

# Test anxiety and academic motivation among Usmanu Danfodiyo University Students, Sokoto State, Nigeria

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**ABSTRACT:** This study examined the relationship between test anxiety and academic motivation among Usmanu Danfodiyo University students Sokoto State, Nigeria. The study adopted a correlational research design. The target population of the study were six thousand five hundred and four (6504) undergraduate students. The sample of the study were 346 participants drawn from 300 level students. Data was collected using Test Anxiety Inventory (TAI) and Academic Motivation Inventory (AMI) face and content were validated and had reliability for test anxiety 0.802 also motivation has a reliability of 0.819 respectively after pilot testing. The data collected was processed and analyzed using descriptive and inferential statistics (Pearson Product Moment Correlation) was used to test the hypotheses. All tests were done at 0.05 alpha level of significance. The finding shows that significant relationship exists between test anxiety and intrinsic motivation ( $r= 0.724$ ,  $p=0.00$ ). The finding also revealed significant relationship exists between test anxiety and extrinsic motivation ( $r= 0.709$ ,  $p=0.00$ ). From the results, it was recommended that test anxiety should be controlled and managed with the help of professional school counsellors as this have inverse relationship on students' academic motivation.

**Keywords:** Academic motivation, test anxiety, university students.

## INTRODUCTION

Anxiety is a global problem that interferes with one's daily activities. It is regarded as a general term for several disorders that cause nervousness, fear, apprehension and worry. Anxiety triggers the physiological stress response, which can impede memory recall. It is a human reaction to any unknown situation and a pervasive problem with far-reaching educational outcomes for many students. Some students experience anxiety during test which in most cases leads to poor performance in school. Too much anxiety over a test situation is commonly referred to as test anxiety (Chinyelu *et al*, 2017). Test anxiety aroused in evaluative situations and is characterized by the feeling of being anxious, especially by the variety of tests administered in most educational institutions. It is the feelings of fear, anxiety and nervousness associated with bodily symptoms that interfere with solving problems in classes, courses, examination, tests and also in daily

activities that may involve geometric calculation. Test anxiety is a learned behaviour, which can be unlearned. Factors that lead to test anxiety include: parents, friends or teachers that may pass their biased ideas to the students to make them believe that there is a connection between grade and self-worth (Chukwu, 2014). The fear of alienation by parents, family or friends due to poor grades induces, anxiety on the students making them feel that they are not in control. Porto (2013) explained that, test anxiety produces psychological symptoms that build up in students before a test which include restlessness, unusual body movements, difficulty in concentration, insomnia, fatigue, muscles contraction, abdominal pain and tremor. Test anxiety is a psychological, and behavioural responses that accompany concern about possible negative consequences or failure on an exam or similar evaluative situations. Takahashi (2015) defined test anxiety as the

“reaction to stimuli that are associated with an individual’s experience of testing or evaluative situations”. It is generally believed that high level of anxiety lead stress and which in turn may affect students’ concentration span, desire and motive learn. Cheng *et al.* (2014) study revealed illustrative complex interrelationships of test-takers’ motivation and test anxiety in their test performance. They posited that difference in motivation and test anxiety emerged with regard to social variables (i.e. test importance to stakeholders and test purposes).

Test anxiety on the other hand is a combination of psychological over-arousal, tension and somatic symptoms, along with worry, dead, fear of failure, and catastrophizing that occur before or during test situations. It is a psychological condition in which people experience extreme stress, anxiety, and discomfort during and or before taking a test (Dikko, 2019).

Motivation can be defined as the process responsible for the initiation, intensity, and persistence of behaviour. Motives are causes that produce certain effects or actions (including inaction). The source of a person’s motivation may be intrinsic, derived from internal processes, and/or extrinsic, the result of external forces (Usher and Morris, 2012). Likewise, individuals can be impelled to act by conscious and non-conscious motives. Academic motivation refers to the cause of behaviours that are in some way related to academic functioning and success, such as how much effort students put forth, how effectively they regulate their work, which endeavors they choose to pursue, and how persistent they are when faced with obstacles (Usher and Morris, 2012). Wigfield and Eccles (2002) see academic motivation as a student’s desire (as reflected in approach, persistence, and level of interest) regarding academic subjects when the student’s competence is judged against a standard of performance or excellence. Motivation is a state in which one is excited from ‘within’ by needs, motivations, aspirations, desires or motives for a particular behaviour directed toward achieving a goal, which acts as an external stimulus to the behaviour (Petz, 2005). Motivation directly or indirectly affects the process of learning and teaching, and is one of the important elements in the development of students’ achievement in education.

Intrinsic (internal) motivation is a need arisen from internal impulses which are not caused by external influences, and the only reward inherent to intrinsic motivation is the pleasure of learning, cognition, development of knowledge and skills, encouraged by personal interests. Strengthening the intrinsic motivation leads to higher student achievement, greater creativity and flexibility of thinking and better long-term memory. Variable intrinsic motivation can be encouraged by certain social atmosphere. There are three basic psychological needs associated with intrinsic motivation: the need for autonomy, defined as the self-regulation of personal behaviour (Simons-Morton and Haynie, 2002) the need for competence as a necessity the success and the control of

our own environment and the need for coherence, that is, a sense of belonging to a particular social group. On the other hand, the negative impact on the intrinsic motivation has all expected material rewards and all forms of external control, such as deadlines, surveillance, threats, which are invasive of the personal autonomy, the primary curiosity and desire for challenge (Deci and Ryan, 2000). On the other hand, extrinsic (external) motivation is influenced by external factors, various forms of incentives, such as awards, praises, reviews, progress in work and others for example, which impact the development of motivation (Rheinberg, 2008)

Test anxiety involves many negative effects including low motivation, inadequate concentration, poor academic performance, and high distress (Rana and Mahmood, 2010). Motivation is the inner power or internal process that energizes and directs behaviour to perform certain action in order to achieve the goals. Intrinsic motivation is the innate propensity to engage one’s interest and to exercise one’s capacity. It emerges from our psychological needs and personal curiosities. Extrinsic motivation can be obtained from the environmental incentives that will motivate a person from initiating particular action. These two motivations are imperative for the attainment of high academic performance and destination. Test anxiety is significantly correlated with extrinsic and intrinsic motivation. Test anxiety is positively correlated with demotivation (Rastegar *et al.*, 2012).

### Statement of the problem

Generally, motivation is an important sources of power that determines the intensity, determination and directs student’s behaviour toward their educational endeavours. Motivation is both an attractive and a hindering subject. It is expected that a test-taker who wants to move to a better status other than his/her status will have a higher motivation in academic settings. A certain amount of anxiety among test-takers keeps us energized, motivated, alert and focused but too much of anxiety can result in emotional or physical distress, difficulty in concentration and emotional worry, which may have influence on academic motivation. Therefore, it is expected that motivating students will enhance their academic motives. Highly motivated students are expected to make more effort to increase their academic and social endeavours in their school environment (Dikko, 2019).

Turgay (2011) assert that there is positive relationship between study habits scores and intrinsic motivation and academic success in general. Also observed that there was no correlation between intrinsic motivation and academic success. Several factors have been identified as contributory to student’s test anxiety which include motivation, home background, personality and intelligence, parents socio-economic standing, social environments and societal norms, while poor physical, psychological and

social aspect of school environments may have effects on students' academic motivation. In addition, test anxiety among students can be a function of other factors as fear, worry of not performing well, expectation of parents, teachers, counsellors and peer groups among others. Though there are diverse literatures on test anxiety on students, as from personal observation by the researcher, there is dearth of research on relationship between test anxiety and academic motivation among Usmanu Danfodiyo University, Sokoto.

### Objectives of the study

The following objectives are formulated to guide the studies:

1. To determine the relationship between test anxiety and intrinsic motivation among Usmanu Danfodiyo University Students, Sokoto State, Nigeria.
2. To determine the relationship between test anxiety and extrinsic motivation among Usmanu Danfodiyo University Students, Sokoto state, Nigeria.

### Research questions

The following research questions were raised and answered.

1. What is the relationship between test anxiety and intrinsic motivation among Usmanu Danfodiyo University Students, Sokoto State, Nigeria?
2. What is the relationship between test anxiety and extrinsic motivation of among Usmanu Danfodiyo University Students, Sokoto State, Nigeria?

### Hypotheses

The following research hypotheses were formulated and tested.

**H<sub>01</sub>:** There is no significant relationship between test anxiety and intrinsic motivation among Usmanu Danfodiyo University Students, Sokoto State, Nigeria.

**H<sub>02</sub>:** There is no significant relationship between test anxiety and extrinsic motivation among Usmanu Danfodiyo University Students, Sokoto state, Nigeria.

### METHODOLOGY

This research employed correlational design to determine the relationship between test anxiety and academic motivation among Usmanu Danfodiyo University Students, Sokoto State, Nigeria. Correlational research design is the

most appropriate when dealing with measuring relationship between two or more variables in a system of data collection through scale, interview, questionnaires and observations. Population of this study is made up of six thousand five hundred and four (6504) undergraduate students. Simple random sampling technique was used for this study. A sample size of 346 undergraduate students drawn from different departments were used according to Research Advisor Table (2006). Data was collected using Test Anxiety Inventory (TAI) and Academic Motivation Inventory (AMI) face and content were validated and had reliability for test anxiety. Two main instruments were used for this study. The instruments are test anxiety and academic motivation inventories. Data was collected by the support of research assistant. Data collected was analyzed using Person Product Moment Correlation (PPMC) to test the hypotheses. All tests were tested at 0.05 alpha of significance.

## RESULTS

### Hypotheses testing

***H<sub>01</sub>: There is no significant relationship between test anxiety and intrinsic motivation among Usmanu Danfodiyo University Students, Sokoto state, Nigeria***

Results of the Pearson Product Moment Correlation (PPMC) statistics (Table 1) revealed significant relationship exist between Test Anxiety and Intrinsic Motivation among Usmanu Danfodiyo University Students, Sokoto State, Nigeria. Reason being that the calculated p-value of 0.00 is lower than the 0.05 alpha level of significance and the computed absolute value correlation index (r) of 0.723 is higher than the 0.098 critical r level at df 344. The relationship is inversely proportional. This shows that the higher the level of test anxiety, the lower the intrinsic motivation and vice versa. Therefore, the null hypothesis which states that there is no significant relationship between test anxiety and intrinsic motivation among Usmanu Danfodiyo University Students, Sokoto State, Nigeria is hereby rejected.

***H<sub>02</sub>: There is no significant relationship between test anxiety and extrinsic motivation among Usmanu Danfodiyo University Students, Sokoto state, Nigeria***

Results of the Pearson Product Moment Correlation (PPMC) statistics (Table 2) revealed significant relationship exist between test anxiety and extrinsic motivation among Usmanu Danfodiyo University Students, Sokoto State, Nigeria. Reason being that the calculated p-value of 0.00 is lower than the 0.05 alpha level of significance and the computed absolute value correlation index (r) of 0.709 is higher than the 0.098 critical r level at

**Table 1.** Pearson Product Moment Correlation (PPMC) statistics on the relationship between test anxiety and intrinsic motivation among Usman Danfodiyo University students, Sokoto state, Nigeria.

Variables	N	Means	SD	Df	Correlation index r	p-value
Test Anxiety	346	37.72	2.66	344	-0.724**	0.00
Intrinsic Motivation	346	56.58	7.19			

\*\*Correlation is significant at the 0.01 level (2-tailed).  $p < 0.05$ .

**Table 2.** Pearson Product Moment Correlation (PPMC) statistics on the relationship between Test anxiety and Extrinsic Motivation among Usman Danfodiyo University Students, Sokoto state, Nigeria.

Variables	N	Mean	SD	Df	Correlation index r	p-value
Test Anxiety	346	37.72	2.66	344	-0.709**	0.00
Extrinsic Motivation	346	56.46	7.17			

\*\*Correlation is significant at the 0.01 level (2-tailed).  $p < 0.05$ .

df 344. The relationship is inversely proportional. This shows that the higher the level of test anxiety, the lower the level of extrinsic motivation and vice versa. Therefore, the null hypothesis which states that there is no significant relationship between test anxiety and extrinsic motivation among Usmanu Danfodiyo University Students, Sokoto State, Nigeria, is hereby rejected.

## DISCUSSION

The present research assessed the relationship between test anxiety and academic motivation. The finding of this research indicates that significant relationship exists between Test Anxiety and Intrinsic Motivation among Usmanu Danfodiyo University Students, Sokoto State, Nigeria. On one hand, the finding of this study agrees with that of Cheng *et al.* (2014) study which revealed illustrative complex interrelationships of test-takers' motivation and test anxiety in their test performance. They posited that difference in motivation and test anxiety emerged with regard to social variables (i.e. test importance to stakeholders and test purposes). However, the finding disagrees with the findings of Turgay (2011) who conducted a study on the relationships among study habits, test anxiety, achievement, intrinsic motivation, and academic success with 510 Turkish tenth grade high school students in Turkey. Result of the study revealed that small but significant correlations were found between the worry subscale of TAI scores and academic success ( $r = -0.18$ ,  $p < 0.01$ ), and between the Study Habits Scale scores and academic success level ( $r = 0.15$ ,  $p < 0.01$ ). A positive relationship between study habits scores and intrinsic motivation level ( $r = 0.39$ ,  $p < 0.01$ ) was found. Gender, worry subscale of TAI and study habits predicted academic success in general. No correlation was observed between intrinsic motivation and academic success. Test anxiety and study habits were associated

positively with academic success and there was no association with intrinsic motivation. Females were significantly higher in test anxiety scores as consistent with the literature (Cheng *et al.*, 2014).

The finding of this research revealed that significant relationship exists between Test Anxiety and Extrinsic Motivation among Usmanu Danfodiyo University Students, Sokoto State, Nigeria. The finding agrees with the findings of Dikko (2019) who examined the effects of study skills training and cognitive restructuring techniques on test anxiety among secondary school students in Katsina State, Nigeria. Results showed that there is a significant positive relationship between test anxiety and psychological distress ( $r = 0.572$ ,  $p = 0.001$ ) as well as between test anxiety and extrinsic motivation ( $r = 0.87$ ,  $p = 0.00$ ). Test anxiety is a significant predictor of psychological distress and extrinsic motivation. Over all pharmacy students experienced test anxiety and psychological distress. Test anxious students tend to experience higher level of psychological distress and low extrinsic motivation.

## Conclusion

The results of the study revealed that test anxiety has inverse relationship with both intrinsic and extrinsic motivation among undergraduate students. As test anxiety increases both intrinsic and extrinsic motivation decreases and vice versa. Thus, it is concluded that students that experience high level of correlation have low level of academic motivation.

## Recommendations

On the basis of the findings from the study, the researchers put forward the following recommendations:

1. Students should be well motivated academically through support from parents, teachers and fellow students as this have proportional relationship with their test-taking performance.
2. Test anxiety should be controlled and managed with the help of professional school counsellors as this have inverse or negative relationship on students' academic motivation.

## CONFLICT OF INTEREST

The authors declare that they have no conflict of interest.

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