JHER Vol. 26 No. 2 December 2019, pp. 60-70

Influence of Nominal Birth Order Positions on Academic Performance and Personality among Junior Secondary School Students in Akwanga, Nasarawa State, Nigeria

John-Audu, A.
Department of Home Economics
College of Education
Akwanga, Nasarawa State
Nigeria.

Abstract

This study investigated the influence of birth order on the personality traits and academic performance among 207 junior secondary school students in Akwanga, Nasarawa State. Sixty-three first-borns, 50 middle-born children, 41 last-borns, and 53 only children, who shared the mean age of 12.4years (SD = 4.9), were purposively selected for this study. Students Class Average (SCA) scores were recorded and the big-five personality traits of the students were assessed with ten item personality inventory (TIPI). Results indicate that participants of different birth order positions differ significantly in terms of the big-five personality but did not differ significantly in terms of academic performance ($p = 0.56$). Also, the dominant personality (dimensions) is conscientiousness attributed to the first-born child ($P = 0.003$). Moreover, first-born child and last-born child had lower agreeableness compared to only-child ($P = 0.002$) and the middle-born child has higher openness to experience compared to other birth order positions ($P < 0.001$). It is therefore concluded that the different personality traits encounter among siblings is the result of birth order position

Keywords- Birth, Order, Personality, Academic, Achievement.

Introduction

People are intrigued by the fact that children of a family behave differently although they were raised in the same environment, such as neighbourhood, and share the same genetic pools from both of their parents. On top of behaviours, siblings do differ in terms of personality characteristics (Majed & Fatimma, 2016), intelligence (Hotz & Pantano, 2015), familial sentiment (Salmon, & Hehman, 2014) and others. First-borns are always described as being responsible, high achievers and perfectionists whereas last-borns and only child are always described as the baby of the house and are mostly spoiled kids (Rohrer, Schmukle & Egloff, 2015). As a result, these differences among siblings have attracted the attention of researchers over the past decades. However, there is a dearth of knowledge of influence of birth order characteristics

in Nigeria and most of what is observed is based on social, cultural and religious practices. The behavioural characteristics and personality traits attributed to birth order position in western culture may not be similar to our own cultural and social setting (Makino, 2011).

The pioneer of birth order research, Alfred Adler, had theorized that each birth position has a set of personality traits. Firstborns are always seen as leaders, high-achievers, ambitious, and conforming (Rohrer, Schmukle & Egloff, 2015). They attempt to please their parents via traditional ways, which are through academic performance and responsible behaviours (Botszet, Rohrer, & Arsian, 2017). Middle children, on the other hand, may experience difficulty finding a position of privilege and significance in the family because they never have the opportunity to monopolize parents' attention (Makino, 2011). Thus, they constantly fight to stay ahead of their younger siblings. In contrast, last-borns and only children are frequently viewed as the spoiled kid of the family. It is because both of these birth positions are the only focus of the family. However, unlike the only children, the later-born children, including the middle children and last-born children are aware of the higher status of the firstborn, so they will seek alternative strategies to stand out from their siblings (Botszet, *et al,* 2017).

In addition, a dethronement theory was proposed to explain birth order effects on personality development (Botszet, *et al*, 2017). Before the birth of the younger sibling, the eldest child had his or her parents' complete attention but he or she was later dethroned by a new-born. As a consequence of dethronement, the child would struggle to regain parental attention. This led the firstborn to develop such characteristics as conscientious, conservative, independence and competence (Botszet, *et al*, 2017), which would later facilitate one's academic attainment.

Another theory that describes birth order effects on personality development is family-niches model (Sulloway, 2010).

The Big Five personality dimensions are relatively consistent and strong. The Five-Factor model was formulated by McCrae and Costa (2003). This model includes a number of propositions about the nature, origins, and developmental course of personality traits, and about the relation of traits to many of the other personality variables (Srivastava, 2010). It is helpful because it provides a straightforward description of an individual's behavioural consistencies. These five personality factors are considered to be the core of personality and it includes dimensions of extraversion, agreeableness, conscientious-ness, neuroticism, and openness to experience. According to Cousten, (2017), extraversion includes sample of talkativeness, assertiveness, and activity with silence, passivity, and reserve. Agreeableness contrasts kindness, trust, and warmth with hostility, selfishness, and distrust. Besides that, conscientious-ness contrasts organization, thoroughness, and reliability with carelessness, negligence, and reliability. Openness to experience includes sample like imagination, curiosity, and creativity with shallowness and lack of perceptiveness. An individual who is open to experience tend to be more creative and more aware of their feelings when compared to closed

people. Lastly, neuroticism contrasts nervousness, moodiness, and sensitivity to negative stimuli with coping ability.

According to Sulloway (2010), children are motivated to solicit parental investment when they perceive differential parental investment within the family. They compete for parental investment by creating distinctive niches. Sulloway (2010) also hypothesized that first-borns are less agreeable as compared to later-born children because firstborns dominate the younger siblings to minimize the diversion of parental investment. In contrast, the younger siblings avoid confrontation with the firstborns to solicit parental investment, which in turn led them to be more agreeable. Besides, he also suggested that firstborns correlate negatively with openness as compared to later-born children because openness is the factor that assists later-born children to create distinctive approaches to compete for parental investment. Furthermore, he found that firstborn are more conscientious than the later-born children because firstborns reflect their parents' attitudes, beliefs, and personality characteristics whereas later-born children may develop attitudes, beliefs, and personality characteristics that are apart from the eldest sibling and parents. Therefore, Sulloway described that later-born children are born to rebel.

In the past, studies that were carried out to examine the relationship between birth order and personality has generated inconsistent findings. Healey and Ellis (2007) who studied university sample (n= 161 sibling pairs) and older adults (n= 174 siblings pairs) reported that first-borns scored significantly higher on conscientiousness and lower in openness to experience than their second born siblings. Moreover, Botszer, *et al*, (2017), had their participants to nominate the most achieving and conscientious sibling within their family and found that the firstborns were rated as more achieving and conscientious than later-born children. On the other hand, Jamerson, (2010), and Cousten, (2017), administered brief measures of neuroticism, extraversion, and openness to experience. In addition, Ogundokun and Ojo (2013), who administered a short form of NEO-PI to 593 only children, first-borns, middle children, and last-borns, found no relationship between birth order and personality traits.

There are theories that explain birth order effect on academic achievement. First, some of the intrauterine theories claimed that young mother is able to provide a "rich uterine environment" for her earlier born children and hence, results in greater health and intelligence in the earlier born (Barclay, 2014 & Cousten, 2017). However, there are intrauterine theories that suggest the otherwise and claimed that mothers experience less labour and are less likely to use forceps in subsequent delivery, which in turn reducing the possible damaging to the child's health and intelligence (Barclay, 2014). Second, confluence hypothesis (Zajonc & Sulloway, 2007) claimed that the impact of birth order on cognitive achievement was largely influenced by familial intellectual environment and the opportunity to serve as intellectual resource. Familial intellectual environment decreases in respond to increased family size. Therefore, firstborns were born to a higher intellectual

environment as compared to the later-born children.

The resource dilution hypothesis (Majed, *et al*, 2016), suggested that parental resources (e.g., money, personal attention, cultural objects) are finite and will be diluted by the addition of siblings. According to resource dilution hypothesis, parents are able to devote fully to their only child or firstborn whose sibling has yet to arrive. However, the arrival of new child led the parents to divide their resources accordingly. Besides, this hypothesis also claimed that the relative richness of parental resources also affects one's educational success. As a result, only child and firstborn (who had the full parental resources a few years ago before the arrival of new sibling) had better academic attainment than do later-born children.

Objective of the Study

The main purpose of the study was to investigate the influence of nominal birth position on academic performance and personality traits among junior secondary school students in Akwanga, Nasarawa State, Nigeria. Specifically, the study determined:

1. influence of nominal birth order on selected personality trait among junior secondary school students in Akwanga.
2. relationship between birth order position and educational attainment among junior secondary school ion Akwanga.

Hypotheses (HO)

HO_1 - Siblings of different birth order positions will differ significantly ($p < 0.05$) in terms of the Big Fives personality traits (measured by TIPI), in which firstborns will be described as being more conscientious and agreeable than the later-born children;

HO_2 - There is a significant difference ($p < 0.05$) in academic performance (measured by SCA) among different birth order positions in which firstborns and only children will excell academically.

Methodology

Area of Study: Nasarawa State is located in the North-Central region of Nigeria; bordered on the West by the Federal Capital Territory, Abuja, the North by Kaduna, the South by Benue and Kogi, and on the East by Plateau and Taraba states. Akwanga is one of the 13 local governments areas in the state and it's located in the northern senatorial zone of the state. Akwanga has a population of 113,430 people (NPC, 2006) and it is made up of diverse ethnic groups principal among which are the Eggon, Mada, Rindre and Kantana, as well as settler groups like Hausa, Fulani, Igbo and Yoruba, Idoma among others. Akwanga is home to many public (government secondary schools) and private secondary schools. Akwanga was chosen for the study because of its close proximity to the researcher and the fact that it had diverse ethnic multi-cultural endowed groups.

Research Design: The study was a descriptive (cross-sectional) survey designed to elicit information from respondents (JSS1 – JSS3) on the influence of birth order position, academic performance and selected personality traits. The research design was adopted because the findings will be from a sample

representative of larger population, so that inferences can be made about some personality characteristics, academic performance among students.

***Population for the Study*:** The study population consisted of junior secondary school (JSS) students in JSS1 to JSS3 residing in Nasarawa North senatorial district with it's headquarter in Akwanga. There were seven government secondary schools in Akwanga. The population of all the junior students in JSS1 – JSS3 was 1, 662 (Akwanga LGA Schools Report, 2017).

Sample for the Study: Three government secondary schools out of the seven schools were randomly selected from the three districts of Akwanga using a simple random technique. Samples were drawn from among the SSS1 – SSS3 students irrespective of age, gender or socio-cultural background. A sample size of 249 student respondents from the three government schools were drawn using the Tsaro-Yemen's formula for population survey (Emaikwu, 2013). During the survey, two separate envelops were coded as white for the male students and brown for the female students. Each envelop contained 100 pieces of paper with 50 of which having the inscription 'Yes' and the other 50 having the inscription 'No'. A male participant picked a 'yes' from the white envelop and he was selected and vice-versa for the female participants using the brown envelop. Selections of participants were based on signed informed consent; been a first-born, middle-born, last-born or only-child; non separated or divorced family (Kluger, 2007; Eckstein et. al, 2010); age gap between adjacent siblings is not less than two years or not more than five years (Salmon, 2013). Participants were not adopted not a twin or one of multiple births and had no physical deformity or had member of family who was mentally or physically disable. Of the 249 questionnaires distributed, 207 (83.1%) questionnaires met the inclusion criteria and were presented for analysis.

Instruments for Data Collection: The study made use of a demographic questionnaire which was self-administered. The demographic questionnaire collected information on the socio-demographic characteristics of the student's participants which include age, sex, birth order position, present class level e.t.c (section A). Section B of the questionnaire sought information on parental socio-demographic characteristics which was provided by parents at home. Participants were required to fill in a consent form before they proceeded to the instruments behind. Student Class Average (SCA) score instrument was used to evaluate student performance in all subjects taken during the school terms under review. This information was provided by the class form-master or mistress. The SCA were scored according to the grades that they obtained. Grade A, B, C, D, and F were assigned 5, 4, 3, 2, and 1 point respectively.

The Ten Item Personality Inventory (Gosling, Rentfrow, & Swann, 2003) was used to collect information on the personality traits of student's respondents. The Ten Item Personality Inventory (TIPI) is a 10-items brief scale that is designed to measure the constellation of traits defined by Five Factor Theory of Personality. This includes *extraversion* (talkativeness, activity with silence, and reserve); *agreeableness* (kindness, trust, and warmth with hostility, selfishness, and distrust);

conscientiousness (contrasts organization, thoroughness, reliability with carelessness, negligence); *openness to experience* (imagination, curiosity, and creativity with shallowness and lack of perceptiveness); and *neuroticism* (nervousness, moodiness, and sensitivity to negative stimuli with coping ability). However on the scale of measurement, the five personality factors were measured by two items, thus extraversion (B1 and B6), neuroticism (B4 and B9), openness to experience (B5 and B10), conscientiousness (B3 and B8), and agreeableness (B2 and B7). In this study, the proportion of respondents responding to each score item was considered. TIPI has good test-retest reliability (r= 0.72) and external correlation (r= 0.90). Besides, it also demonstrates strong convergent and discriminant validity (r = 0.77) with the full Big Five Inventory.

Face and content validity were carried out to ensure the instruments measured what it was designed to measure. A reliability coefficient of 0.88 (demographic questionnaire); 0.89 (SCA) and 0.79 (TIPI) were obtained using the Cronbach alpha following a pilot study comprising of 30 junior students.

Method of Data Analyses: Descriptive statistics, including means, standard deviation, and frequency counts were used to evaluate all research questions. The t-test and Chi-square were used to respond to all numerical and categorical variables respectively. All analyses were done using statistical Package for Social Science (SPSS) version 17.0, and a p-value of less than o.05 was considered statistically significant.

Results

Socio-demographic Characteristics of Study Participants

The socio-demographic characteristics showed a heterogeneous distribution among study participants. Of the 207 respondents finally analysed, 51 (24.6%) were in JSS-1, 68 (32.9%) came from JSS-2 while the majority of the respondents 88 (42.5%) were in JSS-3. Most of the student respondents 105 (50.7%) were within the age group of 10 – 12 years; while 69 (33.3%) were within the ages of 13 – 15 years and only 33 (16.0%) were within the age group of 16 – 18 years. One hundred and thirty-eight respondents (66.7%) of the students participants were males while only 69 (33.3%) were females (male: female ratio of 2:1). The birth order positions of the respondents were as follows: 63 (30.4%) were first-born children; 50 (24.2%) were middle born children; 41 (19.8%) of the respondents were last-born children and 53 (26.6%) were only-children.

Association between personality traits and student's birth order position

Table 1: Personality Trait Distribution among Different Birth Order Position

Individual Personality Traits	Birth Order Positions				
	First Born N (%)	Middle Born N (%)	Last Born N (%)	Only child N (%)	P value
Extroverted(Enthusiastic) -B1	82 (39.6)	29 (14.0)	59 (28.5)	37 (17.9)	< 0.001
Critical Quarrelsome – B2	53 (25.6)	43 (20.8)	82 (39.6)	29 (14.0)	0.007
Dependable Self- discipline – B3	85 (41.0)	41 (19.8)	44 (21.3)	37 (17.9)	0.03
Anxious Easily upset – B4	41(19.8)	30 (14.5)	53 (25.6)	83 (40.1)	< 0.001
Open to new experiences Complex - B5	44 (21.3)	81 (39.1)	48 (23.2)	34 (16.4)	< 0.001
Reserved Quiet – B6	51 (24.6)	60 (29.0)	47 (22.7)	49 (23.7)	0.47
Sympathetic Warm-B7	25 (12.1)	52 (25.1)	54 (26.1)	76 (36.7)	0.002
Disorganized Careless– B8	19 (9.2)	62 (30.0)	80 (38.6)	46 (22.2)	< 0.001
Calm Emotionally stable– B9	43 (20.8)	68 (32.9)	46 (22.2)	50 (24.1)	0.02
Conventional Uncreative– B10	53 (25.6)	48 (23.2)	61 (29.5)	45 (21.7)	0.29

Extraversion (B1 and B6), Neuroticism (B4 and B9), Openness to experience (B5 and B10), Conscientiousness (B3 and B8), and Agreeableness (B2 and B7).

Table 1 shows that the first-born child was most likely to be an extrovert. These relationships were statistically significant compare to other birth order positions. The personality traits attributed to the middle-born child included openness to new experience; an introvert and reserve. While the last-born child was more likely to be critical; disorganized and sensitive; the only-child was attributed to be anxious, sympathetic and calm. P value less than 0.05 shows significant association statistically. Hence, first hypothesis was accepted.

Birth Order and Academic Achievement

Table 2: Analysis of Variance for Student Class Avearage Results

Characteristic	First-born Mean (SD)	Middle-born Mean (SD)	Last-born Mean (SD)	Only-child Mean (SD)	P value
School Class Average Score	28.40 (2.85)	27.27 (4.07)	27.10 (4.77)	27.70 (3.23)	0.56

Table 2 shows the mean scores of academic performance across different birth orders. Results indicated that first-born had the highest mean score in Student's Class Average results (mean = 28.40, SD = 2.85) whereas last-born had the lowest mean score in SCA results (mean = 27.10, SD = 4.77). However, with an alpha level of 0.05, birth order effect on academic performance was not statistically significant. [F (3, 116) = 0.56, p>0.05]. Therefore, second hypothesis was not supported.

Discussion

To the best of our knowledge, this is the first study of this nature conducted in my environment. In the present research, we investigated the most dominant personality of college students using a group of junior secondary school students as a representative sample. Based on the

results, it was found that the most dominant personality among student's respondents was conscientiousness (dependable, self-discipline, responsible, orderliness and diligent) which hold the highest mean of 3.25 among other personality traits; an attribute linked with the first-born child 85 (41.0%; p = 0.03) in this study. The current result is consistent with the past research that conscientiousness shows a higher mean or proportion during early adulthood (Majed et al., 2016). According to Salmon, (2013), and Cousten, (2017) Salmon, (2013), and Cousten, (2017) Salmon, (2013), and Cousten, (2017), conscientiousness has been linked to a myriad of positive outcomes across educational, health, and personnel psychology, and appears to be the personality trait with the most predictive utility. This is probably due to the student's responsibility in studies as well as for their family well -being. Salmon, et al, (2014) also outlined that students scored lower on Neuroticism, Extraversion, and Openness, and higher on Agreeableness and Conscientiousness when compared to the older adults. In addition, students are more likely to be conservative, mature, helpful, and serious and disciplined than their parents.

Conversely, it was found that students are less likely to possess traits of neuroticism. The students in the current study scored neuroticism trait at the lowest with the mean score of 2.91. Though an attribute associated to the only-child 83 (40.1%; p < 0.001) in this study, Neuroticism was related to wishful thinking and self -blame during the stressful condition, and continue in such condition will lead to an increase of anxiety, hostility, vulnerability as stated by the state-trait theory (Sulloway, 2010). With the low mean of neuroticism among students, it could be assumed that stress and anxiety are well managed by the students themselves.

As noted in the introduction, first -born, middle -born, and later -born children enter varied in home environments and are treated differently by parents and that these experiences are likely to affect their personality ((Rohrer, et al, 2015)). From the results above, the first -born child 25 (12.1%) and the last-born child 54 (26.1%) has lower agreeableness (sympathetic, warm, trusted, modesty and cooperativeness) compared to the only-child 76 (36.7%; p = 0.002). It is consistent with the previous findings that firstborns are higher on conscientiousness and neuroticism and lower than later -born in agreeableness and openness to experience (Marini & Kurtz, 2011). It was further supported by Zajonc & Sulloway's (2007) prediction for agreeableness, as first -born rated themselves as significantly less agreeable. The possible cause of low agreeableness of the first-born and last-born children compare to the only-child is that they appeared more dominant and aggressive among siblings. Individuals high in agreeableness enjoy helping others and tend to be self -effacing and modest; by contrast, antagonistic people are domineering and quarrelsome (Cousten, 2017). On the other hand, middle -born child scored higher in agreeableness as compared to first and last -born child. An individual who scores higher on agreeableness might be described as compassionate, good -natured, and eager to cooperate and avoid conflict (Cousten, 2017). Thus, it could be assumed that the

only-child and middle -born child has a higher tendency to be the mediator between a first - born child and the later - born child.

In another aspect, the present study found that first-born 44 (21.3%), later - born child 48 (23.2%) and the only-child 34 (16.4%) all scored lower in openness to new experience (originality, curiosity, flexibility, imaginativeness and unconditional attitude) compared to middle -born child ($p < 0.001$). However, this finding was inconsistent with prior research. It has different point of views when openness to experience is being discussed. Sulloway (2010) study stated later -born scored higher in Openness and Agreeableness, which show contradictory with the current result. Previous researchers found that later-born are perceived by their neighbours and friends as being more innovative, sociable, and trusting than first-born (Emily, 2013). Openness should not be confused with self-disclosure; instead, it refers to receptiveness to new ideas, approaches, and experiences (Cousten, 2017)

There was some evidence reported that middle-born child has a high open to experiences. Open to experiences simply means that an individual is intellectually curious. It means that these individuals would appreciate imagination, beauty, art and enjoy a variety of experiences. This naturally reflects a person's ability to put themselves in other shoes, as middle -born do (Hotz et, al, 2015). Salmon & Hayman (2014) also stated that middle-born are less judgmental than other birth orders, and are more willing to entertain the possibilities inherent in new concepts rather than simply sticking with the old way of doing things.

In addition, this study found that birth order had no effect on Akwanga college students' SCA results. A few possible explanations were suggested to justify the absence of birth order effect on participants' SCA results. First, participants of the present study comprised of junior college students. In order to be enrolled into college, every student has to fulfill the entrance score. As a result, participants of this study were all high-achievers already. This is shown in their average SCA results' score. The mean SCA results score of this study was 27.62 out of 30. Due to the fact that present study was a between-family design, there was a high possibility that SCA results could be influenced by other confounding variables, such as parenting styles, parental expectation, familial intellectual environment, and biological determinants (Black. 2014 & Hotz, *et al,* 2015). Interestingly, sibship size was found to exert a greater effect on individuals' academic attainment than birth order did after age, socioeconomic background, religion, community size, and family status were controlled (Barclay, 2014). Thus, more systematic research is required to examine the roles of birth order and sibship size in one's academic achievement.

Due to the small sample of 207 female and male junior secondary schools students in the current study, it is suggested that future studies should replicate this research by using a larger representative sample with a more balanced mix of gender. It is worth noting that this research was composed of only 33.3% females, and 66.7% of males. Therefore, this sample size may have limited the researcher's ability to

generalize the findings. Besides that, the data are based on self-report, therefore, we believe that individuals may not be accurate and honest in their responses. Despite the afore-mentioned limitations, current study consists of a number of strengths that made the research findings valid and informative. First, this study involved a random selection of participants from different ordinal positions and hence, research findings were not biased in terms of birth order position. Second, the issue whether only child is raised as a firstborn or lastborn is still a controversial one so some studies either excluded only-child from their study or grouped them into the first-born category (Hotz, *et. al*, 2015). Therefore, the inclusion of only-child as a distinct birth order category was a merit of current study. Third, this study employed tool (i.e. TIPI) that has strong reliability and validity. Lastly, this study was one of the very little studies that examined birth order effects in the Nigeria context.

Conclusion

This study found that there is a significant relationship between birth orders and the Big -Five personalities among college students in Akwanga, Nasarawa State. The positive influence of nominal birth order on personality outcomes and the non-significant effect on educational achievement in this study are not different from what other studies have reported. Parents see their children as very different. These differences may be due to unconscious encouragement of birth order characteristics, or parents may be responding to what is innately characteristic of each child because of the child's genetically inherited traits. Parents have different expectations for each sibling based on birth-order position. Parents focus on the older child's intellect and achievements when stating future expectations but focus on the younger child's personality.

Recommendations

1. It is essential for educators to assess their students, utilizing birth order as a tool to assist them find what environment is most advantageous to learning for them. Using this knowledge, the educator can begin to reach his or her students on a new level.
2. It is also imperative for parents to understand the influence of birth order position on personality trait, academic achievement and behavioural indices to enable then provide proper parenting style and guide for their children.

References

Akwanga Local Government Area, (2017).Annual Secondary School Report, Akwanga, Nasarawa State, 2017.

Barclay, K. (2014). The Long-Term Impact of Birth Order on Health and Educational Attainment. Stockholm Studies in Sociology, New Series No. 59, *Stockholm University*, 2014.

Black, S. E. (2014). *The More the Merrier: The Effect of Family Composition on Children's Education.* A dissertation Presented to The Norwagian School of Economics, August, 2004.

Botszet, L. J, Rohrer, J. M, & Arsian, R. C, (2017). Effect of Birth Order on Intelligence, Educational Attainment, Personality, and Risk Aversion in an Indonesian Sample. *Journal of Psychological and Cognitive Sciences*. Available at

http://www.laurabotzergollab,lo/birth_order. Accessed 11th September, 2019.

Cousten, C. P, (2017). *The Association between Birth Order and Self-reported Personality Characteristics in a Within-Family Design.* A thesis presented for the award of Doctorate degree in Positive Psychology and Technology, University of Twente, Enschede, Netherlands 2017.

Emaikwu, S. O (2013). *Fundamentals of Research Methods and Statistic*: A Textbook 6thEd.Makurdi: Selfers Academic Press Ltd; pp 45.

Emily, M.C. (2013). *Birth Order: An Examination of its Relationship with the Big Five Personality Theory and trait Emotional Intelligence*. Thesis submitted for the degree of doctor of Philosophy, University College London, 2013.

Gosling, S.D., Rentfrow, P.J., & Swann Jr., W.B. (2003).A very brief measure of the Big-Five personality domains. *Journal of Research in Personality*; 37, 504-528.

Hotz, J. V. & Pantano J. (2015). Strategic Parenting, Birth Order and School Performance. *Journal of Population Economics*; 28 (4); 911 – 932

Jamerson, B. D. (2011). The Influence of Birth Order, Family Size, Sex Differences on Risk-taking Behaviour. *British Journal of Social and Clinical Psychology;* 8, (1): 1 – 8.

Majed, M. M, & Fatima, E. Z. A., (2016). The Effect of Birth Order on Personality Traits and Academic Performance at Sample of Families in Jordan. ***European Journal of Social Sciences***; 52 (2); 151 - 161

McCrae, R. R. & Costa, J.P.T. (2003).*Personality in Adulthood Understanding: A Five-Factor Theory Perspective*. Second Edition. New York: The Guilford Press.

Makino, M., (2011). Effects of Birth Order and Sibling Sex Composition on Human Capital Investment in Children in India. *Institute of Development Economies, IDE Discussion Paper* No. 319.

Marini, V. A. & Kurtz, J. E. (2011). Birth order differences in normal personality traits: Perspectives from within and outside the family. *Personality and Individual Differences 51*, 910–914.

NPC (2006).Report of Nigeria's National Population Commission on the 2006 Celsius. Available from https//www.jstor.org.Accessed 17th November, 2017.

Ogundokun, M. O., and Ojo, O. F (2013).Sociological Factors as Predictors of Academic Emotion Among Nigeria University Students. *African Journal for the Psychological Study of Social Issues*; 16 (2): 157 – 165

Rohrer, J. M, Egloff B., & Schmukle, S. C., (2015). Examining the Effects of Birth Order on Personality. *PNAS*, 12 (46), 14223 – 14229.

Salmon, C, (2013). Birth Order. Available from http://www.oxfordbibliographies.com/. Updated, 29th October, 2013.Accessed 16th June, 2019.

Salmon, C. A, & Hehman, J. A. (2014). *The evolutionary psychology of sibling conflict and siblicide*. In T. K. Shackelford, T. K., and Hansen, R. D., (Eds.). The Evolution of Violence (pp. 137-157). New York: Springer.

Srivastava, S. (2010). The five-factor model describes the structure of social perceptions. *Psychological Inquiry*, *21*(1), 69-75.

Sulloway, F. J. (2010). Why siblings are like Darwin's finches: Birth order, sibling competition, and adaptive divergence within the family. In *The Evolution of Personality and Individual Differences*.Edited by D. M. Buss and P. H. Hawley. Oxford: Oxford Univ. Press.86–119

Zajonc, R. B., Sulloway, F. J., (2007). The Confluence Model: Birth Order as a Within-Family or Between-family Dynamic? *Personality and Social Psychology Bulletin*; 33 (9): 1187 – 1194