

Family Background as a Factor in Science Students' Motivation for Higher Education in IMO State, Nigeria

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ABSTRACT

This study was carried out to ascertain the effect of family background in the motivation of students studying science for higher learning in Imo State. Survey design was used in the study which contained 12 item statements as questionnaire structured on a 4 point modified likert rating scale, 360 students were randomly selected from senior secondary II in their schools. The data collected was tested using mean rating while the hypotheses was analyzed using t-test at 0.05 level of significance. The instrument was subjected to reliability. Pearson product moment correlation coefficient was used which gave 0.82 and was considered adequate for the study. The findings showed that family background factors such as parents' level of education, parents occupation, and family type play a vital, unique and crucial role in the science students' motivation for higher education.

Key words: Family background, Motivation, Science students, Higher education.

INTRODUCTION

Over the years, it has been observed that one of the basic tasks of education is to train young people to become useful and effective members of the society. Family background in this context include siblings, extended family members, as well as other factors like parents' level of education, occupation, socio-economic status and other socializing facilities available in the home. The home is the basic instrument for providing the child's primary socialization and laying the educational foundation of the child (Obasi, 2000). Therefore what the child learns at home and how his or her family background is, constitutes a major factor that could influence the child in his choice of career for higher education. (Davidoff, 1987) refers to motivation as an internal state that may result from needs. According to (Onyemerekeya, 2003) motivation can be thought of as the general energizing syndrome that indicates, sustains and regulates various kinds of activities in an individual. (Evereth and Entrée King, 2004) defined higher education as a process involving interaction amongst students, staff, and administration, higher education plays a vital role in the mastery of the very patterns of life styles, social adjustments, educational pursuit and job requirement.

Chemistry, biology and physics are science subjects encompassing the earth surface, (Okwo and Tartiyus 2004). Considering their characteristics and importance to man's successful living, their contents are taught at all levels of our educational system, from primary to tertiary. (Agogo, 2002). However, these subjects

are quite challenging for students, hence, their studies at higher levels seem to have reduced drastically due to poor performance as a result of lack of motivation. (Festus and Ekpete, 2007) contended that performance appears generally to be the fundamental goals behind every life's struggle, but the positive platform has consequential effects on improving the worth of the students. The attitude of science students towards higher education has been affected seriously by the kind of home they grew up in, the foundation that is laid for the child in the home equips him for the challenges he will face in the future. What the child learns at home and how his family motivates him towards education contributes to the child's success or failure in school or higher education preferences. (Ariyo, 2006) opined that the poor achievement of science students in physics has been a major concern to the main stream of science education. (Gul and Arshad 2012) asserted that attitude is a hypothetical construct that indicates an individual's likes and dislikes towards an item which may be negative, neutral or positive. This situation is disturbing and not in the best interest of science, technology and development of our country. This concern has been expressed by parents, educators, employers, counselors and the entire society.

Therefore, this study focuses on finding out how and to what extent family background like parents level of education, parents' occupation and family type influence senior secondary 11 chemistry,

biology and physics students' motivation for higher education, in Owerri educational zone.

RESEARCH QUESTIONS

To appropriately address the problem of this study, the following research questions were posed;

1. To what extent does parents' level of education motivate science students for higher education?
2. To what extent does parents' occupation influence the science students' motivation for higher education?
3. To what extent does family type affect science students' motivation for higher education?

RESEARCH HYPOTHESES

The following hypotheses were postulated to direct the study.

H₀₁: There is no significant relationship between parents' level of education and students' motivation for higher education

H₀₂: There is no significant relationship between parents' occupation and students' motivation for higher education

H₀₃: There is no significant relationship between family type and students' motivation for higher education

METHODOLOGY

The research design used in carrying out this study is both descriptive and analytical survey research which was conducted in Owerri educational zone of Imo State, Nigeria. The population of the study was made up of all the

senior secondary class two (SS II) chemistry, biology and physics students in the zone. A proportionate random sampling technique was used in selecting 360 respondents from 15 public schools based on their Local Government Area for the study.

A self structured questionnaire referred to as "home background and students' motivation for higher education" was used for data collected. The construction of the questionnaire was guided by information and ideas gathered from the review of related literature. The questionnaire was divided into two sections; A dealt with the demographic data of the respondents while section B dealt with the opinion of respondents on the major variable of the study. The questionnaire contained 12 item statements which was structured on a four point modified likert rating scale strongly agree (SA) - 4 points, Agree, (A) - 3 points, Disagree (D) - 2 points, strongly disagree (SD) - 1 point.

The null hypotheses were all tested at 0.05 level of significance using t-test as a statistical tool. The null hypothesis is rejected if the calculated t-value is greater than the critical t-value and accepted if the calculated value of t is less than the critical value of t

The instrument was subjected to reliability. Pilot study was conducted and data collected were analyzed using pearson product moment correlation coefficient which gave 0.82 and that was considered adequate for the study.

RESULT

Research question 1

To what extent does parents' level of education motivate students for higher education?

Table 1: Pattern of responses towards parents' level of education as a motivating factor for higher education.

S/N	Item statement	Pattern of response				Mean \bar{X}	Decision
		SA	A	SD	D		
1	My father's educational achievement challenges me for higher education.	130	100	30	100	2.72	Positive
2	Educated parents motivate and encourage their children to go for higher education.	100	132	53	75	2.71	positive
3	Children from elite families are more motivated to further their education up to university level.	97	93	75	95	2.53	positive
4	My parents average educational attainment motivated me for higher education.	149	111	42	58	2.97	Positive
Average mean score						2.73	Positive

The result in Table 1, show that all the items have mean scores above 2.50 indicating the respondents agreement with the items. This shows that parents' level of education is a motivating factor for higher education.

Research question 2

To what extent does parents' occupation motivate students for higher education?

Table 2: Pattern of responses towards the influence of parents' occupation on the students motivation for higher education.

S/ N	Item statement	Pattern of response				Mean \bar{X}	Decision
		SA	A	SD	D		
5	My parents' occupation challenges me for higher education.	122	118	51	69	2.81	Positive
6	Domineering occupation in the family influence students' motivation for higher education.	95	99	71	95	2.54	positive
7	Parents' occupational benefit is a factor in the motivation of students for higher education.	137	131	36	56	2.97	positive
8	The length of time parents spend in their work affects their children' motivation for higher education.	67	71	117	105	2.28	Negative
Average mean score						2.65	Positive

The result in Table 2, revealed that with exception of item 8 that scored below the acceptable mean score of 2.50, all other items have mean scores above 2.50 indicating the respondents agreement with the items. This indicates that parents' occupation is a motivating factor for students' for higher education.

Research question 3

To what extent does family type motivate students for higher education?

Table 3: Pattern of responses towards the influence of family type on students' motivation for higher education.

S/ N	Item statement	Pattern of response				Mean \bar{X}	Decision
		SA	A	SD	D		
9	Parents with large families do not give their children quality education, hence most of them are less motivated to go for higher education.	112	105	63	80	2.69	Positive
10	Number of siblings in the home affects their motivation for higher education.	101	99	79	88	2.59	positive
11	Parents with large number of children find it difficult to send all their children to school.	137	133	49	41	3.01	positive
12	Children from small families tend to be more motivated.	105	98	65	92	2.60	Positive
Average mean score						2.72	Positive

Table 3, proved that all the items have mean scores above 2.50 indicating the respondents agreement with the items. It can be deduced that, in the students' opinion, one of the motivating factors for higher education is family type.

Hypotheses 1

There is no significant relationship between parents level of education and students motivation for higher education.

Table 4: t-test analysis of the relationship between parents' level of education and chemistry, biology and physics students' motivation for higher education

Variable	\bar{X}	SD	Df	t-cal	t-crit	prob
Parents level of education	114.0	19.16		4.65	1.96	0.05
Students motivation	66.0	22.03	358			

Decision: very significant at $p < 0.05$

Table 4 reveals that the calculated t-value is 4.65 at 358 degrees of freedom and 0.05 level of significance, Since the calculated t-value of 4.65 is greater than the critical t-value of 1.96; the null hypotheses is rejected while the alternative hypotheses which states that there is a significant relationship between parents level of education and students motivation for higher education is accepted.

Hypotheses 2

There is no significant relationship between parents' occupation and students' motivation for higher education.

Table 5: t-test analysis of the relationship between parents' occupation and chemistry, biology and physics students' motivation for higher education

Variable	X	SD	Df	t-cal	t-crit	Prob
Parents occupation	114.25	12.62				
Students motivation	69.63	17.15	358	5.58	1.96	0.05

Decision: very significant at $p < 0.05$

The result in table 5 shows that the calculated value of t (5.58) is more than the critical value of t (1.96) at 0.05 level of significance and degree of freedom (358). Since the calculated t-value of 5.58 is more than the critical t-value of 1.96, the null hypothesis is rejected. Hence there is a significant relationship between parents occupation and student motivation for higher education

Hypotheses 3

There is no significant relationship between family type and students' motivation for higher education.

Table 6: t-test analysis of the relationship between family type and chemistry, biology and physics students' motivation for higher education

Variable	X	SD	Df	t-cal	t-crit	Prob
Family size	105.0	25.53				
Students motivation	75.0	55.62	358	2.35	1.96	0.05

Decision: very significant at $p < 0.05$ level of signification.

The result in table 6 indicates that the calculated value of t (2.35) is greater than the critical value of t (1.96) at 0.05 level of significance and 358 degrees of freedom. This implies that the null hypothesis of no significant relationship between family type and students' motivation for higher education is rejected. Therefore the relationship between family type and student motivation for higher education is statistically significant.

DISCUSSION

The findings of the study on research question 1 revealed that parents' level of education influences science students' motivation for higher education significantly. The result in table 1, show that average mean score of 2.73 and all the items have mean scores above 2.50 indicating the respondents agreement with the items. This shows that, parents' level of education is a motivating factor for higher education. This agrees with (Onyebe, 2005). Parents level of education whether low, average or high motivates students for higher education. This study revealed that students from homes with both low and high level of education aspire to be greater than their parents. However, those whose parents' level of education are higher, are more motivated.

The analyses of data in research question 2 showed that parents' occupation influences the motivation of students for higher education. Table 2, revealed that with exception of item 8 that scored below the acceptable mean score of 2.50, all other items have mean scores above 2.50. The average mean score was 2.65 which was above the acceptable mean score indicating the respondents agreement with the items. This depicts that parents' occupation is a motivating factor for students' for higher education. (Uche, 1993) also reported that the occupation of and social class or status have a considerable influence on the ease or difficulty with which the child can gain a place in school and length of time he is willing to devote to school or study. This also agrees with (Abiam and Odok 2006).

The author went on to say that children of parents in professional and managerial occupation are much likely to be motivated and hence successful, compared to children of unskilled manual workers. This also shows that parents' occupation influences their children academic pursuit and performance in timeliness and financial dimensions.

The result on research question 3 showed that family type influences students' motivation for higher education as shown in table 3 which proved that all the items have mean scores above 2.50 and gave an average mean score of 2.72 indicating the respondents agreement with the items. It can be deduced that, in

the students' opinion, one of the motivating factors for higher education is family type. (Ononuju, 1998) is of the view that in large families, being able to give adequate education to children is difficult especially now that education is so expensive, and everyone needs it. He also said that with many children, parents find it difficult to supervise and help their children at home as regards their educational work, this results in parents giving low attention to their children which leads to poor academic performance and pursuit. These findings are also in agreement with (Okeobula, 2002) and (Freud, 1996) that children from small families on the average perform better in intelligence test and in selection examination for secondary schools than children from large families.

Null hypotheses 1 in table 4 showed that chemistry, biology and physics students' motivation for higher education is significantly centered on parents' level of education. The t-test analysis of the relationship between parents' level of education and students' motivation for higher education revealed that calculated t-value of 4.65 is more than the critical t-value of 1.96 at 358 degree of freedom and 0.05 level of significance, this findings implies that there is a significant relationship between parents level of education and students' motivation for higher education. (Mercy, 2000) posited that educational status of parents affects the demand they make on their children. Elite parents understand the individual differences among their children and this helps them to accommodate and encourage them, this in turn helps to motivate them to improve their effort in their academic pursuit. It also agrees with (Douglas, 1992), (Ma and Wilkins, 2002) that the working class parents with lowest educational attainment want their children to leave school earlier and better than the parents with middle class of education.

Null hypotheses 2 as shown in table 5, showed that chemistry, biology and physics students' motivation for higher education is significant with respect to parents' occupation, The t-test analysis of the relationship between parents' occupation and students' motivation for higher education revealed that calculated t-value of 5.58 is more than the critical t-value of 1.96 at 358 degree of freedom and 0.05 level of significance, this reveals that there is a significant relationship between parents' occupation and students' motivation for higher education.

This corresponds with (Atkinson, 1983) and (Okeke, 1983) who both reported a positive relationship between parental occupation and children's academic achievement, the type of work one's parent do, determines to a large extent whether the child will go for higher education or not. (Beckstone, 1980) posited that occupation of parents has great influence on the educational choice made by adolescents.

Table 6 shows t-test analysis of the relationship between family type and chemistry, biology and physics students' motivation for higher education. This revealed that calculated t-value of 2.35 is more than the critical t-value of 1.96 at 358 degree of freedom and 0.05 level of significance, this showed that there is a significant relationship between family type of the students and their motivation for higher education.

This corresponds to (Little, 1992) who reported that changing family structures affects students' performance, he went on to affirm that students from single parent families have low academic performance, achievement and pursuance, more susceptible to peer pressure, engage in deviant behaviour, have higher dropout rate from high school, have greater social and psychological problems compared to other children. This agrees with (Craker, 2006).

CONCLUSION

This research work investigated home background as a factor in science students' motivation for higher education. Based on the findings, home background factors such as parents' level of education, parents' occupation and family type plays a vital, unique and crucial, role in science students' motivation for higher education.

There is a significant relationship between parents' level of education, parents' occupation, family type and students' motivation for higher education. Hence, we concluded that these factors significantly motivates and influences students' pursuit for higher education.

RECOMMENDATION

Based on the findings of this study the following recommendations were made.

1. Parents should endeavour to maintain peace and unity in their families so that their children will have emotionally stress free environment at home for their studies in order to make good academic achievement and further their education to higher levels.
2. Since it was found that in large families being able to give adequate education to children is difficult especially now that education is so expensive and important. Parents should endeavour to have

maximum of four children so that they can give adequate education to their children no matter the cost.

3. Students who are ashamed of their parents' occupation either because of the level of work done or the type of wears demanded by the work, should desist from such attitude so as to gain parental support and funding for higher education.

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