INFLUENCE OF GENDER AND BIRTHORDER ON ACADEMIC PERFORMANCE OF SECONDARY SCHOOLSTUDENTS IN ONDO STATE

BY

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Abstract

The study investigated the influence of gender and birth order on the academic performance among 200 randomly selected Secondary School students in Ondo, Ondo State. A standardized and valid questionnaire directed toward senior secondary school students were administered on the participants. Fourresearch hypotheses were raised and tested at 0.05 level of significance Data collected were analyzed using multiple regression statistics, t-test, Analysis of Variance (ANOVA) and Fisher's Least Significance Difference (LSD) Analysis. The result revealed that the linear combination of the effect of gender and birth order to the prediction of academic performance was significant accounting for 3.1% of academic performance ($F(2,97) = 2.610$, $p<0.05$). Each of the independent variables also made significant individual contribution to prediction of the academic performance in varying weights with that of birth-order not being significant. There was a significant difference in the students' academic performance between male and female participants. It was recommended amongst many that Secondary school students should be encouraged to become more enlightened with their gender and birth order.

Keywords: Gender, Birth order, Academic performance

Introduction

In contemporary Nigeria, greater emphasis is being placed on industrial and technological development. As a result students are being encouraged to take up education with prospects of excellent academic achievement. This quintessential performance oriented domain education, includes high performance on tests, passing subjects and completing schooling (Habibollah, Abdullahi, Arizan, Sharir & Kurma, 2009). Academic performance, which is the central focus that distinguishes the quality and standard of education, has enjoyed numerous theoretical and empirical concerns from scholars. Adeyemo (2001) stated that, this is because the major goal of the school is to work towards attainment of academic excellence by the students. He further asserts that although, there may be other peripheral objectives, emphasis is always placed on the achievement of sound scholarship. Performance, being a yardstick for evaluating educational standard and development is therefore the major factor that has enjoyed inexhaustive and continual studies from researchers globally. Over the years, researches have revealed that academic performance has numerous determinant factors ranging from socio-economic status (Ajayi & Muraina, 2011), students employment status (Wantanabe, 2005), students Interest (Udegbe, 2009) teaching methods (Eniayeju, 2010), school entry modalities (Cameson & Wilson, 2011; Olayemi, 2009), gender continuous assessment (Owolabi & Etuk- Iren, 2009) due to the quest for better academic performance of students at all levels of education. Researchers have continued to improve upon their studies with investigations of several multidimensional variants that could related to academic performance.

However, in their attempt to investigate what determines academic outcomes of learners, they have come with more questions than answers. Aremu (2000) stressed that the repeated experience of failure is not only frustrating to the students and the parents; its effect is equally grave on the society. Prior literature has shown that students' achievement in school is determined by variables such as; family, school, society, and motivation factors (Aremu & Sokan 2003; Aremu, 2000).While many introspects are being made, the consequences arising from poor academic performance falls heavily on the student, their parents, the school, the society and the government. Also, as the students' academic achievement continues to be poor the academic standard would also be considered poor. This would lead to poor and demeaning assessment from the international communities and a negative dent in the nation's quest for industrial, technological and economical advancement. It is yet to be given full consideration that issues such as gender difference and birth order could influence the academic performance of students.

For instance, the order in which a person is born into their family plays a substantial role in the individual's development of personality, character, intelligence, and career choices (Stewart et al., 2001). As children are socialized into their families, the children make a place for themselves and no two children make a place for themselves exactly alike, even in the event that they are identical twins. The family environment for a first-born child is believed to affect the child's personality traits in aspects such as extraversion, maturity, and intellect. Hence, First-born children are highly motivated and often perfectionists, which affects academic achievement. First-borns are seen as brighter than their siblings and work very diligently for their achievements. Last-born children are

believed to be the most creative, emotional, extraverted, disobedient, irresponsible and talkative (Herrera, et. al., 2003). These children are depicted as constantly struggling to resist the higher status of the first born child, while also seeking alternative ways of distinguishing themselves in their parents' eyes. In accordance with the familial niche the last-born child develops, often this child's adult character is marked by an empathetic interpersonal style, a striving for uniqueness, and political views that are both egalitarian and anti-authoritarian (Paulhus, Trapnell, & Chen, 1999). Whereas high intelligence was attributed to firstborns, lastborns were believed to be more creative and artsy. The mental structural difference applies varying personality traits to the occupations in which they are associated. For example, first-borns are expected to choose career paths such as law and medicine, while in contrast, lastborns are expected to become artists, musicians, and photographers (Herrera et al., 2003).

Relative to first and last born children, middle-children are believed to experience less interaction and receive less attention which negatively affects the self-esteem of this child. Lacking the primacy of the first child and the attention-garnering regency of the youngest child, children in the middle role may feel squeezed out of importance in their family. Often middle children have nothing about them that make them feel special and worthy of their family's attention (Stewart et al, 2001). These children tend to feel their lives are overly scrutinized, and look outside the family for their own autonomy. The middle child reacts by acting out as a rebel. Middle-children are believed to be very envious and try to escape their roles. Gender is a specially constructed phenomenon that is brought about as society ascribes different roles, duties, behaviours, and mannerisms to the two sexes, (Mangvwat, 2006). It is a social connotation that has sound psychological background, and it is used to refer to specific cultural patterns of behaviour that are attributed to human sexes. The importance of examining performance in relation to gender is based primarily on the socio-cultural differences between girls and boys. These differences may be attributed to the psychological differences and cultural influences. Gender differences in performance have been examined for some time resulting in a substantial body of literature (Adeyemi & Ajibade, 2011; Akinsola, 2007; Awofala, Adeneye & Nneji, 2011; Amosun, 2011; Apata, 2011; Dania, 2014; Agbaje & Alake, 2014; Atovigba, Vershima, O'Kwu & Ijenkeli, 2012). Some of these researchers pointed out that there is no significant gender difference in students' academic performance and retention in various subjects while others found significant difference with either the boys or the girls performing better.

Although some researchers have found that there are no significant differences in male-female mathematics performance at any level, most have identified gender differences (Atovigba et al, 2012). In fact, it has been the general belief in most parts of the country that male students tends to perform better compared to the female students in mathematical related or technology based subjects. Gessell (2004) asserted that girls under the age of fourteen years usually perform better in English language than boys of the same age. In addition, after that age, the boys usually overtake the girls. Notably, gender differences in intellectual abilities can be as a result of gender role stereotyping. Gender differences in academic performance cannot therefore be assumed to be due to inherent biological differences between the genders even if they exist. Most students in secondary schools in Nigeria are daily confronted with challenges of coping with their academics under serious emotional strains occasioned by their unknown self-identity, poor knowledge of school value to self, and being unmotivated to learn. Couple with this, is an uncooperative to study attitude of parents who more often than normal toil to provide for the needs of the family. These would definitely not augur well for academic success. It is yet to be given full consideration that issues such as gender difference and birth order could influence the academic performance of students. It is therefore, instructive in the present study to investigate the influence of gender and birth order on the academic performance of students in secondary schools. This becomes pertinent in view of the fact that much has not been really achieved in thisarea in Nigeria.

Objectives of the Study

The purpose of the study was to examine the influence of gender and birth order on the academic performance of secondary school students. Therefore the study would determine the relationship among these variables in the study as well as the combined and relative effects of gender and birth order on the performance of secondary school students.

Research Hypothesis

The following research hypothesis will be tested and answered at 0.05 level of significance in this study.

1. There is no significant difference in academic performance of secondary school students' base on their gender.
2. There is no significant difference in academic performance of secondary school students' base on their birth order.

3. There will be no significant combined effect of gender and birth order on the academic performance of secondary school students.
4. There will be no significant relative effect of gender and birth order on the academic performance of secondary school students.

Methodology

This study adopted a descriptive survey design. A survey study usually deals with the description and analysis of status of an area. It attempts to describe what exists now and explain why certain situations exist as well as focuses on the characteristics of the population by studying representative sample. The population for the study consist of all registered secondary school students within Ondo, Ondo State. A sample of 200 students was randomly selected from all registered secondary school students within Ondo Area, Ondo State. The sample was drawn from ten randomly selected secondary schools in the designated area. Only senior secondary school two (SSSII) students was drawn into the study. The participants were within the ages of 15 to 19 years. The research tool used for the study was a questionnaire, which consists of two sections (sections A, and B). Section A consists of attributive data such as educational status, age birth order and gender. Section B consists of a structured item requesting for the average academic performance of the participant in the previous term examination. The researcher personally distributed and collected the completed questionnaire from the participants. Permissions were obtained from significant authorities to facilitate the process. These include Principals, Vice-principals, class teachers and or counsellors depending on the school of the participants. Participants were adequately informed of confidentiality and the need to be precise and truthful in filling the questionnaire. With permissions the examination scores of the participants were retrieved to serve as academic performance values of the selected students. The multiple regression analysis, t-test analytical test of significant difference, Analysis of Variance (ANOVA) and Fisher's Least Significance Difference (LSD) Analysis were the statistical procedure used in this study. All analysis was carried out at 0.05 level of significance.

Results

Research Hypotheses One - There will be no significant combined effect of gender and birth order on the academic performance of secondary school students.

Table 1: **Regression Analysis showing the joint effect of Predictor Variables on academic performance**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.226	0.051	0.031	8.205

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	351.391	2	175.695	2.610	0.079
	Residual	6530.645	97	67.326		
	Total	6882.036	99			

Table 1 reports reveals that the linear combination of the effect of gender and birth order to the prediction of academic performance was significant ($F(2,97) = 2.610$, $p<0.05$). The two independent variables accounted for about three per cent (3.1%) of the total variation in academic performance. The independent variables also yielded a coefficient of multiple regression of 0.221 and multiple regression square adjusted (R^2) of 0.051.

Research Hypotheses 2: There will be no significant relative effect of gender and birth order on the academic performance of secondary school students

Table 2: Relative Contributions of the Independent Variables on academic performance

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	63-396	3.252		19.495	0.000
Gender	-3.772	1.661	-.226	-2.271	0.025
Birth order	0.561	1.076	.052	522	0.603

As indicated in Table 2, each of the variables contributed significantly to the dependent variable. Gender had the highest at p =-0.025, t =-2.271, p<0.05, while the contributions of birth -order at p =-0.603, t =.522, p<0.05 was not significant.

Research Hypotheses 3: There is no significant difference in academic performance of secondary school students' base on their gender.

Table 3: T-test analysis showing differences in students' academic performance between male and female

Students'	Students	N	MEAN	SD	Df	t-cal	t-crit
Academic performance	Male	95	60.68	8.86	198	2.233	1.98
	Female	105	57,02	7.57			

From the result presented above the null hypothesis is rejected. This is because the calculated t-calculated, 2.233 is lesser than the t critical, 1.98. This implies that there is a significant difference in thestudents' academic performance between male and female participants.

Research Hypotheses 4: There is no significant difference in academic performance of secondary school students' base on their birth order.

The independent variable in this hypothesis is birth-order while the dependent variable is students' academic performance. The One-way analysis of variance and the Fisher's Least Significant Difference (LSD) were used for data analysis. The result of this analysis is presented below

Table 4: One-way analysis of variance and LSD of influence of birth-orderon students' academic performance

Birth Order		N	X	SD		joint	Mean difference	Sig
First borns		30	59.66	8.08		Mid- borns	2.83	.158
						Last borns	-.58	.787
Middle borns		41	56.83	8.69		First borns	-2.83	.158
						Last borns	-3.41	.093
Last borns		29	60.24	7.84		First borns	.58	.787
						Mid- borns	3.41	.093
Sources of variance	SS	Df	MS	F-value	Sig			
Between groups	239.669	2	119.835	1.750	.179			
Within groups	6642.367	97	68.478					
Total	6882.036	99						

The result of analysis presented in Table 4 shows that the calculated F-value of 1.750 is lower than the critical F-value of 3.09 at 0.05 level of significance with 99 degree of freedom. This implies that birth order did not significantly influenced academic performance of students. In order to determine which of the birth order contributed to highest to this no significant difference the Fisher's Least Significant Difference (LSD) was used and presented at the far end of the table above. The result further identify where significant difference among the various birth-order range used in the study was highest in terms of mean difference. The result shows that the mean difference between First borns and Middle borns was 2.83. The mean difference between First borns and last borns was .58. The mean difference between Middle borns and last borns was -2.83. From the result presented above, the mean difference is highest between last borns and middle borns, while the least mean difference is between medium and First borns and last borns. That is last borns seem to perform beter than first and middle borns respectively. However, the differences observed were not significant. The graph below summarizes the above descriptions.

Discussion

The multiple regression analysis in table 1 shows that gender and birth order could predict the academic performance of the participants. The magnitude of this relationship in predicting the academic performance among the participants is reflected in the values of coefficient of multiple R^2 .051 and an adjusted Multiple R^2 .031 as shown in table 2. Thus, it can be said that 3.1% of the total variance in the academic performance of the participants is accounted for by the combination of gender and Birth order. Consequently, the other 96.9% variation of academic performance could be attributed to factors not included in this study. The F-ratio value of 2.610 significant at 0.05 further affirms this posit that the predictive capacity of the independent variables could not have be attributed to chance factor.

With regard to the extent to which each of the independent variables contributes to the prediction, as postulated in hypothesis 2 it could be ascertained that gender is the most potent predictor in this study. The finding is affirmation of the recent study of Charlton, Taylor, Peterson, Taylor, Ranyard & Hewson, (2010) that reported specific expectations about the nature of any gender differences in academic performance. This may be as a result of the increased desire of females engaging in once male dominated academic activities or in a once dichotomous and stereotypical work life and vice versa for males. Just as males' desire success in their academic dispositions, females desire similar success particularly in contention with male dominance. This may be an explanation for the current finding.

Birth order is the next predictor of academic performance among the other factors. The contributions of birth order in this study were found not to be statistically significant. However, this finding indicates that the birth position of an individual could determine how successful the individual could be with academic dispositions. Although birth position does not imply maturity, it could be that the context maturity which readily flows with experience could be playing a role in readiness to learn and experience to deliver when placed under academic determinants this could be a mitigating factor and a possible explanation for the current finding.

Also the result for hypotheses 3 as shown in table 3 indicates that the male participants had higher mean value in academic performance than female participants. This difference in mean was found to be significant. This indicates that the male participants in this study tend to do well academically than the female participants. This finding adds to the avalanche of findings tthat indicates controversy on which gender performs better academically. Perhaps, the pressure on the male to succeed in a patriarchal African society may have been the reason for the current finding.

The findings of hypotheses 4 as reported in table4 indicates a difference in the academic performance between first borns, middle borns and last borns although this difference was not statistically significant. The finding notes that last borns tend to perform better than the other birth positions. This is followed closely by the performance of first borns. Finally middle borns are least in academic performance. The argument for this finding is that most last borns learn from all in the family. They acquired the experience of all their siblings and turn them into their success without having to experience any of the situations of their elders. More so, they are less pressured and often unnoticed in their activities paving a way for them to deliver in their academic task according a pace dictated by themself for their self. The first borns as earlier argued often perform base on the expectations and demands on them being the first of the family. Middle borns are often rebel to the first borns hence their success seems subsumed in that of the first child. This explains why the performance of the middle borns in this comparism is appearing the least.

Conclusion

This study has attempted to investigate the perceived influence of gender and birth order on the academic performance of secondary school students. Academic performance is undoubtedly a research after the heart of educational psychologists. This study has shown that gender and birth order could predict the academic performance of secondary school students. Specifically, the study reveals the significant nature of gender and birth order in predicting the academic performance of secondary school students. In addition, it adds that academic-based strategies focused on gender and birth order would be efficient for empowering secondary school students allowing them attain academic success. Finally, a study of this kind is not absent of limitations probably subject to substantial errors. This study was carried out in Ondo State Nigeria, a predominantly homogeneous Yoruba culture and may not be a true reflection of the multi ethnic nature of the country.

Recommendations

Based on the findings of the study it is obvious that academic performance of students is a challenging task that requires urgent attention. To this end, academic performance of secondary school students should be of great interest in current research.

1. One implication of this is that the findings have shown that irrespective of other factors, the role of Birth order and gender in predicting academic performance is exceedingly relevant. Thus, it is rather encouraging that, attempts to draw attention to the issue of academic performance of students as a serious social concern and a pre-requisite for academic success of students should consider birth order and gender as germane.
2. This study has shown that with the ever-increasing population of the students seeking educational attainments in secondary schools the urgent form of current assistance, which neglects basic psychological and social factors that influence academic performance of students, should be de-emphasized.

3. The failure of most academic performance studies to include even a single item assessing psychological and social life balance highlights how considering research on what people want could potentially alter the extant evidence about the antecedents academic performance.
4. Furthermore, students while still at school should be educated on the functioning of their gender and birth order in the bid to be well prepared for the academic delivery. This is because it can be argued that the high incidence of academic failures among secondary school students in Nigeria is a product of the value systems of the polity, nature of the Nigerian society, and the result of a breakdown in the social and economic infrastructure of the entire society rather than an indication of poor academic training. This suggests that future research should continue to explore the impact of these variables, both as it pertains academic performance and as a construct in general.

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