PERSONALITY AS PREDICTOR OF ACADEMIC PERFORMANCE OF SCHOOL ADOLESCENTS IN KATSINA METROPOLIS

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Abstract
This study investigates personality as predictor of academic performance in English language and Mathematics among School adolescents in Katsina Metropolis. The design employed for the study was Descriptive survey research design of correlational type. The population of the study was 6140 students comprising both male and female. Through simple random sampling 361 students were selected and only 356 were used in the analysis. Three research hypotheses were formulated and tested at 0.05 and 0.01 level of significance. Instruments were used for data collection which include big 5 personality test and students previous performance records. Data collected were analyzed using Pearson product moment correlation coefficient and t-test for independent sample. Findings of the study show that personality is a good predictor of students' academic performance in mathematics. On gender differences it shows gender difference in mathematics performance while in English language it shows little or scanty difference. This study recommends that knowledge of personality should be prioritize, all stakeholders be mobilize and sensitize, professional in the field of psychology should be deployed and gender programmes be develop.

Key words: Personality, Predictor, Academic performance, English, Mathematics

Introduction
Every individual is born with his personality, which is a product of genetic makeup inherited from parents (Mangal, 2011). "Personality is a Latin word that was associated with Greek theatre in ancient times" (Aggarwal, 2008). Persona means mask that Greek actors used to wear covering their faces while they worked on the stage Chauhan, (2010). Personality is unique, no two individuals, even identical twins, have alike personality. Personality is the product of its own functioning and what we do today depends on our accumulated experiences of the past. And the characteristic of most definition is that they stress the need to understand the meaning of individual differences Dikko (2010). Personality develops with conflict, which originates as the three systems might compete with one another in order to restore equilibrium to the body. These systems are the Id, Ego, and super-ego.

Id: Freud believes that the 'id' is innate; it consists of wild behaviours which push an individual to look for urgent and immediate gratification. Ego: The second system of brain is the conscious side of the brain. Super Ego: it is the moral aspect of personality. Erickson in Dikko (2010) believes that series of stages that are universal and unfold in a predetermined way characterize human development. He came up with eight bipolar stages of personality development with five corresponding with Freud's stages.

1. Basic trust vs mistrust (oral stage) 5. Autonomy vs shame and doubt (anal stage)
2. Initiative vs Guilt (genital stage)   6. Industry vs inferior (latency stage)

3. Role identity vs role confusion (adolescence)7.Intimacy vs isolation (young adult)
4. Generativity vs. stagnation (adulthood) 8. Integrity vs despair (late adulthood)

Diseth (2003) found that academic achievement was positively related to the big five domains' openness and conscientiousness, are negatively related to extroversion. In two other studies, the relationship between extroversion and grade was dependent on the type of assessment method where oral exams, short multiple choice test and group work favoured students with high level of extroversion (ChamorroPremuzic 2005). Furthermore, Gray and Watson (2002) found that openness was a significant predictor of college GPA, while the relationship between openness and academic achievement could be understood in terms of correlation between openness and intelligence that normally ranges between r=20 and 40. Neuroticism has often been negatively associated with academic performance. (Diseth 2003; Nofttle and Robins 2007; Trapmann, Hell, Hirn and Schuler 2007).

The big five personality trait of conscientiousness is the single most consistent and strongest significant predictor of academic performance beyond cognitive ability (Connard, 2006). Regarding the relationship between the four other big five traits (Openness, Agreeableness, Extraversion and Neuroticism) and academic performance, research finding are inconsistent (Chamorro & Furnham, 2003). For instance, in a meta-analysis that included about 25 studies, Paunonen (2007). Report a mean correlation of 24 between conscientiousness and academic performance and mixed result for openness and extraversion. This body of research suggests that their personality unveils what they are likely to do. For example students who score high on conscientiousness are more likely to be hard working; those who score high in neuroticism are more likely to be anxious, worried and inclined to give up (Chamorro & Furnham, 2003).

Lounsbury et al., (2003) found that the big five construct of conscientiousness, openness and agreeableness were positively related to course grades and grade point average. Chamorro & Furnham, (2003). Indicated that extraversion, openness and conscientiousness have been found to predict GPA, especially when students apply previously accumulated knowledge to real life settings. In contrast, neuroticism is negatively associated with academic performance. Also in a study conducted by Barbaranelli et al., (2003) found that conscientiousness and openness were the most important personality trait correlate of academic performance across undergraduate students. Other major traits like extraversion, neuroticism and agreeableness have shown less consistent association with academic performance than conscientiousness and openness.

In reality neuroticism fails to predict scholastic achievement over and above cognitive ability (Ridgell and Lounsbury, 2004.) Noftle and Robins (2007) also reported that conscientiousness is strongest predictor of academic performance and the other four traits have weak or mixed relationship with GPA. Although these findings confirm the significance of personality traits. Poropat (2009) pointed conscientiousness as the strongest predictor of academic performance at both secondary and tertiary level of education.

Nguyen et al (2006) the relationship between students personality and their academic performance among college students has been well established in previous research. For example, the personality trait of conscientiousness has been consistently shown to have moderate predictive validity of academic performance. standardized test scores such as SAT and high school course work performance both in the USA and the UK (e.g. Wolfe and Johnson 1995; Tross, Herper, Osher and kneidinger, 2000; ChamorroPremuzic and Furnhan, 2003; Lounsbury, Stundstrom, Loveland and Gibson, 2003). Given the well documented gender differences in personality (e.g. Costa, Terraciano and McCrae 2001), we argue that the predictive validity of personality traits on academic performance may be different across male and female students. Therefore, the purpose of this study to replicate previous research finding concerning the

predictive validity of student personality in college performance and to explore the role of gender as a potential moderator of this relationship.

The first personality factor, labeled agreeableness, has also been called likeability, friendliness, social conformity and love. (saucier and Goldberg, 2003). Other researchers (e.g. Johnson, 2003) interpreted this factor as consisting of four sub-facets of warmth/affection, gentleness, generosity and modesty/humility. The second personality factor, labeled conscientiousness, has typically been called conscience, conformity and dependability. It has also been called will to achieve or will (e.g. Digman, 1989)due to its consistent positive association with conscientiousness are being careful, thorough, responsible, organized, achievement oriented, diligent and persevering. Other researchers (e.g. Jonson 2003) interpreted this dimension as consisting of three sub-facets of order.

The third factor, extraversion, has also been called surgency (e.g. Goldberg 1999). Traits associated with this factor include being sociable, assertive, dominant, talkative, active and gregarious. Other researchers (e.g. Johnson 2003) interpreted this factor as consisting of four sub facets of sociability, unrestraint, assertiveness and activity/ adventurousness.

The fourth factor, labeled neuroticism or emotional stability reversed scored, has also been called emotionality or stability. Traits associated with this factor include being depressed, angry, emotional, anxious, insecure and worried.

The fifth factor, labeled intellect or openness to experience has also been called intellectence (e.g. McCrae and Costa, 1985) or culture (e.g. Norman, 1963). Traits associated with this factor include being curious, imaginative, intelligent, open-minded, original and artistically sensitive.

Most studies show, on average, girls do better in school than boys. Girls get higher grades and complete high school at high rate compared to boys. However, according to National Center for Education Statistics cited by Zembar and Blume (2011) female are better at spelling and perform better on test of literacy, writing and general knowledge. Furthermore, an International Aptitude Test administered to fourth graders in 35 countries showed that females outscore males on reading literacy in every country. Although there were no difference between boys and girls in fourth grade Mathematics, boys began to perform better than girls on science test in fourth grade (International Association for the Evaluation of Education Achievement cited in Zembar and Blume, 2011). Though girls continue to exhibit higher verbal ability throughout but they begin to lose ground to boys after fourth grade on test of both Mathematical and science ability.

Statement of the problem

For so many years, candidates writing the National Examination Council (NECO) exams have recorded mass failure. Apparently the scenario is becoming worrisome to education stakeholders as nobody knows at whose door-steps to place the blames, students or NECO. The same scenario is happening with candidates sat for WAEC examinations. This problem led to a need raised by House of Representatives, 2009, via its committee on education to conduct an investigation into circumstances surrounding the mass failure of Nigerian students in examinations organized by those bodies (Olubunmi, 2012).

This has been a problem of national concern and specifically researchers concern whose aims is to see how these psychological constructs (personality) can positively or negatively influence academic performance of senior secondary school students.

Objectives of the Study

The present study seeks to accomplish the following:

1. To find out the relationship between personality and academic performance in English Language.
2. To discover the relationship between personality and academic performance in mathematics.
3. To find out gender difference in personality among senior secondary school students. **Research Questions**

1. Is there any relationship between personality & academic performance in English language among senior secondary school students?
2. Is there any relationship between personality and academic performance in mathematics among senior secondary school students?
3. Is there any gender difference in personality among senior secondary school students?

Research Hypotheses:

The following research hypotheses were formulated.

H_o1. There is no significant relationship between personality & academic performance in English language among senior secondary school students in Katsina metropolis.

H_o2. There is no significant relationship between personality & academic performance in mathematics among senior secondary school students in Katsina metropolis.

H_o3. There is no significant gender difference in personality among senior secondary school students in Katsina metropolis.

Methodology

Descriptive research design of correlational type was employed, to obtain answers with regards to research questions. This method is applicable because correlation is the study of relatedness of two different groups. It also measures two variables and determined the degree of relationship that exists between them.

The population of this study consist the entire senior secondary schools in Katsina metropolis and it encompasses all senior secondary school II students. According to Ministry of Education Katsina their number stands at 6140 both male and female students. The number consist only schools under Teachers' Service Board.

The researchers restricted themselves only to public schools because they have uniformity of standard and norms. The number of these students was spread over 9 senior secondary schools in Katsina metropolis. Sample of this study was drawn from the total population of 6140, the sample size stand at 361 SS II students of Katsina metropolis and the selection was guided by the provision of Krejcie and Morgan table (1970). The sample size of 361 students which was drawn from the total population of 6140 across nine senior secondary schools in Katsina metropolis has been proportionately distributed among the respective schools. As a result of the fact that nine senior secondary schools differ in population, the sample size was drawn proportionately according to the number of students in each school. 40.1% of 361 sample size was allocated to the schools across the metropolitan area of Katsina. Simple random sampling was adopted using equal proportional distribution of the sample size. And this technique was employed in order to have an unbiased sample and ensure that each school is equally represented in Katsina metropolis under study.

The instrument used was big 5 personality inventory developed by McCrae and Costa (1992) and the students record on previous performance in English language and mathematics. Both face and content validity were used. To ascertain the validity of the instruments professionals in the field of educational psychology in Umaru Musa Yar'adua University, Katsina validated all the instruments and found them

appropriate for use in this study. For the content validity the researcher was embarked on pilot study in order to have accurate and unbiased content validity of the instruments. The reliability was calculated using percentages for the items of the instruments that received both positive and negative responses from the respondents. In analyzing the data collected inferential statistics was used. And the inferential technique used was: Pearson product moment correlation coefficient to test hypotheses relationship and T-test for independent sample to test differences among hypotheses

Results: Hypothesis 1: There is no significant relationship between personality and students' academic performance in English language among senior secondary schools students in Katsina metropolis..

Table 1. Correlation between personality and academic performance in English.

Variable	N	Mean	S.D	rvalue	P	Decision
Personality	356	135.1573	10.69147			
				.041	.441	Not sig.
English	356	51.3848	19.47221			

The above table shows that personality has mean of 135.1573 and standard deviation has 10.69147 while English language has mean of 51.3848 and standard deviation of 19.47221 which indicated negative relationship between personality and students' academic performance in English language. Pearson product moment correlation coefficient was used in the analysis and the result shows no significant correlation between the 2 variables i.e. personality and English and the hypothesis was retained. This was because r = .041, N=356, P. value =.441>0.05 level of significance.

Hypothesis 2: There is no significant relationship between personality and students' academic performance in mathematics among senior secondary school students in Katsina metropolis

Table 2 Relationship between personality & academic performance in mathematics

Variable	N	Mean	S.D	rvalue	P	Decision
Personality	356	135.1573	10.69147			
				.215**	.000	Significant
Mathematics	356	42.1854	18.48408			

In the above table Personality has mean of 135.1573 and standard deviation has 10.69147 mathematics has mean of 42.1854 and standard deviation 18.48408 which indicated positive relationship between personality and students' academic performance in mathematics. By using Pearson product moment correlation coefficient and the result shows significant correlation at 0.01 significant levels. Therefore, the hypothesis was rejected because r = .215**, N, 356, P value .000<0.01.

Hypothesis 3: There is no significant gender difference in personality among senior secondary school students in Katsina metropolis.

Tables 3: Gender difference in personality among senior secondary school students.

Variable	Gender	N	Mean	S.D	T	DF	P	Decision
Personality	Male	200	134.2	10.965				
					-1.859	354	.064	Not sig.
	Female	156	136.3	10.242				

Independent t-test was used to find out the gender differences in personality among senior secondary school students in Katsina metropolis and the result shows that there was no significant gender difference and the hypothesis was retained. Because male (M=134.2300, SD = 10.96532) and female M=136.3462, SD 10.24201 t (-1.859) = p. value .064 > 0.05 level of significance.

Summary of the Findings

There is no significant relationship between personality and students' academic performance in English language, but significant relationship between personality and mathematics was found and there is no significant gender difference in personality among Senior Secondary School Students. Pearson product moment correlation coefficient was used in the analysis, negative relationship was realized from $H0_1$, and the hypothesis was retained. Positive correlation was realized from $H0_2$, and null hypothesis was therefore rejected. Also no significant gender difference was realized from $H0_3$, and the null hypothesis was retained.

Discussions

The finding of this study corroborated the work of, Diseth (2003) who found that academic performance was positively related to the big five domains openness and conscientiousness are negatively related to extroversion. Also 2 other studies, 1 the relationship between extroversion and grade was dependent on different type assessment method. And this helps students with high level extroversion (ChamorroPremuzic 2005; Furnham et'al 2008). It also goes in line with the finding of Gray and Watson (2002) whose work suggested that openness was a significant predictor of college GPA. The work of MaCrae and Costa (1985, 2001) which suggested the relationship between openness and academic achievement could be understood in terms of correlation between openness and intelligence that normally ranges between r=20 & 40. It also contradicts the work of Busato et'al (2000) and Robins (2007) that neuroticisms has had varying effects on grade, from positive to negative and from not being significant to being significant. Personality traits of Agreeableness and conscientiousness positively related to academic performance of undergraduate students supported the work of Cornard (2006), Cornor & Paunen (2007), Lounsbury et'al (2003), and Barbaranell et' al (2003) who posited that some personality traits interacts with academic performance.

Personality traits of extraversion, Neuroticism and Openness, no correlation was found between them with academic performance. Farside and Woodfield (2003) who observed that Neuroticism and openness correlate negatively with academic performance at the college level Chomorro and Furnham (2003) work which indicated that Neuroticism is negatively associated with academic performance. The finding also supported the work of Costa (1990), Chomorro-premuzic (2005), Furnham et al (2005) among others. And alternate one would be formulated and tested. i.e there is significance relation between personality and academic performance in mathematics.

Conclusion Based on the finding, we may conclude that personality is a good predictor of student's academic performance in Mathematics. In other words, personality is statistically significant in predicting academic performance of senior students in Mathematics. This is due to the fact that positive correlation was observed between both 2 variables independent and dependent. By implication students with reasonable marks in personality inventory would perform academically well. It also shows significant gender difference in Mathematics other factors might contributed to poor or better academic performance which may include poor teaching learning situation, learning facilities and poor reading habit on the part of the students. It also recommends that personality issues and program should be prioritize in all schools of learning for batter outcome.

Recommendations

1. knowledge of personality should be given priority in all Teacher training institutions of learning.
2. Government should try to mobilize and sensitize all stake holders involved in molding personality of a child for better outcome, via conferences, seminars and workshops etc.
3. Government should deploy professionals in the field of psychology in all over secondary schools to help in molding and shaping the students personality.
4. Un-qualified teachers and those with low level of teaching experience should be well motivated through conferences, seminars and workshops on how to deal with personality issues because of their importance in teaching learning situation.
5. Gender Education project should be prioritize for better educational development.

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