

The Relationship between Personality Traits and Academic Performance of Junior Secondary School Students in the Federal Capital Territory Abuja, Nigeria

GIDADO, Bello Kumo*¹, APEH, Hosea Abalaka*², SORONNADI, Nkeiruka Lois*³

Department of Educational Foundations, University of Abuja, Nigeria

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Abstract: This study examined the relationship between Personality Traits and Academic Performance of Junior Secondary School Students in the Federal Capital Territory, Abuja, Nigeria. The objective was to determine the relationship between personality trait of neuroticism and academic performance of students and to find out the relationship between personality trait of extraversion and academic performance of the students and to find out the relationship between personality trait of openness to experience and academic performance of students in junior secondary schools in the Federal Capital Territory, Abuja; it also determines the connection among personality trait of conscientiousness and academic performance of students in junior secondary schools in the Federal Capital Territory, Abuja; and find out the relationship between personality trait of agreeableness and academic performance of students in junior secondary schools in the Federal Capital Territory, Abuja. The study was guided by seven research questions and five hypotheses. A correlational design was adapted while data was collected using the Big Five inventory on personality traits. The sample size used for the study was 402 and randomly selected. The findings revealed that there is a significant relationship between Students' Personality Traits and their academic performance. It also indicated that there is a significant relationship between extroversion and students' academic performance: however, a no significant relationship was obtained between student's personality traits of neuroticism, conscientiousness, openness to experience and agreeableness and their students' academic performance.

Keywords: personality, personality trait, performance, academic performance.

I. INTRODUCTION

Personality is the sum total of the individuals' innate dispositions, impulses, inclinations, appetites and instincts of the character obtained Tahar (2011). According to Watson (1930), character is the sum of sports that may be found with the aid of using real observations over an extended sufficient time frame to provide dependable information. According to Lim and Abdullah (2012), Traits may also be an "enduring dimensions of character" which differentiates one human from another. The study which focuses on five factor model is derived from the notion that most common personality traits can be aggregated in five core dimensions, including neuroticism, extraversion, conscientiousness, openness to experience and agreeableness.

Neuroticism according to Gruzca, Franke Ferrucci and Giegling (2015) involves experiencing unpleasant emotions while Extraversion is characterized by sociability, talkativeness, assertiveness, and excitability, on the other hand,

Conscientiousness is a personality type that involves carefulness, reliability, hardworking, and well organization, while agreeableness is linked to altruism, nurturance, caring and emotional support versus hostility, indifference, self-centeredness, and jealousy. According to the five-factor theory, the assumptions underlying personality are based on knowability, rationality, variability and proactivity.

The extent to which these personality types play a role in the individual process and their eventual impact on academic performance has for so long become a subject of research. Accordingly, the impact of these personality types on junior secondary school students in the FCT has from the basis for this study with a view to finding out the extent to which students personality type influences their academic performance so that secondary school teachers will be able to monitor and modify such undesirable behaviors that may have negative effect on their students' performance.

II. BACKGROUND TO THE STUDY

Academic achievement is a big deal for students, teachers, parents, school administrators, and the entire community. It has always been considered a very important factor in an individual's educational life, as good academic performance over many years predicts one's future success. Therefore, researchers have attempted to investigate the complexities surrounding learning outcomes, especially the roles played by individuals personality type. This is probably because of their stability and not easily susceptible to change as confirmed by Cobb-Clark and Schur (2012) who concluded that personality types may remain dramatically unchanged in excess of four years across all age groups.

There is growing interest in the Big Five Personality Traits and their role in student success,

with particular interest in the role of these traits in academic success of secondary school students. These characteristics, known as 'Big Five' include Neuroticism, Extraversion, Openness, Conscientiousness, and Agreeableness. These traits reflect core aspects of human personality and have strong influences on behavior Costa & McCrae (in Moyosola, 2017). 'The Big Five' personality framework has therefore been widely adopted and accepted as a description of the structure of personality, with the five-factor model associated with a number of studies and empirical data of the studies provide support for their stability and predictive validity.

Accordingly, Rono (2013) views Student achievement as a necessary element in any educational endeavour. He opined that it is the center around which the entire educational system revolves. Narad and Abdullah (2016) believe that student learning outcomes determine the success or failure of any academic endeavour, while Scottt (2012) conceived academic performance as the extent and how well a student accomplishes his or her tasks and studies. In this regard, many factors may likely come into play, which includes certain external factors such as type of school, teaching method, school location, teaching materials and individual factors teacher's experience. psychologists have also identified other factors such as, intelligence, self-concept, gender, study habits, maturity, family background, amongst others as those factors that may influence student academic achievements within the school system. However, another more fundamental determinant of such school achievement is the probably the student's personality traits or types.

Many studies have been conducted on relation between academic performance and personality. Although there are many personality testing models, the Five Factor Model is by far the most extensively researched and accepted personality models. Moreover, several studies conclude that there is a significant influence of Big Five personality traits on academic performance in students Cobb-Clark & Schurer, (2012). However, due to the variations in results, the validity of the Big Five model can be considered complex. Also, the relationship between academic performance and Big Five personality traits may vary because of variety of tools used for measuring academic performance internationally Komaraju, Karau, Schmeck, & Avdic, (2011).

According to Lim; Melissa & Abdullah (2012) personality is a multidimensional psychological construct that influence students' academic performance and how students were involved in learning. Also, Hakimi et al (2011) found out that Personality of an individual has significant influence on academic performance this behavior affects learning habit which will lead to academic success.

According to Simpraga et al. (2021), personality traits are the patterns of thoughts, feelings, and behaviors that people have. The basic dimensions of traits of the persons are highlighted in the trait theory. In this sense of understanding, consistency, individual differences, and stability are the vital judgmental tools as well. Tamban & Maningas (2017) studied the Five

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Great Personality Traits and Academic Achievement of Pedagogical College Students at Laguna State Polytechnic University, Los Baños Campus in the Philippines. The study aimed to determine the relationship between the Big Five personality traits and the academic performance of students at the Teachers College of the Los Baños Campus of Laguna State Polytechnic University, Los Baños, Laguna during the semester 1 of the 2016-2017 school year. It is assumed that there is no significant relationship between personality traits and respondent's academic performance determined at the 0.05 significance level. The respondents of the study were the 219 Bachelor of Secondary Education (BSEd) and Bachelor of Elementary Education students (BEEd) from second year, third year and fourth year level. The results further revealed that openness, conscientiousness and extraversion show negative correlation while agreeableness and neuroticism show positive correlation while the relationship between variables were generally weak. Also, the study found that there is a significant relationship between personality traits and of students' academic performance, which they concluded was a reflection of the 'open-mindedness' and interest in culture. High scorers tend to be imaginative, creative, and to seek out cultural and educational experiences, Low scorers are more down-to-earth, less interested in art and more practical in nature. Most students pass this test, their scores in this aspect (25.31) are relatively low, students' scores on conscientiousness (29.68) is within average, high scores are methodical, well organized and dedicated. Low scores are less cautious, less focused. On extroversion, their scores (27.79) were in the mid-range, where high extroverts were full of energy and sought the company of others. People with low scores (introverts) tend to be calmer and more reserved. In terms of agreeableness, students' scores on this aspect (29.94) were average, reflecting how they tended to interact with others. Very agreeable people tend to be confident, friendly, and cooperative, people with low scores tend to be more aggressive and less cooperative. In neuroticism, (22.40) is relatively, this trait reflects a tendency to experience negative thoughts and emotions. High scorers are prone to insecurity and emotional distress. People with low scores tend to be more relaxed, less emotional, and less distressed. The study generally concluded that all personality traits showed a significant relationship with academic outcomes.

According to Richardson (2012), learning goal orientation itself is reliably associated with learning outcomes and also mediates the relationship between openness and learning outcomes. He also showed that agreeableness was positively correlated with academic performance, but with a modest correlation except at the primary level. Poropat (2014), in his research, found that the correlation between school performance and other recorded emotional states remained stable across all educational levels. Additionally, low levels of emotional stability have been linked to motivation to learn, debilitating anxiety, withdrawal, and feeling depressed about school (Clark and Schroth 2010). Similarly, Poropat (2014) finds that secondary and tertiary education is relatively modest compared with other FFM dimensions on the extroversion scale.

In another study, Coplan, Hughes Bosacki and Rose-Kranser (2011) found that "being seen" can have a positive effect on children's academic performance because primary school teachers, according to him, interact more with students and thus tend to perceive shy children as less intelligent and less academically gifted than those who speak more. This clearly points to a likely association between this level of education.

III. METHODOLOGY

RESEARCH DESIGN

A correlational research design was used in this study. This design according to Nworgu (2006) seeks to establish the relationship that exists between two or more variables, and usually such indicates the direction and magnitude of the relationship between the variables. Thus, the correlation research design was appropriate for the study because two sets of data from the respondents were collected. The two set of data respectively are personality traits of respondents and their academic performance. The two sets of data were personality traits of respondents and their academic performance. The research design enabled the researcher to establish the relationships between the Big Five factors of personality traits and academic performance.

POPULATION OF THE STUDY

The population of the study consists of all junior secondary school students in the FCT Abuja. As at the time of this study there were 143 junior secondary schools in FCT with about 59,871 student's population.

SAMPLE SIZE AND SAMPLING PROCEDURE

The sample size was estimated using the Cochran method of sampling in which samples were allocated to each strata using proportionate ratio. A sample size of 402 public junior secondary school students was arrived at. Proportionate sampling technique was further adopted in selecting the 402 students sampled in order to allow for wider coverage and enhance the participation of the various strata of students.

Also, purposeful sampling method was adopted to select the two schools from each Area Council in the Federal Capital Territory Abuja, making a total of twelve schools to be sampled from the 143 schools in FCT. Similarly, twelve (12) junior secondary schools were being randomly selected from six (6) Area Councils to participate in the study in FCT, comprising

Abuja Municipal Area Council, Abaji Area Council, Bwari Area Council, Gwagwalada Area Council, Kuje Area Council and Kwali Area Council. Simple random sampling technique was used to sample students from each of the twelve (12) junior secondary schools; the rationale for using simple random sampling technique was informed by the fact that each element in the population has equal and independent chance of being included in the sample and this was done by writing the name of all schools in each area council on slip of papers; each rolled into paper ball, mixed well and put into a container and the researcher randomly selected two schools from each area council.

INSTRUMENTATION

There were two major instruments used in collecting the data. This includes a self-designed questionnaire and the “Big Five Inventory”. The self-designed questionnaire was divided into two sections, comprising students’ biodata and students’ personality traits. The second instrument adopted for the study was Big Five Inventory (BFI) also known as Five Factor Model (FFM) developed by John and Srivastava (1999). The instrument is a 44-item inventory that was developed to assess the Big Five personality domains of Neuroticism, Extraversion, Conscientiousness, Openness and Agreeableness. The BFI also contains 10 facet scales, two for each domain that are used to examine personality characteristics within each domain.

RELIABILITY OF THE INSTRUMENT

The reliability of the instrument was tested using Cronbach’s Alpha. A total of fifty (50) junior secondary school students were used for the pilot test. A Cronbach Alpha of .79 was obtained indicating that the instrument was highly reliable for use in the study.

DATA COLLECTION PROCEDURE

The inventory was administered after getting the approval from the school Principals and enough time was given to the respondents to complete the questionnaire. The instrument was administered directly to the respondents by the researchers with clear instructions on how to fill the questionnaires, which were collected back as soon as they were completed

METHOD OF DATA ANALYSIS

In all the research questions, relationship is being sought between the various personality traits of students and their academic performance. Therefore, Pearson Product Moment Correlation (PPMC) was used to test all the hypotheses formulated. Also mean score and standard deviation was calculated and used to analyze and interpret responses. For each personality trait, the researcher collected two sets of scores from the respondents namely personality and academic performance scores, the two scores were then correlated with Pearson Product Moment Correlation Statistics to obtain a coefficient reflecting the magnitude and direction of the relationship between the variables.

IV. RESULTS

Test of Hypotheses Ho1:

Table 1: there is no significant relationship between personality traits of neuroticism and academic performance of students.

Variables	N	r-cal	P-value	Decision
Academic Performance and Neuroticism	402	.003	.951	Accepted

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Table 1 above shows the correlation between personality traits of neuroticism and academic performance of students. The computed correlation coefficient indicated that there was no significant relationship between personality traits of neuroticism and academic performance of students in junior secondary school in the Federal Capital Territory (FCT), Abuja. The r-value of .003 indicates a weak relationship. With a probability value (p-value) of .951 which is more than 0.05. It is concluded that there was no statistical relationship between the two variables and the relationship is by chance.

Ho2: Table 2: there is no significant relationship between personality traits of extraversion and academic performance of students.

Variables	N	r-cal	P-value	Decision
Academic Performance and Extraversion	402	-.155**	.002	Rejected

Table 2 shows the correlation between personality traits of extraversion and academic performance of students. The computed correlation coefficient showed that there was significant relationship between students' personality traits of extraversion and academic performance of students in junior secondary school in the Federal Capital Territory (FCT), Abuja. The r-value of -.155 indicates a negative relationship. The probability value (p-value) is .002 which is less than 0.05. It is therefore concluded that there was a statistical relationship between the two variables and the relationship was not by chance, the r-value showed negative relationship of extraversion personality trait and academic performance, which implies that increased extraversion, will decrease academic performance, while knowing the value of one of the variables allow prediction on the other.

Ho3: Table 3: there is no significant relationship between personality traits of openness and academic performance of students.

Variables	N	r-cal	P-value	Decision
Academic Performance and Openness	402	-.088	.080	Accepted

Table 3 shows the correlation between personality traits of openness and academic performance of students. The computed correlation coefficient showed that there was no significant relationship between personality traits of openness and academic performance of students in junior secondary schools in the Federal Capital Territory (FCT), Abuja. The r-value of -.088 indicates a negative relationship. The probability value (p-value) is .080 which is more than 0.05, hence it is concluded that there is no statistical relationship between the two variables and the relationship is by chance. Therefore, the null hypothesis is accepted.

Ho4: Table 4: there is no significant relationship between personality traits of conscientiousness and academic performance of students.

Variables	N	r-cal	P-value	Decision
Academic Performance and Conscientiousness	402	-.060	.229	Accepted

As shown in table 4 above, the correlation between personality traits of conscientiousness and academic performance of students. The computed correlation coefficient showed that there was no significant relationship between personality traits of conscientiousness and academic performance of students in junior secondary schools in the Federal Capital Territory (FCT), Abuja. The r-value of -.060 indicates a negative relationship. The probability value (p-value) is .229 which was more than 0.05. It was concluded that there was no statistical relationship between the two variables and the relationship is by chance, therefore the null hypothesis is accepted.

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Ho₅: Table 5: there is no significant relationship between personality traits of agreeableness and academic performance of students.

Variables	N	r-cal	P-value	Decision
Academic Performance and Agreeableness	402	-.032	.516	Accepted

Table 5 showed the correlation between personality traits of agreeableness and academic performance of students. The computed correlation coefficient showed that there was no significant relationship between personality traits of agreeableness and academic performance of students in junior secondary school in the Federal Capital Territory (FCT), Abuja. The R-value of -.032 indicates a negative relationship. The probability value (p-value) was .516 which were more than 0.05, it is concluded that there was no statistical relationship between the two variables and the relationship is by chance, therefore the null hypothesis is accepted.

Ho₆: Table 6: Model Summary for Test of Relationship among students' personality traits and academic performance of junior secondary school students in the Federal Capital Territory, Abuja.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.171a	.029	.017	10.54367

From Table 6, R value, multiple correlation coefficient is a measure of the predictive quality of the dependent variable. An R-value of 0.171 indicates a weak relationship between personality traits and academic achievement of junior high school students in the Federal Capital Territory, Abuja. An R-squared value of 0.029 indicates that 2.9% of the variation in the dependent variable can be explained on the basis of the independent variable among students.

V. DISCUSSIONS

The findings revealed that there was a positive correlation between personality traits and students' academic performance. Students reflect their personality traits during learning which may add or hinder the overall classroom effectiveness. The study also revealed that students in Junior Secondary Schools in Federal Capital Territory, Abuja showed attributes of the Big Five Personality traits like extroversion, openness to experience, conscientiousness, neuroticism and agreeableness which influence their academic performance. The study also revealed that among all the personality traits only extraversion was found to have a significant relationship with academic performance of students in Junior Secondary Schools in the Federal Capital Territory, Abuja. The findings of this study are generally consistent with earlier findings by Propat (2014b) and Richardson (2012). Also, the results are in agreement with Coplan et.al (2011) who concluded on a possible association between extraversion and academic performance at the level of schooling.

VI. CONCLUSION

Based on the findings of this research work, the following conclusions were made:

Students in junior secondary schools in the Federal Capital Territory, Abuja manifest attributes of the big five personality traits. Students in the junior secondary schools in the Federal Capital Territory, Abuja manifest an extraversion personality trait which has a significant relationship with their academic performance. Students' personality traits like neuroticism, agreeableness, conscientiousness, openness to experience do not have any significant relationship with their academic performance. Personality of an individual has significant influence on his academic performance which forms the behavior of a person that will affect a person's learning habit which will lead to academic success (Soraya Hakimi et al. 2011).

VII. RECOMMENDATIONS

Following recommendations were made based on the findings:

The findings showed a significant relationship between personality traits and academic performance of students' in junior secondary schools, teachers should consider students' personality traits during teaching and learning process. Students' individual differences in terms of their personality traits should also be considered in classroom management. Since there is a significant relationship between extroversion personality traits and students' academic performance, teachers handling junior secondary school students should create a lively, social and adventurous classroom environment during the learning process.

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It is also recommended that school authorities should periodically take learning outside the classroom and plan extracurricular activities that can improve the students' academic performance. Students should be allowed to participate fully in the learning process while the teachers should facilitate and guide the learning process.

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