



The Effect of Birth Order on Academic Performance among the Students of Schools of Nursing and Midwifery, Akure, Nigeria

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Abstract

Background: Birth order has been accepted to have a deep consequence on psychological development. In Nigeria, little is known about the relationship between Birth Order and Academic Performance especially in post-secondary Institutions. This study therefore investigated the effect of Birth Order and Academic Performance of students of the Schools of Nursing (SON) and Midwifery (SOM), Akure. **Methods:** A cross-sectional descriptive design was adopted with students of the SON and SOM as the study population. The SON and SOM were purposively selected. The study population included 60 Students in the SON and 60 Students in the SOM. The Students were grouped into “First-Borns” (FB), “Middle-Borns” (MB) and “Last-Borns” (LB). Questionnaires were used to obtain their socio-demographic characteristics and academic records classified as Excellent Performance (EP), Good Performance (GP) and Poor Performance (PP). Descriptive statistics and Chi-Square were used to analyse data at $\alpha_{0.05}$. **Results:** Participants’ mean age was 22.8 ± 4.1 years. The proportion of respondents with EP were 11.7, 2.5 and 6.7% for FB, MB and LB respectively, while those with GP were 20.0, 23.3 and 23.3% for FB, MB and LB respectively. Those with PP were 1.7, 7.5 and 3.3% for FB, MB and LB respectively. A calculated Chi-Square value of 12.1 was obtained and compared with the theoretical Chi-Square value of 9.49 at 0.05 level of significance. **Conclusion and Recommendation:** Birth Order had a significant effect on the academic performance of the Schools of Nursing and Midwifery. Equal attention should also be given to children notwithstanding their order of birth.

Keywords: Birth Order, Academic Performance, Schools of Nursing and Midwifery, Akure.

Introduction

People are fascinated by the fact that siblings conduct themselves in manners which are not the same, although they were brought up in similar circumstances and vicinities, such as locality, and inherit similar traits from both parents. Apart from the way people behave, children of the same parents are different in terms of temperament (Michalski & Shackelfold, 2010), intellect (Brant *et al.*, 2013), familial sentiment (Zyrianova, *et al* (2013) as reported by and others. First-born

are known to be responsible, high go-getters and who like doing things perfectly whereas last-borns and only child are known as mummy’s baby and are mostly pampered children (Gabriel, 2015). Consequently, these variabilities among children of the same parents have caught the consideration of scholars over the last ten years. A lot of academic investigations have been carried out on the school children’s parentage and household situations since the Coleman Report of 1966 (Johnsen, 2017). These

investigations have appraised the impact of the household on academic attainment significantly higher than that of the academic institution itself. According to the study, the most significant issues in school accomplishment are the educational and social backgrounds of the child's family and the social and economic backgrounds of the other children in the school.

The influence of the school itself comes in a distant third. The outcomes of the Coleman Report were further restated by the Plowden Report (Onwuameze, 2013) and Coleman Report (Johnson, 2017) in Great Britain which also reached a conclusion that household background was more relevant than school factors in determining children's academic attainment. These outcomes started an active argument in developed countries with reference to the roles of family, parent and school factors in school children's academic performance with the overall propensity to rate family factors above school ones. Academic accomplishment is a significant index in assessing achievement in students. Observations and reports have revealed that academic accomplishment has become an enormous task to accomplish by students recently. Poor academic performances were recorded both at the secondary and tertiary levels of education in Nigeria (Obidileet *et al.*, 2017).

The performance of students at all levels in educational institutions in Nigeria has attracted much criticisms from all and sundry from time immemorial (Obunadike, *et al.*, 2012). Poor academic achievements of students have been of great concern to educationalists, guidance, and counsellors in particular. In spite of activities which are intended to guide students and advisory activities being carried out in schools to improve the students' academic performances, yet no major improvement is achieved yearly (Obunadike, *et al.*, 2012). It becomes compulsory to investigate the causes of such poor performances in Nigerian institutions of higher learning. Although, these lack lustre

accomplishments have been ascribed to a lot of pointers such as student's factors, like the attitudes of students to school, method of studying and academic orientation. Apart from student's factors, school factors and parents' factors there are other indicators that affect poor performance. On the part of the parents, there are certain factors which, influence children's success, such as parents' social class, parents' educational as well as parental inputs and other exogenous variables.

Apart from the aforementioned factors, the family size and birth order may contribute positively or negatively to student's academic performance. Findings on birth order, family size, and school achievement are very complicated (Dong *et al.*, 2017). It was debated having more children put more demands on available financial and non-financial resources of the family thereby affecting negatively the performances of the children at school (Dong *et al.*, 2017). Due to the inability of the accumulation of some of these resources (e.g. contact time with parents), the amount available for each child depends on his position in the family and how children are spaced.

The cherished extended family system in African has also been found to provide resources that moderate the effect of sibling-ship size and single-parenthood and facilitate schooling. There is definitely a paucity of findings on these variables as they related to Nigeria. Although it is generally believed that findings in other African countries are generalizable, there is need to domesticate these studies to identify local variations. This study, therefore, assessed the effect of birth order on academic performance of students in the schools of nursing and midwifery, Akure.

Materials and Methods

This study was carried out in Ondo State School of Nursing and School of Midwifery, both along Igbatoro Road Akure, located in Akure South Local Government Area of Ondo State. This is a training institution for the award of Registered Nurse and Midwife

Certificates regulated by the Nursing and Midwifery Council of Nigeria. The school was established in 1976. The population of each school is about 150 students, making 300 students for both schools. The study adopted a cross-sectional descriptive research design. The study population consisted of the Students of School of Nursing and School of Midwifery both in Akure, Akure South Local Government Area of Ondo State. This population was considered to be matured enough to respond to a short questionnaire. The stratified random sampling technique was used to select the participants. Twenty students were selected randomly from each year from the two schools making 120 Students.

The short “Demographic Questionnaire” was administered to all the selected students from both schools to enable the researchers to stratify them into gender (male and female) and birth order. Participants were then selected on the basis of stratified random sampling to ensure fair representation as much as possible. It was also ensured that the three categories of First, Middle, and Last borns had an equal number of 40 students each. Two instruments were used for data collection. The first instrument was a structured questionnaire which was used to obtain demographic characteristics of the Students. The second instrument was the academic records of the students in the Foundation of Nursing, Medico-surgical Nursing, Primary Health Care and Anatomy and Physiology.

The marks obtained by the students in the four subjects out of 100 marks each was added together and the average mark obtained was recorded. The marks obtained were now categorised into the following: 70% and above was categorised as excellent; 50 to 69.9% was categorised as good while less than 50% was categorised as poor. The number of students that had marked in those categories was recorded accordingly. Data Analysis was conducted using descriptive statistics and Chi-square test. The Chi-square test was used to determine if there is significant relationship

between the respondents’ birth order and academic achievement at 5% significance level ($p < 0.05$)

Ethical Consideration:

The Ethical Clearance for the conduct of the study was given by the Ondo State Health Research Ethics Committee (OSHREC) in the Ondo State Ministry of Health with the Reference Number: OSHREC/05/04/2015/052

Results

Social-Demographic Characteristics of Respondents

A total of 120 respondents were used for the study, 60 respondents were from the School of Nursing (SON) while 60 were from the School of Midwifery (SOM). The respondents consisted of 40 students each for the First-Born (FB), Middle-Born (MB) and Last-Born (LB) respectively. Out of which the FB, MB, and LB were 55 and 45%; 30 and 70% and 55 and 45% for the SON and SOM respectively. Ninety-two per cent (92%) of the respondents were females, all the male respondents were from the School of Nursing.

The numbers of first-born respondents in each level were: 25.0, 37.5 and 37.5% for years one, two and three respectively. The number of the respondents for the middle-born on each level were: 25, 50 and 25% for years one, two and three respectively and for the last-born respondents on each level were: 32.5, 42.5 and 25% for years one, two and three respectively. Majority of the respondents were Christian 94.2% with 100.0% Christians for the first-born. For the middle-born 97.5 and 2.5% were Christians and Muslims respectively, while for the last-born 85 and 15% were Christians and Muslims respectively. The ages of respondents ranged from 18 to 35 years in both schools. Ninety-three point thirty- three per cent (93.3%) were single. Other characteristics are shown in Table 1.

Academic Performance of Students

The Academic Performance of Students as shown in Figure 1 revealed that 14, 3 and 8

students had excellent grade for First, Middle, and Last Borns respectively while 24, 28 and 28 students had good grade for First, Middle and Last Borns respectively and 2, 9 and 4 had poor grade for First, Middle and Last Borns respectively.

Birth Order and Academic Performance

The performance of students among the three categories of Birth orders of “First-Borns”, “Middle-Borns” and “Last-Borns” is presented in Table 2 with each having 40 students as respondents. For the first-borns: 11.7, 20.0 and 1.7% had excellent, good and poor performances respectively, while for the middle-borns: 2.5, 23.3 and 3.3% had excellent, good and poor performances respectively. For the last-borns: 6.7, 23.3 and 3.3% had excellent, good and poor performances respectively.

Relationship between the Respondents’ Birth Order and Academic Achievement

Table 3 presents the Chi-Square values and p values with its interpretations for the relationship between the respondents’ birth order and academic achievement based on a 0.05 level of significance. A calculated Chi-Square value of 12.1 was obtained and compared with the theoretical Chi-Square value of 9.49 at 0.05 level of significance. This revealed that the null hypothesis which states that there is no significant “Birth order does not have an effect on academic performance is rejected” and the hypothesis that states that Birth order will have an effect on academic performance is accepted. This means that the differences in the mean scores of the three groups of students are statistically significant.

Table 1: Socio-Demographic Characteristics of the Participants

Demographic Characteristics	FB N=40(%)	MB N=40(%)	LB N=40(%)	Total N=120(%)
Age				
18-25	34 (85.0)	31 (77.5)	35 (87.5)	100(83.3)
26-30	3 (7.5)	4 (10.0)	1 (2.5)	8(6.7)
31-35	3 (7.5)	5 (12.5)	4 (10.0)	12(10.0)
Sex				
Male	5 (12.5)	5 (12.5)	0(0.0)	10(8.3)
Female	35 (87.5)	35 (87.5)	40 (100.0)	110(91.7)
Marital Status				
Single	37 (92.5)	37(92.5)	38 (9.05)	112(93.3)
Married	3 (7.5)	3 (7.5)	2 (5.0)	8(6.7)
Religion				
Christianity	40(100.0)	39 (97.5)	34 (85.0)	113(94.2)
Islam	0 (0.0)	1 (2.5)	6 (15.0)	7(5.8)
Traditional	0 (0.0)	0 (0.0)	0 (0.0)	0(0.00)
Ethnic Group				
Yoruba	40 (100.0)	40 (100)	40 (100)	120(100.0)
Igbo	0 (0.0)	0 (0.0)	0 (0.0)	0(0.0)
Others	0 (0.0)	0(0.0)	0(0.0)	0(0.0)
School				
School of Nursing	22(55.0)	26(65.0)	12(30.0)	60(50.0)
School of Midwifery	18(45.0)	14(35.0)	28(70.0)	60(50.0)
Educational Status				
Year one	10(25.0)	10(25.0)	13(32.5)	33(27.5)
Year two	15(37.5)	20(50.0)	17 (42.5)	52(43.3)
Year three	15(37.5)	10(25.0)	10 (25.0)	35(29.2)

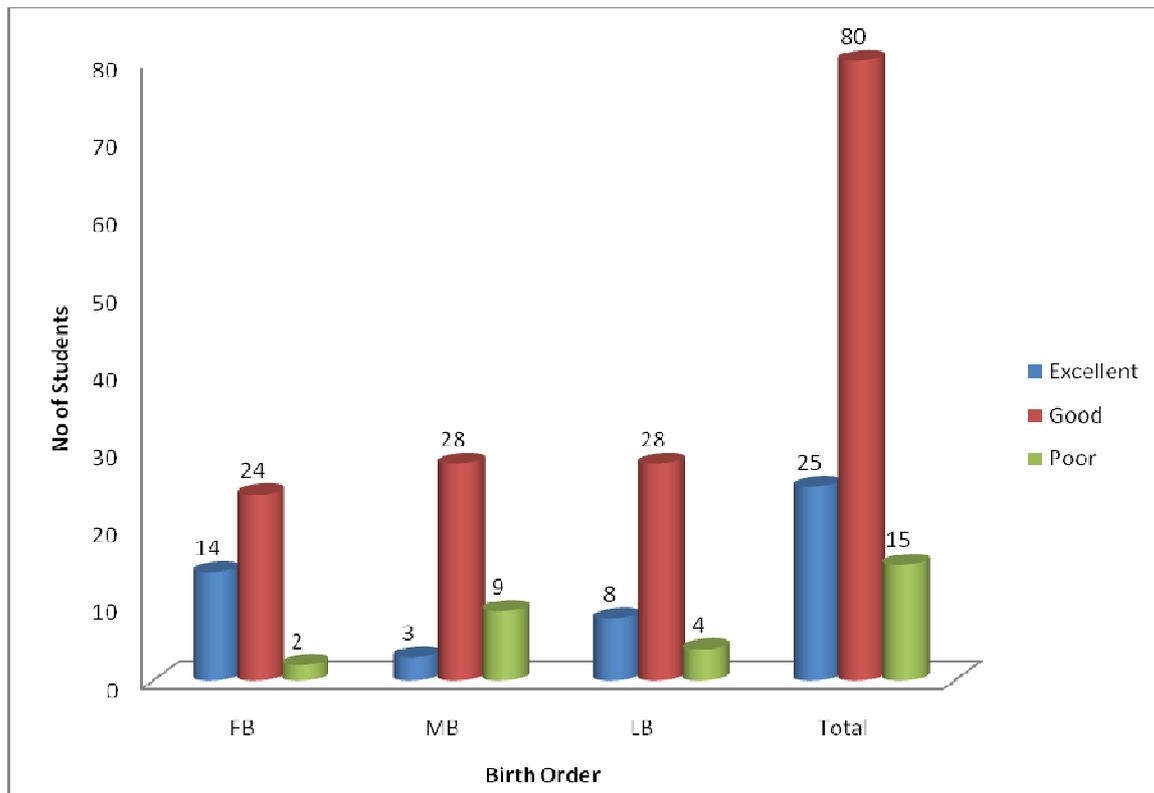


Figure 1: Pattern of Student's Performance

Table 2: Birth Order and Academic Performance Cross Tabulation

<i>Birth Order</i>	<i>Academic Performance</i>			Total N=120 (%)
	Poor Performance N (%)	Good Performance N (%)	Excellent Performance N (%)	
First-Born				
Middle- Born	2 (1.7)	24 (20.0)	14 (11.7)	40 (33.3)
Last-Born	9 (7.5)	28 (23.3)	3 (2.5)	40 (33.3)
Total	4 (3.3)	28 (23.3)	8 (6.7)	40 (33.3)
Total	15(12.5)	80(66.7)	25(20.8)	120(100.00)

Table 3: Relationship between the Respondents' Birth order and Academic Achievement

Variables	Calculated Chi-Square Test	Theoretical Chi-Square Test	P-Value	Interpretation
Birth Order and Academic Performance	12.1	9.49	0.05	Significant and Reject Null Hypothesis

Discussion of Findings

The findings of this study which states that “there is a significant relationship between birth order and academic performance” agrees with the studies of Mishra, (2017); Barclay, (2018); Ziv, & Hermel, (2011); Gilmore (2016) which had studied the relationship between birth order and later psychological outcomes including mental health, intellect, academic attainments, and temperament. This research had focused on the assessment of the relationships between birth order and attainments educationally. As a whole, this research has led to the conclusions that being born later is linked with lesser attainment educationally and career results which is linked to academic performance. This also agrees with Shafti, (2017) in line with Adler’s birth order model who posited that being the first child does have an effect on improved educational accomplishments when compared only to the youngest.

The implication of this is that the young adult who is born later is exposed to the danger of not doing well academically in comparison to older classmates. The reason postulated is that young adults who are giving birth to last might be raised in conditions which are not advantageous situations than the ones who are given birth to firstly as experienced by indigent families in Santiago, Chile (One possible reason is that adolescents who are the youngest might be raised in more disadvantaged conditions than adolescents born first, especially in the case of poor families in Santiago, Chile (Shafti, 2017). The benefits experienced by children who are first-born is not only in terms of attention from parents but children may benefit not only from more parental attention but also these

children may collect more monetary resources which could be used to fund their schooling. Not all studies are in agreement with the findings of the study as revealed by the study of Reyes-Baybay, 2018 who stated that there is no significant relationship between the respondents’ birth order and academic achievement. The explanation of data was reinforced by the study of Koren M. Dailey about birth order and its effect on motivation and academic achievement Reyes-Baybay (2018). In the study where 40 psychology students went through the Academic Motivation Scale (Reyes-Baybay, 2018) with questions which included connecting birth order and grade point average, it was revealed that birth order effects on academic achievement were infinitesimal and that many more participants would be needed to find a significant effect in this study. The reason stated above is the explanation of why the study of Reyes-Baybay, 2018 differed from the present study.

Conclusion

It was concluded based on the findings of the study that more of the respondents who were categorised as first-borns had grades which were classified as excellent grades than the other categories and also there was a significant relationship between the respondents’ birth order and academic performance. This confirms the fact that “birth order had a great effect on the respondents’ academic performance, especially among nursing students.

Recommendation

It is therefore recommended for future studies, that the sample size should be increased to be

able to obtain data from other post-secondary institutions to increase the power and improve the generalization of the study. Also, future researches should be carried out to explore the connection between academic performance and other demographic factors such as age, parent's marital status, etc. Equal attention should also be given to children notwithstanding their order of birth.

Conflict of Interest:

The Authors hereby state that there was no conflict of interest in the conduct of the study.

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