EFFECTS OF PSYCHOLOGICAL VARIABLES, COPING STRATEGIES ON TEST ANXIETY AND ACADEMIC PERFORMANCE OF UNDERGRADUATE DISTANCE LEARNING STUDENTS IN THE NATIONAL OPEN UNIVERSITY OF NIGERIA.

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Abstract

The study aimed at assessing the association of test anxiety and academic performance with study skills, coping strategies (mechanism) self-concept, self-esteem, psychological distress and social support among undergraduate distance learners of the National Open University of Nigeria. A series of validated measures were administered on 440 distance learning students in 5 study centres of the university, comprising of 305 females and 135 males. Social support was found to be a protective cover for test anxiety. Better study skills, self-concept, psychological distress were indicative of higher test anxiety, and with higher level of students' success. Higher level of self-esteem was also associated with higher students' success. The implications of the results were also discussed.

Keywords: Academic achievement, Test anxiety, Psychological distress, coping strategies.

Introduction

The academic environment of the average undergraduate student in Nigeria presents several social and psychological stresses that students face every day. These may range from Examination preparations to lack of money, and even cult-related problems. Stresses that emanate management decisions that affect students, like in school fees had also result in ripple effects on students and faculties as well. Frequent power outage with it concomitant effects like lack of water, dirty hostels, etc. also add to students' stress. The scenario painted above may not be a Nigerian peculiarity. This assertion is true as Pekrum, Goetz, Titz, (2002) argued that students experience a great variety of self-referenced, task-related and social emotions in academic settings. They also opined that, the effect of academic learning and academic achievement is pivotal in every aspect of life, starting from social relations, academic careers, and ability to allocate resources due to the fact that all the above-mentioned aspects

depend on individual achievement. Furthermore, Pekrum et al (2002), stated that the influence of emotions on students' cognitive processes and performance has been suggested to be associated with students' psychological and physical health as well.

Anxiety disorders have been reported to be present in almost all cultures, (Demyttenaere, 2004). Be that as it may, studies have shown that the one most common anxiety type present and rising among students is test anxiety (Sarason, and Sarason, 1990). Test Anxiety is considered as one of the most important problems confronting students worldwide, Khosravi and Bigeli (2008). Test Anxiety has been demonstrated to have an inverse relationship with academic performance, and is present in both gender (Sowa & Lafleur, 1986, Amini, 2017). Test Anxiety is also seen to be present in both younger and older age distribution of students (Cassady and Johnson, 2002).

In Nigeria the influence of test Anxiety and academic performance of students have been researched and documented. These studies almost all concentrated in the conventional University undergraduate students. The present study has set out to bridge this gap by focusing on distance learning students. The problem of the study therefore is to identify how students' self-esteem, study skills, self-concept, social support and coping mechanism or strategies has impacted on their test anxiety with subsequent effect on academic performance among students of the National Open University of Nigeria. It is reasoned that students' academic performance is dependent on many critical factors, of which the above may form part. Studying them therefore, will highlight how these can be harnessed to better the lot of distance learning students in their peculiar learning environment. It is reiterated here that students' success in their academic pursuit will impact many other indices if their life.

Literature is replete with studies that show that students' academic achievements are being investigated extensively, and that several factors have emerged as critical to students' academic success (Rosado, 2013). Moreover, several existing studies suggest that academic success is associated with student test anxiety level (Cohen, 2008; Congos, 2010; Ergene, 2011; Numan and Hasan, 2017), Self-concept, (Rosen, et al, 2010), and self-esteem, (Alam, 2013; Arshad et al, 2015; Wigfield et al, 1991). Other studies have also shown that students' academic achievement and their level of test anxiety is associated with coping mechanisms or strategy (Auerbach and Gramling, 1997)

and level of psychological distress, (Bayam and Bilgel, 2008).

Test anxiety is a multifunctional construct and is defined as the set of physiological and behavioural responses that accompany concern about possible negative consequences or failure on an examination or similar evaluative situations (Zeidner, 1998). Findings from studies have also shown that test anxiety is associated with lower academic performance among students (Hembree, 1988; Seipp, 1991; Zeidner, 1998). Specifically, according to Pekrum (2002), "test anxiety has shown to reduce the working memory resources, leading to impairment of performance at complex or difficult tasks that draw on the resources".

Existing literature within the field of Educational Psychology has pointed out that though theories of test anxiety, like interference model, deficit model and the information processing model do provide insight regarding the whole process of impact that test anxiety has on performance, many studies investigating test anxiety focus on impact of emotionality and worry factors of test anxiety on performance, (Hembree, 1988). Thus Liebert and Morris, (1967) considered worry and emotionality as the two most important factors of test anxiety, emotionality refers to the psychological changes that occurs (Cohen et al, 2008). Cohen et al (2008) also affirm that it is specifically the cognitive aspect of test anxiety and worrying that have shown to be strongly correlated with examination performance. Moreover, Cassady and Johnson (2002), have shown that worry is associated with impairment through its association with concentration. Thus, to assess test anxiety, it is reasonable to measure cognitive worry items and to combining these with self-assessed performance impairment items (Driscoll, 2007).

It is also to be noted that studies have concluded that test anxiety and academic achievement are influenced by students' study skills, such as textbook reading, memory, time management, note taking, test preparation and concentration (Congos, 2010). With respect to study skills, time management is considered a study skill of students that can affect academic achievement (Britton and Tesser, 1991).

Other studies on students' study skills and academic achievement are those of Hailikari, Tuononen, and Parpale (2018) which studied the relationship between study skills like having effective study techniques, using different study methods, having good language proficiency, and academic achievement; Crate and Kuncel

(2008), which studies relationship between College GPA and information processing skills, ability to select main ideas, self-testing, motivation and time management. The opposite effect of poor study habit is also found to predict poor grades (Ayesha and Khurshid, 2013; Congos, 2010; Ergene, 2011).

Self-esteem, one of the variables of this study, is identified as another predictor of acidic achievement, and test anxiety. It is defined as the evaluative segment of self-concept (Blascovich and Tomaka, 1991). Development of self-esteem is considered to be shaped by learning experiences, lived throughout life and a dynamic process. If encompasses individual perspectives and qualities of self (Sari, Bilek, and Celik (2018). According to Alam (2013), students who are reported to have high self-esteem had higher academic performance compared with students who had lower self-esteem. Alam (2013) also reported a negative relationship between test anxiety and self-esteem of students. Other studies that report positive correlation between self-esteem and academic achievement among university students include those of Arshad, Zaidi and Mahmood (2015), Booth and Gerard (2011).

Another important variable in this research is Self-Concept. Academic self-concept is defined as "a domain specific". Self-concept explains the way students perceived and conceptualize about their ability in academic settings (Rosen, Glennie and Dalton, 2010). According to Trautivein, LÜdtke, and Köller, (2006), self-concept has been found to have positive relationship with academic achievements. Xu et al (2005) showed in their study that all measured dimensions of self-concept, including general self-concept, academic self-concept, and English self-concepts, were significantly related to test anxiety. Khalaila, (2015) also found that a higher self-concept, and is directly related to greater academic achievement; and test anxiety and intrinsic motivation are significant mediators in the relationship between self-concept and academic achievement.

A significant positive relationship between psychological distress and test anxiety is documented by many other studies, which further explains that students who experience higher academic stress in most cases have higher level of worry and emotionality scores and lower academic achievement (Harpell & Andrew, 2013; Rajiah and Ying, 2014; Rana and Mahmood, 2010). Psychological distress, known also as psychological discomfort is usually manifested through feelings of sadness, anxiety, distraction and in most

extreme cases, psychotic symptoms, which can also be considered signs of psychological distress (Bryram and Bilgel, 2008). Scholars also conclude that psychological distress symptoms are also manifested through symptoms of depression, low levels of mastery, and low level of life satisfaction, which affect academic performance in school-aged children (Bhatin and Bhatia, 2007; Okagaki, Frenseh, and Dodson, 1996).

In a related study by Stallman (2010), it was found that among other factors, psychological distress was associated with lower academic achievement among university students. However, social support was found to act as a protective factor for psychological distress among students (Brisset, Safdar and Lewis, 2010). Also, studies have indicated that there are numerous factors that can reduce levels of test anxiety and support students in addressing stressful situations. In this regard coping strategies as actions to help students address stressful situations demonstrated to be very effective in overcoming and preventing test anxiety (Auerbach and Gramling, 1997). Cohen, Ben-Zur and Rosenfield (2008) indicated that coping strategies are classified as problem-focused or emotion-focused, and this classification is determined based on the behavioural and cognitive efforts used to address stressful encounters.

Furthermore, Kaiseler, Polman, and Nicholls, (2009), listed problem-focused coping strategies (coping, seeking social support for instrumental reasons, planning, suppression of competing activities, and increasing effort) and five emotion focused coping strategies (seeking social support for emotional reasons, humor, venting of emotions, self-blame, and wishful thinking) used by students. According to Cohen et al, (2008), coping strategies entail behavioural and cognitive efforts to address stressful encounters and classified as problem-focused or emotion-focused. Kaiseler et al (2009) opined that students using problem-focused coping strategies try to minimize stress by reducing or eliminating the stressor, whereas students using emotion-focused coping indulge in strategies used to regulate emotional arousal and distress. However, the influence of coping mechanism and the level of test anxiety has been found to differ among students at different age groups. Aysan, Thompson and Hamarat (2001) found that younger students experience increased levels of anxiety compared to older students. According to the findings of Penley, Tomaka and Wiebe (2002), coping, that is, emotion-focused, is positively correlated with psychological

distress, whereas coping strategies that are more focused on problem-solving are weakly correlated with psychological distress (Ben-Zur, 2002).

Most studies in our clime looked at students' test anxiety and effect on academic achievement. This study is significant as it looks at factors that students employ to cope with anxieties, psychological discomfort and stressful situation. The question that guided this study is: what association, if any, exists between test anxiety and academic performance by evaluating study skills, coping mechanism, self-concept, self-esteem and psychological distress among Nigerian university students who operate in distance learning environment.

In particular, understanding the emotions linked with academic guidance on teaching and classroom instruction, designing educational environment in such ways that they foster students' psychological well-being, thus, contributing to better academic outcomes, as well as prevent students from higher levels of test anxiety, at their highest educational level, by establishing mechanisms of support, which have already been demonstrated to be very effective in supporting students during their continuous education.

Statement of the Problem

That students experience some form of anxiety during examination is no longer in doubt and that these anxieties could affect students academically have also been empirically established. The effects could be positive or negative. What has not been properly established in our clime is how students employ psychological variables in mitigating or cope with test anxiety and thus affect their academic achievement. This study focused on such coping strategies. The problem this study sets out to resolve is how such psychological variables like self-esteem, study skills, self-concept, social support, coping strategies are employed to impact on test anxiety and by extension academic achievement of distance learning students in Nigeria.

Research Question

What association, if any, exists between test anxiety and academic achievement, by evaluating study skills, coping strategies, self-esteem, self concept, and psychological distress among National Open University of Nigeria Distance Learning Students?

Methodology

Eight instruments were used to gather information from students in 5 conveniently selected study centres of the

National Open University of Nigeria, including:

- Westside Test Anxiety scale (Driscoll, 2007). The series were coded such that higher scores indicate higher level of test anxiety. Observed reliability for current sample was a good range (α=.850).
- Self-esteem was accessed using the Rosenberg self-esteem scale (Rosenberg, 1965), which is a 10-item self-report scale that measures an individual's global sense of self-worth. Items are rated on a 4-point Likert-type scale, with higher scores indicating a higher self-esteem. The adapted reliability index here was α=0.816.
- To measure study skill, the Cook Counseling Centre study skill checklist was used (CCCVT, 2016) i.e. Cook Counseling Centre at Virginia Tech. Instrument pilot test reliability was α=0.580.
- Academic achievement was obtained from semester result of participants using the lower limits of grades: A=70, B=60, C=50, D=41, E=40, F=0.
- The Stober multi-dimensional coping scale (2004) was adapted to measure coping strategy. α=0.620.
- The Campbel self-concept clarity scale (Campbell et al, 1996) was used to measure students' self-concept. The observed reliability of current sample was α=0.780. This is believed to be in the good range.
- The Kessler Psychology Distress scale (2003) was employed in the measurement of distress among students. This instrument is a 10-item self-report measure of global distress (i.e. during the last 30 days, about how often did you feel tired for no good reason). Items ranges in severity from "none of time" to all of the time", with higher scores indicating higher level of psychological distressed. The adapted instrument has an observed reliability of α=0.890.

The instruments were not all administered at the same time. Staff at the centres were used in the administration, especially on weekends when the students come for facilitation. Two instruments were administered during the first week, and all students who participated were given identity number. Demographic indices gathered were only limited to their gender,

matriculation number and course of study to enable the researcher collect data relating to academic success. At the end of four weeks of instrument administration and sorting, 440 students responded to all the instruments and these constitute the sample for the study, out of an estimated population of over 30,000 students. Table 1 shows the description of the participants.

Table 1
Sample Description

Gender	**n**	**%**
Male	135	30.68
Female	305	69.32
Total	**440**	**100.00%**
Academic Achievement		
Fail	0	0
E	22	5
D	55	12.5
C	300	68.20
B	42	9.5
A	21	4.8
	440	**100%**

Analysis

Multiple Linear regressions were used to analyse the primary research question: what association (if any), exist between test anxiety and academic performance of students, by evaluating study skills, coping strategies, self-concept, self-esteem, and psychological distress among distance learning students of the National Open University of Nigeria. Non-significant predictions were then removed from the models. The results are presented in table 2 and 3 below:

Table 2

Summary of regression models predicting test anxiety.

	Unstandardized		Standardized	
	B	SE	Beta	P
Constant	41.457	4.862		<.001
Social Support	-0.244	0.099	-0.156	.015
Total Psychological Distress	-0.341	0.085	0.277	<.001
Study Skills	0.486	0.163	0.201	.003
Self-concept	0.124	0.055	0.151	.025

SE: Standard Error.

Model Summary: F (5,220) =11.15; P<.001=.206.

Table 2 shows that the overall model was significant, F (5,220) =11.15; P<.001>R^2=.206. Social support was associated with lower test anxiety, beta = -0.141, at P<0.05. Conversely, better study skills, self-concept, and psychological distress were indicative of higher test anxiety, betas = 0.201, 0.15 and 0.277 respectively, all P<0.05.

Table 3

Summary of the regression model predicting academic achievement

	Unstandardized		Standardized	
	B	SE	Beta	P
Constant	2.790	0.351		<.001
Total Psychological Distress	0.020	0.008	-0.144	
Study Skills	0.486	0.163	0.201	.003
Self-esteem	0.012	0.005	0.127	.022

SE: Standard Error.

Model Summary: F (3,192) =53.96 P<.001, R^2=.461.

He overall model predicting academic success was significant, F (3,192) = 53.96, P<.001, R2=.461. Higher level of total psychological distress was associated with lower academic success, Beta -.144 P<.001. Higher level of self-esteem was associated with higher students' success, Beta <.127, P<0.05.

Discussion

The current research finding suggest that having social support were associated with lower test anxiety and this can enhance better academic success. This conclusion is consistent with Cohen, 2008. The study also found that better study skills, self-concept and psychological distress were indicative of higher test anxiety. This also is consistent with other grievous studies (Hailikari, 2018, Khalaila, Bhatia and Bhatia, 2007). In addition, higher levels of self-esteem were associated with higher student success. This finding also finds support in Alam (2013), Drshad (2015).

The association of psychological distress and self-esteem with academic success and level of study is significant. These research findings find support that being in the university and experiencing higher levels of psychological distress were associated with lower academic success (Bhatia and Bhatia, 2007, Stallman, 2010). It was also established that higher levels of self-esteem were associated with better student success (Alam, 2013, Arshad, 2015).

Implications

The results posted above can serve as a reference for policy makers, universities, teachers and students to understand which personal and academic factors can influence students' learning, which may make them adapt their teaching strategies or educational curricula to better support students learning and overall well-being. It is also shown that teachers can support their students in decreasing test anxiety. They also need to know how to help students develop a good understanding of their strengths and weaknesses. The results can also help parents to help their children manage test anxiety by encouraging them to trust in their abilities for accomplishing various academic tasks (OECD, 2017).

The results indicate that higher self-esteem is associated with better student's success, thus using teaching methodologies that involve thorough teacher feedback may help students develop greater sense of their own ability and feel better about their success (Booth and Gerard, 2011). The results can also help in the designing of programmes with direct practical implications in the well-being of students

and their academic performance. Specific programme of coping strategy development would be highly beneficial for students and would impact further development of the mental and emotional health of students (Aysan, 2001).

Test anxiety as a consequence of the afore-mentioned factors needs to be brought to the attention of decision–makers in the field of education, practitioners of the profession (including educators, teachers, professors) so that interventions focused on test anxiety can be introduced to students in primary schools to aid in their behaviours later in life (Aysan, 2001).

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