

## **Influence of Family Size and Family Birth Order on Academic Performance of Adolescents in Higher Institution**

Tenibiaje Dele Joseph  
Department of Guidance and Counselling,  
University of Ado-Ekiti, Ado-Ekiti, Ekiti State, Nigeria

---

**Abstract:** This study sought to find out the influence of family size and family birth order on academic attainment of adolescents in higher institution. The sample comprised of 102 pre-degree students of University of Ado-Ekiti, Nigeria. The population of pre-degree students was 1000, including males and females. Survey method was used to elicit information from the subjects. Experts in tests and measurement guidance and counselling validated the self constructed questionnaire while, test re-test method was employed in establishing reliability for the instrument. The reliability coefficient was 0.69; this was considered high enough for the study. The data collected was subjected to statistical tests, specifically Analysis of Variance (ANOVA). The analysis of the data showed that family size and birth order have no influence on academic performance of pre-degree students of the University of Ado-Ekiti, Nigeria.

**Key words:** Family size, family birth order, polygamous family, academic performance, higher institution, pre-degree students

---

### **INTRODUCTION**

Academic attainment is an important parameter in measuring success in students. Observations and reports have shown that success or high academic achievement has become a herculean task to accomplish by students in recent times. Poor academic performance were recorded both at the secondary and tertiary levels of education in Nigeria.

The performance of students at all levels in educational institutions in Nigeria has attracted much criticisms from all and sundry from time immemorial. The decline in the academic performance of students in Nigerian Universities had been observed by Soyinka (1999), when he observed that University system in Nigeria needed restructuring. He went further to say that academic standard had fallen drastically and the quality of graduates being produced by the nation's universities is questionable and subject to re-examination.

Poor academic performance of students has been of great concern to educationists, guidance and counsellors in particular.

Despite, all guidance programmes and counseling strategies moulded in schools to improve the students' academic performances yet poor performances were recorded yearly.

It becomes necessary to find out the causes of such poor performance in Nigeria higher institutions. Though,

these poor performances have been attributed to a lot of indicators such as students factors, like students attitudes to school, approach to learning and academic self-concept. Apart from students 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 aforementioned factors, the family size and birth order may contribute positively or negatively to student's academic performance.

Family size in this context, refers to the total number of children in the child's family in addition to the child himself, while the birth order refers to the child's position in the birth order. However, the family type that a child comes from either monogamous or polygamous family usually has impact on the child academic performance. It is important to note that either of the family type (monogamous or polygamous) family dictates the size of the family. Polygamous family is peculiar to Africa in general and in Nigeria in particular. In Nigeria, the data collected revealed that polygamous family is as common among well educated families as well as among poorly-educated families. It is equally common among professional and managerial fathers of the top of the occupational hierarchy. It is the unskilled workers at the bottom of the ladders that the practice of polygamy is

prominent. But it is equally common among intellectually oriented families living in homes full of recent books as well as families without a single book in their houses.

Information from literature depicted that children from larger families are found to do worse than children from smaller families. Similarly, children lower down the birth order do worse than those higher up the birth order (Iacovou, 2001). According to Adler cited in Uba (1989), first birth or the oldest child is usually advantaged by a good deal of attention and warmth during the early stage on age of life, which he entertains all alone. Observations and studies have shown that more attention and time are usually accorded the first borns (Becker, 1981). Parental attention by parents declines as the number of sibling's increases and later born children perform less well than their earlier born siblings. The parental attention on children born earlier affects the later born children to perform less well than their earlier born siblings. Studies carried out in the past on the relationship academic achievement and birth order have shown that there were positive relationships. For example, Leoma (1982) discovered that on relationship of birth order and creativity, first borns and configurations of oldest and only children are significantly more creative on verbal test of creativity than later borns. Nwafor and Ango (1988) observed that there was more significantly outstanding academic performance amongst first birth children. Tenibiaje (2002) observed that there was a significant difference in intelligence capacity between the first borns and later borns. Spears (1982) in his study, investigated that birth order effect on intelligence with later borns children, revealed that later children were less capable than earlier siblings, when birth order effects were controlled, family size was found to be negatively related to intelligence.

However, Powell and Steelman (1993) and Van Ejck and DeGraaf (1995) argued that children's attainment depends on inputs of time and money from their parents: the more children there are in the family the less of both inputs. These inputs are not money alone, but other essential things like time, attention, resource dilution and so on. However, Booth and Kee (2006) confirmed that children from larger families have lower levels of education. Research on the effect of sibling's size and position has been based on a theory of the allocation of parental resources as presented in Becker (1981) and Spauta and Paulson (1995) confirmed that differences were found in birth order and family size of adolescent's achievement in academic.

This study was on the University students undergoing pre-degree programme. pre-degree programme is provided for candidates that are deficient in entry

qualifications for degree programme in the university. This programme provides remedial courses for candidates who have five credit passes and have not been admitted into the university. The candidates for this programme are required to have five credit passes including Mathematics, English Language and three other subjects at the National Examination Council (NECO), Senior Secondary Certificate Examination (SSCE) and General Certificate Examination (GCE) ordinary level in not >2 sittings.

**Purpose of the study:** The purpose of this study is to investigate the influence of family size and family birth order on students' academic performance in certain courses being offered in the University Mathematics, English Language, Statistics, History of Education in Nigeria and Teaching Profession.

**Research questions:** Based on the background to the study and the problems discussed above the following research questions were generated:

- Does family size affect academic performance of adolescent students in higher institution?
- Does family birth order affect academic performance of adolescent students in higher institution?

**Research hypotheses:** As a result of the research questions stated above, the following research hypotheses were formulated and tested at 0.05 level of significance.

- There is no significant difference between family size and academic performance of adolescent student in the higher institution
- There is no significant difference between family birth order and academic performance of adolescent students in the higher institution

## **MATERIALS AND METHODS**

The method used for the study was a descriptive survey method. The researcher employed survey method because the researcher has interest in finding out the influence of family size and family birth order on academic performance of adolescent students in the University. The survey method is relevant to the study, since, the design enables the researcher to observe and measure the variables needed. Data were collected from the respondents by employing questionnaire. Relevant information on the results of the students were collected from files of sampled subjects from the pre-degree office of University of Ado-Ekiti, Nigeria.

**Population:** The population of the study was the total number of students admitted for pre-degree Education in the University of Ado-Ekiti, Nigeria for the year 2004/2005 session. The population of pre-degree students in the faculty of Education University of Ado-Ekiti, Nigeria when this study carried out was one thousand. The students are undergoing preliminary level for admission into 100 level in the University. The population covers the male and the female students in the faculty of Education.

**Sample and sampling technique:** In the study, the sample comprises 102 pre-degree students of University of Ado-Ekiti, Nigeria. The samples were randomly selected from Faculty of Education with ages ranging from 16-24 years with the mean age of 15.72.

**Instrument:** The instrument used for the study was a questionnaire designed by the researcher to elicit information from the subjects. It consists of two sections, section A and section B. Section A was designed to elicit information on bio data of the students and this includes age, sex, position in the family, family size and family structure. While, section B was designed to gather information on scores of students in Mathematics, English-Language, History of Education in Nigeria, Statistics and Teaching Profession at the first and second semester examinations. These courses cut across all students admitted for Pre-Degree Education. The validity of the instrument was found through the use of content validity. The questionnaire constructed by the researcher was given to experts in the Guidance and Counseling Department and Psychology Department of the University of Ado-Ekiti, Nigeria. The experts adjudged the instrument to be adequate. The reliability of the instrument was determined by administering the questionnaire to a group of 50 pre-degree Students in the Faculty of Arts. The questionnaire was trail-tested to a group of 50 pre-degree students. The exercise was repeated to the same group after an interval of 2 weeks for the test-retest so as to establish the reliability co-efficient. The scores obtained at the two occasions from those groups were correlated using Pearson Product Moment Correlation Coefficient and a value of 0.69 was obtained.

**Data collection:** The sampled students were gathered inside lecture theatre and the questionnaire was distributed to the students to complete. All the questionnaire were collected from the students after completion on the spot. The scores of each student in Mathematics, English-Language, Statistics, History of Education in Nigeria and Teaching Profession were collected from the Pre-degree office of the University of Ado-Ekiti, Nigeria.

**RESULTS**

Some research questions were generated, so also some hypotheses were formulated in this study. The data collected were subjected to statistical Analysis of Variance ANOVA.

**Hypothesis 1:** There is no significant difference between family size and academic performance of adolescent students in higher institution.

The Analysis of Variance (ANOVA) was used to analyze the data. Table 1 presents the results on family size and academic performance of adolescent students in Pre-degree. The Analysis of Variance revealed that the observed F calculated for Mathematics, English-Language, History of Education in Nigeria, Teaching Profession and Statistics were (3.98) 1.696, 0.683, 1.102, 2.248 and 0.821, respectively. While, the probability were 0.173, 0.565, 0.352, 0.087 and 0.486, respectively. The table value was 1.91. Since, the F-calculated were less than table value except for the Teaching Profession, which was 2.248, this indicates that there is no significant difference between the performance of students in Mathematics, English-Language, History of Education and statistics and family size. However, there is significant difference between the performance of students in Teaching Profession and Family Size.

**Hypothesis 2:** There is no significant difference between family birth order and academic performance of adolescent students.

Table 2 indicates on the results on family birth order and academic performance of Pre-degree students. From the result, the analysis of variance revealed that the observed F-calculated for Mathematics, English-Language, History of Education, Teaching Profession and Statistics were (5, 96) 1.002, 0.893, 0.915, 0.689 and 0.142, respectively. While, the probability were 0.421, 0.489, 0.475, 0.633 and 0.982, respectively. The table value was 1.91, the F-calculated were less than table value therefore, the results were not significant at 0.05 level of

Table 1: Analysis of Variance (ANOVA) showing the family size and academic performance of adolescent students in the pre-degree course

Variables	Mathematics	English language	History of education	Teaching profession	Statistics
SS <sub>e</sub>	221.315	156.453	266.081	803.397	240.950
SS <sub>g</sub>	4263.352	7482.841	7885.498	11672.681	9592.305
SS <sub>Ta</sub>	4484.667	7639.294	8151.578	12476.078	9833.255
MS <sub>e</sub>	73.772	52.151	88.694	267.799	80.317
MS <sub>g</sub>	43.504	76.356	80.464	119.109	97.881
Df	3	3	3	3	3
df <sub>e</sub>	98	98	98	98	98
F-calculated	1.696	0.683	1.102	2.248	0.821
F-probability	0.173	0.565	0.352	0.087	0.486

Not significant at 0.05, df = 3 and df<sub>e</sub>, 98, Critical F = 1.91

Table 2: Analysis of Variance (ANOVA) of the family birth order and academic performance

Variables	Mathematics	English language	History of education	Teaching profession	Statistics
SS <sub>e</sub>	222.481	339.661	370.904	431.905	72.085
SS <sub>we</sub>	4262.186	7299.633	7780.674	12044.173	9761.1704
SS <sub>Tot</sub>	4484.667	7639.294	8151.578	12476.078	9833.255
MS <sub>e</sub>	44.496	67.932	74.181	86.381	14.417
MS <sub>we</sub>	44.398	76.038	81.049	125.480	101.679
DF	5	5	5	5	5
df <sub>e</sub>	96	96	96	96	96
F-calculated	1.002	0.893	0.915	0.689	0.142
F-probability	0.421	0.489	0.475	0.633	0.982

Not significant at 0.05 df = 5 and 96, Critical F = 1.91

significance. Thus, there was no significant difference between family birth order and academic performance of adolescent students. The implication is that there is no significant difference of birth order on academic performance of Pre-Degree students.

### DISCUSSION

The study focused on family size, family birth order and academic achievement of Pre-degree students of University of Ado-Ekiti, Nigeria. Apart from the fact that relative little attention has been devoted to factors influencing poor academic performance, the researcher is of the opinion that family birth order and family size may play important role in assisting parents and students to overcome poor performance.

The finding from this study showed that there is no significant difference between family size and academic performance of students in higher institutions. The finding of this study deserves further explanations within the context of existing research literature and the circumstances under, which the study was conducted or the academic level of the undergraduates used for the study. Unlike, most studies in research literature, this study did not find any significant difference between family size and academic performance. The previous studies like that of Spauta and Paulson (1995), Kessler (1991) and Olneck and Bills (1979) showed that children from larger families have lower levels of education. Effects of family size have been confounded in the past. According to Iacovou (2001), children from larger families are found to do worse than children from smaller and children lower down the birth order do worse than those higher up the birth order. Though, this study was taken from higher level of education and the subjects used were adolescents from higher institution, while, the studies cited above were pupils or children in primary schools with ages range from 5-11 years this might have contributed to the variance on the study and previous

studies. Another notable difference in this study with the previous studies may be due to cultural difference in Nigeria, considering the family set or family background.

The finding presented in Table 2 shows that there is no significant difference between the family birth order and academic performance. This finding does not support the finding of Iacovou (2001) who affirmed that middle or youngest child in a family of a given size performs better than other siblings. The finding is not in line with previous studies (Behrman and Taubman, 1986; Hauser and Sewell, 1985; Zajonc and Markus, 1975) and may be as a result of age level between this study and previous studies. Research on other samples is needed before the finding can be accepted.

### CONCLUSION

This study concluded that family size and birth order have no influence on academic performance of pre-degree students of University of Ado-Ekiti, Nigeria.

The counselling implication of this study is that family size and family birth order are fundamental in academic success. Parents should maintain high commitment, for optimal range for academic success because the number of children in the family and family birth order will help in interactions, supports and financial assistance.

### REFERENCES

- Becker, G.S., 1981. *A Treatise on the Family* Cambridge Mass. Harvard University Press.
- Behrman, J.R. and Taubman, 1986. Birth order, schooling and Earning. *J. Labour Econ.*, 4: S121-S145.
- Booth, A.L. and H.J. Kee, 2006. Birth order matters. The Effects of family size and Birth Order on Educations Attainment. Center for Economics Policy Research (CEPR) Institute for the study of labour.
- Hauser, R.M. and W.H. Sewell, 1985. Birth order and Educational Attainment in full siblings. *Am. Edu. Res. J.*, 32: 1-23.
- Iacovou, M., 2001. Family composition and children's educational outcomes. Institute for Social and Economic Research Essex University. Colchester CO, 3SQ UK.
- Kessler, D., 1991. Birth order, family size and wage determination. *J. Labour Econ.*, 9 (4): 413-426.
- Leoma, N.H., 1982. An investigation of the interrelationship of birth order and creativity, unpublished doctoral thesis, Boston college Dissertation Abstract Int., 43 (3): 732-A.

- Nwafor, B.E. and N.C. Anjo, 1988. The relationship of birth order and family size to the development of cognitive styles. *Nig. J. Basic and Applied Psychol.*, 1 (2): 12.
- Olneck, M.R. and D.B. Bills, 1979. Family configuration and achievement: Effects of birth order and family size in a sample of brothers. *Soc. Psychol. Quart.*, 42: 135-148.
- Powell, B. and L.C. Steelman, 1993. The educational benefits of being spaced out: Siblings density and educational progress. *Am. Sociol. Rev.*, 58: 367-381.
- Soyinka, W., 1999. University System in Nigeria. *Punch Newspaper*, pp: 19.
- Spears, J.J., 1982. The relationship of intelligence to birth order in a sample of 5-18 years old children on the island of Puerto Rico. Unpublished Thesis. The University of Connecticut. *Dissertation Abstract Int.*, 43 (5): 1505-A.
- Spauta, C.H. and S.E. Paulson, 1995. Birth Order and Family Size: Influences on Adolescents Achievement and Related Parenting Behaviours. *Pub Med Services* [www.pubmed.gov](http://www.pubmed.gov).
- Tenibiaje, D.J., 2002. A comparative study of the intelligence of first-borns and later borns on some achievement test. *Nig. J. Counselling and Applied Psychol.*, 1 (1): 82-88.
- Uba, A., 1989. *Theories of Counseling and Psychotherapy*. Patrice Continental Press, Ibadan.
- Van Ejick, K. and P.M. DeGraaf, 1995. The effects of family structure on the educational attainment of Siblings in Hungary. *Eur. Sociol. Rev.*, 11 (3): 273-292.
- Zajonc, R.B. and G.B. Markus, 1975. Birth order and intellectual development. *Psychol. Rev.*, 82: 74-88.