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Psychosocial Correlates of Academic Performance among Distance Learners in the National Open University of Nigeria: Some Implications

Rotimi Ogidan
African Council for Distance Education, Nairobi, Kenya
oaidanrotimifaivahoo.co.uk, riogidan(a>gmail.com

&

Dorothy Ofoha
National Open University of Nigeria dorisofoha(®,vahoo.com

Abstract

Evidence has shown that a high percentage of students enrolled in a distance learning programme tend to drop out before reaching the completion stage. Given the unique nature of distance learners, their psychosocial characteristics appear to be a major factor in predicting learning success. This study set out to explore the co-ordinate psychosocial correlates of academic performance of distance learners. The study employed the correlational survey design to examine the nature of relationship between the independent variables of motivation, locus of control, cognitive style, personality trait and the dependent variable of learning achievement. The sample comprised 500 undergraduate students drawn from different academic disciplines from Lagos Study Centre of the National Open University of Nigeria (NOUN). Data were collected using four psychological instruments as well as data gathered from the students' record of academic performance in the university registry. Three hypotheses were formulated and tested using correlation and multiple regression analysis, as well as t-test, with alpha level set at 0.05. Findings revealed that the psychosocial variables selected correlated significantly with students' academic success with a joint contribution of 68%. The order of importance of these variables to the prediction of academic performance is locus of control, cognitive style, motivation and personality trait, respectively. Findings further revealed significant difference between academic achievement of internal and external locus of

control groups while no significant difference was found between other group dichotomies. The implications of these findings to instructional design, counseling and support services are highlighted.

Keywords*: Distance learners,* psychosocial correlates, learning achievement, support services, open and distance learning

Introduction

Distance education is a vital force in higher education particularly in a developing country like Nigeria. It has developed over the years from a modest and inconsequential beginning to become a veritable tool for widening access to knowledge. Many more students continue to subscribe to this mode of learning due to the perceived advantage of providing learning anywhere, anytime, and through technology-mediated approach. In spite of the growth in distance education, high dropout rates have been of concern to many open and distance learning (ODL) institutions (Olubiyi and Inegbedion, 2008). Because a distance learning environment is so different from a traditional face-to-face classroom, according to Braimoh (2010), the variables that influence student success or satisfaction with ODL may be different from those in a face-to-face learning environment. Factors that predict learning achievement among students in conventional institutions have been well documented. Research has been conducted from a variety of perspectives in this area. However, not much research has been done regarding distance learners psychosocial characteristics and how they influence learning performance. Consequently, the concern for student' success in distance education continues to be a focus of research.

Distance learning is student-centred learning; thus knowing the characteristics of the distance learners helps ODL practitioners understand the potential barriers to learning. It is well known that ODL involves self- study. Learners take responsibility for their own learning making use of their meta-cognitive skills. However, a number of studies have indicated that not everybody can cope with the provisions of ODL and therefore not all students may be able to complete their studies in ODL. Evidence has shown that a high percentage of students enrolled in a distance learning programme tend to drop out before completion (Olubiyi and Inegbedion, 2008). Given the unique nature of distance learners, their psychosocial characteristics appear to be a major factor in predicting learning success. As DeTure (2004) rightly

stated, research is needed to provide an understanding of what kinds of eiders succeed more readily in particular distance education technologies sec the reasons it is so. In addition, by identifying students' characteristics that correlate with success in open and distance learning environment, there be better understanding of learners' concerns on retention in distance education.

Learner characteristics are described as those facets of the learner's experimental background that impact on the effectiveness of a learning process (Seels and Richey, 1994). Learner characteristics impact specific components of instruction during the selection and implementation of instructional strategies based upon identified learnercharacteristics. Therefore, research in this area is necessary to understand students' learning achievement in relation to their psychosocial characteristics.

Since distance learning is more personal and responsibility is more on the shoulders of the students, there is the need to explore some of the psychosocial characteristics that are capable of predicting students' academic performance in distance learning. The psychosocial characteristics as examined in this study include motivation, locus of control, cognitive style, and personality trait. They were chosen because of their importance based on a thorough review of the literature. **The choice of these variables was also based on the theory of individual differences, which considers such variables as important in the learning process. The determination of these** types of characteristics among distance education students is important for distance education institutions in order to give students the support and counselling they require.

Learners' Psychosocial Characteristics and Academic Achievement necessary factor for success in, and continuity with distance education programmes

Motivation: Motivation is a driving force which propels individuals to accomplish specific tasks (Ilogho, 2011). It is viewed as one of the most important components of learning in any educational environment and considered to be one of the best determining factors of student success (Koiso, 2003) as cited by Tella (2007). As with traditional education, students' motivation is a critical factor for success in distance education **(Yukselturk and Bulut, 2007). A high level of motivation is seen as a**

necessary factor for success in, and continuity with distance education programme.

Motivation is a common concept which is regarded as being important for decision making. It is a concept widely used in a variety of situations. It is generally agreed that motivation has positive impact upon learning - it stimulates, sustains, and gives direction to an activity. Highly motivated students often require little guidance from the teacher and are capable of doing many higher degree of complicated work independently. Tucker, Zayco and Herman (2002), in Ilogho (2011), describe motivation as a cognitive, emotional and behavioural indicator of students' investment in, and attachment to education.

Okoye (1985) opined that motivation holds the key to the understanding of human behaviour. According to him, motivation explains why one individual dodges work while another works normally and satisfactorily enough to reach the expected height of success, yet others resort to illegal and unconventional methods of achieving social, academic, economic and political recognition. He added that motivation should be carefully manipulated whether at work or a study situation, so that students are neither under motivated nor over motivated but appropriately motivated so as to be useful to themselves in their society and the world at large. Harju and Eppler, in Tella (2007), investigated the relationships among college students' learning and performance goal orientation, drawing on questionnaire data from ages 17 - 22 of 312 college students. It was reported that students who had a learning profile motivation easily completed more semesters. The study concluded that the younger students who were externally motivated tended to possess more irrational beliefs while other internally motivated students tended to be more involved in learning. Cheung (1998) hypothesised that conceptions of success of achievement goal affect both the inclination to, and actual performance of a task. This was tested in a sample of 673 Chinese adolescents. It was reported in the study that sex differences were found in the conception of success. Bank and Finlapson (1980) also reported that successful students were found to have significantly higher motivation for achievement than unsuccessful students. Numerous studies cited in Tella (2007) revealed significant relationship between academic performance and motivation. In Nigeria, a study carried out by Ajayi (1998)

on achievement motivation using 276 students revealed that there is an agreement between academic performance and motivation. However, these studies were conducted using students in face-to-face environment. The present study, which focuses on distance learners, warrants an investigation.

Locus of control: Locus of control is an individual's belief system regarding the causes of his or her experiences and the factors to which that person attributes success or failure (Rotter, 1966). In the context of education, locus of control refers to the types of attributions we make for our success or failure in school tasks (Akinsola, 2008 citing Grantz, 1998). Ipaye‟s study on attribution of failure by Nigerian adolescents also demonstrated aspects of the role of motivation in achievement (Ipaye, 1978). Locus of control is grounded in expectancy-value theory, which describes human behaviour as determined by the perceived likelihood of an event or outcome occurring which is contingent upon the behaviour in question, and the value placed on that event or outcome. Rotter (1966) classified locus of control into a bipolar dimension from internal to external: Individuals with internal locus of control see themselves as primarily in control of their behaviour and its consequences. On the other hand, those with an external locus of control perceive what happens to them to be in the hands of fate, luck or chance. Therefore, people with internal locus of control attribute success to their own efforts and abilities.

There are numerous studies relating locus of control orientations to academic achievement. A study by Biggs (1997) found that internality has corroborated this finding on academic achievement by noting significant differences between high achievers and average achievers on measures of locus of control. Other studies involving achievement and locus of control in classroom settings reported that internality is positively related to certain school achievement -related behaviours such as class participation and study skills that are said to aid learning and achievement (Trice, 1985). Studies carried out by Whyte (1979) and Whyte & Lauridsen (1980) reported the importance of locus of control and academic achievement which suggest that students tending toward a more internal locus of control are more academically successful. Although other factors could mediate or qualify the impact of locus of control, internal control generally predicts higher levels of academic success. Out of the 36 studies reported in Akinsola (2008) to have

been reviewed by Bar-Tai and Bar-Zohar (1997) on locus of control and academic achievement, 31 of the studies indicated a significant relationship **with internal** locus of control having higher achievement than external. **Studies** cited in **Yukselturk and Bulut (2007)** show that in the distance education environment, students with an internal locus of control are more likely to do well in distance learning situations that require a certain amount of independence from the learner than students with an external locus of control. A person with an external locus of control, who attributes his or her success to luck or fate, is less likely to be able to make the effort needed to learn and will need more encouragement and guidance from the instructor (Kirkpatrick *etal.,* 2008). While some studies found no relationship between locus of control and academic success, Fakeye (2011) has revealed that having an internal locus of control is related to higher academic achievement.

Cognitive style: Cognitive style can be defined as information processing habits representing the learner's typical mode of perceiving, thinking, problem solving, and remembering. According to Arif and Mehtap (2006), the particular constructs of cognitive style that have been most researched with various student groups are field-dependence/independence. Keefe (1982) as reported by DeTure (2004) defined cognitive styles as the cognitive, affective, and physiological traits that serve as relatively stable indicators of how learners perceive, interact with, and respond to the learning environment. Learners can be categorised into the field-dependent and independent groups. Field-dependence/independence refers to the degree to which an individual is dependent upon the structure of the prevailing visual **field.** Hence, field-dependent (FD) individuals cannot separate items from the background in which they occur, whereas field-independent (FI) individuals can.

The most widely investigated cognitive style is Herman Witkin's field dependence/independence as measured by the Group Embedded Figures **Test (GEFT)** (Arif and Mehtap, 2006). Witkin created the GEFT, which determines participants' relative field-dependence/independence by measuring their relative ability to dis-embed a figure from among complex visual field. Subjects who have difficulty separating the simple figures are field-dependent while those who find it easy to overcome the organised complex design are field- independent. Witkin's work suggests that field-

independents, with their reliance on internal cues, are more autonomous in cognitive restructuring tasks and that field- dependent persons are less autonomous in that they rely more on others and the external environment in cognitive restructuring tasks. Unfortunately, relatively few studies have addressed the impact of cognitive styles in distance education. There also appears to be a dearth of published research relevant to cognitive learning les among distance learning students in Nigeria. The GEFT determines if a "son is field- dependent or field- independent and is described as a useful awl for distance educators. The field-dependent person is more oriented towards social activities. He or she likes to be around other people, whereas the field- independent person prefers more solitary activities. It would follow that the more field- independent person would be more successful in distance education programme because no social activities are involved. The field - dependents' cognitive style of social needs would make them more likely to find distance programmes difficult to complete.

Yukselturk and Bulut (2007) indicated that learning styles do affect student success; and also cited studies which found no statistically significant relationship between learning style and success. Witkin and Good enough (1981) as reported by **Danili and Reid (2006) who** investigated Gestalt psychology reported that some people are dominated by strong frame of reference or pattern in a stimulus field, to such an extent that they have trouble in perceiving elements that cut across these patterns of learning.

Field-independent students are generally expected to perform better academically than those who are field-dependent, and this is particularly marked in distance learning where students learn without the traditional support offered in the conventional mode of learning. It was assumed therefore that students who receive instruction in a separated situation and who must contend with the transactional distance learning system were more likely to achieve academic success if they were field-independent.

Personality traits: Two of the most examined dimensions of personality that have an affective influence on learning success are extroversion and introversion (Shahila, 2012). The notion of extroversion and introversion stems from trait theories of personality developed by Eysenck (1998). Extrovert characters tend to be gregarious; the activity of the extrovert is seen

as directed towards the external world while the introvert is inward upon himself or herself. Extroverts are sociable, they like parties, have many friends and need excitement in everything they do; they are sensation-seekers and they are lively and active. However, extroverts are easily distracted from studying, partly as a result of their gregariousness and partly because of their weak ability to concentrate for long periods. On the other hand, introverts are quiet, they prefer reading rather than meeting people and talking to others. While they have few but close friends they usually avoid excitement (Eysenck & Chan, 1982 as quoted in Shahila, 2012). As a result of this, they are oriented towards the inner realm of ideas, imagery, and reflection. They get their energy from within rather than from the outside world. Therefore, the introvert values quiet time alone for thinking while an extrovert wants time with others for action.

Findings from studies which examined the relationship between personality trait and academic performance are mixed. While some studies demonstrate the influence of personality variables as good predictors of academic success, others indicate otherwise. Inspired by this mixed finding, it is believed that personality trait should be assessed in relation to its contribution to student learning in order to determine which group of learners can benefit from distance education.

From the foregoing review, it could be deduced that none of the researchers studied the joint contributions of distance learners' psychosocial correlates to their academic performance within the Nigerian environment. Whereas, researchers cited in **Oladejo, Ige, Fagunwa and Arewa (2010)** stressed the need for a comprehensive approach, taking into account all the experiences of distance learners as well as the unique aspects of distance learning environment. The unique nature of distance learners therefore makes their psychosocial characteristics worthy of investigation in this study.

Purpose of Study

The purpose of this study was to identify some learner psychosocial characteristics that correlate with success in open and distance learning by focusing on the selected co-ordinate variables of motivation, locus of control, cognitive style, and personality trait in the prediction of academic

performance among distance learners with a view to determining why some students achieve success in distance learning and others do not. The specific objectives were to determine the:

1. relationship of each of the selected co-ordinate psychosocial variables to academic performance of distance learners
2. extent to which the selected variables, when taken together, would predict the academic performance of distance learners
3. if there is significant difference between identified group of learners on the dependent variable

Research Hypotheses

In pursuance of the above objectives, **the following null hypotheses were formulated:**

1. There is no significant relationship between each of the selected psychosocial variables of learning motivation, locus of control, cognitive style, personality trait and the academic performance of distance learners
2. The selected psychosocial variables of motivation, locus of control, cognitive style, and personality trait taken together will not significantly predict the academic performance of distance learners
3. There is no significant difference in academic achievement between:
   (a) distance learners with high and low motivation
   (b) distance learners with internal and external locus of control orientation
   (c) distance learners who are field- dependent and field- independent
   (d) distance learners who are introverted and extroverted.

Methodology

Research Design

A correlational survey design was used to investigate the relationship and the predictive power of the independent variables of motivation, locus of control,

cognitive style, and personality trait with the dependent variable of learning achievement.

Population, Sample and Sampling Technique

The population for the study comprised the entire NOUN students. **NOUN operates through a network of 48 study centres spread across the length and breadth of Nigeria.** Lagos Study Centre was purposively selected because of its peculiar characteristics. One of the characteristics is that it has a higher student population of 23,000 which is about 50% of the university's student population. From the centre, a sample size of 500 second and third year undergraduate students was drawn. In selecting participants for the study, stratified random sampling method was used based on programmes, gender and year of study.

Instruments and Procedure

The five instruments used for collecting the data for the study were, Academic Achievement Measure (AAM) and four psychological inventories, namely, Motivation for Academic Study Scale (MASS), Rotters's Internal-External Locus of Control Scale (RIELCS), Group Embedded Figures Test (GEFT), and Eysenck Personality Inventory (EPI).

The Motivation for Academic Study Scale (MASS) is a researcher-made instrument consisting of 20 items designed to measure respondents' motivation level towards learning. The instrument contained two parts. Part A sought necessary demographic information while part B had the main items. Respondents were required to respond to each item on a four-point Likert scale ranging from "strongly agree" to "strongly disagree" with corresponding values ranging from 4 to 1 respectively. The responses to the items were analysed with the use of weighted mean scores. This was computed by multiplying the frequencies of response with respective scale values (4,3,2,1) after reverse-scoring all negatively worded items. The maximum possible score was 80 and the minimum 20, higher scores indicating higher motivation. The cut-off point was obtained by summing the values 80, 60, 40, 20 and dividing by 4 (80+60+40+20 =200-4=50). Hence, a mean score above 50 is indicative of high

motivation, while mean score below 50 suggests low motivation. Respondents were classified as either having low or high academic motivation depending on whether they scored below or above the mean score of 50. The instrument was content- validated through expert judgment while the reliability was established through test-retest procedure, which yielded c-relation coefficient of 0.83.

Rotters's Internal-External Locus of Control Scale (RIELCS) is a standardised instrument constructed by Rotters (1966). The instrument contained 29 items designed to measure respondents' locus of control orientation, that is, the degree to which respondents consider achievement of goal as contingent or non-contingent on their own behaviour. Each item has alternatives; A and B. one alternative reflects an internal orientation and the other reflects an external orientation. Respondents are required to select me alternative which they believe to be true. Internal choices are scored "0", external choices "1". The total scores are the sum of the internal alternatives selected by the respondents. The scores range from 0 (internality) to 29 (externality). For this study, the cut-off for determining locus of control presentation was set at the median of 15. Thus, respondents were classified as either internal or external if they score below or above the cut-off point of 15, respectively. Rotter (1966) reported that the scale has a relatively stable internal consistency and highly significant construct validity. Many Nigerian researchers are reported to have used and adjudged it to be a valid and reliable instrument (Popoola and Ilugbo, 2010).

The Group Embedded Figures Test (GEFT) was used to determine the participants' cognitive style of field-dependency/field- independence. Witkin *et al.* (1971) developed the GEFT as an instrument to measure individual's ability to dis-embed hidden figures from among complex figures. It has been used in earlier researches on Nigerian subjects carried out by Adegoke (2011) and Sara (2010). The test instrument contains three sections: the first section is made up of seven items for practice purpose, the second and third sections contain nine items each for scoring. The instrument required participants to identify/trace a specified hidden simple figure that was embedded within a complex figure in the test. The number of items correctly identified is the score of subject. Altogether, there are 18 items in the test. The possible score that each respondent could make ranged from 0 to

18. On the basis of scores, subjects were classified as either field-dependent (FD) or field- independent (Fl). The students with scores 0 to 9 were classified as field- dependent and those with scores 10-18 as field - independent. The psychometric properties of the instrument have been confirmed to be quite reasonable in cross-cultural settings (Cakan, 2003). The reliability of the GEFT in this study was estimated at 0.87 using test- retest method.

The Eysenck Personality Inventory (EPI) is a standardised instrument which was designed to measure individual's placement on the introversion- extroversion continuum. The inventory was developed by Eysenck in 1956 and has remained a widely used instrument. It contains 24 items with three response scale of "yes" "No" and "Undecided" and scored 1, 0, and $^1/_2$ respectively. Respondents were required to tick one of the response alternatives that is true of each item on the scale. The least obtainable score is 0 and the maximum 24. For purpose of this study, the respondents with scores 0-12 are classified as introverts, those with scores 13-24 as extroverts. The validity and reliability of the instrument have been ascertained by the test developer. In addition, some Nigerian researchers are reported to have found sufficient evidence for the reliability of the instrument with Nigerian subjects (Popoola and Ilugbo, 2010).

Academic Achievement Measure (AAM) - Data on academic performance were gathered by obtaining grade point averages (GPAs) for all respondents in their overall course scores in two consecutive semesters. To evaluate the achievement of learners, NOUN has adopted a five -point scale using letter grades and percentages as follows:

A- 70% and above
B- 6069%
C- 50-59%
D- 45-49%
E- 40-44%
F- Below 40%

This was used to classify respondents into two groups: successful and non-successful. Students were classified successful if they received a grade of

"C" arc above. Those who scored "D" or less were classified as non-successful. A student's GPA is the average of the grades he achieves in the courses which he is able to complete.

The instruments were personally administered face-to-face to respondents During tutorial sessions with the help of two trained research assistants. depleted questionnaires were collected on the spot. Consequently, all 500 copies of questionnaire were returned duly completed. At the end of the 2010/2011 academic year when the questionnaires were administered, achievement grades for all the courses received by all the students who completed the questionnaire were obtained.

Method of Data Analysis

Collected were subjected to descriptive and inferential statistics using Pearson product moment correlation coefficient, multiple regression analysis and t-test. Pearson correlation analysis was employed to assess the relationship between participants' motivation level, locus of control orientation, cognitive style, personality trait and academic performance. The multiple stepwise regression procedure was used to determine the joint and relative contribution of the four independent variables in the prediction of distance learners' academic performance while t-test analysis was used to determine significant difference in academic achievement between dichotomised groups on the basis of the independent variable, in order to line which group of learners are able to achieve academic success ugh distance learning. The criterion variable (academic achievement) for study was the GPA attained for courses taken over a minimum of two **semesters.**

Findings

Hypothesis 1

Hypothesis one states that there is no significant relationship between each of the selected psychosocial variables of learning motivation, locus of control, cognitive style, personality trait and the academic performance of NOUN distance learners.

The hypothesis was tested by correlating respondents' achievement scores with their scores on each of the psychosocial variables instruments using Pearson product moment correlation statistics. The results are presented in Table 1.

Table 1: Relationship between Psychosocial Variables and Academic Achievement of NOUN Distance Learners

Variable	Mean	SD	N	R	r-critical	Remark
Motivation	17.03	17.57	500	.42*	0.098	Significant
Academic achievement	18.52	16.59				
Locus of control	16.96	5.95	500	.63*	0.098	Significant
Academic achievement	48.59	17.03				
Cognitive style	9.66	3.54	500	.294*	0.098	Significant
Academic achievement	48.59	17.03				
Personality trait	13.59	17.57	500	.32*	0.098	Significant
Academic achievement	48.50	16.59				

* Correlation is significant at the 0.05 alpha level (2-tailed)

As shown in Table 1, the correlation coefficient between motivation and academic achievement is .42. This value is greater than the r-critical value of 0.098 at the 0.05 level of significance indicating a significant relationship between the two variables. The correlation coefficient between locus of control and academic achievement is .63 which is also significant at the 0.05 alpha level. For cognitive style and academic achievement, the correlation coefficient yielded .294 which is greater than r-critical value 0.098 at the 0.05 significance level indicating a significant relationship between the two variables. The correlation coefficient between personality trait and academic achievement is .32 which is significant at the 0.05 level. A unique characteristic of the analysis in Table 1 is the complete absence of any negative coefficient. From the foregoing result, it is clear that there is a significant relationship between distance learners' academic performance

and each of the independent variables of motivation, locus of control, cognitive style and personality trait. The null hypothesis is therefore rejected.

Hypothesis 2

Hypothesis two states that the selected psychosocial variables (motivation, locus of control, cognitive style, and personality trait) taken together will not significantly predict the academic performance of distance learners. To test the hypothesis, regression analysis was employed to determine the predictive contribution of the combination of the four independent variables to academic success of distance students. The result is displayed in Table 2.

Table 2: Summary of Multiple Regression Analysis on the Predictive Contribution of Independent Variables to Academic Achievement of NOUN Distance Learners (N=500)

Variables	R	R square	Adjusted R square	Standard error	P	F-ratio
Motivation Locus of control Cognitive style Personality style	0.826	0.683	0.649	1.077	<0.01	20.060

Table 2 shows that the four independent variables (motivation, locus of control, cognitive style, and personality trait) when taken together to predict distance learners' academic success yielded a coefficient of multiple regression (R) of 0.826 and multiple regression square (R) of 0.683. A farther inspection of the table shows that the R square value of0.683 obtained from the regression analysis produced an F-ratio of 20.060 which is significant at 0.05 level ($F=20.060$; $p<0.01$). The F-value of 20.060 means that the overall equation is significant. Thus, the result in Table 2 implies that die combination of all selected psychosocial variables (cognitive style, locus of control, motivation, and personality trait) is predictive of distance learners' academic success. Hence, hypothesis two is rejected. Given the R square value of 0.683, it shows that the four variables put together can explain 68%

of the total variance in the academic performance of distance students. By implication, the remaining 32% is due to other factors not covered in the study. A multiple regression analysis was then performed to determine the predictive contributions of each of the four psychosocial variables on academic achievement. The result is presented in Table 3.

Table 3: Relative Contribution of Independent Variables to the Prediction of Distance Learners' Academic Success

Variables	**Standard error**	**Beta 0**	**T**	**P**	**Rank**
Constant	4.085	13.328		0.000	
Motivation	0.155	0.506	3.024	0.003**	3rd
Locus of control	0.126	0.623	-3.247	0.002**	1st
Cognitive style	0.144	0.518	3.167	0.002**	2nd
Personality trait	0.121	0.345	-1984	0.050*	4th

****Significant at the 0.01 alpha level**
***Significant at the 0.05 alpha level**

The result presented in Table 3 shows the contribution of each of the variables to the prediction of academic success of distance learners. The Table contains the Beta weight for each of the variables, which ranged from 0.345 to 0.506 and standard error of estimate ranging from 0.121 to 0.155. The t-value for each variable ranged from -1.984 to 3.024, which are all significant at 0.05 and 0.01 levels. From these values, it can be seen that the four psychosocial variables contributed differentially to the prediction of academic achievement of distance learners. The relative contribution of each variable showed that locus of control had the highest contribution (P=0.623) followed by cognitive style (0=5.18), next is motivation (0=0.506) while personality trait had the lowest contribution (0=0.34).

Hypothesis 3

The third hypothesis was formulated to test the difference in academic achievement between dichotomised groups (low and high motivation, internal and external locus of control, field- dependent and field-independent, introvert and extrovert). The hypothesis was therefore

tested for independent samples and the results are presented in Tables 4-7

Table 4: Difference between Academic Achievement of Low and High Motivation Groups

Group table	**N**	**Mean**	**SD**	**df**	**t-cal**	**t-**
Low motivation	216	48.81	17.57	498	.294	1.96
High motivation	284	49.36	16.59			
Total	500					

P>0.05

As reserved in Table 4, low motivation group obtained a mean score of 48.81 high motivation group obtained 49.36. This yielded a mean difference of 0.55 between the groups. A t-test for equality of mean yielded a calculated t-value of .294 which was less than the critical value of 1.96 with 498 degrees of freedom at the 0.05 level of significance. Hence, the null hypothesis was accepted indicating there is no significant difference between academic achievement of low and high motivation groups.

Table 5: Difference between Academic Achievement of Internal and External Locus of Control Groups

Group table	**N**	**Mean**	**SD**	**df**	**t-cal**	**t-**
Internal	20850.42	17.17	498	2.034	1.96	
External	29247.29	16.44				
Total	500					

P>0.05

From Table 5, we observed that the mean rating of the internal and external locus of control groups were 50.42 and 47.29, respectively. This yielded a mean difference of 3.13 between the two groups. A t-test yielded a calculated t-value of 2.034 which is greater than the critical value of 1.96 with 498 decrees of freedom at 0.05 alpha level. The result shows there is significant a Terence between academic achievement of internal and external locus of control groups, in favour of internal group.

Table 6: Difference between Academic Achievement of Field-Dependent and Field-Independent Groups

Group table	N	Mean	SD	df	t-cal	t-
Field-Dependent	283	47.83	16.60498	1.188	1.96	
Field-Independent	217	49.86	17.58			
Total	500					

P>0.05

As displayed in Table 6, the mean rating of field- dependent group was 47.83 while that of field-independent was 49.86 with mean difference of 2.03 between the groups. This difference is not significant at the 0.05 alpha level as the t-test yielded a calculated t-value of 1.188 which was less than the critical value of 1.96, which implies there is no significant difference between academic achievement of field -dependent and field- independent groups.

Table 7: Difference between Academic Achievement of Introvert and Extrovert Groups

Group table	N	Mean	SD	df	t-cal	t-
Introvert	236	49.40	17.20	498	.998	1.96
Extrovert	264	47.87	16.87			
Total	500					

P>0.05

Table 7 shows that introvert group obtained a mean of 49.40 while extrovert group obtained a mean of 47.87; thus yielding a mean difference of 1.53 between the groups. The t-value obtained was .998 which was less than the critical value of 1.96 with 498 degrees of freedom at the 0.05 alpha level. From the Table, it is clear that there is no significant difference between academic achievement of introvert and extrovert groups.

Discussion

The findings from this study indicate that students' psychosocial

Characteristics correlated with academic success and had influence on the characteristics correlated with academic success and had influence on the academic performance of distance learners at the National Open University Nigeria. This result is consistent with Tella (2007), Akinsola (2008), **Yukselturk and Bulut (2007) and** Shahila (2012) which revealed significant relationship between academic performance and motivation, is control, cognitive style and personality traits, respectively.

A major finding from the regression analysis in Table 2 shows how the independent variables determined variance of academic performance of the learner. The four psychosocial variables had a joint contribution of 68% to account for academic performance of the learners; hence 32% of academic performance could not be accounted for. Consequently, motivation, locus of control, cognitive style and personality trait, individually and jointly, play significant role in academic achievement of distance learners at the National Open University of Nigeria (NOUN). This result is an evidence to indicate that student academic achievement is a function of a number of affective variables operating collectively. Also, the findings suggest to a reasonable that locus of control is the most important determinant variable of academic success among distance learners in NOUN.

The t-test analysis presented in Tables 4-7 revealed that students who are internal locus of control had higher academic achievement than students with external locus of control. This result corroborates the work of Akinsola (2008) and Fakeye (2011) which revealed that having an internal locus of control is related to higher academic achievement. However, a non-significant difference in academic achievement was found between high and tow motivation, field- independent and field- independent, as well as introvert and extroverts. This finding is inconsistent with Braimoh (2010) which found that students who are high in motivation, field - independent and introverts generally perform better academically than those who are low in motivation, fed -dependent and extroverts. This is particularly marked in distance learning where students learn without the traditional support offered in conventional mode of learning. The explanation for the finding in the present could be that most distance learners are mature in age, they are experienced and focused. They are self -motivated because they are personally pushed to achieve the target they have set for themselves.

Implications

If psychosocial correlates of motivation, locus of control, cognitive style and personality traits are determinants of academic achievement of learners at the National Open University of Nigeria, then the study has the following implications:

a) That support services should be focused on analysing each learner with the aim of helping to identify and understand the personality variables of the learners individually and as a group. Such knowledge of personality variables that can determine academic success would help givers (psychologists, counsellors) to provide necessary services that will help the learners to succeed and not to fail. It will also assist in enhancing retention of learners in school.

b) Sensitise students counsellors/psychologists to brace up in the use of appropriate psychological techniques that will encourage student - counsellor interaction.

c) That learners should be internally motivated in learning activities. This particularly demands organising fora for discussing how learning materials can be written in such a way that would be interactive.

d) While planning academic programmes, consideration should be given for the use of variables of motivation and how they can be constructively utilised to promote learning. Academic administrators particularly in the registry should be encouraged to appreciate and employ use of strategies that are capable of motivating learners and desist from activities that are capable of causing a discouragement in the programme of learning.

Conclusion

There is no doubt that distance learning has become a veritable strategy for increasing access to education among the teeming population of Nigerians and for ensuring completion of studies. The roles of ODL particularly in

opening access to educational opportunities cannot be over emphasized. Therefore understanding learners' psychosocial characteristics can help ODL providers to tailor the curriculum and course design as well as adapt instruction to meet the diverse needs of different distance learners. More importantly knowing these characteristics can help drive programme planning and policy formulation. The results of this study could help instructional designers, ODL practitioners, and instructors to understand distance learners and how best to help them realise their potentials.

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