

Father-Child Attachment Styles, Social and Emotional Loneliness as Predictors of Basic Science and Technology Subject Academic Achievement in Rivers State Nigeria

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Abstract— Father-child attachment styles, social and emotional loneliness as predicting academic achievement in basic science and technology subject in Rivers State was investigated. Two research questions and two null hypotheses guided the study. The correlational design was used with a sample of 513 senior secondary one (SS1) students. The sample was drawn using Taro Yemen formula, and the multistage sampling technique was used to draw nine secondary schools from the three senatorial districts of Rivers State. Instruments used for data collection were; father-child relationship inventory (FCRI), social and emotional behaviour towards relationship network (SEBTREN). The instruments had a Cronbach Alpha of 0.78 for (FCRI) and 0.72 for (SEBTREN). Data was analyzed using multiple regression method to answer research questions and hypothesis. Findings revealed that father-child attachment styles jointly and independently predicted students' academic achievement. Social and emotional loneliness had a moderate relationship jointly and independently with academic achievement. Recommendations were made accordingly.

Index Terms— Academic achievement, Emotional loneliness, Father-child attachment, Social loneliness.

I. INTRODUCTION

Nigeria is contending with numerous ordeals that permeate her educational development as a nation. Academic achievement by students in secondary schools at the compulsory basic education stage is one of such challenges. In recent years, it has been observed that there has been a dismal performance by secondary school students in public examinations in Nigeria. Hence parents, teachers, and the society have expressed considerable concern over this issue of deteriorating students' performance in public examinations. Aworanti (2011)[1] enumerated what may be responsible for this poor academic achievement; which includes, the emotional disposition of students prior to examination, lack of qualified teachers, poverty, ignorance, ill-equipped library, poor self-concept, and time allocation to subject. He further identified sudden sickness, and poor study habit, students' lack of interest, poor eye-sight or hearing, low level of concentration, low intelligence, restlessness, and

examination phobia as likely causes of failure in examinations. Noteworthy also, is that secondary school students are in a developmental period of transition from childhood into adulthood where they are neither reckoned with as children nor adults; and this creates confusion about the self. They tend to try out new behaviours which often lead to mistakes.

This beleaguered state of our educational system has called to question its relevance to Nigeria's quest for rapid growth in all her strata of development, such as the economy, technology, politics, infrastructure, social relations, and adaptive functioning of the citizenry. Therefore, the germane concern expressed by parents, guardians, psychologists, teachers, policy makers and counsellors about academic achievement underscores its critical role in national development and societal advancement.

Educational activities in schools are geared towards ensuring that students achieve mastery of educational objectives. This mastery of educational objectives is usually measured through academic achievement.

Thus, academic achievement express the performance outcome of a student, or the degree an individual has accomplished specific goals, or the fulcrum of activities in an instructional environment, specifically in schools (Steinmayr, Meibner, Weidinger, & Wirthwein 2015)[13]. It is also a systematic and purposeful quantification of learning outcomes, which involves the determination of the degree an individual attains on tasks, courses or programme of which the students were sufficiently exposed.

Success in education is highly essential to Nigeria's development, as the Nigerian National Policy on Education (2008)[5], 5th edition on page 12, section 1, sub section 6 E; states that "education is for the development of appropriate skills, mental, physical and social abilities and competencies to empower the individual to live and contribute positively to the society". Thus, Igbacha (2013)[6] citing Thorndike and Hagen; Anastasi and Urbina remarked that human performance in various aspects of learning is influenced to some extent by personality characteristics as age, intelligence, interest, aptitude, attitude, etcetera, which significantly expedite achievement in a given task.

Basic science and technology is a core subject at the compulsory basic education level in Nigeria. The subject enables students to understand the fundamental unity of science, issues of scientific nature, and its roles and functions in everyday life. Thus, considering the state of the Nigerian economy, and the competitive advancement from other

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countries, the academic achievement (Basic Science & Technology Subject) of Nigeria's children in Junior Secondary School is of great importance to her future.

Benware (2013)[2] reported that children form and autonomously manifest categorized styles of attachment with their fathers, when support and care-giving responsibilities are taken on by them. Father-child attachment is an unusual and specific bond, one that is exclusive and detached from the relationship the child has with his or her mother.

Father-child attachment provides a divergent contribution to moral and intellectual development, sex role and behavioural outcomes which underscores the father's distinctive contribution to the child's developmental trajectory. Therefore, father-child attachment is an interpersonal bond at relationship level (HwangRay 2012)[6], which includes attitudes, behaviors, and values fathers engage in with their children, that influence the children's emotions, behaviors, and social development.

Weiten, Lloyd, Dunn, and Hammer (2009)[14]evinced that insecure attachment is one factor responsible for loneliness in children. According to them difficult early parent-child relationship may create aloofness in the child. Consequently, loneliness is likely implanted early in life. Secondary school years which coincide with adolescence is stereotypically identical with changes in expectations, responsibilities and identities (Rubin, Bukowski, Parker & Bowker 2008)[12], which might accelerate the tendency to experience loneliness.

Chen (2015)[3] citing Weiss classified loneliness into Social and Emotional loneliness. Emotional loneliness is an individual's lack of a close and intimate attachment to someone who provides security and emotional interaction; a lack of desired affection and closeness to a significant or intimate other. While social loneliness is an individual's lack of social network, a lack of closeness to friends and family members. Thus, social and emotional loneliness is linked to interrupted connection to subsistence social relations network.

Studies on father-child attachment found an association with academic achievement. Ricaute (2011)[10]studied fathers' attachment, parenting behaviour and their association to child adjustment outcomes. Findings reveal that fathers attachment dimensions were related to children's higher adjustment outcomes, and consequently in academic achievement. JenaAbadi and Ahani (2014)[7] investigated self-efficiency, attachment styles, and academic achievement of students in high school in Iran. And found a direct relationship significantly, between academic achievement and secure attachment, and an inverse relationship significantly, between academic achievement with ambivalent and avoidant attachment styles respectively. Likewise, loneliness has a relationship with academic achievement. Fonteboa (2012)[4] studied family effect on academic achievement of students in U.S.A.No difference significantly in the scores for academic achievement of students from nontraditional families comprised of (single-mother families, single-father families, blended families, extended relative only families and others) compared to students from traditional families or when

matched against one another in his findings.

Mai and Alhoot (2016)[8] investigated self-esteem, loneliness and school engagement as factors affecting students learning and academic achievement in Malaysia. The results revealed that Malaysian children have a moderate level of loneliness; 53.3% ($M = 1.606$, $SD = 0.413$) with no direct predictive effect of student's academic achievement and their loneliness level.

Rosenstreich and Margalit (2015)[11] investigated mindfulness practice, loneliness and academic achievement in Israel and found that loneliness negatively predicted academic achievement. Zarei, Heydari and Adli (2013)[15] study which found that loneliness ($r=0.30$) relationship with academic achievement is significant. Consequently, this study set out to examine the predictive relationship between father-child attachment, social and emotional loneliness with academic achievement.

II. STATEMENT OF PROBLEM

Father-child attachment relationship, appear to be thrown into a flux during the secondary school phase of development. Students in secondary school with insecure attachment style appear to have an enhanced probability of difficult trajectories. These students are psychopathologic, view others suspiciously, agonize academic challenges which affect their academic achievement.

Social and emotional loneliness hinders the secondary school student's academic motivation, because the students lose interest in studies, are neurotic, anxious, and are psychologically unhealthy which poses a problem of disorientation that may lead to academic failure. The problem of the study therefore is to verify father child attachment styles, social and emotional loneliness as predictors of Basic Science and Technology subject academic achievement in Rivers State of Nigeria

III. PURPOSE OF THE STUDY

This study purpose is to ascertain whether father-child attachment styles and social and emotional loneliness are predictors of academic achievement among secondary school students in Rivers State.

IV. RESEARCH QUESTIONS

a. To what extent does father-child (secure; anxious-avoidant and anxious-resistant) attachment styles jointly predict the academic achievement of secondary school students in basic science and technology subject in Rivers State?

b. To what extent does social and emotional loneliness jointly predict the academic achievement of secondary school students in basic science and technology subject in Rivers State?

V. HYPOTHESES OF THE STUDY

a. Father-child (secure; anxious-avoidant; and anxious-resistant) attachment styles do not jointly predict significantly the academic achievement of secondary school students in basic science and technology subject in Rivers

State.

b. Social and emotional loneliness do not jointly predict significantly the academic achievement of secondary school students in basic science and technology subject in Rivers State.

VI. METHODOLOGY

This study is a correlational study. The study was conducted in Rivers State, Nigeria.

The simple random and multistage sampling techniques were used to draw three local government areas of Ogba/Egbema/Ndoni; Eleme and Obio/Akpor which are semi-urban; and three secondary schools from each of the selected L.G.A, totaling nine secondary schools used in the

study. The population of the study composed all senior secondary one (SS1) students in Rivers State. The sample size was 513 students drawn from nine secondary schools in three LGA's using Taro Yemen formula. The instruments used for the study were father-child subscale of inventory of parents and peers attachment (IPPA), and the short version of the social and emotional loneliness scale (SELSA). The instrument was made up of 45 items. It's validity and reliability was determined using exploratory factor analysis and it yielded a cronbach alpha of 0.78 and 0.72. Multiple regressions associated with Anovawas the data analysis technique adopted for answering research questions and testing hypotheses.

VII. RESULTS

Research question 1: To what extent does father-child (secure; anxious-avoidant and anxious-resistant) attachment styles jointly predict the academic achievement of secondary school students in basic science and technology subject in Rivers State?

Hypothesis 1: Father-child (secure; anxious-avoidant and anxious-resistant) attachment styles do not jointly predict significantly the academic achievement of secondary school students in basic science and technology subject in Rivers State.

Table 1: Multiple regression analysis showing the extent father-child attachment styles (secure; anxious-avoidant and anxious-resistant) jointly predict students' academic achievement in basic science and technology subject in Rivers State.

R	R ²	Adj.R ²	Std.Error	B
0.82	0.67	0.21	6.53	0.40

Table 1: showed the multiple regressions summary indicating that correlation coefficient R is 0.82. The determinant coefficient R² is 0.67, revealing the proportion of variance in students academic achievement father-child attachment styles accounts for. This implies that father-child attachment styles jointly accounted for 67% of the changes in students academic achievement in basic science and technology subject in Rivers State.

Table 1.1: One way (ANOVA) showing the extent father-child attachment styles jointly predict students' academic achievement in basic science and technology subject in Rivers State.

ANOVA							
	Sum of sq.	Df	mean sq.	F	α	Sig	Result
Regression	512.142	2	256.071				Significant
Residual	64076.350	511	125.394	4.265	0.05	0.043	(Rejected)
Total	64588.492	513					

The ANOVA table 1.1 reveals calculated F value of 4.265 and a sig. value of 0.043. Since, the sig value ($p 0.043 < 0.05$) is less than 0.05 alpha level, the null hypothesis is thereby rejected. The alternate hypothesis that father-child (secure; anxious-avoidant and anxious-resistant) attachment styles jointly do predict significantly, the academic achievement of secondary school students in basic science and technology subject in Rivers State is accepted.

Research question 2: To what extent does social and emotional loneliness jointly predict the academic achievement of secondary school students?

Hypothesis 2: Social and emotional loneliness does not jointly predict significantly the academic achievement of secondary school students?

Table 2: Multiple regression showing the extent social and emotional loneliness jointly predict the academic achievement of secondary school students' in basic science and technology subject in Rivers State.

R	R ²	Adj.R ²	Std.Error	B
0.52	0.27	0.13	2.65	0.17

Table 2: showed regression coefficient $R = 0.52$, $R^2 = 0.27$, adjusted $R^2 = 0.13$, and standard error = 2.65, while $\beta = 0.17$. The correlation coefficient shows that social and emotional loneliness positively correlates with academic achievement. The coefficient of determination R^2 value of 0.27, reveals that loneliness (social and emotional) jointly accounted for 27% of the variance in students in basic science and technology subject academic achievement in Rivers State.

Table 2.1: One way analysis of variance (ANOVA) showing the extent social and emotional loneliness jointly predict students' academic achievement in basic science and technology subject in Rivers State.

ANOVA							
	Sum of sq.	Df	mean sq.	F	α	Sig	Result
Regression	468.768	2	234.384				Significant
Residual	59773.635	511	116.974	2.454	0.05	0.038	(Rejected)
Total	60242.403	513					

The ANOVA table 2.1 reveals calculated F value of 2.454 and a sig. value of 0.038. Since the sig value ($p = 0.038 < 0.05$) is less than 0.05 alpha level, the null hypothesis is therefore rejected. The alternate hypothesis that emotional and social loneliness jointly do predict significantly students' academic achievement in basic science and technology subject in Rivers State is accepted.

VIII. SUMMARY OF RESULTS

It was found that father-child attachment styles accounts jointly for 0.67 or 67% of the variance in academic achievement in basic science and technology subject in Rivers State. Also social and emotional loneliness accounts jointly for 0.27 or 27% of the changes in academic achievement in basic science and technology subject in Rivers State. This implies that father-child attachment styles and social and emotional loneliness do jointly explain or account for academic achievement in basic science and technology subject in Rivers State.

IX. DISCUSSION OF FINDINGS

This study found that in Rivers State, academic achievement in basic science and technology subject among students in secondary schools, was predicted significantly by father-child attachment styles jointly. Father-child attachment styles of secure, anxious-avoidant, and anxious-resistant jointly have a correlation coefficient (R) of 0.82, and the determining coefficient (R^2) is 0.67. Showing that 67% of the variation in students academic achievement in basic science and technology subject can be accounted for or explained jointly by father-child (secure, anxious-avoidant & anxious-resistant) attachment styles respectively. This finding is in agreement with Ricaute (2011)[10] study on fathers' attachment, parenting behaviour and their association to child adjustment outcomes. Findings reveal that fathers attachment dimensions were related to children's higher adjustment outcomes, and consequently in academic achievement. Fonteboa (2012)[4], studied family effect on academic achievement of students in U.S.A. No difference

significantly was found in the scores for academic achievement of students from nontraditional families comprised of (single-mother, single-father, extended relative only families and others) compared to students from traditional families. Therefore, secondary school student's academic achievement in basic science and technology subject in Rivers State was predicted significantly by the kind of attachment pattern they had with their fathers. This means that success in their academic endeavour is to a large extent associated with paternal parenting practices.

Social and emotional loneliness jointly do predict students academic achievement significantly in basic science and technology subject in Rivers State, in this study. The regression coefficient (R) is 0.52 showing the joint correlation coefficient between loneliness (social & emotional) and students academic achievement in basic science and technology subject in Rivers State.

The coefficient of determination (R^2) is 0.27, revealing a moderate link between social and emotional loneliness and students academic achievement in Rivers State. This reveals that loneliness (social & emotional) jointly account for 27% of the variance of students in basic science and technology subject in Rivers State. This study finding is in tandem with Zarei, Heydari and Adli (2013)[15] study which found that loneliness ($r = 0.30$) relationship with academic achievement is significant. Rosenstreich and Margalit (2015)[11] investigated mindfulness practice, loneliness and academic achievement in Israel and found that loneliness negatively predicted academic achievement. Social and emotional loneliness was established to have a significant relationship, with academic achievement. The inference is that, students experiencing loneliness are unlikely to graduate from school.

X. RECOMMENDATIONS

A. Paternal attachment security should be strongly encouraged as it appears to guard against jeopardy in

adolescence such as drug use, negative peer influence, withdrawal or recluse lifestyle, etcetera which are capable of derailing academic achievement. This will ensure that our secondary school students achieve excellence academically. Furthermore, the nation will have competent secondary school graduates that will succeed in their chosen profession and advance the nation's development, technologically, economically, and socio-politically.

B. Loneliness based on the findings of this research has a very low association with academic achievement, and this implies a grave consequence for the future of students experiencing loneliness, especially for their academic and career advancements. Hence, counselling services should be swiftly utilized to address this condition.

C. Furthermore, fathers should be attuned to their secondary school students' emotional environment so as to observe the emergence of loneliness behaviour and for a quick remedial attention to be availed the child in order to avoid the deleterious consequences, whether it be social or emotional loneliness. Consequently, students who had been successfully treated of loneliness can serve as role models, and engage in peer tutoring and mentoring to help salvage those who may still be experiencing loneliness.

XI. CONCLUSION

Academic achievement among secondary school students is of great importance to our children and the future development of our society. Father-child attachment styles play a fundamental role in academic achievement or underachievement.

Likewise, loneliness either of the social or emotional dimension portends inherent danger to academic achievement, as its influence on secondary school students academic endeavour has been found to be deleterious. When secondary school students learn with loneliness as their emotional state either in the classroom or in tutorial settings amongst peers their level of attentions and adaptation may decline and result in academic underachievement. Therefore, imperatively essential steps should be taken so as to mitigate its effect on secondary school student's academic achievement.

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