



## **Personality Traits and Academic Underachievement of Secondary School Students in Bayelsa State**

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### **Authors' contributions**

*This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.*

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### **ABSTRACT**

The study investigated the relationship between personality traits and academic underachievement among secondary school students in Yenagoa and Ekeremor local government areas in Bayelsa State. Correlational Survey research design was used for the study with a focus on three personality traits namely; openness to experience, conscientiousness and extraversion. The population of the study consisted of 3,610 SSII students in the two local government areas. Three instruments were used to gather the needed data; they are Bakare's Progressive Matrices (BPM) which was used to identify students with high mental ability, Teachers Made Achievement Test (TMAT) and Students' Personality Descriptive Scale (SPTDS). Purposive sampling techniques were used to draw a sample of 200 students identified as underachievers while simple random sampling technique was used to select the schools for the study. Pearson products moment correlation was used to answer the research questions and probability level with chosen alpha level of 0.05 used to test the hypotheses. The study found out that there was a significant negative relationship between openness to experience, conscientiousness, extraversion and academic underachievement among the senior secondary school students in Ekeremor and Yenagoa local government area. Based on the findings it was recommended among others that the government should establish effective guardian and counselling units in all the secondary schools in the local government areas to guide both high and low achieving students.

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## 1. INTRODUCTION

There has been a general concern in recent times in the educational arena regarding the academic performance of students. The problem of academic underachievement among secondary school students has posed a great challenge to those in the educational system, government, parents/guardians and the society at large. The word underachievement means to do less well than expected, especially in school work [1]. Ikpi, Emya and Johnny [2] investigated the influence of personality traits on academic performance of secondary school students in Cross River State, Nigeria. The Big Five Personality model by Roberts McCrae and Paul Costa was used. Students with high level of conscientiousness and agreeableness were found to be different with those with low level of traits in their achievement test.

Similarly, Ciobea and Pasarica [3] used the Rosenberg's Self-Esteem Scale and student's overall last grade to determine the relationship between personality traits and academic achievement. They found differences in academic performance of students based on their different measures of personality traits. Hakimi and Livasani [4] used the NEO Big Five Personality factors and students GPAs to find that personality traits are significantly related to academic achievement.

Underachievement is a general term commonly used for individuals whose performance are below their potential, whether in academic skills or social behaviour. Academic underachievement is a situation where students' performance in academic subjects falls below expected level especially when indicated by their measured abilities on intelligence aptitude tests.

Underachievement occurs when students are not working to their potential and underperform in the classroom. Reis and McCoach [5] defined academic underachievement as the discrepancy between ability and achievement. It is concerned with the differential diagnosis of the child's mental ability and achievement in school. Some researchers view it as measured by the differences in IQ score and grades of students. Some of the characteristics of student under-achievers are low self-esteem, aggressiveness with peers, poor organisational skills, procrastination, poor attendance, anxiety, not goal oriented, low motivation etc,

According to Smith [6], underachievement in schools is one of the most widely used terms in education today. As a discourse, it has been responsible for influencing government policy, staff room discussion, as well as pages of academic journals. According to Chukwu-Etu [7], some students at the secondary school level in the country drop out due to the problem of underachievement. Academic underachievement is a problem that afflicts the child, the schools, the home and the nation. As parents and teachers, we expect our children and students to achieve in their academic subjects in school so long as other basic academic encouragement and facilities are provided such as the students' need. There is no doubt about it, parents worry about their children. One of the things that parents want most for their children is a success at school. Underachievement at school can be one of the most frustrating challenges for a concerned parent.

Over the years, academic underachievement has attracted the attention of many researchers. In spite of researches into underachievement, it appears that not much has been done to provide a lasting solution to the problems of underachievement at school, especially in secondary and higher schools. One begins to worry about what factors might be responsible for the students' academic underachievement. Literature had revealed considerable divergence of opinion on what causes academic underachievement in students. Sousa [8] observed that a combination of factors both in the home and school can cause underachievement. Research conducted with students in Nigeria which aimed at determining the cause of underachievement found that a major cause was behaviour problems other than deficiencies in ability or intellectual capability [7]. It is observed that academic underachievement is associated with poor adjustment in the home, emotions and schools. From the foregoing, the researcher observes that there are several variables contributing to the academic underachievement among secondary school students.

Research concerning underachievement among gifted students have examined many possible causes including the following; biological constitution, environment, self-pressure, school pressure, peer pressure, parental pressure, boredom with school, and inappropriate teaching methods [9]. Many researchers point to the

school environment as a place where bright students lose their interest and drive. Some teachers may be too easily satisfied with minimal work, and their low expectations may have a negative impact on the academic achievement of bright young stars [10]. Kalgo [11] in his study of academic underachievement found that parenting style has a tremendous influence on the behaviour of children and how they react to situations and challenges.

Some researchers on factors related to academic underachievement have focused on the school environment, home environment, parenting style and gender and culture to the neglect of the Big Five Personality Traits as they relate to academic underachievement. Based on personal experience, one is made to have the conviction that apart from the above and related variables as regards underachievement, there are personality traits factors that could be associated with academic underachievement among secondary school students. Personality traits are therefore the sum total of stable characteristics in a person across different times and situations which makes him/her unique or distinct from others [12,13,7].

It is common to find some people using words such as talkative, cheerful, cold, disorganized, compulsive, intellectual, shroud, short-sighted, flirtatious, or ruthless to describe other people they know. Observations would show that these various behaviours used to describe people stay with the persons being described consistently over time and through a variety of circumstances. These persistent behaviour patterns, called personality traits are stable over time, consistent in a variety of situations, and differ from one individual to the next.

In the past 20 years, many psychologists have agreed that there are five basic personality traits, which are referred to as the five factor theory (McCrae and Costa in Gazzaniga & Heatherton, [14]). Personality traits are intrinsic differences that remain stable throughout most of our life. They are the constant aspects of our individuality. Personalities are distinctive; each individual behaves according to certain distinctive pattern through a variety of situations. Humans are finely tuned to observe these behaviour patterns of acquaintances and to notice behaviour difference among people. In general, personality is a comprehensive and abstract construct that refers to long-lasting and important characteristics within an individual; one

that continues to exert a strong influence on behaviour. Aspects of personality may be observable or unobservable, and conscious or unconscious [15].

The paper focuses on determining the extent to which the different personality traits of individuals correlate to academic underachievement. One value of the five-factor theory is that it serves as an organizational structure for the vast number of traits that can be used to describe personality. By providing a common descriptive framework the theory has helped, integrated and invigorated the trait approach to personality (John and Srivastava in Gazzaniga & Heatherton, [14]). The five-factor model is purely a descriptive model of personality. This study, however, focuses on the first three personality traits of the five factor theory namely, openness to experience, conscientiousness and extraversion. The other two namely agreeableness and neuroticism are not part of the present study.

**Openness to experience:** Openness to experience factor is sometimes called 'intellect'. This personality trait involves aesthetic, sensitivity, awareness of one's emotion, preference for novelty, intellectual curiosity and leaning towards non-traditional values [16]. It describes a dimension of cognitive style; it is a general appreciation for art, emotion, adventure, imaginative, unusual ideas, creative flexibility, and variety of experience and independent as against conforming. Persons low in 'openness to experience' are described as down-to-earth uncreative, conservative and having narrow interest [17]. People with low scores on openness tend to have more conventional, traditional interests. They prefer the plain, straightforward, and obvious over the complex, ambiguous, and subtle. They may regard the arts and sciences with suspicion, regarding these endeavours as uninteresting. Students who possess a high level of openness are diplomatic in relationships with classmates and teachers, constructive in their understanding of constructs have high mental adjustment through adaptation.

**Conscientiousness:** Conscientiousness is a tendency to show self-discipline, act dutifully, aim at achievement; planned rather than spontaneous behaviour. The personality trait is characterized by organisation, purposeful action, vigilance, carefulness and drives to achieve especially tasks as well as take the obligation to others seriously. It influences the way in which

we control, regulate, and direct our impulses. Those who score low on this scale are seen as not prudent, undirected, very impulsive, disorganized, careless, etc. [14]. In the academic environment, conscientious students are more concerned with their academic tasks and do not skip lessons or assignments, careful to pick basics of every topic taught, self-controlled in terms of setting limits for themselves; take down important points with clarity and eligible handwriting; exhibit a strong sense of responsibility for their academic success. Finally, they have higher grades and are less likely to commit crimes.

**Extraversion:** Extraversion is one of the personality traits characterized by talkativeness, assertiveness, excitability and the tendency to seek out social stimulation and the company of others (Cherry, 2018). The trait is marked by pronounced engagement with the external world. Extraverts enjoy being with people, are often perceived as full of energy. They tend to be enthusiastic, action-oriented individuals who are likely to say “yes!” or “let’s go!” to opportunities for excitement. In groups, they like to talk, assert themselves, and draw attention to themselves. They are referred to as extroverts. Low scores on this scale are referred to as introverts. In a class of students, it is possible to find students who are friendly and blending with others without recourse to their social or economic background; they easily form reading mates/groups. Their mannerism is irresistible to virtually more than half of the class.

Indeed, the prevalence of academic underachievement among various categories of students is pervasive in Nigeria’s educational system. It is pertinent to investigate some of the following identified big five factor personality traits among openness to experience, conscientiousness extraversion, agreeableness and neuroticism. Therefore, it is against such background that the researcher decided to determine the relationship between the three personality traits: openness to experience, conscientiousness and extraversion; and academic underachievement among secondary schools students in Bayelsa State, Nigeria.

### 1.1 Research Questions

The following research questions guided the study.

1. What is the extent openness to experience relate with academic underachievement?
2. What is the extent of the relationship between conscientiousness and academic underachievement?
3. What is the extent of the relationship between extraversion and academic underachievement?

### 1.2 Research Hypotheses

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

1. There is no significant relationship between openness to experience and academic underachievement among senior secondary school students.
2. There is no significant relationship between conscientiousness and academic underachievement among senior secondary school students.
3. There is no significant relationship between extraversion and academic underachievement among senior secondary school students.

## 2. METHOD

The study adopted the correlational research design. Openness to Experience, Conscientiousness and Extraversion were correlated with academic underachievement of senior secondary school students in Ekeremor and Yenagoa Local Government areas of Bayelsa State, Nigeria. A sample of 200(SS2) students were selected from 10 secondary schools that were earlier drawn from forty-two secondary schools in the two local government areas through simple random sampling technique. The student sample adopted a purposive sampling technique which involved SS2 students only. The population of the study was 3,610 students (Bayelsa State Senior Secondary Schools Board, Department of Planning, Research and Statistics). Three instruments were used for data collection. They include mental ability test scores using Bakare Progressive Matrices (BPM)(1977); Teachers Made Achievement Test (TMAT) for four subjects-Mathematics, English Language, Economics and Biology; and Students’ Personality Trait Descriptive Scale (SPTDS) adopted from Costa and McCrae (1992). The face and content validity of the instruments was determined. The test-retest method was used for

the reliability of Teachers Made Achievement Test (TMAT) which yielded the following reliability values: Mathematics 0.56, English Language 0.86, Economics 0.86 and Biology 0.60. For the test of the reliability of Students' Personality Trait Descriptive Scale, also known as the NEO FFI, Costa and McCrae [16] obtained a temporary reliability coefficient for the Five NEO FFI scale as 0.80, 0.83, 0.79, 0.75 and 0.79 for openness to experience, conscientiousness, extraversion, agreeableness and neuroticism respectively.

### 3. RESULTS

Analysis and results related to research question one and hypothesis one.

In Table 1, the correlation coefficient(r-value) of -0.89 shows that there a negative relationship between openness to experience and academic underachievement among senior secondary students. Since r is -0.89 at df of 198 and  $p < 0.05$ , the null hypothesis is rejected. The alternate hypothesis that there is a significant relationship between openness to experience and academic underachievement among senior secondary students.

Analysis and results related to research questions two and hypothesis two.

From Table 2, it is shown that the correlation coefficient (r-value) of-0.67 indicates a negative relationship between conscientiousness and academic underachievement. Since r is -0.67 at

df of 198 and  $p < 0.05$ , the null hypothesis is rejected. The alternate hypothesis that there is a significant relationship between conscientiousness and academic underachievement among senior secondary students is accepted.

Analysis and results related to research question three and hypothesis three.

Table 3 with correlation coefficient (r-value) of-0.91 indicates a negative relationship between extraversion and academic underachievement among senior secondary students. Since r is -0.91 at df of 198 and  $p < 0.05$ , the null hypothesis is rejected. The alternate hypothesis that there is a significant relationship between extraversion and academic underachievement among senior secondary students is accepted.

### 4. DISCUSSION

The result of the analysis revealed that there is a significant negative relationship between openness to experience and academic underachievement of senior secondary school students in Ekeremor and Yenagoa Local Government Area of Bayelsa. The correlation coefficient was -0.89. This implies that students who scored high the openness to experience scale had a low level of academic underachievement or vice versa. It further suggests that those with high intellectual curiosity, sensitivity and lean towards non-traditional values have the high possibility of reducing academic underachievement.

**Table 1. Summary of pearson's correlation of the relationship between openness to experience and academic underachievement among secondary school students**

	N	Df	r	P	Chosen Alpha	Result
Openness to experience Academic underachievement	200	198	-0.89	0.001	0.05	Significant P < 0.05

**Table 2. Summary of pearson's correlation of the relationship between conscientiousness and academic underachievement among secondary school students**

	N	Df	R	P	Chosen alpha	Result
Conscientiousness Academic underachievement	200	198	-0.67	0.004	0.05	Significant P < 0.05

**Table 3. Summary of pearson's correlation of the relationship between extraversion and academic underachievement among secondary school students**

	N	Df	R	P	Chosen Alpha	Result
Extraversion Academic underachievement	200	198	-0.91	0.001	0.05	Significant P < 0.05

Both variables are significantly related to each other. The percentage of association ( $r^2 \times 100$ ) was found to be 79.21 per cent which shows that openness to experience accounts for about 79 percent change in students' academic underachievement. Such a value representing the coefficient of determination indicates a high relationship between the two variables. It, therefore, means that openness to experience is one of the personality traits that have a significant effect on the level of academic underachievement. When someone is open to experience, there is a likelihood that coping with the continual unfolding of challenges in the academic environment would not be much of a problem. Other personality trait factors and non-personality trait factors may be responsible for the remaining changes in the students' academic underachievement. Research evidence has shown that there are scarce studies on academic underachievement. However, there abound flood of research findings on academic achievement which some authors sometimes present as the opposite of underachievement. Although no such studies that corroborate with this study, Karatas and Bademcioglu [18] found a negative association between procrastination, one of the characteristics of underachievers, and openness to experience. This connotes that a high score in openness to experience leads to a low extent of procrastination; and vice versa. Openness to experience/intellect was also a significant predictor of academic achievement and success as affirmed by Troncone, Drammis and Labella [19].

Furthermore, the result of the analysis showed that the correlation coefficient ( $r$ ) was -0.67 and test of significance revealed a significant negative relationship conscientiousness and academic underachievement of senior secondary school students Ekeremor and Yanagoa Local Government Area of Bayelsa. There is the implication that students with a high score on conscientiousness have low academic underachievement or vice versa. Students that display characteristics of carefulness, purposefulness and organisation have a high tendency to close the wide gap of underachievement. Thus both variables have an inverse relationship. The percentage of association ( $r^2 \times 100$ ) was found to be 44.89 percent which shows that conscientiousness accounts for about 45 percent change in students' academic underachievement. This value representing the coefficient of determination indicates a high relationship between the two

variables. It, therefore, means that conscientiousness is one of the personality traits that have an effect on academic underachievement level. Conscientious people tend to show self-discipline, act dutifully, and aim for achievement. Akomolafe [20] found that personality dimensions jointly and relatively predict academic performance except for neuroticism. Conscientiousness, in particular, was found to be the most important correlate and predictor of academic performance in the study because it had the highest positive correlation coefficient. Conrad and Patry [21] found a positive relationship between conscientiousness and academic performance and this is very contrary to the current study.

From the analysis, it is shown that the correlation coefficient ( $r$ ) for extraversion and academic underachievement is -0.91. Hence, there is a significant negative relationship between extraversion and academic underachievement of senior secondary school students in Ekeremor and Yanagoa Local Government Area of Bayelsa. There is now proof that people who are outgoing and interacts with others learn a lot in the course of their relationship, especially in the academic environment. Those who are introverts and less sociable have the tendency missing the learning opportunities in social interactions. At least they may stand to learn tips that can boost or improve their study habits if they score high on the extroversion scale. The percentage of association ( $r^2 \times 100$ ) was found to be 82.81 percent which shows that conscientiousness is responsible for about 83 percent change in students' academic underachievement. This value representing the coefficient of determination indicates a high relationship between the two variables. In other words, the proportion of change in academic underachievement caused by other factors is very minimal. It must be stated that many disorders associated with academic underachievement co-occur [22]. Like other cited studies above contrary to this study, Ciorbea and Pasarica [3] found that there was a weak positive relationship between extraversion and academic performance of students; and no significant correlation existed between extraversion and their academic performance. This is also true of Akomolafe [20] that extraversion had a significant positive relationship with academic performance.

## 5. CONCLUSION

The study has shown that three traits namely; openness to experience, conscientiousness and

extraversion out of the Five Factor personality traits, significantly determine the extent of academic underachievement among senior secondary school students. The extent to which they affect academic underachievement depends on whether the individual concerned scores high or low on these personality traits as the study has proven that there was an inverse relationship between each of these personality traits and academic underachievement. Therefore, low scores on any of the personality traits favour while high scores undermine academic underachievement. Three personality traits are very important factors that can be used to change students' performance in schools through counselling. It is worthy to note that there is a flood of findings confirming that the environment exerts greater influence and also affects behaviours including personality traits. Based on the nature of the relationship between the predictor variables and the criterion variable of the study, a personality disorder or modification can be of immense value to the students.

## 6. RECOMMENDATIONS

Based on the findings, the following recommendations were made:

1. Government should establish counselling units in all the secondary schools in the two local government areas. This will help to properly guide students' academic behaviours and associated factors so as to maximise their academic achievement.
2. School administrators should establish a forum that will bring the school administrators, parents and the school guardian counsellor together with the aim of creating a formidable interface and impacting positively on the academic and social growth of students. It will be of immense value to parents of students who have been diagnosed with a personality disorder by the guardian counsellor.
3. Parents should be made to understand their children, children personality traits and how they are related to their academic achievement through the school guardian counsellor. The application of the professional advice of the guardian counsellor will go a long way to further reducing students' academic underachievement.
4. Parents and teachers should encourage children to be active and involved in a

range of activities and learning experiences where they think that they might enjoy small successes. They should also give the children responsibilities so that they will learn to competent, confident with their innate abilities and become successful even in academics.

5. The classroom sitting arrangement should be such that students will sit where the teacher will properly watch them. This will help modify, refocus and sustain the attention of gifted students who are experiencing academic underachievement.

## CONSENT

As per international standard guideline parental written and informed consent has been collected and preserved by the authors.

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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