

RELATIONSHIP BETWEEN BIRTH ORDER, FAMILY SIZE, PARENTAL INVOLVEMENT AND SECONDARY SCHOOL ADOLESCENTS' ACADEMIC UNDERACHIEVEMENT IN RIVERS STATE, NIGERIA

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ABSTRACT: *This study was aimed at investigating the extent of relationship that exists between birth order, family size, parental involvement and academic underachievement among some secondary school adolescents. The study was carried out in Rivers State secondary schools. Purposive sampling techniques were used to draw a sample of 240 students identified as underachievers. Bakare's (1977) progressive matrices adopted from Uwazurike (2008) was used to identify students with high mental ability while Basic Education Certificate Examination results of 2016 which is a cumulative record of examination and continuous assessment scores of the students' three years in school, was used as a measure of students' academic ability. Based on the attained mental ability performance and academic achievement of the students, the academic underachievers were identified. The various independent variables of the study were measured with a questionnaire whose reliabilities were statistically determined with Cronbach Alpha and reliability coefficients ranging from 0.51 to 0.74. Mean, standard deviation, independent t-test, and one-way analysis of variance were used for data analysis at 0.05 level of significance. Results showed that; there was a very low relationship between birth order, family size, parental involvement and academic underachievement which showed no statistical significance. Based on the findings, four relevant recommendations were made.*

KEYWORDS: Birth Order, Family Size, Parental Involvement, Underachievement, Students

INTRODUCTION

The issue of academic underachievement among adolescent students in our secondary schools is of great concern to parents and the society, bearing in mind that they are the society's future leaders. This scenario is made worse when such students eventually graduate from formal school setting into the job world, their performances are usually below expectation of their firms, industries or companies, organizations or institutions be it public or private. This presents a state of affairs that poses danger to the broader society. Especially when viewed against the fact that the federal government through the National Policy on Education expects all students to succeed academically; thus, underachievement may constitute a serious detriment to the full realization of this goal. In addition, to political ramifications, underachievement is a visible sign that education is not working for all students. These students need more assistance than they are receiving to reach their potential. An insight into factors that may relate to this situation is essential to reversing the situation that has caused this lack of success among young people in our society.

Rayneri, Gerber and Wiley (2006) stated that academic underachievement is a national problem in most countries of the world. More so, Matthews and McBee (2007) posited that the topic of academic underachievement has intrigued educators for quite some time and is an ongoing

concern. It seems that there is little consensus on how best to define academic underachievement. Donald, Lazarus and Lolwana (2006) defined academic underachievement as performing below potential while Reis and McCoach (2000) defined it as a discrepancy between ability and achievement. From the forgoing therefore, academic underachievement is defined as failure to meet the academic requirements of the school setting (Connor, 2002).

Underachievement has been attributed sometimes to low intellectual ability which often resulted into failure at any time for a student to recall a previous learning activity. The fact is that low intellectual ability may not be the only factor responsible for this in most cases. Some other factors may include; fear of failure, fear of success, fear of lack of acceptance by peer group, undetected learning disabilities, lack of basic skills and study habits, inappropriate educational activities, lack of opportunity in the society, too high or too low expectations of parents, lack of parental support for education, fear of overshadowing parent, passive-aggression toward parent, low frustration tolerance, lack of impulse control, low risk-taking abilities, lack of competitiveness, guilt for being advanced intellectually, interests in activities other than school, cumulative deficits and belief in failure, etc.

Nevertheless, the purpose of this study therefore, was to establish the extent to which family variables such as birth order, family size and parental involvement correlate with academic underachievement of secondary school adolescents in Rivers State. Birth order refers to the science of understanding a person's place in their family. The order in which a person lands in their family can affect their life (Leman, 2009). Birth order is the location in which a child is born in a family system. It refers to four basic positions of a child: oldest, middle, youngest, and only. Each position has personality traits and other dynamics that reflect how their position is carried out in a person's childhood (Kalkan, 2008). Birth order begins with the order in which a person enters their family. It is further shaped by the way a child's parents and siblings have an effect on them (Leman, 2009).

The family has been conceptualized as a group of people who are closely related by birth, marriage or adoption (Laizos, 2004). Traditionally in Nigeria, the family is not restricted to the father-mother-child triangle. It rather encompasses a wider group of people related by blood, marriage or by adoption. Hence family members in the traditional Nigerian family include such persons as grandparents, aunts, uncles, nieces, cousins among others (Mbakwe, 2005). The family is the basic social unit of any society. The structure of the family affects the lives of members of the family in several ways especially that of children in the family (Berk, 2002).

Family structures in Nigeria have changed over the years as a result of industrialization and the introduction of modern family planning methods. Couples are now more able to determine the number of children they will have and when to have them. Also, the inception of the Christian religion coupled with urbanization has contributed to the changing structure of families in Nigeria. The new family structures are characterized by smallness in size, nuclear family structure, divorce and separation, adoptive families and single parent families while the traditional families are characterized by large family size, (family size of eight people and above) extended family structure and polygamy.

However, family size in this study refers to the number of people living together and sharing the family's resources and responsibilities. Berk (2001) was of the view that adult and children benefit from small family sizes. This is because in small families, parents are less stressed economically and emotionally. Again in small families, family members are more patient with each other and have more time to devote to each child's development. On the other hand,

children in large families receive little attention and care as these has to be shared among the siblings (Berk, 2001). Nevertheless, for this study family size is dichotomized into two namely, small family size with children ranging from one to four children while, large family size is considered to be family with five or more children.

Traditionally, parental involvement has been defined as engaging parents in school-based activities and events related to their child's education (Epstein, 2001). Parents can be involved in the school setting or at home; their aspirations and expectations for their children also matter. Examples of these traditional understandings of parent involvement include attending parent-teacher conferences, participating in the PTA, supervising fieldtrips, volunteering in the classroom, supervising their children's homework, reading to their children, or discussing school and general academic aspirations with their children.

Over the years, researchers have developed more complex, multidimensional definitions for parental involvement. For example, Kohl, Lengua and McMahon (2000) conceptualize parental involvement as having six dimensions: Parent-teacher contact, parent involvement at school, quality of parent-teacher relationship, teacher's perception of the parent, parent involvement at home and parent endorsement of the school. Grolnick and Slowiaczek (1994) define parental involvement as the dedication of resources by the parent to the child within a given domain. Robinson and Harris (2014) describe parental involvement as practices that entail parent communication with their children about education; behaviours in which parents engage with the exclusive aim of increasing academic outcomes; and parental engagement with schools and teachers.

EMPIRICAL LITERATURE REVIEW

Sun-Ha and Tam (2011) investigated on birth order effect on personality and academic performance amongst 120 Malaysians. The study also examined the relationship between personality and academic achievement. Thirty firstborns, 30 middle children, 30 last-borns, and 30 only children, who shared the mean age of 20.0 years ($SD= 1.85$), were recruited into this study. Participants' Sijil Pelajaran Malaysia (SPM) results were recorded and their personality was assessed by Ten Item Personality Inventory (TIPI). Results indicated that participants of different birth positions did not differ significantly in terms of personality and academic performance. However, Pearson's correlation showed that extraversion correlated positively with academic performance.

Ella, Odok and Ella (2015) investigated the influence of family size and family type on students' academic performance in Government, in Calabar Municipality of Cross River State. To achieve the purpose of this study, two null hypotheses were formulated and tested at 0.05 level of significance. The simple random sampling technique was adopted in selecting the six (6) public secondary schools and two hundred (200) SS2 students used for the study. The survey research design was adopted for the study. A self-constructed questionnaire and a students' achievement test in Government were the instruments used for data collection. The instruments were face-validated by three experts in Test and measurement before they were administered. The test re-retest method was adopted in testing the reliability of the students' achievement test items. The reliability co-efficient was 0.728 and this was considered high enough for use in the study. Data collected was analysed using One-way Analysis of Variance (ANOVA).

The result revealed a significant influence of family size and family type on academic performance of secondary school students in Government in Calabar Municipality, Cross River State, Nigeria. Based on these findings, it was recommended that; parents should be adequately sensitized on how best they can assist their children irrespective of the size and type of family among others. Izundu (2005) conducted a research on relationship between home environmental factors and academic performance of secondary school students in Onitsha local government area of Anambra State. The design for the study was correlation design, while the major instrument for gathering data was questionnaire. The sample for the study was 450 students. The data collected were analyzed through the use of mean and standard deviation while the null hypotheses were tested using 'regression analysis'. The finding of the study was that most students in secondary schools in Anambra State come from low socio-economic families but it does not affect their academic performance adversely. The study also revealed that family size does not influence the students' academic performance. However, the study found that there is significant relationship between the level of parents' education and the academic performance of the students. The above study relates with the present study as both are discussing about the home or family variables/factors that affect students' academic performance.

Mutodi and Ngirande (2014) carried out a study to ascertain how parental involvement in South African schools affect the academic performance of students in mathematics. According to them, literature often claim that involvement of parents results in better academic performance than if parents are not involved. Thus, the research was aimed at seeing if this relationship exists in South African high schools. The study used a quantitative research approach. Data was gathered using a questionnaire administered to 114 students' parents. The main findings are that all the parents who responded are highly involved with their children's education. Results further indicated that home and family support is the most significant factor that determines a learner's performance. Most of the parents consider themselves to have a good communication with their child's teachers and the school. Children's homework is considered to be important by each parent and they all assist their children with homework. Thus, it may be concluded that by staying involved with their children's education, parents do impact positively on the academic achievement of the students.

Adeyemi and Adeyemi (2014) investigated personal factors as predictors of students' academic performance in the South-Western Nigeria. The study employed the ex post facto design using a survey design and a multiple regression model. The samples used for the study consisted of 1,000 (400 and 600) National Certificate of Education (NCE) students in Federal, State and Private NCE awarding institutions in South-Western Nigeria, using stratified sampling techniques. The validated research instrument use for the study had the following psychometric properties: Cronbach alpha (α) [0.79 (students) and 0.73 (lecturers); Guttman Split-half 0.78 (students) and 0.71 (lecturers); Spearman-Brown equal length results were 0.69 (students) and 0.70 (lecturers)]. The study found that a number of personal factors like students' interests, home environment, parental support and study habits were significant predictors of students' academic achievement in the colleges of education sampled. On the other hand, students' perception of course and self-concept were not found to be significant predictor of academic achievement. The study proffered a number of recommendations to improve the quality of educational policy outcomes geared towards improving students' educational performance and hence enhance the achievement of national economic goals.

Adelodun (2013) investigated the role of parents in enhancing academic performance of underachieving students in Akinyele Local Government Area of Oyo State, Nigeria. The study adopted a descriptive survey design. A sample size of one hundred (100) was randomly selected using stratified random sampling technique with forty nine (49) males and fifty one (51) females. Majority of the subjects used fell within the ages of seventeen (17) and nineteen (19). A structured questionnaire and verbal interview method were used to collect data from the selected subjects. Three hypotheses were tested using percentiles and normal distribution as statistical tools for data analysis. The findings showed that there was no significant difference between the academic performance of underachieving students with single parent and those with both parents (Crit – $t = 1.96$, Cal. $t = 0.798$, $df = 98$, $P > 0.05$ level of significance). The findings also showed that there was no significant difference between the academic performances of underachieving students whose parents live in the urban area and those whose parents live in rural area (Crit – $t = 1.96$, Cal. $t = 0.186$, $df = 98$, $P > 0.05$ level of significance). Finally, the result also indicated that there was no significant difference between the academic performance of underachieving students whose parents are of low socio-economic status and those whose parents are of high socio-economic status (Crit – $t = 1.96$, Cal. $t = 0.135$, $df = 98$, $P > 0.05$ level of significance).

Chowa, Masa, and Tucker (2013) carried out investigation on the effects of parental involvement on academic performance of Ghanaian youth: Testing measurement and relationship using structural equation modeling. The study revealed that research in developed countries suggests that parental involvement is associated with youth academic success, but little is known about this relationship in developing countries. Further, it is unclear which type of parental involvement may impact the academic performance of youth from developing countries and so, the study examines whether (a) parental involvement at home and in school are meaningfully different constructs in a population of Ghanaian youth and their parents and (b) parental involvement predicts academic performance.

Shute, Hansen, Underwood, and Razzouk (2011) reviewed research literature on the relationship between parental involvement (PI) and academic achievement, with special focus on the secondary school (middle and high school) level. The results first present how individual PI variables correlate with academic achievement and then move to more complex analyses of multiple variables on the general construct described in the literature. Several PI variables with correlations to academic achievement show promise: (a) communication between children and parents about school activities and plans, (b) parents holding high expectations/aspirations for their children's schooling, and (c) parents employing an authoritative parenting style. We end the results section by discussing the findings in light of the limitations of non experimental research and the different effects of children's versus parents' perspectives on academic achievement.

Topor, Keane, Shelton and Calkins (2010) examined two potential mechanisms of this association: the child's perception of cognitive competence and the quality of the student-teacher relationship. This study used a sample of 158 seven-year old participants, their mothers, and their teachers. Results indicated a statistically significant association between parent involvement and a child's academic performance, over and above the impact of the child's intelligence. A multiple mediation model indicated that the child's perception of cognitive competence fully mediated the relation between parent involvement and the child's performance on a standardized achievement test. The quality of the student-teacher relationship

fully mediated the relation between parent involvement and teacher ratings of the child's classroom academic performance.

Okunniyi (2004) carried out a research on how the family background influences students' introductory technology achievement among junior secondary school students in Abeokuta south local government of Ogun State. The study design was a survey which involved the use of questionnaire in gathering data. The researcher used 500 students as sample for the study. The data collected were analyzed using frequency table, percentage, mean, standard deviation and t-test statistics. The researcher found, among other things that social class of parents determines the students' academic achievement.

In another related study, Onyi (2002) conducted a research on the influence of home on the academic performance of students in Enugu East local government area of Enugu state. The researcher used survey design for the study. The sample for the study consists of 240 students. The instrument used by the researcher for data collection was a structured Likert type questionnaire. The researcher used weighted means in analyzing the data. The findings of this study are: home environment influences the academic performance of the student's; it was also found that students from peaceful homes share their academic problems with their parents. It was also found that there is positive correlation between parents encouragement and students' academic performance.

However, the present researchers have observed that none of the previous studies established the extent of relationship that exists between birth order, family size, parental involvement and students' academic underachievement especially in Rivers State which justified the need for the study. Hence, this present study was carried out to establish the extent of relationship that exists between birth order, family size, parental involvement and secondary school adolescents' academic underachievement in Rivers State, Nigeria.

RESEARCH METHODOLOGY

The design adopted in this study was a correlational design, which was aimed at finding out the relationship between psychological and family demographic variables with academic underachievement among secondary school adolescents in Rivers state. According to Nworgu (2005), correlational design seeks to establish what relationship exists between two or more variables.

The population of the study consisted of all the secondary school two (SS II) adolescent students in 245 senior secondary schools in Rivers State. A sample of 240 senior school 11 students was drawn from 2, 301 students. Bakare's mental ability test was administered on them those who scored 45 – 60 were termed above average intellectual capacity and intellectually superior and Basic Education Certificate Examination result (2016) were used for the final sample, numbering 240 underachievers. Therefore, the final sample size was 240 students with purposive sampling technique. Three instruments were used in this study namely: Basic Education Certificate Examination (BECE) results (2016) showing students subject grades, Bakare Progressive Matrices (1977) (BPM) modified from Raven SPM (1958) adopted from Uwazurike (2008). The researcher consulted her supervisors and two other experts in the field of Measurement and Evaluation, from University of Port Harcourt for face and content validity of the research Instrument (FVAS). The experts were required to subject the research

instruments to thorough scrutiny with a view of establishing the face and content validity in terms of the clarity, appropriateness, relevance, and representativeness of the items with regards to the variables under investigation. Based on the expert's comments, some modifications were made to ensure the validity of the instrument. The other instrument which was used the Bakare Progressive Matrices (BPM) had already been validated for face and content validity.

The reliability of Family Variables Assessment Scale (FVAS) was determined through Cronbach Alpha method for a measure of its internal consistency. Forty (40) respondents that were not used for the final study were used in calculating the reliability of the instrument. Copies of the instrument were administered to the sample with request from the researcher that subjects should respond to all the items of the instrument as honestly as possible.

Thereafter, the scores obtained were subjected to Cronbach alpha technique for each section of part II of the PVAS as well as for the entire instrument. For the fact that the instrument was a compound one that is a multi-variable instrument with its various variables organized in sections, there was the need to determine the reliability for each variable (section) as well as for the entire instrument. Consequently, the reliability coefficients for the various variables of part II of the FVAS was determined. The derived values which ranged from .51 to .74 were considered high enough to justify the use of the instrument for the study.

The instrument titled "Family Variables Assessment Scale" (PVAS) was administered to the sample of 240 underachieving students in 30 selected secondary schools in the three senatorial districts in Rivers State. Direct delivery method was employed by the researchers. Mean, standard deviation, independent t-test, Pearson's Product Moment Correlation (r) and one-way analysis of variance (ANOVA) were used for data analysis at 0.05 level of probability.

DATA ANALYSIS

Research Question 1: How does birth order associate with academic underachievement?

Hypothesis 1: There is no significant association between birth order and academic underachievement.

Table 4.1A: Mean and Standard Deviation of Academic Underachievers from Different Categories of Birth Order

Category	<i>N</i>	\bar{X}	<i>SD</i>
First born	82	34.56	2.28
Middle born	91	34.49	1.99
Youngest child	60	34.13	2.08
Only child	7	35.00	2.24
Total	240	34.44	2.12

Table 4.1B: Analysis of Variance of Academic Mean Scores of Underachievers from Different Categories of Birth Order

Variation	SS	df	MS	Fcal	Fcrit	Eta	Result
Between Group	9.308	3	3.103	.690	2.65	0.09	NS
Within Group	1061.876	236	4.499				
Total	1071.183	239					

NS = Not Significant

Table 4.1B shows a correlation ratio (Eta) of 0.09. This value indicates a very low association between birth order and academic underachievement. When the correlation ratio of 0.09 was subjected to a test of significance, it was found not to be significant. Even the computed F-value of 0.690 was not significant. Therefore, the null hypothesis is hereby accepted. The result was that there is no significant association between birth order and academic underachievement.

Research Question 2: How does family size associate with academic underachievement?

Hypothesis 2: There is no significant association between family size and academic underachievement.

Table 4.2A: Mean and Standard Deviation of Academic Underachievers from Different Family Sizes

Family Size	N	\bar{X}	SD
Small family (1-4 children)	143	34.41	2.13
Large family (5 children and above)	97	34.48	2.11

Table 4.2B: Association between Family Size and Academic Underachievement

Variables	Cal-r	t-cal	df	t-crit	Result
Family size Underachievement	0.02	.258	238	1.96	NS

NS = Not Significant

Table 4.2B shows a correlation coefficient of 0.02. This value indicates a very low association between family size and academic underachievement. When the r-value of 0.02 was subjected to a test of significance, it was found not to be significant. Even the computed t-value of 0.258 was not significant. Therefore, the null hypothesis is hereby accepted. The result was that there is no significant association between family size and academic underachievement.

Research Question 3: What is the relationship between parental involvement and academic underachievement?

Hypothesis 3: There is no significant relationship between parental involvement and academic underachievement.

Table 4.3: Relationship between Parental Involvement and Academic Underachievement

Variables	N	r _{cal}	Z _r	Z _{crit}	Decision
Parental involvement	240	0.07	1.08	1.96	NS
Underachievement	240				

NS = Not Significant

Table 4.3 shows a correlation coefficient of 0.07. This value indicates a very low relationship between parental involvement and academic underachievement. When the r-value of 0.07 was subjected to special Z for significance, the Z_r value of 1.08 was found to be less than Z_{crit} of 1.96, thus not significant. Therefore, the null hypothesis is hereby accepted. The result was that there is no significant relationship between parental involvement and academic underachievement.

DISCUSSION OF FINDINGS

Association between birth order and academic underachievement

The result in this subheading concerned with the association between birth order and academic underachievement, revealed that there was a very low association between birth order and academic underachievement. Nonetheless, this association was not statistically significant. The positive association between birth order and academic underachievement among adolescents' students which was not significant at 0.05 level of significance was an indication that birth order does not influence students' academic underachievement. That is irrespective of the students' birth position in the family; he or she underachieving academically could be attributed to some other factors outside birth order as far as this study is concern. This finding corroborates the finding of Sun-Ita and Tam (2011) who also found out no significant association between birth order and academic underachievement.

Association between family size and academic underachievement

In this study, the association between family size and academic underachievement was a very low association and also not significant. The t-test analysis was also not statistically significant again a confirmation that there is no significant association between family size and academic underachievement. This finding reaffirms the works of Izundu (2005) who opined that a child underachieving in school as nothing to do with his family background including how large the family he/she came from. However, the finding by Ella, Odok and Ella (2015) is in discordant with the present one. Their finding showed a positive and significant relationship between students' academic underachievement and students' family background.

Relationship between parental involvement and academic underachievement

The finding of the study also showed a very low relationship between parental involvement and academic underachievement and this relationship was also not significant statistically. The positive relationship between parental involvement and academic underachievement among adolescents' students means that as scores on parental involvement increases or decreases there is corresponding increase or decrease in students' academic underachievement. This means that those students, whose scores are high on parental involvement, are also high on their academic underachievement and vice-versa. This outcome is however, surprising because the involvement of parents in the education of their children having positive and significant effect on their children academic achievement has been well researched as reported in literature. This explains why the researcher could not find any works findings that are in agreement of the finding of the present one. Nevertheless, findings in disagreement with the present one were found by Mutodi and Ngirande (2014); Adeyemi and Adeyemi (2014); Chowa, Masa and Tucker (2013); Shute, Hansen, Underwood and Razzouk (2011); Topor, Keane, Shelton and Calkins (2010); Okunniyi (2004); and Onyi (2002), who in their separate and independent works found out that parental involvement positively and significantly relates to academic achievement/underachievement.

RECOMMENDATIONS

Based on the results of this study, the following recommendations are made:

1. Ability test should be conducted from time to time to identify students that have academic problems.
2. The fairly high number of academic underachievers calls for seminars and workshops to be organized for teachers and counsellors to update their knowledge on teaching and learning. In service training should also be given to teachers.
3. Teachers should be more creative and innovative so as to be able to sustain the interest of the students.
4. Parents, counsellors, teachers and significant others should work as team towards helping children understand themselves, their abilities and capabilities so as to be useful to themselves and to the society.

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