



## Relationship Between Test Anxiety and Academic Performance of Sandwich Master of Education Students in the University of Education, Winneba, Ghana

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### Abstract

This study investigated the relationship between test anxiety and academic performance of sandwich master of education students in the University of Education, Winneba, Ghana. Underpinned by the positivist philosophy and quantitative research approach, the study employed the correlation survey as the design. The population of the study comprised sandwich master of education students for 2021/2022 session estimated at 285. A sample size of 240 was selected by stratification. Test Anxiety Scale by Sarason (1978),  $r = 0.80$  and students' two sessions were used as data collection instruments. Data collected were analysed using frequency, percentage, Pearson Product-Movement correlation and independent sample t-test. Findings showed that sandwich master of education students in University of Education, Winneba have moderate level of test anxiety. There was also a statistically significant but negative correlation between test anxiety and academic performance. The study recommended that sandwich master of education students should be given regular orientation towards study skills acquisition, anxiety reduction and stress management for better academic outcomes.

**Key words:** Test anxiety, Academic Performance, sandwich, master of education student

### Introduction

Lately, there has been a growing focus on how anxiety impacts education, especially in relations to increase performance expectations and responsibility emanating from the investment made by parents and other governmental organisations. Anxiety is an emotion which consists of feelings of tension, physical changes and worried thoughts. Poor health and students' feeling during their examinations are caused by anxiety (Pekrun & Stephens, 2010; Putwain, 2007). Test anxiety is physical, mental and emotional reaction to risk failure in examination. It consists of worry and perception and impact on students' academic, interpersonal relations, self-confidence and mental health. Test anxiety is the nervous feeling students face as they pursue their academic prowess (Ahmad, Hussain & Khan, 2018; Hyseni, Duraku & Hoxha, 2018). Much as some of the students may have proficiency in certain subjects they may not be able to demonstrate their knowledge during testing situations due to their anxiety (Mousa, Alnasser, Alnwiaser, Alsaleh, Alhamadah & Almubarak, 2020). In this

regard, test anxiety is a pervasive problem in our contemporary world. Results from test scores play a crucial role in our contemporary world as they are used to gauge and set benchmarks for educational advancement and career paths. Performance in examination has increasingly become a pre-requisite for admission into higher educational institutions and other professions (Desai, Pandit, Nerurkar, Verma, 2021). Similarly, other studies have confirmed that test anxiety is a significant determinant of students' educational attainment (Balogun, Balogun & Onyencho, 2017; Safeer, & Shah, 2019; Tsegay, Shumet, Damene, Gebregziabhier & Ayano, 2019).

Given the increasing concern over education quality and the growing dependence on test results to assess educational attainment, a rising number of university students are inherently experiencing test anxiety. Test anxiety causes students to doubt their abilities and undermines their confidence in their capacity to succeed. Students who experience test anxiety are perceived to harbour fear, found to be worried and threatened in testing situations (Putwain

, 2007). Others demonstrate lack of confidence and exhibit poor self-perception. Usually, such students feel are characterised by ineffectiveness and indecisions during testing. Obviously the academic achievement of such students is abysmal (Putwain, 2007; Pekrun & Stephens, 2010). Several factors have been linked to the causes of student test anxiety. Some of these factors include undesirable attitude of teachers during test administration, nature of study habits of student, unreliable test, poor student performance, test malpractices, inappropriate testing period, challenging course materials and unrealistic academic demands from parents. (Brady, Hard & Gross, 2018). An examination of a variety of related literature has revealed that a mirage of literature abound in international circles linking test anxiety to educational attainment of students, there seem to be scanty if not absent in the Ghanaian context on the issue. Most of these researches have been conducted in European and Asian settings (Cassady, & Johnson, 2002; Pekrun, Lichteneld & Klimm, 2009; Putwain, 2008 ) and very little has been done on this issue in Ghana and Sub-Saharan Africa. It is therefore expedient that a critical look is given to this issue so that the stakeholders in Ghana's education will be abreast with realities for solutions to be proffered to them.

Concerns have also been expressed on the "take away grades" given to some of the master of education sandwich students with the notion that such results are needed for promotion and not for further academic work. Other academic tutors have also complained about poor performance and lower grades of these sandwich students on the education related programmes. It is against this background that it has become imperative to conduct such an investigation to shed light on the issue and make available findings for further inquiry and intervention.

### Research Questions

The following research questions and hypotheses guided the study.

1. What is the level of test anxiety among sandwich master of education students in the University of Education, Winneba?
2. What factors account for test anxiety among sandwich master of education in the University of Education, Winneba?

### Research Hypotheses

- $H_1$  : There is statistically significant negative relationship between sandwich master of education students' test anxiety and their level of academic performance.
- $H_2$ : There is statistically significant difference in the level of test anxiety between male and female sandwich master of education students.
- $H_3$ : There is statistically significant difference between the performance of male test-anxious and female test- anxious sandwich master of education students.

### Methodology

Underpinned by the positivist philosophy and quantitative research approach, this study adopted correlational survey as the design. This design was considered appropriate as it could explore and measure the relationship or association between two test anxiety and performance without manipulating these variables (Effrim, 2018; Safeer & Shah, 2019). In this regard, quantitative data was collected and analysed accordingly. The population for this study was made of sandwich master of education students for 2021/2022 session in the University of Education, Winneba. The size of the population was estimated at 285 sandwich master of education students from four Faculties: Science, Social Science, School of Education and Life-Long Learning, Applied Behavioural Science). Proportional Stratified sampling technique was used to select 240 sandwich master of education students for this study.

Test Anxiety Scale (TAS) by Sarason (1978) which already had psychometric properties was adopted. In addition, researcher-developed attitudinal scale and sandwich master of education students' results for the session under consideration from the various Departments were used as data for the study. Sandwich master of education students selected for the study were made to rate their level of test anxiety based on the 14- items from Test Anxiety Scale.

With the help of the graduate coordinators of the various Departments whose students were selected for the study and a proforma, two sessions results for the students were obtained. The average of the two sessions sores were used to ascertain their academic performance. Prior to the administration of the data collection instrument, all the ethical issues were addressed on informed consent, confidentiality, anonymity among others (Effrim, 2022). The data collection instrument was then administered to the

students selected for the study. Data obtained from the respondents were processed and analysed using frequency counts, percentages, Pearson Product-Moment Correlation, and independent sample t-test were used as statistics to answer the research questions and test the hypotheses at 0.05 alpha significant levels.

### Results

Research question one sought to investigate sandwich master of education students' test anxiety

levels using the Test Anxiety Scale (TAS). The levels of test anxiety as suggested by Sarason (1978) and were scaled as low (0-19), moderate (20-29) and high (30-40) (Zeidner, 1998; Cassady & Johnson, 2002; Chapell, Blanding, Solomon, & et al., 2005). Respondents who obtained scores 0-19 were classified as "low". Those who obtained scores 20-29 were regarded as "moderate" while scores between 30 and 40 were interpreted as possessing high level of test anxiety. Table 1 illustrates students' level of test anxiety.

**Table 1: Sandwich Master of Education Students' level of test anxiety**

Category of Level	Level of Anxiety	Frequency of students	Percentage
Low	0-19	68	28.3%
Moderate	20-29	132	55.0%
High	30-40	40	16.7%
<b>Total</b>		<b>240</b>	<b>100%</b>

Source: Fieldwork, 2021

Data from Table 1 indicate that as many as 132 (55%) of the respondents had moderate test anxiety level, 68(28.3%) were at low anxiety level while the rest, 40(16.7%) had high test anxiety level. It is inferred from the Table that most of the sandwich master of education students selected for the study had moderate test anxiety level.

The aim of this research question two was to explore the factors that contribute to sandwich master of education students' test anxiety. The scale used to facilitate discussion of the results from the Table are SA= Strongly Agree, A=Agree, NS =Not sure, D=Disagree and SD = Strongly Disagree. M= Mean, SD= Standard Deviation and I= Interpretations.

**Table 2: Factors Accounting for Test anxiety**

Factors	Extent of Agreement								
	SA	A	NS	DA	SD	M	SD	I	
Lack of confidence	67	96	43	24	10	2.77	1.50	A	
Fear of not achieving the best	98	68	57	10	9	4.80	1.01	SA	
Inadequate preparation	100	67	51	12	10	4.62	2.32	SA	
Family expectation	87	72	58	15	8	2.43	1.18	SA	
Limited study time	98	66	56	11	9	4.13	1.44	SA	
Negative feedback from teachers	101	67	50	12	10	2.19	1.01	SA	
Non-directional study habit	98	68	55	12	9	4.51	2.20	SA	
Complacency	102	65	51	11	11	2.11	2.41	SA	

Source: Fieldwork, 2021 **Mean of Means = 2.98** **SD = 2.62**

Information as shown in Table 2 display the major factors that contribute to test anxiety among students. These were fear of not achieving the best (M = 4.8), inadequate preparation by student testees (M=4.62), non-directional study habit (M = 4.51), lack of confidence (M = 4.50) and inadequate time for studies (M = 4.13). Complacency had the lowest mean (M =3.9).

To test for hypothesis one, a Pearson Product Moment Correlation was computed to assess the linear relationship between the level of test anxiety of sandwich master of education students and their academic performance. Summary of the results are shown in Table 3.

**Table 3: Correlates of Students’ Test Anxiety Levels and Academic Achievement**

s/n	Variable	1	2	3	4
1	Low Test Anxiety	1			
2	Moderate Test Anxiety	0.345**	1		
3	High Test Anxiety	0.412*	0.329**	1	
4	Academic Performance	0.456**	0.247**	-0.435*	1

\*\* . P= 0.01 level (2-tailed). Source: Fieldwork, 2021  
 \* . P= 0.05 level (2-tailed).

Data from Table 3 show positive relationship between low test anxiety and academic performance ( $r = 0.456, p = 0.01$ ) as well as moderate test anxiety and academic performance ( $r = 0.247, p = 0.01$ ) are significant. It however, registered a negative correlation between high test anxiety and academic performance ( $r = -0.435, p = 0.05$ ). Such association suggests that as a student develops high test anxiety level, he/she tends to abysmally perform. The positive relationship

observed between low, moderate and academic performance seem to suggest that such conditions hardly affects students’ performance on a test.

To test for hypothesis two, an independent samples t-test was conducted to examine whether there is difference between test anxiety level of sandwich master of education students and their sex (male and female).

**Table 4: Independent sample t-test of test anxiety levels of male and female students**

Sex	M	SD	N	df	t	sig.
Male	6.48	1.13	144	238	7.712	0.00
Female	4.47	1.62	96			

The results as shown in Table 4 suggest a statistically significant difference between academic performance of male ( $M = 6.48, SD = 1.13$ ) and female ( $M = 4.47, SD = 1.62$ ),  $t_{(238)} = 7.712, df = 238, p = 0.000$ . The results from these analyses show that female students were more prone to test anxiety than their male counterparts.

To test hypothesis three, an independent sample t-test was conducted to compare the mean performance of male test anxious and female test anxious sandwich master of education students. The summary of the results are shown in Table 5.

**Table 5: Summary of Independent sample t-test results of academic performance on test anxious male and female sandwich master of education students**

Variable	M	SD	N	df	t	sig.
Male Test Anxious Students	4.32	1.11	144	238	-7.125	0.00
Female Test Anxious Students	5.14	1.62	96			

The results as shown in Table 5 revealed that there was a statistically significant difference between the performance of male ( $M = 4.32, SD = 1.11$ ) and female ( $M = 5.14, SD = 1.62$ ) students with test anxiety,  $t_{(238)} = -7.125, df = 238, p = 0.000$ . The results provide evidence that male test anxious students academically outperform their female test anxious

students; a situation which could be ascribed to the effect of test anxiety.

**Discussion**

The study unearthed the fact that test anxiety affects most students in their quest to pursue and achieve academic success in school. The results revealed a moderate degree of test anxiety for majority



of the students with more females exhibiting higher levels of test anxiety than males. It was established that low and moderate levels of test anxiety are positively associated with academic performance giving an indication that the levels do influence students to rather perform better academically. This finding is consistent with Balogun, Balogun and Onyencho, (2017) and Duraku, (2017) who provide evidence that moderate to low level of anxiety are related to higher academic performance. The authors were of the view that moderate and constructive anxiety drives individuals to exert timely and appropriate effort toward achieving their life goals.

The elevated levels of test anxiety observed among students of higher learning institutions in this research can be linked to several factors. A key factor identified was the issue of ineffective study habits and a deficiency in test preparation skills. This revelation from the current study is congruent with the early findings of Ahmad, Hussain and Khan, (2018) and Macauley, Plummer, Bemis, Brock, Larson, and Spangler (2018) who asserted that ineffective study habits and deficiency in test preparation contribute to students' subpar performance in assessment settings. Inability to learn can lead to feelings of anxiety and eventually result in a strong aversion to examinations.

It became clear that test anxiety exerts a notably detrimental effect on the performance of the sample selected for this current study. This forms the basis to conclude that anxiety plays a debilitating role in learning (Shaque, Farooq, Anwar, Asif, Akram, & Jung, 2020). According to Cipra and Müller-Hilke (2019) crippling anxiety leads learners to adopt avoidance behaviour and thereby skipping from learning activities. Elevated anxiety levels can deter students from engaging in classroom activities or studying at home, potentially eroding their self-confidence and diminishing their motivation to learn. These negative influences can significantly impact their learning efforts and may consequently impede learning and therefore cause them to perform poorly in school.

The fact that female students demonstrated higher levels of anxiety than their male counterparts seem to explain the tendency for females to express emotions more readily and more frequently view situations as threatening than males. This evidence corroborates Brady, Hard and Gross, (2018) study results that girls tend to experience greater levels of anxiety compared to boys. One thing worth noting is that fear exhibited by students during examinations is more likely to increase their anxiety. Desai, Pandit,

Nerurkar and Verma, (2021) and Otim, Al Marzouqi, Subu, Damaj, and Al-Harbawi (2021) emphasised that students who are not sufficiently prepared for a test and are concerned about their performance are likely to experience test anxiety. These findings from the current study seem to support this assertion with the evidence of significant negative relationship established between elevated test anxiety and educational attainment. The current study has amply demonstrated that student's test anxiousness significantly influence academic performance.

### Conclusion

The evidence adduced from the study confirmed that students experience high test anxiety before they write their examinations. This seems to suggest that although test anxiety may not be the only factor that contributes to poor academic performance its effect on both boys and girls is significantly detrimental to their academic performance. High test anxiety decreases students' capabilities and hinders excellent academic work. Anxiety coping strategies should therefore be used appropriately to minimize test anxiety among students. Assisting students with effective examinations preparation techniques is an effective strategy for reducing the factors that contribute to test anxiety. Although, early detection of students with elevated test anxiety may be difficult, nurturing stimulating and stress free environment on campus will help students progress and achieve success in examinations and academic life in general.

### Recommendations

The findings from this study indicate that students require direction, support and guidance to overcome the debilitating effects of test anxiety. In this regard it is recommended that University of Education, Winneba strengthens guidance and counselling operations in all its faculties and halls of residents. Every hall of resident could be provided with a centre manned by specialists in emotional and psychological to render such vital services aimed at reducing issues affecting students. In addition, a regular orientations and seminars for students at all levels could be organised for these adult learners with the intention to help them do thorough academic preparation, develop a good mindset by setting realistic goals, adopt relaxation strategies to reduce stress, employ good healthy lifestyle, noting stress-free test-taking strategies and seek support where necessary. These anxiety-reduction techniques will go a long way in building confidence in





these learners and improve their future academic endeavours. A stress free environment created by the University authorities will also be a welcoming measure to enhance improved performance of the students in examinations.

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