$  is the intercept

$b_1$  factors coefficient

$x_1$  predictor variable (occupation or education)

$$P = e^x / (1 + e^x)$$

where  $x$  is  $b_0 + b_1x_1$  (Hilbe, 2015)

Binary logistic regression was selected because it is recommended for exploring relationships between variables (Shield, 2018). It is a variation of regression that is used when the dependent variable is binary in nature. Logistic regression predicts the probability of a category of a dependent variable occurring, rather than its value as in simple linear regression. The independent variable was occupation while the dependent variable was perception. Occupation was categorized as business, professional, semi-professional and manual jobs. Perception was categorized as positive, which was coded as 1 and negative, which was coded as 0.

The independent variable, occupation was converted into a dummy before conducting the regression procedure. This conversion was deemed necessary because occupation is categorical data. Oyeka and Nwankwo (2014) recommend use of dummy variables when explanatory variables are measured at nominal or ordinal scale for regression to correctly test association between constructs. The baseline categories for occupation during the analysis was manual work. The statistical procedures used during data analysis is in Table 5.

## RESULTS

### Demographic Characteristics of the Respondents

The results indicate that the students' fathers were in various professions, with business (43.9%) recording the highest percentages, manual skilled and unskilled work (24.4%), professional (23.8%) and semi-professional jobs (7.9%).

A set of 39 items in the students' questionnaire was used to measure their perceptions. The items were closed-ended five category (strongly Agree, Agree, Undecided, Disagree, Strongly Disagree) Likert type, based on the extent to which the respondents agreed with them. The students' responses to the items are presented in Table 7.

### **Influence of Fathers' Occupation on Secondary School Students' Perceptions Towards Home Science**

The study sought to examine the influence of fathers' occupation on secondary school students' perceptions towards home science. Students were asked to give their views on a number of items. Table 3 summarizes the response of the students by Perception towards Home Science

Table 3

#### *Students' Responses to Items on Perception towards Home Science*

Item	N	SA	A	NS	D	SD
I have always liked Home Science	189	68.3	20.6	5.8	3.2	2.1
Home Science is one of my best subjects	190	49.5	34.2	5.3	7.9	3.2
Home Science is an easy subject	186	36.6	45.7	9.7	5.4	2.7
Learning Home Science is rewarding	179	48.0	24.0	19.6	5.0	3.4
I was not influenced by my parents to study Home Science	180	46.7	18.3	6.7	12.8	15.6
My parents like Home Science	186	21.5	23.1	40.3	9.7	5.4
I would like a career that requires Home Science	185	50.3	23.8	10.3	8.6	7.0
I aspire to study a career related to Home Science	184	45.1	26.1	13.0	4.3	11.4
My parents did not like me to choose Home Science	188	4.3	7.4	18.6	20.2	49.5
My general poor performance in other subjects made me to choose Home Science	187	10.7	10.2	6.4	19.8	52.9
I have a negative attitude towards Home Science	187	5.3	4.8	5.9	20.9	63.1
Home science is for girls	189	7.4	1.1	4.8	14.8	72.0
My parents supported my decision to study Home Science	187	43.9	28.3	11.2	8.6	8.0
I have confidence in Home Science	188	61.7	23.9	4.8	3.2	6.4
My parents don't like Home Science	189	2.6	4.2	30.2	18.5	44.4
I look forward to studying Home Science subject up to university	190	39.5	22.1	18.4	6.8	13.2
Home science is for academically weak students	189	3.2	3.7	7.9	14.3	70.9
Home science is for students whose parents are rich	189	1.6		3.7	11.6	83.1
Home science cannot offer a good career in life	187	2.1	2.7	5.9	13.9	75.4
I do not aspire to study a career related to Home Science	188	8.0	8.5	14.9	21.3	47.3
My parents discouraged me from studying Home Science	185	2.7	4.3	7.6	23.2	62.2
I perform well in Home Science	189	48.1	40.2	6.9	1.6	3.2
I have a positive attitude towards Home Science	186	60.8	23.7	4.3	5.4	5.9
I feel demotivated when studying Home Science	181	9.9	7.7	6.1	21.0	55.2
Home Science is for boys	189	2.6	2.6	6.9	10.6	77.2
Home science is not important in life	188	3.2	0.5	2.7	17.6	76.1
My parents do not know anything about Home Science	188	8.0	7.4	21.3	20.7	42.6
My parents appreciate the importance of Home Science	183	42.6	25.1	21.3	5.5	5.5
I don't need to learn Home Science in school	186	4.8	6.5	10.8	25.8	52.2
Home science ought not be taught in school	188	7.4	4.3	9.6	19.7	59.0
Home science is not a popular subject	189	5.9	9.0	21.7	24.3	39.2
Home science subject will not add value to me	189	2.1	3.2	2.6	22.2	69.8
I don't expect to apply Home Science in my future career	184	7.6	4.9	15.8	17.4	54.3
My parents have no problem with me studying Home Science	184	56.5	24.5	8.2	5.4	5.4
Home Science is a difficult subject	187	4.3	5.4	6.4	26.2	57.8
I get good marks in Home Science	187	42.8	42.8	6.4	4.8	3.2
I feel motivated when studying Home Science	186	51.6	24.2	10.2	5.4	8.6
My parents do not want me to study Home Science	187	4.8	4.3	11.8	23.5	55.6
My parents always praise me when I do well in Home Science	187	46.5	29.4	13.4	2.7	8.0

The results in Table 3 indicated that the respondents who liked the home science subject were (88.9%), those who performed well in home science were (88.3%) those who got good marks were (85.6%), had confidence (85.6%) and positive attitudes towards the subject were (84.5%). However, those who disagreed that home science was for students whose parents were rich were (94.7%), was not important in life (93.7%), cannot offer a good career in life (89.3%) and was for boys only (87.8%). The percentage (86.8%) of those who disagreed that the subject was for girls was also high. The majority of the students agreed with the positive perceptions towards the subject and disagreed with the negative perceptions towards the subject. These results suggest that the students' perceptions towards home science were positive.

The perceptions of the students were established by categorizing the responses to items in the questionnaires that were used to measure it as negative, neutral, and positive and then tallying them. A perception was considered positive if a student agreed with majority of the positive items used to measure it but disagreed with the negative ones. A perception was considered negative when a respondent agreed with majority of the negative items but disagreed with the positive ones. Perceptions of the respondents were then summarized using frequencies and percentages. Table 8 gives a summary of the perceptions of the students.

Table 4:

*Students Perceptions towards Home Science categories (n = 189)*

Category	Frequency	Percentages
Positive	170	89.9
Negative	19	10.1

An examination of the results in Table 4 reveals that (89.9%) of the students had positive perceptions towards the subject while only a few (10.1%) had negative ones.

Binary logistic regression was used to determine the association between fathers' occupation and students' perception towards home science. The procedure was used to predict the probability of students having positive perceptions towards home science. The test generated three sets of outputs, model coefficients, pseudo  $R^2$  and equation variables. The omnibus test of model coefficients is used to check whether explanatory variables predict the outcome better compared to the null (without explanatory variables) model. Pseudo  $R^2$  shows the strength of association between factors and the dependent variable. Variables in the equation are for evaluating the predictive power of each factor category. The regression test results are summarized in Table 5.

Table 5

*Binary Regression results regressing Fathers' Occupation on Students Perceptions towards Home Science*

Scale	beta	S.E.	Wald	df	p-value.	Exp(B)
Manual work			1.320	3	.724	
Professional	-.343	.799	.184	1	.668	.709
Business	-.704	.690	1.040	1	.308	.495
Semi-professional (Clerk/sales)	-.027	1.202	.001	1	.982	.973
Constant	2.512	.600	17.515	1	.000	12.333
Model coefficient $\chi^2(3, N = 163) = 1.379, p = .710$						
Pseudo $R^2 = .017$						

The model coefficient results in Table 5 show a statistically insignificant difference between the odds of perception determined with and without (null model) fathers' occupation,  $\chi^2(3, N = 163) = 1.379, p = .710$ . This insignificant difference suggests that fathers' occupation was not a significant predictor of perception towards home science. The pseudo  $R^2$  results indicate that occupation of fathers explained 1.7% (Nagelkerke  $R^2 = .017$ ) of the variance in students' perception towards home science. With regard to association between fathers' occupation categories and perception, Table 9 shows that the unstandardized beta (B) weights were 2.512 for the constant, -.343 for professionals, -.704 for business and -.027 for semi-professionals. The beta weight for manual work is not in the equation since it was the baseline (reference). The beta weights for professional, business and semi-professional were all negative.

This means that the odds of a student whose father is a professional, a semi-professional or in business having positive perceptions towards home science is lower than that of a student whose father does manual jobs. In other words, the likelihood of a student whose father is a manual worker having positive perception towards home science is higher than one whose father is in the other occupations. The results further show that all the four occupation categories, manual work (Wald, = 1.320, df = 3, p = .724), professional (Wald, = .184, df = 1, p = .668), business (Wald, = 1.040, df = 1, p = .308) and semi-professional (Wald, = .001, df = 1, p = .982) were not significant predictors of students' perception.

## DISCUSSION

The study's findings shed light on the intriguing relationship between fathers' occupation and students' perceptions of home science, providing valuable insights into this topic. The results of the study have led to the conclusion that there is no statistically significant relationship between fathers' occupational backgrounds and the way students perceive home science. This suggests that fathers' job roles do not exert a substantial influence on shaping how students view this particular subject. These results resonate with previous research conducted in Kajiado County by Njenga et al. (2018). In their study, they similarly found that fathers, mothers, or even other relatives' professions did not have a direct impact on students' choices of subjects and career paths. This consistency across different studies strengthens the notion that familial occupational backgrounds may not be as influential in shaping educational preferences as previously assumed.



Furthermore, Wachira's (2018) research underscores a significant point raised in the current study, highlighting the detachment of parents from their children's talents and career development. This detachment could potentially contribute to the lack of a substantial correlation between fathers' occupations and students' perceptions of home science. It suggests that parents may not actively engage in guiding their children's educational choices, which could result in students forming their own independent perspectives on subjects like home science. Conversely, the study's findings align with the research conducted by Arfi and Kiran (2015), who demonstrated that both students studying home science and those pursuing other fields had positive perceptions of the subject. Similarly, Kuya's (2017) study showed that students generally held a positive view of home science because they found it interesting and believed it provided them with essential life skills. These findings suggest that students' attitudes towards home science are more likely shaped by factors within the educational environment and the subject's inherent appeal rather than external factors like parental occupations.

It is crucial to acknowledge the contrasting perspective presented by Azubuike (2012). Azubuike's observation that some students associated home science with stereotypical gender roles, such as sewing and cooking, leading to a perception of the field as narrow, dull, and socially conservative, serves as a reminder that societal stereotypes and biases can still influence students' perceptions, even if parental occupations do not. One intriguing aspect highlighted in the study is the limited discussion between parents and high school students regarding subject selection and career choices. This dearth of communication between parents and students may contribute to the observed insignificance of fathers' occupations in influencing students' perceptions. A more active and open dialogue between parents and students about educational and career aspirations could potentially help bridge this gap.

Although the study's findings do not align with Muturi and Kanai's (2022) research, which suggested that interaction with successful individuals in their chosen occupation, could influence students' perceptions and career choices, it's crucial to recognize that various factors can contribute to students' perceptions of home science. The complexity of these factors underscores the need for further research to explore the multifaceted nature of students' attitudes towards this subject. The study's results suggest that fathers' occupation does not significantly impact students' perceptions of home science. These findings enrich our understanding of the intricate factors that influence students' attitudes towards this subject and emphasize the importance of fostering more comprehensive discussions between parents and students regarding subject choices and career aspirations. Future research could delve deeper into the dynamics of parent-child communication and its potential influence on students' educational and career decisions, providing valuable insights into improving educational guidance and support for students.

## CONCLUSION

This study has explored the relationship between fathers' occupations and students' perceptions towards home science. It was found that fathers' occupations spanned various categories, while the overall student perceptions of home science were positive. However, the study revealed that fathers' occupations, categorized into four groups, did not significantly

predict these perceptions. Therefore, it can be inferred that fathers' occupation does not exert a substantial influence on students' attitudes and preferences regarding home science.

It is important to acknowledge that multiple factors contribute to students' perceptions of home science, and in cases where these perceptions are negative; it becomes crucial to identify and address these underlying factors. This research provides valuable evidence suggesting that students in secondary school may choose home science irrespective of their fathers' occupation, indicating a degree of independence in their decision-making process.

In light of these findings, it is recommended that secondary school educators, principals, boards of management, and parents use this knowledge to enhance the overall learning experience in home science. Emphasis should be placed on factors such as the provision of effective career guidance, ensuring the availability of adequate instructional materials, the adoption of appropriate teaching approaches, and the implementation of favorable school policies. Additionally, it is advisable for the Ministry of Education to explore strategies aimed at addressing any negative perceptions in technical subjects like home science, thereby promoting a more inclusive and informed educational environment.

### ABOUT ATRHOR

Lucy Njoki Gitau holds a B.ed in Home Science and Technology from University of Eldoret. She is pursuing a Masters Degree in Curriculum and Instruction at Egerton University. Lucy has twenty five years teaching experience in Home Science. She is an examiner in Home Science Paper 2, (Clothing Construction).

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