

*Original Research Article***Choosing a career path in agriculture: A tough calling for youths in Ibadan metropolis, Nigeria**Oluwakemi Adeola **Obayelu**, Ifeoluwa Olawale **Fadele***Department of Agricultural Economics, University of Ibadan, Ibadan, Nigeria***Correspondence to:****O. A. Obayelu**, Department of Agricultural Economics, University of Ibadan, Ibadan, Nigeria,

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**Abstract**

The decline in youth population and the upsurge in ageing farmer population have resulted in low agricultural output and per capital productivity in rural Nigeria, which is a threat to the national food security. High school students' perception of agriculture and factors influencing their willingness to study agriculture in tertiary institutions were therefore investigated in this study. Information from 285 science students in high schools was analysed using descriptive statistics, Likert scale and logistic regression. Age of the students was  $15.30 \pm 1.17$  years with almost equal distribution of both sexes. About half (50.5%) of them wanted to study medicine where as only 4.6% of the respondents were willing to study agriculture in the university. A higher percentage of female students (57.6%) were willing to study agriculture in tertiary institution than their male counterparts (42.4%). A higher percentage of students from public schools (51.4%) were willing to study agriculture whereas 48.6% of those from private schools were willing to do so. The students were undecided about the contribution of agriculture to national development but strongly disagreed that agriculture gives less income than other professions. Major motivating factors that can stimulate the respondents' willingness to study agriculture were career awareness program in agriculture, practical knowledge of agriculture and agricultural excursion. The likelihood of a high school student's willingness to study agriculture increased significantly with having a father who primarily practised agriculture and supports agricultural education, attending a school where crude implements are not used, visit to a mechanized farm and the youth's willingness to own a farm in the future irrespective of the course of study, while attending a private school will decrease it. In conclusion, high school students had average perception of agriculture and were not willing to study agriculture in tertiary institutions. Suggestions are presented on how to change this negative attitude towards this vital branch of science.

**Keywords:** High school; agricultural education; perception; willingness; tertiary education.**INTRODUCTION**

The bulk of world's food is produced by the ageing farmers, who are less likely to adopt agricultural innovations needed to sustainable agricultural productivity and food security for the rising world population (Jöhr, 2012; FAO, 2014). Particularly, young people in developing countries are not willing to farm and this is limiting the agricultural sector (Leavy and Hossain, 2014). Consequently, understanding youth's perception of agriculture, as well as access to knowledge and information are crucial for replacing the ageing farmer population with vibrant and skilled youths, thereby achieving sustainable agricultural productivity and food security.

The Nigerian government has given priority to developing the agricultural sector as one of

the strategies to diversify the economy and reduce unemployment rate. The unemployment rate for Nigeria using the ILO definition of working at least 40 hours was estimated as 23.9% in 2014 while the revised definition of the NBS showed that unemployment increased from 7.8% in 2014 to 9.9% in 2015. In 2015, the labour force population in Nigeria grew by 5.5% from 72.9 million in 2014 to 76.9 million in 2015 (NBS, 2015; Adesugba and Mavrotas, 2016). Agriculture is still the largest employer in Nigeria, engaging about 70% of the nation's population with a larger proportion of rural women, children and the aged making up the number. However, the youths and active adults account for a small fraction of the statistics and there is the major concern of replacing the aging rural agricultural population

with skilled youth full abour in the sector (Adeyemo 2010; Akintayo and Lawal, 2016). An accelerated and transformative change in the agricultural sector create employment for the growing youth population in the sector, which will enhance increased productive capacity as well as a reduction in real food prices and rural income inequality (Brooks et al., 2013). This is achievable by changing the deeply-engrained perceptions and attitudes of youths about agriculture as a non-profitable enterprise.

Past youth empowerment programme targeted the removal of the barriers and limitations hindering their full involvement and participation in the sector (FAO, 2013). However, most of these programmes were channelled towards youths who had graduated from high schools and tertiary institutions, with little focus on agricultural education in the secondary schools. Even the most recent Youth Employment in Agriculture Program (YEAP) does not incorporate agricultural education at the secondary school level. The willingness of high school science students to study agriculture as a profession therefore maximizes the potentials of agricultural education and practice as a career.

Access to higher agricultural education is a basic requisite to provide potential youth agriculturists' careers at all levels from the field level, to research and academia, to national agricultural and international agricultural policy-making and developmental bodies (FAO, 2013). However, this situation is only unique to the field of agriculture when compared to other natural science courses, as most secondary school students prefer the choice of non-agricultural professions. This situation seems to have built up barriers for the skilled youth to fully participate in the sector (particularly at policy and decision-making levels), which has been verified to be a major problem of the Nigerian agricultural sector.

Several constraints have been identified to be responsible for the unattractiveness of agriculture as a profession to young minds, including inadequate agricultural learning facilities in most secondary schools including lack of agricultural laboratories, lack of school farms, use of crude farming tools on school farms, little or no motivation for studying agriculture, inadequate knowledge about the prospects of agriculture and many others (Apantaku, 2004; Ojebiyi et al., 2015; Akintayo and Lawal, 2016;). High school students do not want to pursue agriculture as a career, rather they would prefer to study non-agricultural courses (Apantaku, 2004; Lone, 2007) and only study agriculture when they are unable to undertake alternative courses of study (FAO, 2007). Their perception of agriculture and exposure to the sector determines their willingness to pursue agriculture (Baliyan and Nenty, 2015; Johnson et al., 2015). Some students perceive agricultural practices

as inferior, unfulfilling and laborious (Abdulsalam et al., 2008; Adebo and Sekunmade, 2013) which leads to one being a farmer, living in the rural settings (Johnson et al., 2015). This has led to a low level of skilled labour power in the sector as well as a low level of technology adoption and agricultural productivity. Therefore, in order to increase the intensification of food production and the attainment of the second of the Sustainable Development Goals of ensuring food security, it is imperative to arouse the interest of youths in agriculture right from high school.

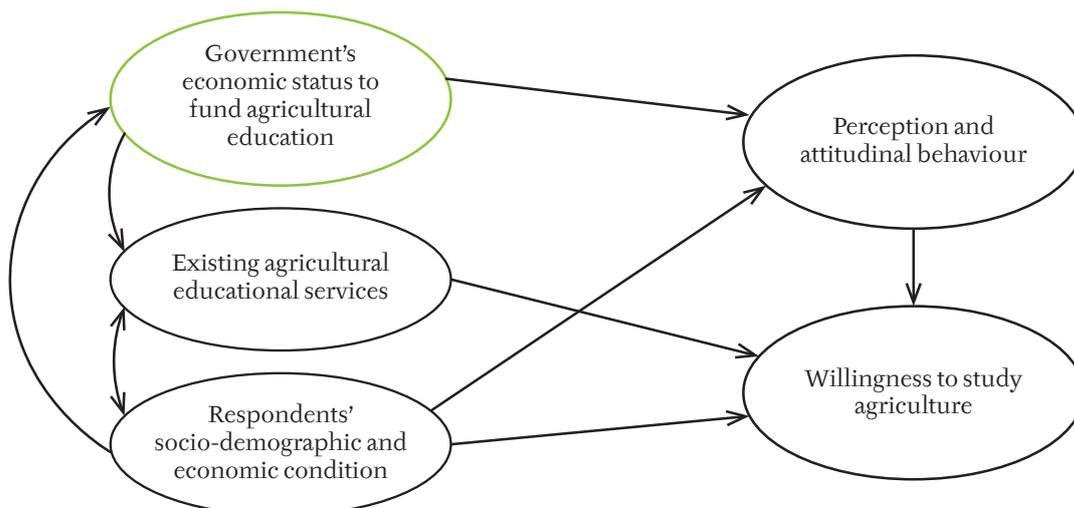
Similar studies in several Nigerian states and other countries by Apantaku (2004), Ibitoye (2011); Chima and Sobere (2011); Ogunremi et al., (2012) and Nwankwo (2015) used Likert scale and chi-square analysis to investigate the determinants of choice of career in agriculture by secondary school students. They found low level of willingness to study the courses, respectively, among high school students.

However, information on the willingness of the Ibadan secondary school students to pursue higher education in agriculture is scarce in southwest Nigeria. We hypothesised that high school students are not willing to take up careers in agriculture or study it in tertiary education. The perception and willingness of high school students to pursue a career in agriculture was therefore investigated in this study.

### Conceptual Framework

Youths' perception and attitude of agriculture is a core determinant of their willingness to study agriculture in pursuit of higher degree (Figure 1). The students also perceived agriculture as a profession of intense labour, not profitable and unable to support their livelihood compared to what white collar jobs offer (Mukemboet al., 2014). Their perception and attitude are largely influenced by environmental and individual socio-economic factors (Johanson and Mattila, 1994). Environmental factors include method of cultivation practices by farmers (Echebiri, 2005), exposure of the students, the classroom experience and other factors within the environment of the students that affect their choice of pursuing higher degree in agriculture. Secondly, the types of farms they have visited, the quality/level of technology adoption used on the farm, quality and quantity of yield, to mention a few, greatly affects their perceptions, views and willingness to study agriculture.

Individual socio-economic factors include students' socio-demographic and economic conditions. Socio-demographic factors that affects the level of enrolment into agricultural studies by students in higher education include gender, age, locality, and ethnicity (Silva et al., 2010; Chima and Sobere, 2011; Ogunremi et al., 2012). Social factors also include public perception about agriculture and parental influence to move out of agriculture (Akpan, 2010).



**Figure 1.** Conceptual framework for students' willingness to study agriculture  
 Source: Modified from the vicious circle of cutback policies (Johanson and Matilla, 1994)

Nigeria which was formerly an agrarian country now depends heavily on other sectors for majority of its income and GDP contribution. As a result of this, the public perception of agriculture is that of it being a low income sector and this greatly affects most parents' choice of course of study for their wards. Student's economic factors (such as production cost of inputs, setting up cost and low profit margin) have been identified to be responsible for the reason why the enrolment level in agricultural studies. Further, inadequate government support for agricultural studies, lack of incentives to students of agriculture, lack of motivation in terms of rewards, scholarship for students of agriculture affect the perception and attitudinal behaviour of students further explain their desire to study agriculture in higher institutions. This is further influenced by the respondents' economic condition (in terms of access to land, productive inputs and credit facilities), either it is worsened or improved, which is largely dependent on the parents economic condition and the governments financial status. Dissatisfaction or satisfaction with existing agricultural educational services influences respondents' willingness to study agriculture as many will be discouraged/encouraged based on the dissatisfaction/satisfaction level derived, respectively.

**MATERIALS AND METHODS**

The study was conducted in 2016 among science students in senior secondary (high) schools in Ibadan metropolis, the largest city in south-west Nigeria. Ibadan, the capital city of Oyo State, Nigeria, is located on seven hills with an average elevation of 700 feet and 160 km from the Atlantic coast. It lies on latitude 7°23N and longitude 8°5E of the equator comprises five urban local governments in the city. Ibadan – North

Local Government Area (LGA) was selected out of the five urban LGAs because it has the highest number of secondary schools in the metropolis. The LGA is the seat of foremost higher institutions of learning in Nigeria (University of Ibadan, university college hospital and a polytechnic), public and private primary and secondary schools, zoological and botanical gardens. It is also the home of the first Faculty of Agriculture in Nigeria and very close to the headquarters of International Institute for Tropical Agriculture (IITA). The LGA is also a hub of commerce and trade, sports and recreation, public space and parks, transport, entertainment and media. A simple random sampling was used to select six public and six private senior secondary (high) schools in the LGA, from which a total 150 and 135 science students from public and private schools, respectively, were selected proportionate to the sizes of the schools.

Information was obtained through questionnaire using open-ended questions, closed-ended questions, and semi-closed ended questions (Creswell, 2012). The students were asked to respond to items measuring their attitudes using categorical and ordinal scales. The response scales were used to measure students' perception (Gay et al., 2009) about their choice of career in agriculture. Information was collected on the socio-demographic characteristics of the students, the intended future ambition of the students, perception of the students about agriculture and willingness of the students to study agriculture.

Descriptive statistics were used to describe the socio-economic characteristics of the students. With respect to the questionnaire's ordinal scales, only frequencies and percentages were calculated, i.e., no summation of mean scores or other tests of central tendency were done (Mukembo et al., 2014). A five (5)-point Likert scale (Likert, 1977) was used to

**Table 1.** Willingness to study profile of secondary school students

Socioeconomic characteristics	Willing (N= 33)	Not willing (N= 252)	Pooled (N= 285)
<b>Age</b>	<b>Frequency (%)</b>	<b>Frequency (%)</b>	<b>Frequency (%)</b>
13	0(0)	13(5.2)	13(5.3)
14	5(15.2)	47(18.7)	52(16.8)
15	10(30.3)	95(37.7)	105(37.8)
16	14(42.4)	68(27)	82(28.1)
17	4(12.1)	19(7.4)	23(7.7)
18	0(0)	6(2.4)	6(2.1)
19	0(0)	2(0.8)	2(1.1)
20	0(0)	2(0.8)	2(1.1)
<b>Total</b>	<b>33(100)</b>	<b>252(100)</b>	<b>285(100)</b>
<b>Sex</b>			
Male	14(42.4)	126(50)	140(49.1)
Female	19(57.6)	126(50)	145(50.9)
<b>Total</b>	<b>33(100)</b>	<b>252(100)</b>	<b>285(100)</b>
<b>Geopolitical zone of origin</b>			
South-west	27(81.8)	212(84.1)	239(83.9)
South-south	2(6.1)	18(7.1)	20(7)
South-east	4(12.1)	13(5.2)	17(5.9)
North central	0(0)	8(3.2)	8(2.8)
North-west	0(0)	1(0.4)	1(0.4)
<b>Total</b>	<b>33(100)</b>	<b>252(100)</b>	<b>285(100)</b>
<b>Religion</b>			
Christianity	18(54.5)	177(70.2)	195(68.4)
Islam	15(45.5)	75(29.8)	90(31.6)
<b>Total</b>	<b>33(100)</b>	<b>252(100)</b>	<b>285(100)</b>
<b>School Type</b>			
Public School	24(51.4)	126(50)	150(52.6)
Private School	9(48.6)	126(50)	135(47.4)
<b>Total</b>	<b>33(100)</b>	<b>252(100)</b>	<b>285(100)</b>

assess their perception of agriculture. The Mean Score (MS) was generated by the summation of the product of rating points and observation divided by the total number of sample size. The logit regression was used to identify the correlates of willingness of respondents to study agriculture. The structural form of the logistic regression model is given, as expressed in equation (1):

$$\text{Log } Y = \log \left( \frac{P(Y=1)}{1-P(Y=1)} \right) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n + \epsilon \tag{1}$$

Where:

Y = willingness to study agriculture (1 = willing to study agriculture; 0 if otherwise)

X<sub>i</sub> = ith explanatory variable (i = 1, 2, 3, ..., n).

The description, measurements and *a priori* expectations of these variables are presented in Appendix I.

β<sub>0</sub> = intercept

β<sub>i</sub> = regression coefficients of the ith explanatory variable (i = 1, 2, 3, ..., n).

ε = error term.

n = number of explanatory variables

Given that G is the specified binomial distribution, the marginal effects after log it for X<sub>i</sub> were estimated by taking predicted probability when all explanatory variables were held at their mean value from the same formulation except adding one unit to X<sub>i</sub> (Kleiber and Zeileis, 2008 in Fernihough, 2011). This is presented in equation 2 as:

$$\frac{dy}{dx} = G(\hat{\beta}_0 + \hat{\beta}_1 \bar{X}_1 + \dots + \hat{\beta}_k (\bar{X}_k + 1) + \dots + \hat{\beta}_j \bar{X}_j) - G(\hat{\beta}_0 + \hat{\beta}_1 \bar{X}_1 + \dots + \hat{\beta}_k \bar{X}_k + \dots + \hat{\beta}_j \bar{X}_j) \tag{2}$$

IBM SPSS software was used to compute both the coefficients of logit regression and the post-estimations.

**Table 2.** Career choice of secondary school students

Factors	Frequency	Percentage
<b>Future ambition</b>		
Doctor	144	50.5
Farmer	13	4.6
Engineer	67	23.5
Teacher	3	1.1
Businessman	10	3.5
Preacher	1	0.4
Others	47	16.5
<b>Total</b>	<b>285</b>	<b>100.0</b>
<b>Reason for choice of ambition</b>		
Fame/Prestige	33	11.6
Compassion	61	21.4
Passion	130	45.6
Creativity	21	7.4
Economic Development	27	9.5
Parental Influence	9	3.2
Exposure	4	1.4
Total	285	100.0
<b>Influence on choice of future career</b>		
My Personal Decision	231	81.1
Parents/Guardians/mentors	35	12.3
Teachers	9	3.2
Friends/Colleagues	4	1.4
Pastor/Imam	3	1.1
Others	3	1.1
<b>Total</b>	<b>285</b>	<b>100.0</b>

**RESULTS**

A higher proportion (88.4%) of the students was not willing to choose agriculture as a career (Table 1). The average age of students was 16 years (42.4%) and 15 years (30.3%) for those willing and those not willing to study agriculture, respectively (Appendix 2). The results showed a skewness around the mean age of respondents. However, a higher percentage of female students (57.6%) were willing to study agriculture in pursuit of higher education than males (42.4%). More than two-thirds (81.8%) of willing students were Yorubas in the south-west largely because the research was carried out in that zone. Others were non-Yorubas (non-Southwesterners) but resided in Ibadan owing to migration of their parents there. A slight percentage above a half of students attended public secondary schools.

More than a half of the students' in the choice of their future career wanted to become doctors (51%), while about 24% wanted to become an engineer while a very low proportion of them (5%) wanted to become a farmer or wanted to have a future career in agricultural related professions (Table 2). About half of the students were influenced by their passion

in the choice of their career, while about a fifth of them were driven by compassion for the choice of their career and the prestige associated to a particular career represents 12% of the total population sample. More than two-thirds of the students' choice of career decision was influenced by own personal decision, while influence of others was very minimal. Close to three-quarters of the students' perception about the practices and activities of agriculture is on the average while a lesser proportion has both full knowledge (13.3%) about it and no knowledge (13.7%) about the field (Table 3). This suggests that agricultural science curriculum should be improved on for secondary education in order to expose the students to the study, nature, art, act, and science of agriculture.

Further, the students strongly perceived agriculture as a good source of employment, involving processing, packaging, marketing and sales of agricultural products. However, they did not perceive agriculture as a solution to food security and enhance national development of the country (Table 3). Having a fairly good understanding of the fields under agriculture, they perceived that it is a lucrative job and some youths practise agriculture not owing to unemployment.

**Table 3.** Distribution of respondents showing their perception about agriculture

Perceptions	Weighted scores	Weighted Means	%	Rank order	Remark
Agriculture is all about planting of crops and rearing of animals alone	615	2.20	9.17	5 <sup>th</sup>	D
Agriculture/farming as a profession is not a lucrative job.	466	1.72	6.95	8 <sup>th</sup>	D
Agricultural activities are only for the uneducated/ less privileged in the society.	158	0.58	2.36	12 <sup>th</sup>	SD
Agricultural activities are only meant for old/aged people.	151	0.56	2.25	13 <sup>th</sup>	SD
Youths that practise agriculture is mainly because of unemployment.	343	1.25	5.12	9 <sup>th</sup>	SD
I can only earn less income compared to other professions, if I practise agriculture	277	0.99	4.13	10 <sup>th</sup>	SD
I know about all the various fields under agriculture	611	2.25	9.11	6 <sup>th</sup>	D
I know that agriculture involves processing, packaging, marketing and sales of agricultural products.	828	3.00	12.35	2 <sup>nd</sup>	U
Agricultural activities are only meant for the poor and the illiterate in the society.	175	0.63	2.61	11 <sup>th</sup>	SD
Agriculture as a profession, is a good source of employment	878	3.19	13.09	1 <sup>st</sup>	U
My decision to participate in agriculture will enhance and stimulate food security in Nigeria.	809	2.92	12.07	3 <sup>rd</sup>	U
My decision to study agriculture and participate in agriculture will enhance national development.	796	2.84	11.87	4 <sup>th</sup>	U
Agriculture should not be one's major stream of income.	598	2.15	8.92	7 <sup>th</sup>	D
<b>Total</b>	<b>6705</b>	<b>24.28</b>	<b>100</b>		

**Table 4.** Perception of students on their willingness to study agriculture

Willingness to study	Weighted Scores	Weighted Means	%	Rank order	Remark
I will like to study agriculture if my parents/guardian(s) or family say so	408	1.47	7.21	7 <sup>th</sup>	D
I will like to study agriculture if my teachers say so	336	1.20	5.94	11 <sup>th</sup>	SD
I will like to study agriculture if my friends/colleagues say so.	288	1.05	5.09	13 <sup>th</sup>	SD
I will like to study agriculture if my school can take us on agricultural excursion in order to know what agriculture is all about	508	1.85	8.97	5 <sup>th</sup>	D
I will like to study agriculture only to get an academic certificate.	354	1.28	6.25	8 <sup>th</sup>	SD
I will like to study agriculture if and only if the government compulsory it as a course.	425	1.53	7.51	6 <sup>th</sup>	D
I will like to study agriculture if only I am not regarded as an average student.	332	1.23	5.86	12 <sup>th</sup>	SD
I will like to study agriculture because I want to practise agriculture.	576	2.11	10.18	3 <sup>rd</sup>	D
I will like to study agriculture if I can practise what I am being taught.	576	2.11	10.18	3 <sup>rd</sup>	D
I will like to study agriculture if I can be properly informed about what it entails.	581	2.11	10.26	2 <sup>nd</sup>	D
I will like to study agriculture if we are exposed to career awareness program in agriculture	594	2.18	10.49	1 <sup>st</sup>	D
My father will not support my choice of agriculture as a profession	338	1.23	5.97	10 <sup>th</sup>	SD
My mother will not support my choice of agriculture as a profession	345	1.25	6.09	9 <sup>th</sup>	SD
<b>Total</b>	<b>5661</b>	<b>20.6</b>	<b>100</b>		

**Table 5.** Assessment of agricultural education in secondary schools

Factors	Yes	No
Do you have agricultural laboratory in your school?	107 (37.5)	178 (62.5)
Does your school have a school farm?	164 (57.5)	121 (42.5)
Types of implements used on the school farm		
Plough	5 (2.3)	
Harrow	1 (0.5)	
Tractor	14 (6.6)	
Sower	2 (0.9)	
Cutlass	51 (23.9)	
Hoe	35 (16.4)	
Cutlass and Hoe	99 (46.5)	
None	78 (27.4)	
<b>Total</b>	<b>285 (100)</b>	
Have you ever visited a farm?	234 (82.1)	51 (17.9)
Type of farm visited		
Small/Subsistence Farm	128(44.9)	
Large/Commercial Farm	101(53.4)	
Both	5 (1.8)	
None	51 (17.9)	
<b>Total</b>	<b>285(100.0)</b>	

**Table 6.** Possible factors that can stimulate students' willingness to study agriculture

What do you think should be done in order to increase Student's willingness to study agriculture in your school?	Frequency( %)
Practical Knowledge	51(17.9)
Early Exposure	21(7.4)
A review of agricultural science curriculum	137(48.1)
Incentives	22(7.7)
Government's Responsibility	54(18.9)
<b>Total</b>	<b>285(100)</b>

**Table 7.** Determinants of willingness to study agriculture

	Coefficient	Standard Error	Marginal Effect	Standard Error
<b>Age</b>	-0.368	0.235	0.065	-0.089
<b>Sex</b>	-0.453	0.584	0.574	-0.349
<b>Father's educational attainment</b>	0.174	0.278	0.274	0.227
<b>Father's occupation</b>	0.306**	0.129	0.127**	0.292
<b>Private school</b>	-1.231*	0.686	0.623	-0.895
<b>Father's support</b>	1.003***	0.359	0.345***	0.966
<b>Implement in school</b>	1.125**	0.572	0.574**	1.109
<b>Perception</b>	-0.706	0.464	0.447	-0.583
<b>Prestige for farming</b>	-0.027	0.217	0.215	0.003
<b>Visited a Farm</b>	2.236*	1.294	1.260*	2.356
<b>Future farming</b>	2.475***	0.587	0.581***	2.505
<b>Constant</b>	4.826	3.906		

\*, \*\*, and \*\*\* represent level of significance at 10 %, 5 % and 1 %, respectively.

LR Chi-square (11) = 56.262; Prob> Chi<sup>2</sup> = 0.0000; Pseudo R<sup>2</sup> =0.88;

Log likelihood = -93.213; Logistic model for willingness to study, goodness-of-fit test (Table collapsed on quartiles of estimated probabilities); Number of observation = 245; Number of groups = 10; Hosmer-Lemeshow Chi<sup>2</sup>(8) = 8.46; Prob> Chi<sup>2</sup> = 0.437

However, they were undecided whether agriculture was a job for the poor, the uneducated, the less privileged and the aged in the society. Peer pressure and parental influence were not strong enough to influence their enrolment for pursuing a career in agriculture (Table 4).

Although a higher percentage of the students (82.1%) had visited a farm, about a third of them had visited a commercial farm (Table 5). Further, a larger percentage of the students indicated the absence of agricultural laboratory in their schools. About half (48.1%) of the students suggested the need for a review of senior agricultural science curriculum for secondary schools while 17.9% of them suggested the need for a practical oriented-based knowledge (on-field teaching, ability to practise what I being taught) (Table 6). However, less than a tenth of them suggested the need for exposure to agriculture through agricultural excursions to commercial farms.

Table 7 presents factors influencing willingness of high school students to study agriculture in tertiary institution using maximum likelihood estimation. The likelihood ratio and the Wald tests were not simultaneously equal to zero suggesting the overall fitness of the model and that all the independent variables jointly explained the variations observed in the log-likelihood of the students' willingness to study agriculture. The Hosmer-Lemestest showed that the numbers of students willing to study were not significantly different from those predicted by the model. This further buttressed the good fit of the model to explain willingness of students to study agriculture. The likelihood of a high school student's willingness to study agriculture increased significantly with having a father who primarily practised agriculture and supports agricultural education, attending a school where crude implements are not used, visit to a mechanized farm and the youth's willingness to own a farm in the future irrespective of the course of study. However, the likelihood decrease with a student attending a private school. Further, age, sex, father's education, perception and prestige attached to agriculture did not have significant influence on the likelihood of the students' willingness to study agriculture.

## DISCUSSION

There was a low level of willingness to enroll for a higher agricultural education among the students relative to the professional courses like medicine and engineering. A larger percentage of them wanted to study medicine while a small fraction of the students wanted to be agriculturists. This is consistent with the findings of Ogunremi et al. (2012) and Garwe (2015) that students have negative perceptions towards the agriculture career and thus opt for other more

prestigious careers. They perceived agriculture as a profession that is not lucrative and may lead to one becoming a subsistent farmer in the rural areas (Johnson et al., 2015). This suggests the need to increase the advocacy for right perspective of agricultural science in secondary schools. Although parents or guardians and friends have most influence on students' choice of career (Esters and Bowen, 2005), parental support for choice of agricultural career among the interviewed students was not much as a larger percentage of them had a great influence on their career choices. Students' perception of agriculture was average suggesting that they did not have adequate knowledge of agriculture. Owing to their moderate knowledge of agriculture, the students were negatively disposed to choosing agriculture as a course of study in higher institutions. However, they would be willing to choose agriculture as a career if they were adequately guided and counselled in career choices in agriculture; properly informed about the prospects of agriculture; and if agriculture were made real through practical sessions and can go on agricultural excursions,

Experiences acquired during the formative period of an individual's life may set the future direction of a person's life course by influencing the choice of career and the achievements attained (Mukembo et al., 2014). Therefore, taking up agriculture at high school level can have some influence on the students' future career choice (Esters and Bowen, 2005). Madakadze et al. (2014) found that agricultural science was the type of agriculture curriculum being taught in high schools in South Africa, owing to a lack the necessary resources and infrastructure for teaching agricultural management practices and agricultural technology. A low level of exposure to modern agriculture, including agricultural economics, crop protection, among the students interviewed for the study informed their low level of willingness to study agriculture at the university. Absence of agricultural laboratories and farms in high schools suggests that agricultural facilities need to be provided by secondary schools to enhance students' exposure to the practice of agriculture including agricultural management possibly stimulates their willingness to study agriculture.

Some components of secondary agricultural education that do not significantly influence students' choice of agriculture at college level (Rayfield et al., 2013). More than half of the students' schools had school farms, characterised by drudgery, which could be a disincentive for students to be attracted to agriculture as a career. Thus, if schools purchase simple and cheap agricultural technologies for students' use on school farms will improve exposure and students' participation during practical section and thereby build the interest of the students in enrolling for agriculture in tertiary institution (Atibioko, 2016).

Perception of agriculture was positively related to the log-likelihood willingness to study agriculture. This is possible because students' level of perception and awareness about a particular course of study influences their attitude and choice towards pursuing higher degree in that field of study. This is consistent with the report of Ogunremi et al. (2012) that the willingness of students to study agriculture and agricultural related courses is dependent on the level of perception of students about the course of study of their choice. Having an agriculturist father will give credence to support a child to study agriculture. Such a father would serve as both a mentor and positive influence to the child to choose a career in agriculture. This supports the findings of Niranjana et al. (2018) that parental influence enhances choices of youths to study agriculture. Students attending secondary schools where crude implements are used on the school farms would not want to study agriculture because all they see and know about agriculture is the pain and the rigour involved in farming. However, students' visit to a mechanized farm would enhance their willingness to study agriculture and help them see agriculture as a business rather than a job for the poor, with low returns to labour.

Further, a youth's vision to own a farm in the future irrespective of the course of study may encourage willingness to acquire higher agricultural education. This is likely because students who are passionate and determined about agriculture have higher chances of success in their selected courses than those who are not passionate about it but found themselves in the field of study. However, students attending a private school were less willing to study agriculture, possibly owing to the high cost of private secondary education. Attendance of a public school is also a reflection of low economic status of households. Thus, students from middle or high income households would be less willing to study agriculture. This is consistent with the findings of Adedapo et al. (2014) that family income was negatively related to the choice of students in college agricultural education in India. Dlamini (2017) also posited that students from private high schools tend to agree that family and friends influenced their decision and they are less likely to be willing to enroll for agriculture in tertiary institution. Perception of agriculture did not significantly explain willingness to study agriculture, possibly owing to their generally low perception of agriculture.

### CONCLUSION

Some high school students of Oyo State, in the area of Ibadan were not willing to pursue agriculture as a career and had a very low perception about agriculture. They considered farming as a default career for peasant farmers with little or no education.

Further, choices of students to pursue higher degrees in agriculture was greatly influenced by the quality of high school agricultural education curriculum, field trips and career interests. Willingness to study agriculture was explained by passion for an agricultural course, attendance of a private high school and youths' perception of agriculture.

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**Appendix I:** A priori expectations for student's willingness to study agriculture

S/N	Variables	Description	Results	Authors
1	Age (in years)	Age of respondent in years	+	Fabiyi et al. 2015, Ojebiyi et al. 2015, Etim and Udoh 2018.
2	Gender	1 = male, 0 if otherwise	+ -	Fabiyi et al. 2015, Daramola 2009 Ogunremi et al. 2012, Etim and Udoh 2018, Ojebiyi et al. 2015.
3	Father's Education Attainment (in years)	Number of years of formal education of father	+	Ogunremi et al. 2012, Ojebiyi et al. 2015.
4	Father's occupation	1 = agriculture, 0 if otherwise	+	Fabiyi et al. 2015, Ojebiyi et al. 2015.
5	Use of modern farm implement in school	1= Yes, 0 if otherwise	NA	NA
6	Visited a mechanised farm	1 = Yes, 0 if otherwise	NA	NA
7	Own farming in the future	1 = Yes, 0 if otherwise	NA	NA
8	Prestige for farming	1 = Yes, 0 if otherwise	+/-	Daramola 2009, Baliyan and Nenty 2015, Ongang'a et al. 2015.
9	Father's support for agricultural education.	1 = Yes, 0 if otherwise	+	Niranjan et al., 2018
10	Type of secondary school attended	1 = public, 0 if otherwise	-	Dlamini (2017)
11	Perception index		+	Ogunremi et al. 2012, Arjen and Fishbein 1980, Etim et al. 2013, Baliyan and Nenty 2015, Etim and Udoh, 2018

NB: NA means Not available in literature

**Appendix II:** Summary statistics of socio economic characteristics of respondents (N = 285)

Socioeconomic characteristics	Minimum	Maximum	Mean	Std. deviation
Age	13	20	15.30	1.169
Sex (0 = M, 1 = F)	0	1	0.51	0.501
State of origin	0	5	0.29	0.753
Religion	0	1	0.32	0.466
Number of siblings	0	3	0.15	0.484
Father's occupation	0	6	2.38	2.375
Mother's occupation	0	6	1.68	1.966
Father's Educational Attainment	0	4	2.45	1.202
Mother's Educational Attainment	0	4	2.29	1.149