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THE CORRELATION BETWEEN TEST ANXIETY AND ACADEMIC ACHIEVEMENT IN BIOLOGY AMONG SECONDARY SCHOOL STUDENTS IN NIGERIA

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ABSTRACT

The growing need to improve students' performance in Biology in external examinations has driven science educators on the quest for personal and environmental factors that could be influenced to this effect. Triggered by such a request, the study investigates the relationship between secondary school students' test anxiety and their academic achievement in Biology. Two research questions and three null hypotheses, tested at 0.05 alpha levels, guided the study. A correlational survey research design was adopted. The population comprised the 20,703 Senior Secondary Year one (SS1) students, in the 262 government-owned secondary schools, in Anambra State. Taro Yamane's formula was employed to obtain the sample size of 392 SS1 students while proportionate stratified random sampling technique was used to draw the students used in the study randomly. Two instruments were used for data collection: The Biology Test Anxiety Scale (BTAS) and the Biology Students' Score Proforma (BSSP). Data collected were analyzed using Pearson product moment coefficient (r) to answer the research questions while the hypotheses were tested at 0.05 alpha levels using simple linear regression. It is found that the students test anxiety negatively correlates with their academic achievement in Biology, irrespective of gender. This by implication simply means that as students' test anxiety increases, their academic achievement decreases. The study recommended among others that teachers should allocate adequate time, adopt innovative strategies and organize practical classes during Biology classes as these will encourage active participation, boost students' morale and, in the long run, reduce their test anxiety in Biology.

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1. INTRODUCTION

The effective teaching and learning of Biology in a 21st century science classroom, in developing countries such as Nigeria, has been marred by many factors ranging from environmental to personal factors. These factors as reported by many researchers' (Owolabi et al., 2019; Nwosu & Samuel, 2022; Nwuba et al., 2022a; Nwuba et al., 2023a,; Møgelvang, A.,et al., 2024) have resulted in a consistent underperformance of students in the subject (Biology), in external examinations, as evidently seen in West African Examinations Council (WAEC) statistic reports for Biology from 2016-2021. That is for, 2016, for aggregate of A1-C6, a percentage pass of 61.68 was recorded, 55.57% in 2017, 55.10% in 2018, 55.63% in 2019, 63.23% in 2020 and 58.09% in 2021 showing that students' performance in the subject over the years has remained slightly above average and inconsistent.

To help curtail this trend of underperformance, the WAEC chief examiners' reports on Biology for the years (2016–2021) highlighted some of the problems experienced by students in the examinations and, alongside this, also made some recommendations for teachers, some of which include that: students should be made to draw often in class and be taught the basic skills of drawing; students should be taught how to answer examination questions and write their answers themselves without external help; teachers should drill students on spellings so as to improve their spelling of technical terms and also attend seminars and workshops often, in efforts to enhance performance of students. In response to these recommendations, educational stakeholders (teachers, federal and state governments, professional societies, as well as curriculum planners) have worked to provide resources, organize conferences and seminars to provide science teachers with information on the pedagogical approaches that can be used in the classroom to foster and promote learning. Despite these efforts, it is still painful to observe that students' performance in Biology in external examinations have not yet improved to the standards set by those involved in education. This continued underperformance, as evidently shown in the WAEC statistics reports on Biology, is an indication that the cause of students' underperformance in Biology external examinations may not be majorly environmental-related, but student-related. Taking cognizance of the premise, there arises a need to shift emphasis from environmental-related factors to students' psychological factors, which in all could be the underlying variables influencing students' academic achievement in Biology. In this light, the study sought to ascertain if test anxiety, a psychological factor among students, significantly affects their academic achievement in Biology.

Anxiety is an unpleasant emotion defined by fear or feeling apprehensive. It is evident that shows when one is worried and has some concern over an issue (Bada & Idoko, 2021). Spielberger cited in Chanchal et al. (2021) defined anxiety as a nervous system-excited condition in which a person is experiencing tension, nervousness, and worry. Hence, anxiety may simply be defined as an innate psychological trait in individuals usually associated with tension and nervousness. According to Bihari (2014) anxiety is of two types: trait anxiety and state anxiety. Bihari described trait anxiety as a stable and general characteristic of an individual whereas state anxiety is specific usually aroused by some kind of contemporary situations and environment with which an individual is dealing.

Academic anxiety, often referred to as test anxiety, is a form of state anxiety. It is a psychological condition in which students experience extreme distress and anxiety in test situations (Alemu & Feyssa, 2020). Bada and Idoko (2021) defined test anxiety as a negative emotion characterized by fear or feeling apprehensive towards evaluation. It is a combination of symptoms that interfere with one's desire or capacity to perform well on tests which can be physical, psychological, emotional, or mental (Nwafor et al., 2023). Hence, test anxiety may simply be defined as fear, anxiety or anxiousness expressed by students towards all forms of tests.

Test anxiety, according to Galle et al. (2020), has been overwhelmingly identified as a two-factor construct, consisting of the cognitive (often referred to as worry) and emotional (or affective) components. Comprehensively, Zeidner cited in Nwafor et al. (2023) asserted that test anxiety has four components: behavioral, cognitive, emotional, and physical. According to Zeidner, while the behavioral components consist of feeling of restlessness and fidgeting during tests, the cognitive consists of mental activity occurring during the testing setting which includes among others negative thoughts, fear of failure and its consequences, poor understanding of question and difficulty in reading. The emotional components consists fear, tension, apprehension, test/examination nervousness and somatic symptoms like shortness of breath, rapid heartbeat, stomach aches, headaches, excessive sweating, nausea, perspiration among others while the physical components includes procrastination, dodging of work and poor study skills. Considering these components, one can posit that test anxiety is a significant factor that influences students' academic achievement in all forms of examinations as any of its listed components is bound to manifest among students before, during or after a test.

Approximately 50 % of patients with depression are students (Hu, W. et al.,2024). Supporting the premise, Dinga et al. (2018) stated that test anxiety is the most important problem that the students in their education face as higher levels of anxiety may produce such symptoms as rapid heartbeat, sweating, increased blood pressure, nausea, and dizziness. In the same vein, Habibullah and Ashraf (2013) posited that high anxiety symptoms that build up in students before a test include restlessness, unusual body movements, difficulty in concentrating, insomnia, fatigue, muscle contraction, abdominal pain, and tremors which eventually leads to their poor achievement. In a different view, Oluoch et al. (2018), in their study, asserted that although text anxiety negatively impacts, when in higher levels, a little anxiety during exams is required as it will help students to get motivated and learn. Supporting the premise, Galle et al. (2020) stated that it is not a disputable fact in human life's that anxiety influences an individual's accomplishment in numerous situations, however an average level of anxiety is useful in sustaining people hardworking and being responsible of what they have to do. Summarizing, Anikweze (2016) noted that the prevalence of test anxiety among students is undeniable, as it induces a range of negative emotions, such as fear, worry, and apprehension, which can severely or moderately hinder performance during tests. Anikweze stressed that although a moderate anxiety is necessary to motivate excellent achievement, but anxiety prompted by lack of preparedness for test has detrimental impact on a learner's academic achievement. Stress,

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depression, and anxiety are among the symptoms of discomfort that are frequently at their highest in the last year of secondary school and have been connected to important exams that take place at this time (VM Wuthrich, et al.,2021)

Academic achievement is a quantifiable outcome of a learning experience. Joe et al. (2014) defined it as the observed and measured aspects of students' mastery off skills and subject contents usually measured with valid and reliable test. It is described as the end result of one's dedication, effort, and time spent after being exposed to a learning program, typically quantified in grades (Nwuba et al., 2023a). Hence, academic achievement may simply be defined as a quantitative outcome of a structured academic programme. In any academic setting, a student's academic achievement is central and paramount to education stakeholders as it provides information on the extent to which the instructional objectives have been achieved. Dinga et al. (2018) argued that schools are established with the aim of imparting knowledge and skills to those who go through them and behind all this is the idea of enhancing good academic performance. Supporting the premise, Nwuba et al (2022b) stressed that a student's academic achievement prepares them for their careers in life, modifies their cognitive structure, and helps in sharpening their intelligence, which in return can help them in all spheres of life. To this end, Nwosu and Samuel (2022) in their study asserted that it takes the collective effort of teachers, students and school administration to ensure that efforts are maximized for improved achievement.

On test anxiety and academic achievement, several previous studies have been carried out to ascertain and establish the relationship between students' test anxiety and their academic achievement. For instance, Olusegun and Awuya (2021) in their study reported that a significant relationship exists between test anxiety and the academic performance of students in federal university Dutsin-Ma, Katsina State. Similarly, Galle et al. (2020) investigated the relationship between tests anxiety and students' academic achievement in educational measurement and evaluation in Usmanu-Danfodiyo University, Sokoto State, Nigeria, and reported that a significant negative relationship exists between test anxiety scores and students' academic achievement scores. Based on their findings, Galle et al. stressed that test anxiety is one of the major treats responsible for students' poor achievement and low performance and can be controlled by educating students on how to handle factors responsible for test anxiety. In the same vein, Alemu and Feyssa (2020) who examined the relationship between test anxiety and academic achievement of grade ten students of Shirka Woreda, Oromia Regional State, Ethiopia also reported that a significant negative relationship exists between test anxiety and students' achievement scores with female showing higher test anxiety level than the male students. a significant negative correlation exists between secondary school students' test anxiety and their academic achievement, although the correlation was not significant for gender (Alemu et al., 2020; King et al., 2024; Nwafor et al., 2023). Considering these findings, on different subject areas and location, on the relationship students' test anxiety and their academic achievement, the rationale behind the study was conceived to ascertain if a similar finding will be reported between secondary school students' test anxiety and their academic achievement in Biology in Anambra State, Nigeria.

Biology is a crucial science subject taught in secondary schools in Nigeria. Oluwanife and Folasade (2022) defined it as a natural science subject that primarily investigates living things. It is that area of science that investigates how organisms interact with their surroundings (Nwuba et al., 2023b). Simply put, Biology is a branch of science that studies life and its forms. The importance of Biology to man and national development cannot be overestimated. For instance, Yaode and Bamidele (2022) posited that learning of Biology provides an individual with useful information in solving everyday life challenges. As a science subject, it provides the knowledge applied in every sphere of life today ranging from food production, environmental protection, conservation of resources, bioengineering and agriculture, prompting its inclusion in the secondary school curriculum in Nigerian secondary schools (Nwuba et al., 2022b). Supporting the premise, Ala et al. (2022) stated that Biology is not just a body of scientific discoveries related to living organisms in which man tries to find the solution to his multifaceted problems in life but also a rapidly changing and interesting discipline among students who have the desire to further their education in Biology-related disciplines after completing their Secondary Education, Diploma, and or the Nigeria Certificate in Education (NCE).

In light of these importance and the subject's nature of little or no mathematical computations, students stereotype the subject as simple and hence has the highest enrollment in external examinations such as West African Secondary School Certificate Examinations (WASSCE) when compared to other science subjects. However, when results are out, it is sad to note that students' performance in the subject over the years has remained slightly above average and inconsistent as seen in the WAEC statistic reports highlighted earlier. Taking cognizance of this, the study aimed to determine if there is an association between students' test anxiety and their academic success in Biology. And if there exists, suggest ways to move forward for improved performance regardless of gender.

Tang (2023) viewed that the relationship between self-efficacy and test anxiety in university students is a complex interplay influenced by gender differences. Gender is a trait that separates boys from girls in the society. Obikezie et al (2023) defined gender as a social construction based on masculinity and femininity which is linked to behaviours and attributes. It is an attribute ascribed to male and female based on biological characteristics (Nwuba et al., 2022b). Hence, gender, in the context of this study, simply refers to a biological, societal and cultural attribute that separates males from females. In recent times, gender related issues on test anxiety and its influence/relationship with students' academic achievement in science subjects have caused considerable worries for science educators judging by the number of studies carried out on it. For example, while some researchers (Ali et al., 2013; Shakir, 2014; Alemu & Feyssa, 2020) reported that female students had higher test anxiety than male students in their respective studies, some (Yakubu et al., 2019; Bada & Idoko, 2021; Nwafor, et al., 2023; Roy, G., Tanni, S. A., Rahman, A., & Dutta, S., 2024)reported that gender has no significant relationship with students' academic achievement and others (Soykwaa et al., 2014; Oluoch et al., 2018; Alemu & Feyssa, 2020) that gender

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has significant relationship with students' academic achievement. In light of these contradictory findings, the study also explored the relationship between secondary school students test anxiety and their academic achievement in Biology regardless of gender, the rationale behind the study.

Significantly, the findings of this study will be beneficial to secondary school Biology teachers, curriculum planners and developers, the federal and state government as well as future researchers. To the Biology teachers and students, the findings will expose them to the knowledge of test anxiety and its influence on students' academic performance. This will motivate teachers to use a variety of learning theories, relaxation practices, approaches and strategies in the classroom that can help curtail students test anxiety, hence promoting their performance in examinations. The findings of the study will intimate curriculum planners and developers on the need to restructure the secondary school Biology curriculum to include activities that can be implemented by teachers during classroom activities and school examinations to help boost students' moral, self-confidence and self-esteem which in return may reduce their anxiety in examinations. Taking into account the findings of the current study, professional bodies and the federal and state government will be engendered to collaborate in not only organizing conferences, workshops, symposia and seminars to educate Biology teachers on approaches and classroom relaxation practices for students' but also in providing incentives and other facilities that will motivate teachers to foster and implement these approaches to curb test anxiety among students in secondary school. Finally, the study to future researchers will serve as a reference material for literature review, highlighting the gaps to be covered in subsequent studies. In the attempt to achieve the aim of the study, the following research questions were formulated to guide the study: What relationship exists between secondary school students' test anxiety and their academic achievement in Biology?; What relationship exists between secondary school students' test anxiety and their academic achievement in Biology with respect to gender?; Is there a significant relationship between secondary school students' test anxiety and their academic achievement in Biology?; Is there a significant relationship between male secondary school students' test anxiety and their academic achievement in Biology?; and Is there a significant relationship between female secondary school students' test anxiety and their academic achievement in Biology?.

2. METHOD

The study adopted a correlational study research design. Correlational survey design, according to Nworgu (2015), is a type of research design that seeks to establish the relationship that exists between independent and dependent variables. The population of the study comprised the 20,703 SS1 students in the 262 government-owned secondary schools in Anambra State. Taro Yamane's formula (1967) was used to obtain the sample size of 392 SS1 students used in the study. To obtain the sample size, Proportionate stratified random sampling technique was employed to randomly select the students from the six education zones in the state: Aguata (46), Awka (106), Nnewi (67), Ogidi (57), Onitsha (101) and Otuocha (15). Two instruments entitled Biology Test Anxiety Scale (BTAS) and Biology Score Proforma (BSSP) were used for data collection. BTAS was adapted from Spielberger and his Associates (1980) test anxiety inventory while BSP is a record spreadsheet of SS1 Biology students' scores obtained from the cumulative average for their 1st, 2nd and 3rd term Biology examinations for the 2021/2022 academic session. The BTAS was validated by three experts, one from Science Education department, one from Educational Psychology and the other from Educational Measurement and Evaluation, with a reliability coefficient of 0.78 established using Cronbach Alpha. Data collected through face-to-face administration, with the help of five research assistants, were analyzed using Pearson Product Moment coefficient (r) to answer the research questions and simple linear regression to test the null hypotheses at 0.05 alpha levels. The interpretation of the relationship (r), in the research questions, was based on a 5-way guide illustrated as follows: r = .00 no relationship, r = ±.01 to ± 0.20 low relationship; r = ±.21 to ± 0.50 slight to fair relationship; r = ±.51 to ± 0.70 substantial relationship; r = ±.71 to ± 0.99 high relationship and r = ±1.00 perfect relationship. In testing the null hypotheses, reject the null hypotheses if the probability value (P-value) is less than 0.05 alpha level, if otherwise do not reject.

3. RESULTS AND DISCUSSION

The relationship between secondary school students' test anxiety and their academic achievement in Biology

Table 1. shows the result of data collected on the relationship between secondary school students' test anxiety and their academic achievement in Biology

Table 1 - Pearson r on secondary school students' test anxiety scores and their academic achievement scores in Biology

Source of variation	N	R	r^2	(%) contribution	Remark
Test-Anxiety	392	-0.55	0.30	30%	Substantial negative relationship
Achievement	392				

Results from data presented in Table 1. revealed that a substantial negative relationship (r = -0.55) exists between students' test anxiety and their academic achievement in Biology. From the analysis, test anxiety contributed 30% of the variance in students' achievement in Biology ($\mathbf{r^2}$ = 0.30). This by implication reveals that as students test anxiety increases, their academic achievement in Biology decreases.

The relationship between male secondary school students' test anxiety and their academic achievement in Biology.

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Table 2. shows the result of data collected on the relationship between male secondary school students' test anxiety and their academic achievement in Biology

Table 2 - Pearson r on male secondary school students' test anxiety scores and their academic achievement scores in Biology

Source of variation	N	R	r^2	(%) contribution	Remark
Test-Anxiety	183	-0.64	0.41	41%	Substantial negative relationship
Achievement	183				

Result from data in Table 2. showed a Pearson coefficient (r) of -0.64 indicating that a substantial negative relationship exists between male secondary school students' test anxiety and their academic achievement in Biology. The result indicates that test anxiety contributed 41% of the variance in male students' achievement in Biology ($\mathbf{r^2}$ = 0.41). The result by implication denotes that as male students' test anxiety increases, their academic achievement in Biology decreases.

The relationship between female secondary school students' test anxiety and their academic achievement in Biology

Table 3. shows the result of data collected on the relationship between female secondary school students' test anxiety and their academic achievement in Biology

Table 3 - Pearson r on the relationship between female secondary school students' test anxiety and their academic achievement in Biology

Source of variation	N	R	r^2	(%) contribution	Remark
Test-Anxiety	209	-0.35	0.12	12%	Low negative relationship
Achievement	209				

Table 3. result revealed a Pearson coefficient (r) of -0.35 indicating that a low negative relationship exists between female secondary school students' test anxiety and their academic achievement in Biology. From the analysis, test anxiety contributed 12% of the variance in female students' achievement in Biology (r^2 = 0.12), implying that although low, female students test anxiety correlates with their academic achievement negatively.

Null Hypothesis 1: Secondary school students' test anxiety does not significantly correlate with their academic achievement in Biology. The following table shows the test for significant relationship between secondary school students' test anxiety and their academic achievement in Biology

Table 4 - Simple Linear Regression for correlation between secondary school students' test anxiety scores and their academic achievement scores in Biology

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.	Decision
1	Regression	37654.515	1	37654.515	169.473	.000[b]	Significant
	Residual	86652.332	390	222.185			
	Total	124306.847	391				

a. Dependent Variable: AcademicAchievement
b. Predictors: (Constant), TestAnxiety

Simple linear regression analysis in Table 4. revealed a statistically significant relationship between secondary school students' test anxiety and their academic achievement in Biology since the p-value (0.00) is less than the alpha level (0.05). Thus, the hypothesis is rejected.

Hypothesis 2: Male secondary school students' test anxiety does not significantly correlate with their academic achievement in Biology. Table 5. shows the test for significant relationship between male secondary school students' test anxiety and their academic achievement in Biology

Table 5 - Simple Linear Regression for correlation between male secondary school students' students' test anxiety and their academic achievement in Biology.

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.	Decision
1	Regression	21649.858	1	21649.858	126.933	.000[b]	Significant
	Residual	30871.595	181	170.561			
	Total	52521.454	182				

a. Dependent Variable: AcademicAchievement
b. Predictors: (Constant), TestAnxiety

The result presented in Table 5. revealed that the P-value (0.00) is less than the alpha level (0.05). Hence, the null hypothesis is rejected, showing that there a significant relationship exists between male secondary school students' test anxiety and their academic achievement in Biology.

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Hypothesis 3: Female secondary school students' test anxiety does not significantly correlate with their academic achievement in Biology. Table 6 shows the test for significant relationship between female secondary school students' test anxiety and their academic achievement in Biology

Table 6 - Simple Linear Regression for correlation between female secondary school students' students' test anxiety and their academic achievement in Biology.

ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.	Decision
1	Regression	7734.821	1	7734.821	29.303	.000[b]	Significant
	Residual	54639.945	207	263.961			
	Total	62374.766	208				

a. Dependent Variable: AcademicAchievement
b. Predictors: (Constant), TestAnxiety

The result presented in Table 6. reveals that the P-value (0.00) is less than the alpha level (0.05). Hence, the null hypothesis is rejected. This shows that a significant relationship exists between female secondary school students' test anxiety and their academic achievement in Biology. This implies that students' test anxiety significantly influences female students' academic achievement in Biology.

4. DISCUSSION

The study revealed that a substantial negative relationship exists between secondary school students' test anxiety and their academic achievement in Biology. This finding is consistent with the findings of Ali et al. (2013), Yakubu et al. (2019), Möcklinghoff, S. et al., (2024) and Nwafor et al. (2023), who reported in their respective studies in English, Mathematics, and Chemistry that a negative relationship exists between students' test anxiety and their academic achievement. Further testing of the null hypothesis in table IV found the negative relationship to be statistically significant. This finding agrees with the findings of Azeem (2018), Yakubu et al. (2019), Alemu and Feyssa (2020), Galle et al. (2020), and Nwafor et al. (2013) but however disagrees with that of Bada and Idoko (2021) who reported in their study that test anxiety has no significant relative influence on students' academic performance. This statistically reported negative correlation between students' test anxiety and their academic achievement in Biology may be attributed to the cumbersome and practical oriented nature of the Biology curriculum. This cumbersome and practical oriented nature of the Biology curriculum, often translates into an equally overloaded Biology scheme of work, making teachers struggle to cover the termly contents. With stringent measures like deducting or in some cases, withholding the salary of teachers who fail to cover their scheme of work per term, adopted by some schools, Biology teachers do everything possible to meet up. This drives them to adopt the conventional methods of teaching, a method adjudged to allow for more content to be covered in little time, but with its inability to sustain interest, make the classroom actively engaging and meet individual differences of students make the teaching and learning process passive and uninteresting, promoting test anxiety among students.

On gender, the study showed that, irrespective of gender, test anxiety negatively correlates with students' academic achievement in Biology, although the correlation is substantial for males and low for females. This substantial negative relationship observed for the males and low negative relationship or the females, could be attributed to the nature of the subject (Biology), which involves more reading than solving mathematical calculations, which most females prefer to males. However, further testing of the null hypotheses in tables V and VI revealed that this substantial and low negative relationship, reported for males and females respectively, was statistically significant, irrespective of gender. That is, irrespective of gender, a student's test anxiety negatively effects their academic achievement in Biology. The findings on gender implies that when students, irrespective of gender, are exposed to Biology contents without adequate pedagogical content knowledge, appropriate teaching methods, adequate laboratory facilities and adequately planned and organized classroom activities, students find the classroom uninteresting, unengaging and monotonous, making them passive participants and increases their fear of the subject, which is manifested during test or examinations. These findings are consistent with those of Legese (2014), Syokwaa et al. (2014), Oluoch et al. (2018), Alemu and Feyassa (2020), Xie,Y., et al., 2024, and Misedah-Robinson, L, et al., 2024 who reported that gender has a significant relative influence on the relationship between secondary school students' test anxiety and their academic achievement in their respective studies.

From the findings of the study, one can deduce that test anxiety is a significant variable that influences students' academic achievement in Biology, irrespective of gender. That is, as students' test anxiety, which may result from restlessness, difficulty in concentration, excessive pressure to achieve or perfectionism, students' fear of failure and poor self-care, raises tension and worry among them before and during examinations, they perform poorly in examinations. Hence, if teachers can employ innovative approaches as well as provide learning situations that can help promote and foster students' engagement, interest and development of problem solving skills during the teaching and learning process, this can help enhance their understanding and internalization of Biology concepts and as a result help reduce their test anxiety and in the long run, improve their academic achievement.

5. CONCLUSION

The study investigated the relative influence of test anxiety on students' academic achievement in Biology. Based on the analyzed results, as seen in tables I-VI, the study came to the conclusion that test anxiety, regardless of

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gender, negatively correlated with students' academic progress in Biology. This by implication simply means that secondary school students' academic achievement in Biology declines as their exam anxiety levels rise. To help curtail students' test anxiety, Fulton (2016), in her study, recommended that: Teachers should provide a calm and safe learning environment and instill a love of learning in their students; Learning should be made fun, creative, exciting, and measured in many different ways that children would want to go to school and leave their fears and anxieties outside of the classroom; and Also, students' talents and strengths should be nurtured and their self-esteem and motivation increased.

The researchers recommend several points to consider for future pedagogical practices. First, those involved in education should plan orientation sessions and conferences for secondary school students to teach students of techniques that can help lessen test anxiety. some of which include teaching them of effective reading styles for preparation of examinations, Provision of guide books, going for counselling and resting before examinations. Second, curriculum planners should review Biology curriculum, to incorporate more practical sessions than theoretical, intimating the government on the need to provide schools with adequate instructional facilities and resources, as this helps students concretize, understand and retain information better. To promote active engagement and boost students' morale during the teaching and learning of Biology, teachers should alloc1ate enough time, adopt innovative strategies as well as organize practical sessions. These will, in return, reduce students' anxiety. Education stakeholders should organize professional development programs for all Biology teachers to familiarize them with setting of standardized tests, test taking strategies, and relaxation techniques that can lead to reduced test anxiety and increase in students' self-esteem, motivation, and test scores. Also, teachers should be motivated with incentives so that they may assist students by making the classroom relaxed and stress free, interesting and as fun as possible. Students should seek counseling before doing examinations so as to increase their confidence. They should also have adequate rest before examinations and avoid last minute rush revision. Last but not least, this study must be seen with caution since only undergraduate students are involved. Additionally, future research needs to address intervening variables that could affect students' test anxiety.

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