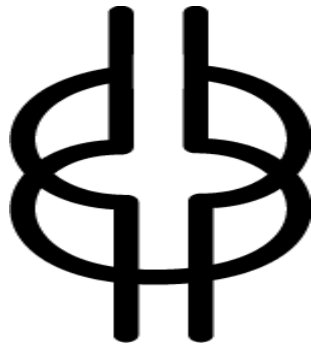


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NYANSAPO – "Wisdom Knot"

Symbol of wisdom, ingenuity, intelligence and patience

Influence of Creativity, Locus of Control and Risk Tolerance on Entrepreneurial Inclinations of Public University Students in Nigeria: Some Implications for Stakeholders

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Abstract

This study was conducted to determine the influence of three personality/psychological factors (creativity, locus of control and risk tolerance) on the entrepreneurial inclinations of public university students in Nigeria. A multi-stage sampling procedure was used to reach 2,930 students in three public universities in locations across the country that positioned them as a representative sample of the entire student body of the country. The Creativity, Locus of Control and Risk Tolerance Questionnaire (CLOCRTQ) and the Entrepreneurial Inclination Questionnaire (EIQ) were the instruments used to gather data for the study. The main data obtained were analyzed by using a stepwise multiple regression analysis and analysis of variance (ANOVA). Results showed that the three predictor variables had significant influence on entrepreneurial inclinations of students. Among the recommendations made is the need to reposition the economy towards entrepreneurial drive for job creation, wealth creation and global competitiveness of the Nigerian youths in general and the graduate in particular.

Key words: Creativity, Locus of control, Risk tolerance, Entrepreneurial inclinations, University students, Nigeria.

Introduction

In order to establish a link between psychological and entrepreneurial research efforts, Kumbul-Guler and Tinar (2009) stated that several psychologists and researchers have tried to look at behavior and underlying human factors of entrepreneurship. Their line of argument is that though the subject of entrepreneurship has roots in economics, sociology and management, the psychological approach must not be ignored.

The personality approach to explaining entrepreneurial tendencies has a long tradition in entrepreneurship research. It can be traced to McClelland (1953) in the 1950's. However, this approach was neglected after a while until the late 1990's when Brandstatter (1997) argued that the individual should be the unit of analysis and interest when dealing with the subject of entrepreneurship. Most economists feel that in order to explain entrepreneurial behavior, one ought to take into account either the personality structure of entrepreneurs or their motives, and not only their general interest in maximizing profits. So it is imperative to find the distinctive personal characteristics of entrepreneurs who are more successful than others.

After Brandstatter (1997), other researchers have worked on the relationship among various personality characteristics and entrepreneurship. Of particular interest among such studies are those which investigated how these personality characteristics predict entrepreneurial performance. The studies in this category include those of Baron (2000), Chu (2000), Denga (2005), Gürol and Atsan (2006), Yusof, Sandhu and Jain (2007) and Kiadese (2008).

In a study, Kumbul-Guler and Tinar (2009) identified four dominant personality traits that explain entrepreneurial inclination. These are risk taking, achievement motivation (need for achievement), internal locus of control and innovativeness. In a similar vein, Yusof, Sandhu and Jain (2007) asserted that three entrepreneurial personality constructs - internal locus of control, need for achievement and a moderate risk-taking propensity - have emerged as “*classic*” characteristics associated with entrepreneurial personality.

Similarly, Shaver and Scott (1991) strongly argued that of all the personality/psychological constructs indicated in previous studies as having links with entrepreneurial inclination, creativity, need for achievement, locus of control, risk-taking propensity and innovativeness have received the most attention in entrepreneurship

literature. The current researchers, in their effort to contribute to the body of knowledge on this topical issue of entrepreneurship, have focused their attention on only three of these constructs, namely: creativity, locus of control and risk tolerance. Their choice was premised partly on their conviction that the probability of finding the envisaged relationship or link between these constructs and entrepreneurial inclination might be strong, and partly on the yawning scarcity of research combining the three constructs in one single study, especially as it relates to West Africa in particular and Africa in general.

On the basis of the above, the major objective of this study was to investigate the relationships between creativity, risk tolerance and locus of control on the one hand, and entrepreneurial inclinations on the other. This was undertaken among a representative sample of undergraduates in public universities in Nigeria.

Research Hypothesis

The null hypothesis that guided the conduct of the study was:
Creativity, locus of control and risk tolerance will not be significantly related to entrepreneurial inclinations of students in public universities in Nigeria.

Methodology

Research Design

The correlational survey method was the research design used in this study. It was chosen because it is the type of design used to find relationships between two or more measured variables. According to Pallant (2010), correlation analysis is used to describe the strength and direction of the linear relationship between two variables. The goal of correlational studies is to find the correlations between a complex behavior pattern (in the current case, entrepreneurial inclination) and variables thought to be related to it. Stangor (2006) stated that correlational designs tend to measure complexities of the patterns of relationships that exist among measured variables.

In this study, three variables (creativity, risk tolerance and locus of control) which represent the predictor variables and their relationships with entrepreneurial inclinations were sought. In other words, through the use of a correlational design the researchers hoped to study how the predictor variables either singly or in combination

might affect the entrepreneurial inclination of students in public universities.

Sample and sampling procedure

The population for the study was all students in universities in Nigeria. The target population comprised all students in public universities in Nigeria. By means of a multi-stage sampling approach, a representative sample for the study was selected as indicated below: At the first stage, cluster sampling technique was applied. The population was sub-divided into two clusters or groups: students in public universities and those in private universities, and the former cluster was selected because they have a broader spread of characteristics of the Nigerian student than the latter cluster. The evidence for this comes from two main sources. Firstly, public universities in Nigeria leave their admission doors wide open to applicants from all parts of the country, and for a wider spectrum of academic programmes. Secondly, private universities on the other hand, limit their student intake to a smaller number of students (the children and wards of rich parents and guardians) who can afford to pay the exorbitant school fees charged. This cluster (public universities) was further grouped into the six geo-political zones into which Nigeria is divided: North-East, North-West, North-Central, South-West, South-East and South-South. From these six zones, three zones were purposively selected so as to give the study a national spread. They were North Central, South-South and South-West.

The second stage was the selection of one university from each of the three zones obtained in Stage One. The criteria for these choices included age of the university, its rating, its population and its programmes.

- From North-Central, Ahmadu Bello University, Zaria, Kaduna State;
- From South-South, University of Port-Harcourt, Port Harcourt, Rivers State; and
- From South-West, University of Ibadan, Ibadan, Oyo State.

The third stage involved the selection of a representative sample from each of the three universities. To achieve this, the faculties were first classified into three categories, namely: (a) Arts and Humanities, (b) Social Sciences and Business, and (c) Science and Technology. At each university, the number of students in each of the three categories

of faculty was obtained. From these, five percent (5%) of the students was randomly selected as participants in the study. This is explained in detail in the data collection and analysis section later in the work. Thus, a total of 2,930 students were randomly selected as the sample for the study. Table 1 gives a summary of the distribution of respondents by Region, University and Faculty Grouping.

Finally, convenience sampling, as a nonprobability sampling method, was used to select the actual participants on the basis of their availability and voluntary consent to participate given at the beginning of the exercise.

Table 1: Distribution of Respondents by Region, University and Faculty Grouping

S/N	Region	University	Faculty Group	Population	Sample	%
1	North	Ahmadu Bello University, Zaria	Arts/Humanities	7,006	350	5
			Social Studies	6,489	324	5
			Science and Tech.	15,136	757	5
			Sub-Total I	28,631	1,431	5
2	South	University of Port Harcourt, Port Harcourt	Arts/Humanities	5,240	262	5
			Social Sciences	5,500	275	5
			Science and Tech.	6,260	313	5
			Sub-Total II	17,000	850	5
3	West	University of Ibadan, Ibadan	Arts/Humanities	4,349	217	5
			Social Sciences	1,930	96	5
			Science and Tech.	6,721	336	5
			Sub-Total III	13,000	649	5
Grand total				58,631	2,930	5

Instrumentation

Two questionnaires were used for collecting data for the study. These were the “Creativity, Locus of Control and Risk Tolerance Questionnaire” (CLOCRTQ), and the “Entrepreneurial Inclination Questionnaire” (EIQ). Adequate steps were taken by the researchers to establish the appropriate psychometric properties of the two instruments (validity and reliability) as discussed below.

Validity: The CLOCRTQ was used to gather data on the three predictor variables: Creativity (C), Locus of Control (LoC) and Risk

Tolerance (RT). Hence, it was a battery of tests and consisted of three sections, A, B and C. Section A on creativity was an adopted form of the Ibadan Creativity Assessment Scale developed by Akinboye (1977). Section B was the adapted version of the Rotter's Locus of Control Scale by Rotter (1966). Section C was the Risk Tolerance Scale developed by the researchers. It was validated for face and content validity through vetting by three experts in the Department of Counsellor Education, University of Ilorin, Nigeria and two test experts from the Nigerian Educational Research and Development Council (NERDC), Abuja, Nigeria.

Reliability: Section A of CLOCRTIQ on Creativity was an adopted version of the Ibadan Creativity Assessment Scale which was developed by Akinboye (1977). Its reliability was established by its author through the use of the test-retest method and has a reliability coefficient (r) of 0.72. Section B on Locus of Control was adapted form of Rotter's (1966) Locus of Control Scale which had a reliability coefficient r of 0.76. Section C on Risk Tolerance was developed by the researchers. The questionnaire had a total of 55 items comprising 20, 20 and 15 items for Creativity, Locus of Control and Risk Tolerance respectively. The EIQ was a 20-item questionnaire designed by the researchers to measure the entrepreneurial inclination and interest of the students.

In order to establish the reliabilities of the two instruments (CLOCRTIQ and EIQ), they were administered to 300 students of the University of Lagos, Akoka, Nigeria, which was not one of the universities used for the study. The reliability coefficients obtained after the pilot test are shown in Table 2.

Table 2: Coefficient of Internal Consistency for CLOCRTIQ and EIQ

Scale	No. of Items	Cronbach's Alpha
Creativity	20	0.768
Locus of control	20	0.631
Risk tolerance	15	0.715
Entrepreneurial inclination	20	0.794

Data Collection and Analysis

The questionnaires were administered by the researchers with the help of three research assistants who were given prior training in

order to acquaint them with the purpose, nature and the rules governing the conduct of the research. Data collection was carried out in the three universities concurrently. For each university, one research assistant was attached to one researcher for this purpose. Through prior arrangements with the faculty selected as indicated earlier, they were assigned specific lecture halls where they met the students to administer the required quota (5%, Table 1) of the questionnaires using convenience sampling method, a nonprobability sampling involving the selection of respondents primarily on the basis of their availability and willingness to participate (Zechmeister, Zechmeister & Shaughnessy, 2001). In this way a total of 2,930 copies of each questionnaire were distributed and retrieved on the spot after they were duly completed.

For Section A of each of the questionnaire, frequency counts, percentages, means and standard deviations were computed. For the main data from Section B of CLOCRTQ and EIQ, a stepwise multiple regression analysis and analysis of variance (ANOVA) were used.

Results

As stated earlier, the null hypothesis that guided the conduct of this study was: *Creativity, locus of control and risk tolerance will not be significantly related to entrepreneurial inclination of students in public universities in Nigeria.* To test the null hypothesis a step-wise multiple regression was used. The results are presented in Table 3.

Table 3: Regression output for Influence of Creativity, Locus of Control and Risk Tolerance on Entrepreneurial Inclination of Students.

Model	Variables	β	Standard error	Standardized beta	p-value	R-square
1	(Constant)	21.79	1.43		.00	.187
	crt	0.61	0.02	.432	.00	
2	(Constant)	16.51	1.52		.00	.211
	crt	0.59	0.02	.422	.00	
	lc	0.64	0.07	.157		
3	(Constant)	8.99	2.03		.00	.220
	crt	0.60	0.02	.429	.00	
	lc	0.59	0.07	.138	.00	
	risk	0.22	0.04	.097	.00	

$\alpha = .05$

Key: crt = creativity, lc = locus of control, risk – risk tolerance

The results in Table 3 indicate that all three predictor variables (Creativity, Locus of Control and Risk Tolerance) are significantly related to the Entrepreneurial Inclination of students. The analysis shows three steps or models to the development of the model:

Step 1 (Model 1) identifies Creativity (*crt*) as the sole variable that is significantly related to Entrepreneurial Inclination with a coefficient of 0.61 which is significant at .05 alpha level ($p < .05$). At Step 1 Creativity, as the sole variable, accounts for about 18.7% of the variability of students' Entrepreneurial Inclination (*ei*).

The model at Step 1 is thus stated as:

$$ei = 21.79 + 0.60 crt \dots\dots\dots(\text{Equation 1}).$$

Step 2 (Model 2) shows Creativity (*crt*) and Locus of Control (*lc*) as the variables that are significantly related to Entrepreneurial Inclination (*ei*) with coefficients of 0.59 and 0.64 respectively, and *t*-values of 24.58 and 9.17 which are significant at .05 alpha level ($p < .05$). These two variables [Creativity (*crt*) and Locus of Control (*lc*)] in model 2 account for about 21.1% of the variability in students' Entrepreneurial Inclination (*ei*).

The model at step 2 is therefore stated as:

$$ei = 16.51 + 0.59crt + 0.64 lc \dots\dots\dots(\text{Equation 2}).$$

Finally, Step 3 (Model 3) shows that Creativity (*crt*), Locus of Control (*lc*) and Risk Tolerance (*risk*) are the variables that are significantly related to Entrepreneurial Inclination (*ei*) with coefficients of 0.60, 0.57 and 0.22 respectively, and *t*-values of 25.07 and 5.56 which are significant at .05 alpha level ($p < .05$). These three variables in model 3 [Creativity (*crt*), Locus of Control (*lc*) and Risk Tolerance (*risk*)] account for about 22.0% of the variability in students' Entrepreneurial Inclination (*ei*).

The model is stated as:

$$ei = 8.99 + 0.60crt + 0.57lc + 0.22 risk \dots\dots(\text{Equation 3}).$$

This implies that at this stage, i.e. equation 3, all three predictor variables are significantly related to Entrepreneurial inclination of the students. Hence, for every increase in the Creativity, Locus of control and Risk tolerance of the average student, the Entrepreneurial inclination will be affected by a factor of 0.60, 0.57 and 0.22 respectively.

Each of the models, namely equations 1, 2 and 3, were tested to know if their relationship to the entrepreneurial inclination of students is substantial. The sub-hypothesis that catered for these is:

The effect of the model is not significantly different from zero.

Table 4 shows the results of the analysis.

Table 4: ANOVA Results for Relationship of Creativity, Locus of Control and Risk Tolerance on Entrepreneurial Inclination of Students.

Model	Variable added	Group	Sum of square	df	Mean square	F	Sig
1	Creativity (<i>crt</i>)	Regression	74454.743	1	74454.743	673.31*	.000
		Residual	323777.220	2928	110.58		
		Total	398231.96	2929			
2	Locus of control (<i>loc</i>)	Regression	84287.529	2	42143.7645	392.92*	.000
		Residual	313944.434	2927	107.26		
		Total	398321.963	2929			
3	Risk tolerance (<i>risk</i>)	Regression	87863.269	3	29287.7563	276.11*	.000
		Residual	310368.694	2926	106.07		
		Total	398321.963	2929			

*Significant, $p < .05$

The results in Table 4 show that models 1, 2, and 3 yielded *F*-values of 673.31, 392.92, and 276.11 respectively, each of which is significant at the .05 level of significance. Therefore, the effect of models 1, 2, and 3 are significantly different from zero. This implies that the models provide credible platforms for determining the influence of Creativity (*crt*), Locus of control (*lc*) and Risk tolerance (*risk*) on the Entrepreneurial inclination (*ei*) of the average student.

Discussion

The results have revealed that the three variables – creativity, locus of control and risk tolerance – have a significant relationship with entrepreneurial inclination of students in public universities in Nigeria. This finding corroborates the results of Baron (2000), Chu (2000), Kiadese (2008), Zampetakis, Gotsi, Andriopolulos and Moustakis (2011) and Ngwoke, Oyeoku and Obikwelu (2013) that the personality/psychological traits such as creativity, locus of control, risk tolerance and the need for achievement affect people’s aspiration towards entrepreneurship.

Entrepreneurship is necessary for economic growth and development. Hence, it is crucial to boost the creativity level and risk tolerance of today's students who will become the workforce of the future. Even though, from the results of this study, the three predictor variables do, in fact, predict entrepreneurial inclinations quite well, the risk tolerance power in doing this is slightly lower than it is for those of creativity and locus of control (Equation 3).

Conclusion

This study has provided evidence to suggest a link between undergraduates' creativity, locus of control and risk tolerance on the one hand, and their entrepreneurial inclination on the other. This implies that students who are creative and exhibit strong risk tolerance propensity are more likely to be inclined towards entrepreneurship.

Recommendations

1. The re-engineering of the Nigerian economy in the presence of available resources and business opportunities has attracted attention, thus there is the need to reposition the economy towards entrepreneurial drive for job creation, wealth creation and global competitiveness of the Nigerian youths/graduates. Therefore, entrepreneurship education must be given priority at the secondary and tertiary levels of education in Nigeria.
2. The Ministry of Education should ensure that career counselling is functionally available at all levels of education, particularly at the junior secondary level to the tertiary level. Career guidance by professional counsellors and school psychologists will enhance the understanding of the young people on entrepreneurship, creativity, locus of control and risk tolerance. It is anticipated that when this is done the problem of unemployment and poverty will be reduced to the barest minimum because the graduates, after completing their courses of study, will not solely rely on the government for employment but will endeavor to create jobs for themselves with some support from the government.

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