Relationship Between Self-esteem and Academic Performance of Students in Biology in Senior Secondary School, Okehi Local Government Area, Kogi State

Onwunyili, Fidelis Chinedu

Federal College of Education, Okene, Kogi State of Nigeria

Abstract

This study investigated the relationship between self-esteem and academic performance of students in Biology in public secondary schools in Okehi Local Government of Kogi State, Nigeria with a view to assessing the level of self-esteem among senior secondary school students across the gender and examining the extent and direction of the relationship between self-esteem and academic performance of senior secondary school students in biology across the gender. The study adopted descriptive correlational design and 500 students drawn across nine public secondary schools of the local government. The sample was drawn through simple random sampling. Structured questionnaire named Students' Self-esteem Structure Questionnaire (SSSQ) was the instrument for data collection and its validity as well as reliability established using Crombach alpha coefficient and the index was 0.84. Frequency and percentage were used in describing the demography of the study while mean and Pearson correlation analysis were used in answering the research questions. The result indicated high extent as well as positive and direct relationship between the independent and dependent variables. Recommendation based on the findings were also given

Keyword: *Self-esteem, Academic performance, Adolescent, Students*

Introduction

Self-esteem is one of the most important factors the students have to put into consideration in academic environment. Self- esteem refers to the subjective judgment that every person makes of his ability to face life's challenges, to understand and solve problems, and his right to achieve happiness, and be given respect. Self-esteem is an

important influential predictor of various outcomes, such as academic achievement and behavior. In psychology, the term self-esteem is used to describe a person's overall sense of self-worth or personal value. Self-esteem was often seen as a personality trait, which meant that it tends to be stable and enduring. It involved a variety of beliefs about the self, such as the appraisal of one's own appearance, beliefs, emotions and behaviors.

According to [3] self-esteem is the sum of self-confidence and self-respect. Subjective experiences in a person's life are chief contributors in self-esteem development. The good and bad life experiences create attitudes toward the self which can be favorable and develop positive or negative feelings of self-worth. Low self-esteem in adolescence and young adulthood is a risk factor for negative outcomes in important life domains. Most secondary school students are within the adolescence bracket 12-20 years, and this being a period of storm and stress, levels of self-esteem will likely vary from time to time. Many adolescents struggle with self-esteem especially during high school and this may lead to poor academic performance. [18] found out that overall, students have high levels of self-esteem with 80% and above based on academic competence, 77% on family support, 66% on the aspect of doing better than others and 65% on

appearance. It can be seen as how we value our selves; it is how values are perceived in the world, and how we think our valuables are to others. Self-esteem affects our trust in others, our relationships, our work, nearly every part of our lives. Positive self-esteem gives us the strength and flexibility to take charge of our lives and grow from our mistakes, without the fear of being rejected. Negative self-esteem gives felling of unworthiness, incapability, and incompetency. The term self-esteem is one of the oldest concepts in the field of psychology. The term was coined by American Psychologist and Philosopher W. James in 1890. Self-esteem is usually defined as a personal judgment of worth living along a dimension with positive and negative ends. It is also widely assumed that self-esteem functions as a trait that is not stable across time within individuals. In psychology self-esteem or self-worth includes a person's subjective appraisal of himself or herself as intrinsically positive or negative to some degree that may become more positive or negative as a person encounters successes or failures in daily life. Synonyms of self-esteem include self-worth, self-regard, self-respect, and self-integrity. Self-esteem is a person's inner appreciation or assessment of him or herself. It matters because people who do not value themselves - who have low self-esteem – treat themselves and others badly. Thus, low self-

esteem can be seen as a major factor in abuse, addiction, crime, depression, loneliness, low educational achievement, mental illness and unhappiness. People who are high in self-esteem are often creative, joyful, fun to be with and productive.'

Self-esteem construct was recognized to be a major factor in learning outcomes [8]. Research has consistently shown a positive correlation between how people value themselves and the level of their academic attainments [7]; [3]; [11]; [9]. Self- esteem and academic performance seem to be most highly related between the years of about seven to fifteen [9].Those who feel confident, generally achieve more, while those who lack confidence in themselves achieve less. However, this does not indicate that high self-esteem causes good academic performance since correlation does not mean causation. In other studies, high self-esteem has been a result of good academic performance and not the cause. Research by [17] affirmed that secondary students have high self-esteem level of 16 out of 30. Where 67% of students had high self-esteem while 33% of students had low self-esteem. [7] found that there was a steady increase in self-esteem according to age, and a sharp increase during the adolescence. He suggested that for most people becoming an adolescent result to feelings of pride and self-confidence.

Gender, according to such studies has been found to demonstrate and manifest self-esteem [15]. Studies in a wide range of western countries have determined that adolescent females, on average, have a lower sense of self-esteem than adolescent males. For Americans, adolescence brings a dramatically increased emphasis on physical attractiveness for young women, many of whom feel they are lacking. Boys" self-esteem can be affected by contradictory societal messages, on one hand to appear to be strong and on the other to be emotionally expressive.

In a study carried out to determine what factors determine occupational aspirations in individuals, [2] found that girls tended to have a lower score than boys, brought about by many factors, one of them being their self-esteem differences, [10] agreed with this, stating that boys have the backing of getting a lot of support from older males. This only works to boast their already relatively high self-esteem. [6], in a study of girl's aspirations, carried out in Nairobi schools (Kenya), all found this as a factor, suggesting the government's intervention, to boost more female students in various careers.

Male self-esteem seems to be more influenced by goals related to independence and autonomy, while female self-esteem is more closely drawn to goals characterized by sensitivity and interdependence [12]. Overall, then, it appears

that males gain self-esteem from getting ahead whereas females gain self-esteem from getting along.

[5] in the Journal of personality and social psychology came out with similar conclusions. Their study found no significant difference between men and women in self-esteem. The study was done among individuals for a period of almost 10 years from the year 2002- 2011. They discovered that self-esteem reaches its peak in adolescent years and then declines in young adulthood. This however was despite the gender difference. No significant difference existed across the genders.

The term academic performance refers to the acquisition of all the behavioral changes associated with cognitive, affective and psycho motor domains. But in the context of school situation, it refers to the level of performance made by the students in their subjects of study. Learning affects three major areas of behaviour of the students (i) cognitive (intellectual development, recall and recognition), (ii) affective (self-concept and personal growth) and (iii) psycho-motor (developing of muscular skills). These three levels are not affected in equal measure at a time, it means that a student may be at a higher level in one domain and lower in another. Academic performance encompasses student ability; it is multi-dimensional; it is

intricately related to human growth and cognitive, emotional, social and physical development; it reflects the whole child; it is not related to single instance but occurs across time and levels, through a students' life in school. Thus, academic performance refers to knowledge and skills gained from experience, an achieved level of expertise in a specific domain which can burst a high self-esteem in learners.

[4] found that there are many factors that can reduce or enhance the level of academic achievement in students. Factors that may lower academic achievement are anxiety and pessimism, while self-esteem and optimism may increase academic achievement. The results of El-Anzi's study revealed that there was a significant relationship between academic achievement and self-esteem, though it was not found whether self-esteem is the cause of academic achievement or if academic achievement is the cause of self-esteem. Self- esteem and academic performance seem to be most highly related between the years of about seven to fifteen [16]. Some researchers have suggested that educational success becomes less central to self-esteem during late high school years and the years that follow [16]. Whilst the majority of students are likely to have low self-esteem as a result of feeling inadequate over not being able to read, write or spell like most others, they may in addition have low self-esteem as a

result of others experiences, probably beginning in childhood [8]. According to [13] students with higher academic performance are more self-critical compared to students with moderate academic performance in academics

[1] conducted a study and the aim of this study was to discover how test anxiety and self-esteem affect academic performance. Two hundred and fifty randomly drawn final year National Diploma (NDII) students of the Federal Polytechnic, Ilaro were involved in the study. They were given two questionnaires that took between forty and forty-five minutes to complete. The study was carried out in a classroom environment during regular school hours. After collecting information from the students through questionnaires, their comprehensive Grade Point Averages (GPA) in previous year were also collected. This GPA data were then compared to the scores obtained from the questionnaires. This study discovered that overall, low anxiety students had higher GPAs than high anxiety students and that there is a positive relationship between self-esteem and academic performance. The implication of the findings was that stakeholders in education should formulate policies that help students to cope with anxiety and also initiate programs that will assist the process of learning and mastering challenges as such would result in higher academic achievement.

[19] conducted a study using a correlation design. It was carried out among the students of the United States international University in East Africa. The hypothesis of this study stated that if self-esteem increased then academic success will increase also. A total of 37 participants took part. The researcher took a sample of the senior students to examine whether their self-esteem had increased and if the increase had any relationship with their academic success. The researcher also sought to examine whether there was a difference between the levels of self-esteem development among females and males and what relationship it may have with academic achievement. The Rosenberg Self-esteem Scale was used to measure the students" self-esteem state between their fresh man year and their senior year for any developments. The scale is a ten item Likert scales with items answered on a four-point scale - from strongly agree to strongly disagree. The Scale has high reliability; test-retest correlations range from 0.82 - 0.88 and Cronbach's alpha for various populations are in the range of 0.77 – 0.88. The results of this research show that there was a positive relationship (r =.048) between self-esteem and CGPA. The results confirmed that there was a negative relationship between self-esteem and gender (r= -.316) and a positive relationship between CGPA and Gender(r=.057); the Males

self-esteem and CGPA increased while the Females self-esteem decreased but their grades remained constant. The study concluded that there was a positive relationship between self-esteem and academic achievement although the relationship was weak.

[16] explained that there was a general agreement among researchers that there was a close relationship between self-esteem and academic achievement but there are considerable disagreements among them as to the nature of the relationship. Therefore, from literature reviewed, the relationship between self-esteem and academic performance was not yet clear since studies reveal conflicting findings.

Therefore, this research is focused on investigating on the relationship between self-esteem and academic performance in biology among senior secondary schools' students in Okehi Local Government Area of Kogi State.

Statement of Problem

The academic performance of adolescent girls in secondary schools has been an issue of concern in Nigeria. Out of a total candidature of 22,870 in West African Examination Council in the year 2017, 2018 and 2019, there were 9,289 boys and 13,581 girls. This presented a gender parity of 40.62% male to 59.38% female. Out of the 15,766 that attained the minimum university entry qualification of C+ and above, 9,533 (60.47%) were boys while 6,233 (39.53%) were girls (WAEC, 2019). This shows that the performance of the girls sitting their WAEC was lower compared to that of the boys. It is therefore of great importance to explore the factors that affect the academic performance of secondary school students especially the girls with the aim of improving it in order to close that gap in performance.

Most of the students (youth) who participated in the above study had low self-esteem, low self-efficacy and behavioral problems. This is also in line with the outcome of some research that female students are more prone to low self-esteem than male students which are seen also in the academic performances [18];[7]; [11]; [4]; [14]; [6]. It is therefore requisite to undertake a scientific inquiry in an attempt to avert the negative experiences affiliated to poor academic performance among youth across the gender.

This dearth of literature has provided the impetus for this research which focused on exploring the extent and direction of relationship that exist between students' (youth) self-esteem and their academic performance in public secondary schools of Okehi LGA, Kogi Sate of Nigeria.

Purpose of Study

The main purpose of this study was to examine the relationship between self-esteem and academic performance of students in biology in Senior Secondary Schools in Okehi Local Government Area of Kogi State. Specifically, the study will:

1. Assesses the level of self-esteem among senior secondary school students across the gender.

2. Examine the extent and direction of the relationship between self-esteem and academic performance of senior secondary school students in biology across the gender.

Research Questions

The following research questions were formulated to guide the study:

1. What are the levels of self-esteem among senior secondary school students across the gender in Okehi Local Government Area of Kogi State?

2. To what extent is the relationship between self-esteem and academic performance of senior secondary school students in biology in Okehi Local Government Area of Kogi State?

Method

The study adopted a descriptive correlation research design because it seeks to establish the relationship that exists between the independent variable (students' self-esteem) and the dependent variable (students' academic performance in biology). The senior secondary school students of Okehi Local Government Area, in Kogi state of Nigeria made up the study population of over 11124. Senior Secondary School Students II and III were the selected classes for the sample, using Simple random sampling technique in selecting 500 participants spread among 5 public secondary schools in the Local Government Area. Structured questionnaire in a 5-likert scale was developed and validated by measurement experts. It comprised of two sections: Section A comprised the personal characteristics of the participants; Section B had 24 question-items sourcing information on the three domains of self-esteem (performance self-esteem, social self-esteem and appearance self-esteem. The items in Section B were scored based on five-point rating scale ranging from Extreme extent, To a very much extent, To some extent, A little bit extent, and not at all. The weighting of the options was 5, 4, 3, 2, and 1 respectively. Seventy (70) question items of the instrument were administered on 25 students of another LGA (Okene) in the same state before the targeted sample for pilot testing. The responses of these students to the questionnaire items were subjected to item analysis. Biology marks of previous class achieved by the sampled students in the annual examination held by Board of

Secondary Education in 2020/2021 to 2021/2022 academic session were considered as an index of their level of Academic Achievement. The reliability of the instrument was established using Crombach alpha coefficient and the index was 0.84. Descriptive statistics (i.e., Frequency, Percentage and Mean) were used in describing the study demography and answering the research question while Pearson product moment correlation coefficient were used in determining the extent and direction (coefficient index) of relationship between the independent variable (Students' self-esteem) and dependent variable (students' academic achievement).

Result

Table 1: Demographic Study of the Respondent

s/n	Schools	Male (%)	Female (%)	Total (%)
1	NIOMCO Staff Sec. School, Itakpe	27 (14.52%)	62 (19.75%)	89 (17.80%)
2	Community Sec. School, Obeiba, Ihima	20 (10.75%)	40 (12.74%)	60 (12.00%)
3	Unity Model Sec. School, FCE	41 (22.04%)	90 (28.66%)	131 (26.20%)
4	Community Sec. School, Oboroke	55 (29.57%)	89 (28.34)	144 (28.80%)

5	LGEA Sec. School, Usungwe	43 (23.12%)	33 (10.51%)	76 (15.00%)
		186 (37.20%)	**314 (62.80%)**	**500 (100%)**

Variables	Frequency	Percentage (%)
Gender		
Male	186	37.20
Female	314	62.80
Age		
11-15	37	7.40
16-20	387	77.40
21 & Above	76	15.20
Class		
SSS III	209	41.80
SSS II	291	58.20

Among the 500 respondents, 186 (37.20%) respondents were male students and 314 (62.80%) were female students. Among the 500 sample respondents, 37 (7.40%) were of age bracket between 11-15 years; 387 (77.40%) were of age bracket between 16-20 years; 76 (15.20%) were of age bracket between 21 and above years. However, SSS III students were 209 (41.80%) while SSS II students were 291 (58.20%).

Research question 1: What are the levels of self-esteem among senior secondary school students across the gender in Okehi Local Government Area of Kogi State?

Table 2: Mean of students' levels of self-esteem across the gender in Okehi Local Government Area of Kogi State.

s/n	Items	EE	TVME	TSE	ALB	NAA	Mean	Gender % Ratio M : F	Decision
1	I feel confident about my abilities	111	156	200	20	13	3.66	60 : 40	Accepted
2	I feel frustrated or rattled about my performance	67	89	243	50	51	3.14	57 : 43	Accepted
3	I feel that I am having trouble understanding things that I read	90	89	301	10	10	3.48	47 : 53	Accepted
4	I feel as smart as others.	154	105	86	100	55	3.40	72 : 28	Accepted

5	I feel confident that I understand things.	107	58	100	54	181	2.71	50 : 50	Accepted
6	I feel like I'm not doing well.	307	75	40	50	28	4.17	59 : 41	Accepted
7	I take a positive attitude toward myself.	100	125	65	110	100	3.03	45 : 55	Accepted
88	All in all, I am inclined to feel that I am a failure.	302	100	54	62	36	4.46	23 : 77	Accepted
99	I am worried about whether I am regarded as a success or failure.	107	85	209	58	41	3.32	54 : 46	Accepted

110	I feel self-conscious.	267	104	29	68	32	4.01	67 : 33	Accepted
111	I feel displeased with myself.	224	135	100	20	21	4.04	59 : 41	Accepted
112	I am worried about what other people think of me.	145	152	100	56	47	3.58	58 : 42	Accepted
113	I feel inferior to others at this moment.	100	102	142	100	53	3.17	53 : 47	Accepted
114	I feel concerned about the impression I am making	200	121	105	50	24	3.85	44 : 56	Accepted
115	I am worried about	109	117	182	40	52	3.38	62 : 38	Accepted

	looking foolish							
116	I am able to do things as well as most other people.	105	100	100	105	90	3.05	40 : 60	Accepted
117	I feel satisfied with the way my body looks right now.	54	87	109	127	123	2.64	50 : 50	Accepted
118	I feel that others respect and admire me.	200	125	75	87	13	3.68	74 : 26	Accepted
119	I am dissatisfied with my weight.	100	106	23	76	195	2.68	51 : 49	Accepted
220	I feel good	257	135	75	13	20	4.19	58 : 42	Accepted

		EE	TVME	TSE	ALB	NAA	Mean	Ratio	Decision
	about myself.								
221	I am pleased with my appearance right now.	100	107	117	103	73	3.12	37 : 63	Accepted
222	I feel unattractive	98	47	200	43	112	2.95	32 : 68	Accepted
223	At times I think I am good	203	56	104	100	37	3.58	46 : 54	Accepted
224	On the whole, I am satisfied with myself.	76	108	120	100	96	2.94	41 : 59	Accepted
	Grand Mean						**3.43**		**Accepted**

Key: Extreme end= EE, To a very much extent= TVME, To some extent= TSE, A little bit= ALB, Not at all= NAA

From the table 2 of 24 items of a rating scale, self-esteem was subdivided into three equal parts/clusters of 8 items each. They are performance self-esteem (no 1-8); social self-esteem (no 9-16); and appearance self-rating (no 17-24). The mean scores that are 2.50 and above were accepted while the mean scores below 2.50 were considered rejected in the decision making.

Therefore, the mean score of all the items were accepted. The grand mean score was also accepted at 3.43, which indicates that the students' self-esteem was high and the percentage ratio was higher on male students than female students.

Research Question 2: To what extent is the relationship between self-esteem and academic performance of senior secondary school students in biology in Okehi Local Government Area of Kogi State?

Table 3: Extent of the relationship between self-esteem and academic performance of senior secondary school students in biology

s/n	Variables	Mean	Std	r.	Sig.
1	Students' self-esteem	3.43	1.85		
2	Students' academic performance	3.31	1.82	0.74	0.00

From the table 3 which show the relationship between students' self-esteem and academic achievement scores of secondary school students in Biology. The value of coefficient of correlation was 0.74 at 0.05 level of significant which indicates high extent as well as positive and direct significant relationship between students' self-esteem and their academic scores in Biology.

Discussion

Since the mean score of all the items were accepted. The grand mean score was also accepted at 3.43, which indicates that the students' self-esteem was high, which is in line with the outcome of the empirical work of [18]; [17]; [8]. The percentage ratio was higher on male students than female students which is also in agreement with the work of [15];[19]; [12]; [10].

Therefore, the major findings of the study revealed that the levels of self-esteem among senior secondary school students in Okehi Local Government Area of Kogi State was high on the students, though higher in male to female. This was measured under three types of self-esteem

which were: performance self-esteem, social self-esteem, and appearance self-esteem.

The study also showed the value of the extent of relationship between self-esteem and academic performance of senior secondary school students in biology as a coefficient of correlation of 0.74 at 0.05 level of significant which indicates moderately high extent as well as positive and direct significant relationship between students' self-esteem and their academic scores in Biology. This explains that those performance self-esteem, social self-esteem, and appearance self-esteem of senior secondary school students in Okehi Local Government Area of Kogi State and their academic achievement are of high extent. This has agreement with the results of the work of [7]; [3]; [1]; [11]; [9] that there is a positive correlation between how people value themselves and the level of their academic attainments; and how it is related to their academic performances

Conclusions

The following conclusions were drawn on the basis of the findings:

1. There is a high level of self-esteem among senior secondary school students, and higher in male students than female students in Okehi Local Government Area of Kogi State.

2. There is a high extent and significant positive relationship between self-esteem and academic performance of senior secondary school students in biology in Okehi Local Government Area of Kogi State.

Recommendations

These following recommendations were offered to the stakeholders and policy makers:

1. Stakeholders in education should formulate policies that will help students to cope with their self-esteem and also initiate programs that will assist the process of learning and mastering challenges as such would result in higher academic achievement.

2. Educational policy makers and curriculum planers should keep in mind while planning for secondary school learners to give more emphasis on the psychological constructs of the students such as self-esteem, anxiety etc., so as to know the best pedagogy for effective learning

3. Government should fund education especially in the aspect of human management and intervene on the academic problems of the state. This is because, any country or state that fails to improve her educational status to a standard has failed in every other sector of development

References

1. Akinleke, A. (2017). Academic achievement and its relationship with anxiety, self-esteem, optimism, and pessimism in kuwaiti students. *Retrieved from http://www.findarticles.com.*

2. Aswani, M. (1992). (1977). Self-esteem in young men: A longitudinal analysis of the impact of educational and occupational attainment. *Journal of Personality and Social Psychology*, 35, 365-380.

3. Branden, N. (2017). Academic self-concept and self-efficacy: How different are they? *Educational Psychology Review,* 15: 1-40

4. El-Anzi, P. (2015). Self-Esteem, Locus of Control and Academic Achievement among Adolescents. *International Journal of Scientific Research in Recent Sciences*, Volume-01, Issue-01, Page No: 1-5.

5. Erol, D. & Orth, P. (2011). Academic Achievement and Self-Esteem among Black and White College Students. *Journal of Social Psychology,* 127, 345-355.

6. Kisilu, E., Kimani, A. O. & Kombo, S. (2012). Gender differences in self-esteem: A meta-analysis. *Psychological Bulletin.* 123:470–500.

7. Lakshmi, A. (2019). Decomposing the reciprocal relationships between academic achievement and general self-esteem. *Youth and Society,* 24(2), 123–148.

8. Lawrence, J. (2014) Academic achievement prediction: Role of interest in learning and attitude towards school. *National Journal of Humanities Social Sciences and Education, 11*(1), 73-100.

9. Malbi, O. & Reasoner, N. (2015). Causal ordering of academic self-concept and achievement: Reanalysis of a pioneering study and revised recommendations. *Educational Psychologist,* 34:155–167.

10. Mugenda, M. (2010). Investigating the relationship between attitudes toward parenting style and locus of control with academic achievement in fourth grade boys in primary school. *Journal of Educational Psychology, 39*(2), 148-131.

11. Obi, B. (2016). The relationship between students' academic self-concept, study behaviour and their academic achievements in Enugu State. *Unpublished Master's Thesis,* Nnamdi Azikiwe University, Awka.

12. Pepi, A., Faria, S. & Alesi, T. (2016). Race and the formation of academic self-concept: A causal analysis. *The Southern Journal of Educational Research*, 2, 57-70.

13. Pullmann, H., & Allik, J. (2018). Relations of academic and general self-esteem to

school achievement. *Personality and Individual Differences, 45*(6), 559-564.

14. Quatman, T. Sampson, N. & Watson, C.M. (2014). Gender differences in adolescent self-esteem: An exploration of domains. *Journal of Genetic Psychology. 162*(1), 93–117.

15. Rajeshwari, P. (2019). The Relationship between Self-Esteem, Achievement Goals and Academic Achievement among the Primary School Students. *Procedia – Social And Behavioral Science*, 29, 803-808.

16. Reasoner, S. (2016). *Self-Esteem, the necessary ingredient for success.* Esteem Seminar Programs and Publications, USA.

17. Shipra, V. P., Shubhangna, K. & Goldy, P. (2018). Social competence scale. Agra: National Psychological Corporation.

18. Siedlecki, R. (2020). A study of self-esteem and adjustment of secondary school students in relation to their academic achievement. Unpublished M.Ed. Dissertation, Department of Education, Central University of Jammu.

19. Twinomugisha, T. S. (2018). The relationship between self-esteem and problem behavior, social and academic competence. American Educational Research Association Annual Meeting 2007. Conference Paper.