CONTRIBUTIONS OF TEST ANXIETY, STUDY HABITS AND LOCUS OF CONTROL TO ACADEMIC PERFORMANCE

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ABSTRACT: *The intention of this study was to investigate how the joint interaction of test anxiety, study habits and locus of control determine the academic performance of college students. Five hundred and eight randomly drawn final year students of the Federal Polytechnic, Ilaro and Moshood Polytechnic, Abeokuta, Ogun state, Nigeria were engaged in the study. They were given three questionnaires that took approximately forty five minutes to complete. The study was conducted in a classroom environment during the schools' continuous assessment (CA) week. After collecting information from the students through questionnaires, their tests results were obtained from their faculties. These test scores were compared to the scores obtained from the questionnaires. It was discovered that the three variables positively correlate with, and significantly predict academic performance. This implies that academic performance is associated with non-cognitive and socio-psychological variables. It was therefore recommended that early intervention and proactive prevention programs that would aid the reduction of anxiety and nervousness in students be developed and implemented. Also, good study strategies such as evaluating the comprehension level, understanding the information from the text, anticipating the next thing, and knowing the purpose of learning a particular thing should be developed.*

KEYWORDS: Test anxiety, study habits, locus of control, academic performance.

INTRODUCTION

Tests are very important phenomena in schooling. Expectedly, students must take several tests in the course of their schooling as the results of such are essential for a number of reasons. For instance, the results are used to make important decisions about students and educational programs including determining levels of curriculum mastery, report card grades, grade level promotions, honours, and graduation (Carter et.al. 2005). Also, educators and policy makers use examination records to monitor students' learning progress and to assess the effectiveness of their instruction and identify ways to improve it (Salend, 2009).

However, many students experience test anxiety, especially, in Nigeria where many examinations are centralised and highly competitive. For instance, examinations such as the West African School Certificate Examination (WASCE), National Examination Council (NECO), Unified Tertiary Matriculation Examination (UTME) and Post-UTME tests are highly competitive and therefore stress the acquisition of knowledge at all costs by the students,

since performance in these exams is necessary for obtaining admission for higher education at universities, polytechnics and colleges of education. Coupled with the fact that there is a quota system (which limits the chance of a student being admitted) for entering higher education institutions in Nigeria, students perceive examinations as a "do or die" thing in Nigeria and are therefore considerably pressurised to the extent that they experience high levels of stress, nervousness and apprehension while taking such examinations.

Between 25% and 40% of students experience test anxiety (Cassady, 2010), which significantly interfere with their performance, emotional and behavioural well-being, and attitudes toward school (Huberty, 2009). Thus, investigating the joint interactions of factors such as test anxiety, study habits and locus of control on academic performance would be helpful for providing better opportunities for students in Nigeria.

LITERATURE REVIEW

Chapell et.al. (2005) argued that test anxiety is a multi-dimensional phenomenon that involves worry, emotionality, and behavioural reply to being preoccupied by the possible negative outcome of academic scores. Davis, DIStefano and Schuntz (2008) supported this view in a study of 2,215 first-year college students (56% female, 44% male). The students were asked to complete the Cognitive-Appraising Processing Subscales of the Emotional regulation during Test Taking Scale (developed by Schuntz et.al., 2004) and the Test Anxiety Scale of the Learning and Study Strategies Inventory (developed by Weinstein & Mayer., 1987). A strong correlation between test anxiety and SAT and general quantitative scores was discovered in the study.

In the same vein, Woolfork (2009) observes that an anxious person may experience perceptual distortions of non-psychotic proportions, which may reflect in attention processes and thereby critically affect the cognitive performance and information processing. Hassan Zadeh, Ebrahimi and Mahdinejad (2012) find similar result in their study. According to them, the student's level of test anxiety can cause a student's academic performance to suffer even more depending on the length of time they suffer from test anxiety. However, test anxiety according to some researchers, may be influenced by varied factors such as environmental factors (Aremu & Sokan, 2003); teacher factor and psychological factors within the students (Ngwoke, 2010). The psychological factors include the individual's cognitive variables such as motivation, adjustment, gender, and study skills.

Hills & Benlow, (2008) noted that study skill is correlated to anxiety as it can boost a person's ability to study and pass examinations. Inadequate and inefficient studying can contribute to and intensify the test anxiety that a student may experience (Cassady, 2010). Students may initially perform poorly on test because of insufficient studying and preparation, learned helplessness, family pressures or badly designed tests that may make students experience increased stress, as well as concentration, attention, self-esteem, and memory difficulties during subsequent tests (Peleg, 2009). Witmaier (2002) explains the relationship between study skills and test anxiety. According to him, students with high facilitating anxiety test scores have

effective study skills while those with high debilitating anxiety test scores have less effective study skills. In other words, students that have good study skills are more likely to have lower test anxiety scores and the vice versa.

Gettinger and Seibert (2002) concluded that academic competence is associated with the knowledge and application of effective study skills. According to them, students who possess good study skills are likely to achieve academic competence. They understand task demands, and are able to device flexible, effective strategies to succeed academically. Thus, effective study skills have been shown to improve academic performance, strategic knowledge, and affective responses among students with learning problems across multiple academic domains (Harvey & Goudvis, 2000).

Parker (2010) points out that there are ways students can study to increase their ability to retain information and to think critically. Such include mnemonics, effective note taking, effective time management, use of key words, summarising, memorization, flash card training, condensing information, acronyms and so on.

However, study skills have been related to other academic enablers. For instance, locus of control has been described as the cause of a person's experience and factors affecting success or failure (Barzegar, 2011); a predictor of many behaviours (Tella, Tella & Adeniyi, 2009; Atik, 2006); and the predictor of academic and social behaviours (Deniz, Tras & Aydigan, 2009; Tella & Adika, 2008). Uguak, Habiba, Jegak and Turiman (2007) argued that there is a relationship between academic achievement and locus of control. High-achieving students have high score in internal locus of control than low-achieving students (Yates, 2009). In the same vein, Bostic (2010) finds that there is a significant difference in academic achievement of students who have internal locus of control and those who have external locus of control. According to him, students that have internal locus of control are more successful than students that have external locus of control.

Locus of control (LOC) is conceived in this study as an individual's belief system as regards the causes of his/her experiences and the factors to which that person attributes success or failure. LOC can be internal or external source of control. Individuals whose locus of control is internally located attribute their success/failure to their abilities and competences while those who have external source of control believe that their attainment/failure is as a result of some external factors such as luck or providence. People who have internal locus of control think that they have a big role to play in determining the events that influence their lives. In addition, they judge themselves as possessing the power for the attitude they want to display by having the positive ego concept, and they believe that they can direct their lives in whatever way they want (Gulveren, 2008).

Certainly, investigating the interrelationship of non-cognitive factors such as test anxiety, study habit and locus of control will be beneficial by providing better opportunities for students, especially, in a society like Nigeria where students at all levels display high test anxiety in their examinations as a result of inadequate learning skills or insufficient preparedness, which on

many occasions, results to weakened performance, high proneness to examination malpractices and consequently, low academic achievement. Tella and Tella (2009) pointed out that academic achievement is remarkably an important issue; a fundamental premium upon which all teaching-learning activities are measured using some criteria of excellence such as good academic performance, poor academic performance and academic failure.

Similarly, Kutanis, Mesci and Ovdur (2011) posited that locus of control plays an important role for students to sustain the efficacy and usefulness of learning performance. In their opinion, the knowledge and experiences gained by students by means of organizational learning are a vital factor in increasing students' performance, thus, it is necessary for organizations to fulfil learning function in an arrangement and to use this function oriented to the improvement of the students. It is in view of these that this study was designed to investigate the extent to which test anxiety, study habits and locus of control combine to predict academic achievement of college students in Nigeria. To achieve this basic aim, two research questions were raised and answered. They are:

1. What is the joint effect of test anxiety, study habits and locus of control (independent variables) on the academic performance of college students?
2. What is the relative effect of each of test anxiety, study habits and locus of control on the academic performance of the students?

METHODOLOGY

Participants

This study was conducted at the Federal Polytechnic, Ilaro and Moshood Abiola Polytechnic, Abeokuta in Ogun State, Nigeria. A total of 512 students (250 male, 262 female) of the schools of Management and Engineering participated in the study. All of them are in the final year of the Higher National Diploma program (HND II). Their age ranged between 19 and 24 (M=20.6). Using the stratified random sampling, the sample was representative of the entire departments of the two schools. Out of the 512 students, 508 completed the questionnaire, which makes a response rate of 98%. Permission was sought from the authority of the schools and the purpose of the research was explained to the students before questionnaires were administered on them.

Students in HND II were preferred because measures of locus of control have emphasized that stronger test retest reliability and internal consistency are obtained when these measures are given to older students. Besides, it is the opinion of these researchers that such students are in the defining moments of their academic career.

Procedure

A total of seven classes participated in filling the questionnaires and each session lasted approximately forty five minutes. The classes were visited during the continuous assessment (CA) week of the schools. CA week is the week, usually towards the end of every semester but

before the semester's examinations when various tests are conducted by faculties throughout the whole school to determine students' continuous assessment, which forms 30% of the students' academic performance for the semester.

The purpose of the research was explained to the students and their faculties. Afterward, students were asked to indicate if they were willing to participate in the exercise. Once a student raises his/her hand, a questionnaire is given to him/her. They were shown examples of how to fill the questionnaires in order to make sure that they understood how to provide their answers. As they filled the questionnaires, the researchers walked round the room to make sure that students were responding to the questionnaires correctly. Giving out all forms, explaining the purpose, reading the instructions, completing the questionnaires and collecting them back took approximately forty five minutes.

Instruments

Test Anxiety

The Beck Anxiety Inventory, which was developed by Beck, Epstein, Brown and Steer (1998) was used to measure test anxiety among the students. It comprises of 21 items that was designed in Likert's 5-point response format that ranged from strongly disagree (1), disagree (2), undecided (3), agree (4) and strongly agree (5). Each student marked ($\sqrt{}$) either of the response format (as appropriate) for each statement. The total score on the scale ranged from 20 to 65 where high scores denote high anxiety. According to Owayed (2005) who had earlier used the scale in a study of academic achievement and its relationship with anxiety, self-esteem, optimism and pessimism in Kuwaiti students, it has good reliability and validity coefficients. For the present study, reliability coefficient of .79 was obtained.

Study Habit

The Study Habits Inventory (SHI), which was developed by Ulug (1981) was used to measure the students' study habits. It consists of 60 true/false items that were designed to examine the usual study behaviours of high school students. 50 out of 60 items depict effective study habits while the remaining 10 are control items. The control items are key reversed such that total scores ranged from 0 to 50, with high scores signifying good study habits.

Ergene (2011) notes that a series of studies that used this scale yielded reliable scores and he realised a test retest reliability of .82 while studying the relationships among test anxiety, study habits, achievement, motivation and academic performance among Turkish High School students. For the current study, a reliability coefficient of .68 was achieved.

Locus of Control

The Locus of Control Scale that was developed by Craig, Franklin and Andrews (1984) served as the measure for internal and external locus of control. It is a paper-and-pencil measure that consists of 14 items that was designed in Likert's 5-point response format like the anxiety scale. The locus of control instrument includes items that incorporate a variation of reinforcement

factors (both personal and motivational) consisting of achievement, dependency and affiliation. It is designed to assess the extent of each respondent's externality. None of the items indicate externality if the student's answer is agree (4) or strongly agree (5). Akinleke (2008) had used this scale in a study of the effect of locus of control and self-esteem on academic achievement of students in Nigeria where reliability coefficient of .66 was attained. For the present study, alpha coefficient of .87 was obtained.

Academic Performance

The dependent variable for this study was academic performance, which was measured by considering the student's scores in the tests that were held when the questionnaires were administered on the students. The scores were retrieved from the faculties. The students that participated in the study were not given any incentive either monetary or additional marks.

RESULT

Pearson Product Moment Correlation analysis was used to determine any significant relations between all the variables, that is, test anxiety, study habits and locus of control.

Table 1 shows the descriptive statistics and intercorrelations among the study variables. The table reveals that academic performance correlated with test anxiety (r=.466, p<0.05); study habit (r=.411, p<0.05); and locus of control (r=.365, p<0.05). It also shows significant correlations among the three independent variables.

Table 1: Descriptive statistics and correlations among the variables

Variables	N	Mean	SD	Academic Achievement	Test Anxiety	Study Habits	Locus of Control
Academic Achievement	508	68.3678	17.5120	1.0000			
Test Anxiety	508	29.1456	5.1251	.365**	1.0000		
Study Habits	508	31.8086	7.4516	.411**	.771**	1.0000	
Locus of Control	508	45.7175	11.0025	.406**	.321**	.302**	1.0000

N = 508, correlations greater than .30 are significant at p<.05, **p<.001

The first research question sought to inquire the combined effect of test anxiety, study habits and locus of control (independent variables) on academic performance of the students. The result is shown in Table 2.

Table 2: Multiple regression analysis on academic achievement data

Multiple R (adjusted = 0.514				
R^2 (Adjusted = 0.356				
Standard Error of Estimate = 4.14				
	Sum of squares (SS)	Df	Mean Square	F
Regression	12187.561	3	4062.520	
Residual	8660.236	496	17.460	232.7
Total	7	499		

Table 2 above indicates that the independent variables when combined together have significant effect on the academic performance of the respondents. The values of R (adjusted) = 0.356. The analysis of variance worked out on multiple regression yielded an F-ratio value of 232.7 and was found to be significant at 0.05 level.

Table 3: Relative contribution of the independent variables to the prediction

Unstandardized coefficients			Standardized coefficients	t	P
Model	B	Standard error	Beta		
Constant	32.412	4.194		11.6	<0.05
Test Anxiety	.364	.079	.344	5.41	<0.05
Study Habits	.249	.077	.189	2.27	<0.05
Locus of Control	.187	.074	.268	1.63	<0.05

The table 3 above shows that each of the independent variables made a significant contribution to the prediction of academic performance. Considering the extent of their contribution, test anxiety made the most significant contribution (Beta = .364, t = 5.41, p<0.05) to the prediction. Other variables made significant contributions in the following order: study habit (Beta = .249, t = 2.27, p<0.05) and locus of control (Beta = .187, t = 1.63, p<0.05).

DISCUSSION AND CONCLUSION

This study investigated test anxiety, study habit and locus of control as predictors of academic attainment of college students. The result suggests that the three variables positively correlate with, and significantly predict academic performance. This implies that academic performance is associated with non-cognitive and socio-psychological variables.

The result of the first research question shows that the three independent variables have a combined effect on the academic performance of the students. The degree of the effectiveness of the variables was manifested in the value of R= 0.514 and R2 (adjusted = 0.356). The implication of this is that 35.6% of the variance in the academic performance of college

students is accrued to the linear combination of the three variables. The value of F-ratio computed gave more weight to the result. This is an indication that the three independent variables have the capacity of predicting academic performance, which could not happen by chance. This finding is in line with the studies of previous researchers (Akinleke, 2012; Aryana, 2010; Ndirangu, Muola, Kithuka & Nassiuma, 2009).

The substantial impact of test anxiety on the academic performance as revealed in this study cannot be overstated. This implies that it is more likely for students that are not academically organized and diligent to become easily apprehensive and emotionally destabilized with just minimally difficult tests. It also means that performing students in the school work are calm, organized and well-prepared.

Also, the significant contribution of good study habit to academic performance as discovered by this study should be noted with serious emphasis. As the respondents are students of higher education institutions, who are expectedly matured, the learning environment, teacher-student relationship[, the calibre of friends they keep as well as their socio-psychological development may all contribute to their good study habit and eventually having great impact on their academic performance.

Locus of control made the least, but still significant contribution to academic performance according to the findings of this study. This is in line with the findings of Akinleke (2008), Martinez (2003), Coleman and Deleire (2000) and Liu, Lavelle and Andris (2000). These studies discovered that locus of control does indeed strongly influence academic achievement and decision to graduate from high school.

RECOMMENDATIONS

It is recommended that early intervention and proactive prevention programs that would aid the reduction of anxiety and nervousness in students be developed and implemented. Peleg (2009) suggests that identifying students who experience heightened and detrimental levels of anxiety when taking tests is one of the first steps to take in order to help students.

To enhance good study skills, strategies such as evaluating the comprehension level, understanding the information from the text, anticipating the next thing, and searching for the aim of reading the text are more analytic and helpful. According to Cogmen and Saracaloglu (2009), it is important for college students to use reading comprehension strategies while reading.

IMPLICATIONS AND FUTURE RESEARCH

Although this investigation was limited by the small convenience sample and the self-report course marks, however, the findings have some important implications. For instance, the discovery about how the joint interactions of the variables of this research work can determine students' academic performance may be important for governments, education authorities,

policy makers and schools when formulating and designing educational programmes. Also, the findings of this study can be useful and applied in various counselling settings.

Future research may be conducted to examine the various intervention programmes that may help students reduce their test anxiety and also increase their self-control.

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