



Aggressive Behaviour Of Male And Female Students As Related To Their Academic Achievement And Residential Background

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Abstract

The study investigated the aggressive behavior of male and female students as related to their academic achievement and residential background. In an attempt to focus the study, four hypotheses were postulated. The hypotheses dealt with whether there were significant differences in the aggression of students based on academic grade, sex and residential background (location). The first-order correlation between aggression and academic achievement with the effect of locus of control adjusted for was also investigated. A review of literature was done to expose the researcher with a sound theoretical framework for the study. The review was based on materials from texts, journals, internet and past theses. An ex-post facto research design was used and simple random sampling was adopted in drawing a sample of 392 SS2 public secondary school students in Delta State. Two instruments, one developed by the researcher, Aggression Scale (AGS) and the other developed by Rotter, Locus of Control Scale (LOCS) were used to collect data for the investigation. Data were analyzed using descriptive statistics of mean and standard deviation and inferential statistics using three-way analysis of variance and partial correlation. Results show that the main effect of academic grade on students aggression is statistically significant in favour of students with high academic grade. That is, students with high academic grade are more aggressive than students with low academic grade. The main effect of sex and residential background on students aggression are statistically significant. There was also significant relationship between aggression and academic achievement with the effect of locus of control adjusted for.

Keywords: *Aggressive Behaviour, Academic Achievement, Residential Background, gender, first-order correlation*

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Introduction

Academic achievement had been reviewed to be one major concern of every developing and developed nation. A country which has tracks record of poor academic achievement is very unstable and the instability can snowball into economic degradation. Ebeku as cited in Orluwene (2012) noted that “academic achievement of students in recent years at various level of education had degenerated and generated a lot of concern to many interested individuals and government” (p. 99). The problem seems to be a continuous one instead of abating. In this light, Ebeku (2006) noted that academic achievement has progressively decreased over the years. Building on this background, one is tempted to ask a modest question: what can then be the measures to put in place in order to anticipate academic excellence? In order to “drive this story home” it is important to consider a holistic overview of human being.

The Bloom Taxonomy of education classifies the “rearing” of human being along three domains- Psychomotor domain, affective domain and the cognitive domain. These domains need to be developed in order to get the best from human being. The psychomotor domain has to do with motor skills. This involves training the various parts of human body so that they can be used effectively to actualize useful task that is beneficial to the people. The affective domain has to do with “rearing” the in-built characters or personalities of human being in order to become more productive. The cognitive domain has to do with the development of the brain. The brain is developed along six “zones” the knowledge zone, comprehension zone, application zone, analysis zone, synthesis zone and the evaluation zone.

Oku (2008) defined academic achievement as the success record of students in examination. In a similar vein, Iwundu (1995) defined academic achievement as the degree or level of success attained at the end of an academic endeavour. “Academic achievement in our educational system has been a concern to parents, guardians, governments, guidance counselors and the society at large (Orluwene, 2012, P.99). Some instrument used for measuring students academic achievement include- test, questionnaire and interview. During measurement, numerals are attached to the information provided by the examinees. Based on the information provided, an examinee can be adjudged to have perform highly or poorly academically. Some scholars are of the view that a person who performs very well, is one who learnt the various concepts which forms the basis of the test. Others argued that, the fact that a person perform very well does not mean that he/she learnt the concepts, since performance is not learning (Oku, 2015). What this mean is that, someone can perform very well and has not learnt the concepts under which the test was constructed./This could be due to one of the following:

- 1) The examination was poorly administered
- 2) The examinees engaged in examination malpractices.

On the other hand, a person can fail an examination even if he/she has mastered the various concepts that form the basis of the test. This may be due to the fact that the examinee is not ready psychologically prior to writing the test. In light of the above, one can say that the various domains can interact with each other. The interaction can lead to positive or negative relationship depending on the effect caused. One variable that had been investigated which has direct relationship with academic achievement is aggression..

Rahman and Nahar (2013) defined aggression as an overt behavior of a person that intended to harm another person physically or psychologically or to damage or destroy or take that person property. According to Baron and Richardson (1994) aggression is any form of behaviour directed toward the goal of harming or injuring another living being who is motivated to avoid such treatment. Fauzi, Zulkefli, and Baharom (2023) succinctly stated that aggression among adolescents is a multidimensional phenomenon influenced by biological, psychological, and social factors. The authors observed that exposure to negative environmental experiences, poor emotional regulation, peer pressure, and family conflicts increase the likelihood of aggressive tendencies among students.

Based on the definitions, one can say that any physical or verbal behavior intended to harm or destroy someone is termed aggression. Binebai (2010) attempted to provide the following background upon which aggression is based.

- 1) There is an inborn aggression drive
- 2) Aggression is a natural response to frustration
- 3) Aggressive behavior like other social behaviour is learned

As regards to the relationship between aggression and academic achievement, findings do not give a straight forward picture. Rahman and Nahar (2013) investigation on the relationship between aggression and academic achievement revealed that students with high academic grade showed more aggressive behaviour than students with low academic grade. They anchored their results on the social learning theory. According the social learning theory, it can be said that, aggressive behavior is an art which can help acquire to become supreme. Respondents with high academic grade have come about successful to become the best. On the other hand, respondents with low academic grade study at lower stage of social status. In this perspective, it can be said that, respondents with high academic grade to secure their best social position, used strategy of aggressive behaviour. On the other hand, respondents with low academic grade fall down the lower stage of social status.

The findings were not supported with the study of Mursaleen et al. (2024), who reported a significant negative association between aggression and academic achievement among students. Their study revealed that students with higher aggression scores tended to perform less effectively in academic tasks than their counterparts with lower aggression levels. Similarly, Jensen et al. (2024) found that disruptive and aggressive behaviours were associated with lower academic performance among adolescents. In the same vein, Nair and John (2023) found that aggressive tendencies negatively influence students' educational outcomes by reducing their commitment to learning activities.

The concept of sex difference (i.e being male or female) in the exhibition of aggressive behavior has also been reviewed by researchers. Rahman and Nahar (2013) investigation revealed that the main effect of sex on aggression is statistically significant, that is, boys expressed more aggressive behavior than girls in Bangladesh. Anderson and Bushman (2002) also indicated males are more aggressive than females. However, Binebai (2001) found no significant difference in aggressive behavior between male and female students in Bayelsa State. Residential background (used to mean urban or rural area) also have significant influence on aggression. Rahman and Nahar (2013) found that there is no significant difference in the aggressive behavior of students from urban and rural areas at Bangladesh.

Statement of the problem

Researchers have busied themselves over the years investigating the cause of poor academic achievement among students in most schools and colleges. The idea is to help improve on the educational system. Several variables have been identified which correlates strongly with academic achievement. These variables include the following among others- locus of control, conduct disorder and aggression. Multivariate analysis in aggressive behavior had not been extensively reviewed. The problem of this study is to investigate the aggressive behavior of male and female students as related to their academic achievement and residential background (location).

Purpose of the study

The study investigated aggressive behavior of male and female students as related to their academic achievement and residential background. Specifically, the study was designed to:

- 1) Find out the influence of academic grade on aggression
- 2) Ascertain the influence of sex on aggression
- 3) Find out the influence of residential background on aggression

- 4) Determine the relationship between aggression and academic achievement if the effect of locus of control is adjusted for.

Research questions

The following research questions guided the conduct of the study

- 1) To what extent does academic grade influence aggression of students?
- 2) To what extent does sex influence aggression of students
- 3) 3) To what extent does residential background influence aggression of students
- 4) What is the relationship between aggression and academic achievement of students if the effect of locus of control is adjusted for?

Hypotheses

The following null hypotheses tested at 0.05 level of significance were formulated to guide the study

- 1) There is no significant difference in the aggressive behavior of students based on academic grade
- 2) There is no significant difference in the aggressive behavior of students based on sex
- 3) There is no significant difference in the aggressive behavior of students based on residential background
- 4) There is no significant relationship between aggression and academic achievement of students if the effect of locus of control is adjusted for.

Methodology

The study adopted the expost facto research design as data on the variables of interest were already in place for the investigator to collect. In other words, the variables have not be manipulated to determine their influence. According Kpolovie (2014) “ Ex-post facto research is a methodological approach for eliciting possible or probable antecedents of events that have occurred already and which cannot be subjected to direct rigorous manipulation and control by the researcher” (P.88). A sample of 392 SS2 students was randomly drawn from public secondary schools in Ughelli North Local Government Area of Delta State.. The sample size was divided into two equal group along sex (male and female), academic grade (high grade and low grade) and residential background (urban and rural)

Two instruments, one developed by the researcher namely, Aggression Scale (AGS) and the other developed by Rotter, Locus of Control Scale (LOCS) adapted from Kpolovie (1998) were used for data collection. The instrument LOCS was used to measure students’ internal versus external locus of control. It consist of twenty nine (29) items of which six (1, 8, 14, 19, 24 and 27) were filler items. Each item had two options A and B one of which was external and the other internal belief in the cause of certain event in our society. The scale was scored in the external direction. Each item answered in the external direction was given 1 point, while the one answer in the internal direction attracted 0 point. Thus, a respondent possible maximum score on the LOCS was 23 and a respondent possible minimum score on the LOCS was 0. The second instrument, AGS consist of 22 items structured along 5 points scale of A = never, B = rarely, C = sometimes, D = frequently and E = almost always. The weight accorded were 1 point, 2 points, 2 points and 5 points respectively.

The reliability of the LOCS was estimated using the test-retest method. A reliability coefficient of 0.85 was obtained. The reliability of the AGS was determined using different methods of estimating reliability as shown below in table 1

Table 1: Reliability coefficient for aggression scale by different methods

S/N	Reliability	AGS
1.	Test-retest	0.86
2.	Spearman and Brown	0.89

3.	Rulon	0.89
4.	Flanagan	0.89
5.	Flanagan-Rulon	0.89

The validity of the LOCS was estimated using internal consistency evidence via Kuder-Richardson 21 (KR₂₁). From the result, $r = 0.66$. The validity of the AGS was estimated using internal consistency evidence via Cronbach Coefficient Alpha. From the result, $r = 0.71$. The results support the findings of Oku (2014) who revealed that the estimation of reliability via Spearman- Brown and Flanagan-Rulon will give the same coefficient. The multiple estimates of reliability of the instrument become very necessary to take cognizance of the complex nature of human being.

Data collected were analyzed using descriptive and appropriate inferential statistics of partial correlation and three-way analysis of variance in accordance with the demand of the null hypotheses at 0.05 level of significance with SPSS software and Flanagan-Rulon calculator available online.

Data presentation and results

Hypothesis 1: There is no significant difference in the aggression of students based on academic grade

Hypothesis 2: There is no significant difference in the aggression of students based on sex

Hypothesis 3: There is no significant difference in the aggression of students based on residential background

Table 2: Descriptive statistics of students' aggression based on academic grade, sex and residential background (location)

Academic grade	Sex	Location	Mean	Standard Deviation	N
High	Male	Urban	58.43	20.14	69
		Rural	52.09	12.45	32
		Total	56.46	18.24	101
	Female	Urban	57.86	13.57	42
		Rural	49.98	13.46	53
		Total	53.46	14.01	95
	Total	Urban	58.22	17.88	111
		Rural	50.78	13.05	85
		Total	54.99	16.35	196
Low	Male	Urban	42.78	19.38	63
		Rural	54.56	11.89	32
		Total	46.75	18.05	95
	Female	Urban	49.77	17.27	22
		Rural	39.14	15.04	79
		Total	41.46	16.09	101
	Total	Urban	44.77	17.27	22
		Rural	43.59	15.80	111
		Total	44.03	17.23	196
Total	Male	Urban	50.96	21.21	132
		Rural	53.33	12.14	64
		Total	51.73	18.74	196
	Female	Urban	55.08	15.32	64
		Rural	43.49	15.34	132
		Total	47.28	16.23	196
	Total	Urban	52.31	19.54	196
		Rural	46.71	15.07	196

Total 49.51 17.65 392

Table 2 shows the mean score of male and female students with high academic grade for urban and rural areas as 58.43 and 52.09 and 57.86 and 49.98 respectively with respective standard deviation of 20.14 and 12.44 and 13.59 and 13.46. Also, the mean score of male and female students with low academic grade for urban and rural areas are 42.78 and 54.56 and 49.77 and 39.14 respectively. Their standard deviation are 19.38 and 11.27 and 15.05 respectively.

Table 3: Three-way analysis of variance on aggression of students based on academic grade, sex and residential background (location)

Source	Type II Sum of Square	df	Mean Square	F	Sig
Corrected Model	20818.10	7	2974.01	11.31	0.000
Intercept	845398.98	1	845398.96	3.22	0.000
Academic grade	5325.66	1	5325.66	20.26	0.000
Sex	638.36	1	638.36	2.43	0.120
Location	881.54	1	881.54	3.35	0.068
Academic grade *Sex	170.02	1	170.02	0.647	0.422
Academic grade*location	1219.61	1	1219.61	4.639	0.032
Sex*location	2962.76	1	2962.76	11.269	0.001
Academic grade*sex*					
Location	2251.96	1	2251.96	8.565	0.004
Error	100959.90	384	262.92		
Total	1082474.00	392			
Corrected Total	121777.99	391			

Table 3 shows that the P value of 0.000 for academic grade is greater than the chosen alpha of 0.05. Thus, the main effect of academic grade on aggression is statistically significant. Hypothesis 1 is therefore rejected. That is, there is a significant difference in the aggression of students' base on academic grade in favour of students with high academic grade. This means that, students with high academic grade are more aggressive than students with low academic grade. The P value of 0.012 for sex is greater than the chosen alpha of 0.05, which means that sex has no significant effect on students' aggression. Hypothesis 2 is therefore retained. That is, there is no significant difference in the aggression of students base on sex (male and female). The P value of 0.068 for residential background (location) is greater than the chosen alpha of 0.05. Thus, the main effect of location on students' aggression is not statistically significant. Hypothesis 3 is therefore retained. This means that, there is no significant difference in the aggression of students' base on location. The interaction effect between academic grade and sex is not statistically significant ($F = 0.422$, $DF = 1/384$, $P > 0.05$). However, the interaction effects between academic grade and location, between sex and location and among academic grade, sex and location are all statistically significant ($F = 4.639$, $df = 1/384$, $P < 0.05$; $F = 11.269$, $df = 1/384$, $P = 0.05$; $F = 8.565$, $df = 1/384$, $P < 0.05$) respectively.

Hypothesis 4: There is no significant relationship between aggression and academic achievement of students' if the effect of locus of control is adjusted for.

Table 4: Zero-order correlation between students' aggression and academic achievement

Variables	N	Mean	Standard Deviation	df	r	Sig
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Aggression	392	49.58	17.65	390	0.322	0.000
Academic Achievement	392	52.00	11.64			

Table 4 depicts the zero-order correlation between aggression and academic achievement with $r = 0.322$. This indicates positive relationship. The probability value of 0.000 is less than the chosen alpha of 0.05. Thus, the relationship between aggression and academic achievement of students is statistically significant ($r = 0.322$, $df = 390$, $P > 0.05$).

Table 5: First-order correlation between students' aggression and academic achievement

Control	Variables	N	Mean	Standard Deviation	df	r	Sig
LOC	Aggression	392	49.51	17.65	389	0.297	0.000
	Academic achievement	392	52.00	11.64			

Table 5 shows the first-order correlation between aggression and students academic achievement. In other words, the table indicates the correlation between aggression and academic achievement of students with the effect of locus of control adjusted for. From the result, $r = 0.297$. This indicates positive relationship. The P-value of 0.000 is less than the alpha level of 0.05. The relationship is statistically significant. The null hypothesis is therefore rejected. This implies that, there is a significant relationship between aggression and academic achievement of students if the effect of locus of control is adjusted for.

Discussion of results

The results showed that the mean score of aggression of students with high academic grade is higher than the mean score of students with low academic grade. The P value of 0.000 indicated that the difference is statistically significant. Thus, there is a significant difference in the aggression of students based on academic grade in favour of students with high academic grade. This means that students with high academic grade are more aggressive than students with low academic grade.

The findings are in concordance with that of Rahman and Nahar (2013) who investigated the aggression of students at the University of Chitagong, Bangladesh. They found that, students with high academic grade show more aggression than their counterparts with low academic grade. The rationale behind this situation was anchored on the social learning theory. People want to acquire self respect to become supreme to avoid feeling of inferiority complex and try to dominate others in social life, household life and national or even in universal life. In this aspect, the students of higher grade will try to dominate lower grade students by showing more aggressive behavior.

The findings were not supported with the study of Mursaleen et al. (2024), who reported a significant negative association between aggression and academic achievement among students. Their study revealed that students with higher aggression scores tended to perform less effectively in academic tasks than their counterparts with lower aggression levels. Similarly, Jensen et al. (2024) found that disruptive and aggressive behaviours were associated with lower academic performance among adolescents. In the same vein, Nair and John (2023) found that aggressive tendencies negatively influence students' educational outcomes by reducing their commitment to learning activities.

The results also showed the mean score of aggression of male and female students to be 51.73 and 47.28 respectively. The P value of 0.120 for sex is greater than the chosen alpha of 0.05, thus, the main effect of sex on aggression is not statistically significant. This means that, there is no significant difference between the aggression of male and female students. The findings corroborate the result of Binebai (2010), who revealed that there is no significant difference in aggressive behavior between male and female students in Bayelsa State. This result diverges however from that of Mursaleen et al. (2024), who found significant gender differences in

aggression among secondary school students and reported that males exhibited higher levels of aggressive behaviour than females. In the same vein, Rahman and Nahar (2013) found that boys expressed aggressive behavior than girls in Bangladesh.

The findings showed the mean score for urban and rural students as 52.31 and 46.70 respectively. The P value of 0.068 is greater than the significance level of 0.05, thus, the main effect of residential background (location) on aggression is not statistically significant. This implies that, there is no significant difference between the aggression of urban and rural students in the locale under investigation. The findings are in consonance with that of Rahman and Nahar (2013) who found no significance difference between the aggressive behavior of urban and rural students. The interaction effect between academic grade and sex is not statistically significant. However, the interaction effect between academic grade and location, between sex and location and among academic grade, sex and location are all statistically significant.

The results also showed the first order correlation between aggression and academic achievement with $r = 0.297$. Simply put, the relationship between aggression and academic achievement with the effect of locus of control partial out, has $r = 0.297$. This indicates positive relationship. The P value of 0.000 is less than the chosen alpha of 0.005, thus, the effect of locus of control is removed. What this means is that even thou the effect of locus of control is removed, the relationship between aggression and academic achievement is statistically significant in the positive direction.

Conclusion and Recommendation

The study was able to establish a relation between the aggressive behavior of male and female students considering their academic achievement and residential background. It was found that students with high academic grade expressed aggressive behavior more than their counterparts with low academic grade. The result was only supported by a foreign-based study. Local literature within reach of the researcher does not support the findings of students' aggression based on academic grade except for sex and location. The result of the interaction effects suggested the following:

1. Male students with high academic grade of urban areas are more aggressive than the male students with high academic grade of rural areas.
2. Female students with high academic grade of urban areas are more aggressive than the female students with high academic grade of rural areas.
3. Male students with low academic grade of rural areas are more aggressive than their male counterparts with low academic grade of urban areas.
4. Female students with low academic grade of urban areas are more aggressive than the female students with low academic grade of rural areas.
5. In rural areas, male students with high academic grade are more aggressive than the female students with low academic grade.
6. In urban areas, male students with high academic grade are more aggressive than their counterparts with low academic grade. Based on the observations, a broader study of this subject matter, extending the locale of the investigation is therefore recommended.

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