



## Senior High Students' Examination Anxiety and Its Implications for Counselling

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### ABSTRACT

In the contemporary world, students' future is dependent on their achievement in examination but both empirical and anecdotal evidences evince and attest to the fact that students demonstrate anxiety for examination, be it standardised or non-standardised, internal or external. Yet, not much attention has been paid to some essential aspects of examination anxiety aimed at understanding them in order to help students deal with the phenomenon. This study, therefore, aimed to investigate students' level of anxiety for examination, the stages of examination where students demonstrate high levels of anxiety as well as students' psychophysiological responses to examination anxiety. The cross-sectional study was conducted among senior high school students in the Bono East Region of Ghana. A self-developed questionnaire composing of four sections, which covered the variables of the study was used to gather the research data. Mean, standard deviation and One-way Analysis of Variance (ANOVA) were used to analyse the data generated. The study revealed that students demonstrate high level of anxiety during examinations. Besides, the students demonstrate high level of anxiety before and after examination but moderate level of anxiety during examination. The study also disclosed that the students exhibit varying psychophysiological responses to anxiety before, during and after examination. The study, therefore, recommends for psychological counselling to equip senior high school students with the competence to overcome anxiety at all stages of examination to trigger enviable performance in examination to enhance their fortune and wellbeing.

**Keywords:** Senior high school students, examination anxiety, psychophysiological response, counselling.

### INTRODUCTION

The dawn of enlightenment heightened the importance of education, which has since then been reckoned as a key to all kinds of development nationally and globally (Kopish, 2017). Education contributes to the growth and development of societies (Kumar, 2021). Haruna, Kuranchie and Owusu-Addo (2022) postulate that education contributes to individuals and nation's development, necessitating the taking of steps locally and globally to improve all children's

access to all levels of education. Kuranchie (2019) further posits that the relevance of education is not confined to only global and national relevance and development but also to personal growth and development as it aids the nurturing of knowledge, skills, values and attitudes of individuals in consonance with the human capital theory postulated by Schultz (1967). With this theory, the value and worth of people increase as they receive more education and therefore improve their productive capacity. McCowan (2011) postulates that education is a tool through which the ills of societies and countries can be eradicated. Education is also reckoned as a means to produce good and responsible citizens who assist in the growth and development of countries. Consequently, all levels of education have received huge investment from individuals, families, bodies, corporate organisations as well as the state, reiterating education's invaluable contributions to the growth and development of individuals and nations. Implicitly, countries that either fail to or invest less in the education of their citizens risk achieving slow socio-economic and political development as well as technological transformation. No wonder that countries that have developed invested hugely in their educational systems.

Among the vital means to ascertain whether the education provided to students inures to the benefits of people and countries is via examination. At the various levels of education, varied sorts of examinations being oral, written and practical, are taken by students to measure the knowledge, competencies, values and attitudes that they have acquired during their periods of study (Okyere, Kuranchie, Larbi & Twene, 2018, Staggins, 2008). Examinations are mostly standardised and non-standardised, which all provide valuable knowledge about the gains that students make in the subjects studied. The outcomes of examinations are used for various purposes including academic progression, employment and counselling, among others. Examinations are a crucial aspect of the educational system as it is fashioned to appraise students' learning and determine their readiness for work and/or academic progression (Massodi & Kales, 2025). However, taking examinations is associated with anxiety, which is peculiar to students all over the globe, visiting havoc on learners' academically, mentally, psychologically and socially (Hamza, Bhagat, Mahyiddin & Mat, 2018). Students tend to have varied rates of anxiety for examination that thwart their efforts to perform at their optimum level. Taking examination comes with anxieties which have the capacity to dwarf the performance of students in the examination, which is a concern for stakeholders of education (Schwartz, 2017). In supporting this claim, Massodi and Kales (2025) indicate that examination serves as a source of anxiety for students, which often results in detrimental effect on both their academic performance and mental health. Therefore, anxiety tends to reduce students' capacity to excel, denying the significant others knowledge on the true reflection of the students' capabilities.

Anxiety as a subjective feeling of tension, apprehension, nervousness and worry is associated with arousal of the nervous system (Kusumaningputri, Ningsih & Wisasongko, 2018). It is one of the wide varieties of emotional behaviour that students demonstrate during examination (Hughes, 2019). Anxiety is one of the most common psychological disorders in school-aged children and adolescents worldwide (Sharma, Mehta & Sagar, 2017). Test anxiety is a common phenomenon for students of all levels of education and they exhibit physiological features such as sweating, trembling, nausea and palpitations (Krispenz, Gort, Schultke & Dickhauser, 2019). Chakraborty (2023) defines anxiety as a complex psychological construct which appears in various degrees. It is the fear that students experience when they know a test would be taken

to assess their performance, which can lead to poor performance and poor mental health (Boustani, 2023). Almutairi, Baabbad and Alhumaidan (2024) also aver that test anxiety is a set of psychological and behavioural responses that happen when someone is obsessed about the probability that uncherished results may be obtained from an examination. Examination anxiety is a complex psychological issue that comes with increased emotional, cognitive and physiological responses (Masoodi & Kale, 2025). Ansary and Manda (2024) add that test anxiety is a common and normal stress reaction experienced before, during and after. It is gleaned from the foregoing that examination anxiety is an unfavourable condition that students experience concerning examination which could occur prior to the examination, in the course of taking the examination and/or after taking the examination.

Examination anxiety manifests in ways such as restlessness, difficult concentrating and physical ailments (Ansary & Manda, 2024). It varies from simple debilitating anxiety, which can interfere with the cognitive process (Wadi, Yusoff, Rahim & Niklah, 2023). Psychophysiological arousal is defined by the American Psychological Association Dictionary of Psychology as aspects of arousal shown by psychophysiological responses such as increases in blood pressure and rate of respiration and decreased activity of the gastrointestinal system (Capone, & Gamba, 2017). Other psychophysiological effects of anxiety, according to Ross (2017), include constricted blood vessels, elevated body temperature, increased dilation of the eyes, muscle spasms, raised blood flow to muscles, and decreased blood flow to the skin. Ross' (2017) study cites that psychophysiological arousal of anxiety is related by heart rate and breathing as reaction of the body. Heart rate should have the most profound oscillation synchronous with breathing, where the heart rate reaches maximum level at the end of deep inhalation and reaches minimum level on the end of exhalation (Vitasari, Wahab, Herawan & Sinnadurai, 2011). Psychological symptoms of anxiety among students include feeling of nervousness, panicking, going blank and feeling helpless (Smith, 2018). According to Hughes (2019), the physiological symptoms of anxiety include sweaty palms, racing heartbeat and upset stomach. The author adds that students with anxiety disorder mostly attend classes, but choose to display a passive attitude because of lack of interest in learning the subject. The anxiety level creates normal life difficulty for students and relaxation is nearly impossible. Anxiety interferes with everyday functioning such as studies, daily activities, and social life among students (Krispenz, et al, 2019). From the foregoing, it is deduced that students tend to exhibit varied and diverse psychophysiological responses to examination anxiety, which necessitate the need to unveil the psychophysiological responses of student at the three respective stages of examination.

A review of literature on the prevalence of anxiety, specifically test anxiety in school-aged children concluded that tests and examinations are a major cause of concern to many students. The review also revealed that the sources of anxiety for children in schools include fear of failure and criticism, taking a test and failing a test (Aydin, 2019). Other causes of anxiety are academic pressure, personality traits, social issues and financial challenges (Zhang, Zhang & Ran, 2023; Zwettler, 2018). Mofatteh (2020) studied school related factors that trigger examination anxiety and discovered workload and assessment as the factors. Students' examination anxiety is also attributed to course load, low self-efficacy, poor social support, lack of self-confidence, time management, and inadequate preparation (Tsegay & Ayano, 2019; Hanfesa, 2020).

Anxiety for examination has many repercussions some of which are dire. A report by Organization for Economic Cooperation and Development (OECD, 2019) indicates that anxiety has influence on students' academic performance in science, technology and mathematics. The findings of the study also show that the students who experienced anxiety had more chances of having unsystematic, ambiguous and undefined goals and priorities which led to students' inability to effectively budget and manage time for their education. The study further observed a correlation between anxiety and performance in science, technology and mathematics related courses (STEM). Studies have also unveiled correlation between text anxiety and students' academic achievement. Zahra, Alvi and Muazzam (2022) examined the level of anxiety of university students and found that the majority of the students had high levels of examination anxiety. However, there was no significant difference in the male and female students' level of examination anxiety. Wadi, Yusoff, Rahim and Niklah (2022) conducted a phenomenal study and used focus group discussion to study medical students' examination anxiety and how it could be reduced. The study revealed that the students had high level of examination anxiety. Consequently, the study, among others, suggested psychological support for the students and training for examiners to effectively handle examination to minimise students' fear for examination. The study conducted by Badrian, Bazafkan and Shakour (2022) also revealed that the medical students had high level of examination anxiety and they adopt both orthodox and non-conventional strategies to handle the phenomenon. A cross-sectional study conducted by Alkowitzli, Khan, Bhyat and Alsuwaidi (2022) among medical students also found that over 80% of the students demonstrated high levels of anxiety, asserting that medical examination is difficult. The findings of the studies indicate that high level of test anxiety can result in challenges in concentrating during examination preparation. We, however, ought to note that students experienced anxiety prior to taking examination, during examination and after examination, stressing the need to uncover what happens at all the stages of examination concerning students' examination anxiety so as to proffer feasible and workable suggestions to reduce, if not exterminate, anxiety at all the stages.

Bhagalpur (2020) examined secondary school students' test anxiety in the context of their personality type. The study found significant difference in examination anxiety of students possessing introvert, ambivert and extrovert personality. It was also discovered that high level of anxiety affects performance of students. The study carried out by Kerrim (2022) examined high school students' examination anxiety and revealed that the students have high level of examination anxiety, which has negative effect on their academic achievement. Jirjees, Odeh and Alzoubi (2024) also investigated examination anxiety among university students, which revealed that the phenomenon has negative consequences on students' physically, socially and academically. The cross-sectional survey also unveiled moderately high test anxiety among the students although young students, female students and students with low CGPA had higher levels of test anxiety. Similarly, Massodi and Kale (2025) found moderate to severe levels of examination anxiety of the students as well as difference in examination anxiety of male and female students with the female students having higher examination anxiety. Manisha, Pavithra and Suganya (2019) also found that the Health Science students had high examination anxiety and the increased students' examination anxiety was as a result of academic pressure, term assessments and practical work. The systematic review by Williamson, Wright and Dallaghan (2024) discovered high rates of examination anxiety, which intimate that examination is a common phenomenon at all levels of education.

It is, however, worthy of note that examination anxiety does not have unfavourable effects at all times. Batool (2019) found low level of examination anxiety of the students studied and no significant difference in the level of anxiety of male and female students. Dawood, Al Ghadeer, Mitsu, Almutary and Alenze (2016) also found no significant relationship between test anxiety and students' performance. Moreover, Kader's (2016) study unveiled that anxiety can even have positive consequences as it makes students have high level of motivation, focus and efforts, which eventually result in good performance. Studies conducted by Howard (2020) and Putwain, von der Embse, Jester, Roy and Post (2018) corroborated this standpoint. Further evidence to the claim was obtained from the study conducted by Wadi et al. (2023). The authors argued that test anxiety can serve as a motivator for students to learn and prepare well for assessment. The argument of favourable influence of examination anxiety on students indicates that some amount of anxiety is good for students as it pushes them to study assiduously and in turn leads to good and positive achievements.

The foregoing discussion reveals mixed findings on the link between examination anxiety and students' learning outcomes. Nonetheless, the outcomes of the litany of the studies reviewed portray far more unfavourable consequences of examination anxiety on students which need to be addressed via counselling programmes and psychological support. Experts can utilise psychological and counselling theories and principles to capacitate students to effectively approach their studies, prepare for examinations, sit for examinations and receive examination feedback without fears. Stephenson (2013) contends that for students to overcome examination anxiety, among others, guidance and counselling services are offered in schools. These services are incorporated in the educational system to assist students to overcome the challenges that students encounter in school. Mensah (2025), therefore, urges students to make maximum use of guidance and counselling services available in their schools to help them traverse their academic journey with less pains and worries, which may include examination anxiety. Mensah's (2025) advice resonates in the idea put forward by Al Fraidan (2025) that some interventions are capable of immensely reducing examination anxiety hence school authorities, teachers and students need to take guidance and counselling services seriously. Stakeholders of education can devise counselling programmes to develop the competence of students to overcome examination anxiety to contribute to their personal, social, mental and psychological development.

### **STATEMENT OF THE PROBLEM**

It is unequivocal that examination constitutes an important component of the teaching and learning process in school eliciting great attention from stakeholders of education. This stems from the fact that in varied forms, examination aids to ascertain the extent to which the efforts in teaching and learning have equipped learners with the requisite knowledge, skills, values and attitudes. Students are, therefore, expected to approach examination with calmness and unwavering mode and attitude, yet not all students do so. Due to the vital role of examination in educational setting and its consequent leveling of the road for further education and employment, students entertain fear for examination. Being conscious of students' anxiety for examination, a litany of studies has investigated the phenomenon. Studies have focused and examined students' test or examination anxiety (Drake, Stewart, Muggeo & Ginsburg, 2015; Dogan & Aduguzel, 2017; Krispenz et al., 2019; Sharma et al., 2017; Bhagalpur, 2020; Mofatteh, 2020; Zahra, et al., 2022, Kumar, 2021, Koramoah, Dzakadzie & Danyoh, 2022; Benjamin & Mohammed, 2023; Chakraborty, 2023; Ansary & Manda, 2024). Alkowitzli, et al. (2022) found

that the majority of the study's participants had fears for examination. Ailmutuiri, et al. (2024) also found that the majority of the students experienced moderate to high levels of anxiety. Benjamin and Mohammed's (2023) study unveiled high levels of anxiety among students, which had unfavourable influence on their academic performance and achievement.

Studies have also concentrated on differences in the level of examination anxiety of male and female students (Massodi & Kale, 2025, Vohra, 2025; Zahra et al., 2022; Batool, 2019). These studies sought to unveil whether or not male and female students demonstrate the same level of anxiety for examination, which yielded varied outcomes. Furthermore, research efforts have been expended to assess the nexus between examination anxiety and students' academic achievement. Macri and Migli (2024) studied the effects of examination anxiety on academic achievement while Ansary and Mandal (2024) studied the correlation between students' examination anxiety and academic achievement. Jirjees, et al. (2024) studied the link between examination anxiety and students' learning outcomes, which established negative correlation between examination anxiety and students' academic performance. The research carried out by Ali, Ejar and Bagum (2021) discovered a small but significant negative effect of cognitive test anxiety on students' examination performance. A meta-analytical study also found consistent pattern of relationship with higher levels of anxiety and lower levels of academic performance (Putwain, et al., 2018). The studies observed correlation between examination anxiety and academic achievement indicating that when students have high examination anxiety, they perform unfavourably and when they have less examination anxiety, they perform very well.

It is curious to observe in literature that examination anxiety does not have adverse effects on students' learning outcomes, all the time. Studies have proven no significant relationship between examination anxiety and students' performance (Wadi et al, 2023; Jerrim, 2022; Dawood et al, 2016). The studies neither revealed positive nor negative influence of examination anxiety on students' academic achievements. Besides, some studies even observed favourable influence of examination anxiety on students' performance (Kader, 2016; Howard, 2020; Putwain, et al., 2018). These studies' findings mean that some amount of examination anxiety helps students to prepare and write examination well.

Literature discloses that students demonstrate anxiety before, during and after examination as evident in the definitions by some authors. Mashayekh and Hashemi (2011) define test anxiety as a psychological condition in which someone feels distress before, during and after a test. Kumar (2021) also defines anxiety as the fear and worries that students experience before, during and after an examination. Ansary and Manda's (2024) assertion that examination anxiety is a common and normal stress experienced before, during and after examination gives credence to the view that students tend to experience anxiety at these three stages of examination. Nonetheless, Howard (2020) views examination anxiety as the subjective experiences of intense physiological, cognitive and/or behavioural symptoms of anxiety before and during examination, which does not include anxiety after examination. Research also has not covered all the three stages of examination. Smith's (2018) research concentrated on the first two stages of examination leaving out the third one. The study uncovered that students experienced negative thoughts about evaluation of their performance before and during examination, which affected their academic achievement. Dikmen (2022) also conducted a study to ascertain the stage in the examination process that students tend to exhibit more anxiety and focused on only two stages: before and during examination. The study revealed that

students tend to exhibit high anxiety prior to taking examination than during the examination. The fear that students have prior to examination makes them feel worried and unable to focus, concentrate and prepare for examination, limiting their ability to excel. The anxiety experienced during examination also makes students lose focus or forget vital facts to answer questions (Jerrim, 2020). It is important to note that Smith's (2018) and Dikmen's (2022) studies recognised only two stages of examination where students experience anxiety, oblivious of the third stage, post-examination stage. Meanwhile, at the post-examination stage, students can exhibit anxiety especially when examination results are released, which requires scientific investigation. Besides, apparently in the literature, not much studies have examined students' psychophysiological responses to examination anxiety at the pre-examination, during examination and post-examination stages to enable researchers, educators, psychologists and counsellors to detect and help students out. These apparent grey areas in literature on students' examination anxiety precipitated the conduct of this study and to broaden the discussion on students' examination.

### **Study Objectives**

The study sought to

1. determine senior high school students' level of examination anxiety.
2. examine the stage(s) of examination where senior high students experience high anxiety.
3. identify students' psychophysiological responses to examination anxiety.

## **METHODOLOGY**

### **Research Design**

The quantitative study adopted cross-sectional survey design. The design was deemed appropriate as the study was carried out to describe or explain phenomena numerically. Again, the study dealt with questions of differences to enable the researchers collect numeric data and analyse them statistically (Kuranchie, 2021; Apuke, 2017). The design made it possible for the study to amass data from a large pool of respondents, which were amenable to statistical analysis and presentation. The design also served as the blueprint to guide the conduct of the schools and study to achieve the set goals.

### **Population and Sample**

The study targeted students in senior high schools in the Bono East Region of Ghana. The total population of the students of the senior high schools in the municipalities was 6825 (Ghana Education Services, 2020) and using the Slovin's sample determination formulae, a sample size of 378 was arrived at. This number of students participated in the study. Systematic and simple random sampling techniques were employed to select the schools and sample for the study. These probability sampling techniques offered the schools and students equal opportunity to be selected to participate in the study. Lottery method was specifically relied on to sample students from all the forms in the selected schools. These processes helped to ensure representativeness of schools and students in the study.

### **Instrumentation**

A self-developed questionnaire was used for the data gathering. The questionnaire had mainly close-ended items on Likert-type scale. Face and content validity were checked by subjecting the questionnaire to peer review. After that, a reliability test of the questionnaire was

established after conducting pre-testing of the tool by collecting data from subjects not included in the sample for the main study. Data collected from the pre-test were analysed to test the reliability of internal consistency. Via these processes, the inaccurate items were dropped and after everything, the reliability Cronbach's alpha value of  $>0.7$  was obtained. Per the requirement of Pallant (2011), this reliability co-efficient signals that the instrument was good to be used to gather data for the main study. The revised questionnaire was administered on the selected students in the respective schools to elicit the research data.

### Data Collection and Analysis

The questionnaire was self-administered in the schools after the necessary ethical standards and protocols were followed and consent was sought from the school authorities and students. Voluntary participation was also allowed. The researchers relied on both descriptive and inferential analytical techniques for the data analysis. The study employed means and standard deviation to analyse the data on students' anxiety and psychophysiological responses while One-way Analysis of Variance (ANOVA) was employed to determine the differences in students' anxiety in the three stages of examination. Consequently, Tukey HSD test was used to determine where the disparities in students' examination anxiety were located. SPSS v25 software was used for the data analysis.

## RESULTS AND DISCUSSION

This section of the write-up presents the results of the study in line with the study objectives. The findings are discussed in relation with literature.

### Research Question 1: What is Senior High School Students' Level of Examination Anxiety?

The first research question sought to assess the students' level of anxiety for examination. This was approached in two ways. The level of students' anxiety before, during and after examination was measured separately after which the grand level of anxiety for examination was determined. Mean and standard deviation were used to analyse the data to achieve the objective. A five-point Likert scale of measurement was used to measure students' examination anxiety hence the scores have the following values: 0-1 = very low; 1-2 = low; 2-3 = moderate; 3-4 = high; and 4-5 = very high.

**Table 1: Level of Students' Examination Anxiety**

	Mean	Standard deviation
Anxiety before examination	3.30	1.38
Anxiety during examination	2.68	1.45
Anxiety after examination	3.85	1.25
<b>Grand mean/SD</b>	<b>3.28</b>	<b>1.36</b>

Table 1 discloses that the level of anxiety exhibited by the students prior to taking examination, was 3.30 with a standard deviation of 1.38. This result means that students' level of anxiety prior to taking examination is high. When the students have examination at hand, they demonstrate high level of anxiety, which has the tendency to affect their preparation for the examination. This finding confirms studies by Dogan and Adiguzel (2017) and Drake et. al., (2015) that prior to examination, students tend to entertain all sorts of fears, which have the capacity to minimise their academic success. Students who have the wherewithal to excel in



examination may not be able to do that due to examination anxiety, hence the need to minimise students' examination anxiety.

The results also indicate that the students demonstrate moderate level of anxiety during examination (2.98). This result shows that in the course of taking examination, students exhibit some amount of anxiety which can affect their delivery in the examination. As Smith (2018) postulated, students' negative thoughts during examination can affect their academic achievement. The fears can also derail students' focus as well as making them forget essential points to questions which would eventually affect their performance (Jerrim, 2020). Moreover, the level of anxiety of the students after examination was high (3.85). This finding portrays that after taken examination, students have high level of anxiety. The findings mean that students do not only exhibit fear before and during examination but also after examination. Post-examination anxiety happens immediately the students finish writing examination and/or when the results of the examinations are released. The study has unveiled that students' fear for examination is exhibited at all three stages of examination and this finds expression in Ansary and Manda's (2024) postulation that anxiety is a common stress experienced before, during and after examination. The findings also agree with Kumar (2024) that students experience anxiety during all stages of examination, which should be a course for concern and worry for stakeholders of education.

Finally, the study shows a grand mean of 3.28 with a standard deviation of 1.36. The result indicates that, generally, the students have higher levels of anxiety for examination. This finding is in line with the several studies that have uncovered that all manner of students including medical students (Alkawatli et al., 2022; Yusoff, et al., 2022; Willianson et al, 2024), university students (Vitasari, 2011; Manisha, et al., 2019; Jirjees et al, 2024), nursing students (Zahra et al., 2022), senior high school students (Benjamin & Mohammed, 2023; Kerrim, 2022) and basic school students (Sharma, et al., 2017) experience varied levels of examination anxiety. This widespread phenomenon is a clarion call for stakeholders of education to find antidote to it in order not to dilute the human capital development of countries. High level of examination anxiety has the tendency to inhibit students to develop and adequately showcase their true and real competencies to enable them earn desired positions and contribute immensely to the socio-economic, political and technological development of economies. And this is counter-productive, which needs not be countenanced.

### Hypothesis

- H<sub>01</sub>: There is no statistically significant difference in the anxiety students exhibit before, during and after examination.

One-way analysis of variance (ANOVA) was conducted to examine the differences between the level of anxiety among students before, during and after examination. The results of the analysis are shown in Table 2.

**Table 2: Analysis of Variance (ANOVA) of Anxiety in the Stages of Examination**

	Sum of Squares	df	Mean Sum of Squares	F	Sign
Between group	147.29	2	73.648	82.158	0.000
Within group	1013.83	1131	0.897		
Total	1161.13	1133			

\*. The mean difference is significant at the 0.05 level.

The results presented in the Table 2 show significant difference in the mean anxiety scores of students within the three stages of examination. The results show a larger *F* value (82.158) with a very small significance 'p-value' (p-value = 0.00 < 0.05) signalling significant differences in the level of anxiety at the three stages of examination. The results mean that the level of anxiety of students before, during and after examination differs. Hence, the null hypothesis that there is no statistically significant difference in the anxiety of students before, during and after examination is rejected. The level of anxiety that students exhibit at the various stages of examination is not the same.

Since the study observed a statistically significant difference in the mean anxiety score within the three stages of examination, further analysis was needed. Tukey's Post-Hoc test was performed to detect the stages of examination that had the highest contributions to the significance of the results. The results of the Post hoc multiple comparisons test are shown in Table 3.

**Table 3: Multiple Comparisons of the Three Levels of Academic Anxiety**

Examination Anxieties		Mean Difference	Std. Error	Sig.
Before Exams	During Exams	0.32*	0.0689	.000
	After Exams	-0.55*	0.0689	.000
During Exams	Before Exams	-0.32*	0.0689	.000
	After Exams	-0.87*	0.0689	.000
After Exams	Before Exams	0.55*	0.0689	.000
	During Exams	0.87*	0.0689	.000

\*. The mean difference is significant at the 0.05 level.

From the table, post-hoc comparisons using Tukey HSD test indicated that the significant value and mean difference of anxiety before examinations and during examinations are [0.000 < 0.05 and 0.32\*] respectively. This indicates that anxiety before examinations is significantly different from anxiety during examinations among the students. Again, the significant value and mean difference of anxiety before examinations and after examinations are [0.000 < 0.05. - 0.57\*] respectively. This also indicates that anxiety after examinations is significantly different from anxiety during examinations among the students. Also, the significant value and mean difference of anxiety during examinations and after examinations are [0.000 < 0.05 and -0.87\*] respectively. The results conclude that students experience more anxiety after examinations, followed by before examination and then during examination.

The finding that anxiety after examination among the students had the highest contribution to the significance level, which contradicts the findings of Beerse (2018) that the state of students' anxiety was elated two weeks prior to examinations. Similarly, a study uncovered that, on average, 55% of the students in OECD countries were very anxious prior to a test in spite of how prepared they were (OECD, 2017). This is inconsistent with the findings of the current study. The current study's findings drum home the point that students do not only exhibit anxiety prior to examination but also after examination with the likelihood of having mental and health consequences on students. The heath beats can go to high levels with its attendant negative consequences (Mofatteh, 2020)

## Research Question 2: What are the Students' Psychophysiological Responses to Examination Anxiety?

This section assesses the averages of variables leading to students' psychophysiological responses before, during and after examination. Means and standard deviation of the responses given by the respondents were computed. The results of the analysis are presented in Tables 4, 5 and 6.

**Table 4: Means and Standard Deviations of Psychophysiological Responses Before Examination**

Variables - Prior to exams	Mean	Std
I feel usually nervous when I am to write examination.	3.14	1.48
I become quite and moody.	3.37	1.38
I feel uneasy and upset before taking examination.	3.26	1.36
I feel worried and sad when I am about to take examination.	3.48	1.41
I experience or feel tensed up before examination.	3.59	1.34
My hands and arms tremble when going to take examination.	2.98	1.49
I feel panicked when I have to an examination to write.	3.50	1.38
I am unable to sleep due to impending examinations.	3.41	1.42
I visit the washroom several times before I sit for examination.	2.97	1.53
Mean	3.30	1.42

Table 4 indicated that students mostly experience tension in them as rated as the most influential variable on the measured factor [mean= 3.59, standard deviation = 1.34], which revealed respondents' opinions on the variable relatively dispersed around the mean score. Students feel panic when they have to take an examination was rated second [mean = 3.50, standard deviation = 1.38], which demonstrate divergence views of respondents. Students worry more than others when they are about to write an examination was identified as the third variables [ mean= 3.48, standard deviation = 1.41]. The fourth rated variable is students cannot sleep due an impending important test [means = 3.41, standard deviations = 1.42]. The thought of impending examination makes me become quite and moody was ranked fifth [means = 3.37, standard deviations = 1.38], revealed respondents' opinions dispersed around the mean. Students have an uneasy upset feeling before taking examinations was identified as the sixth variables [ mean= 3.26, standard deviation = 1.36]. The seventh rated variable is at the beginning of test, students are so nervous that they often cannot think straight [means = 3.14 Before an examination, students find their hands and arms trembling was ranked eight [means = 2.98 and standard deviations = 1.49], revealed respondents' opinions disperse around the mean. Students have to go down the washroom several times before they sit for an examination was the ninth variable [means = 2.97, standard deviations = 1.53]. The overall mean and standard deviation are 3.30 and 1.42 respectively indicating that the respondents agreed above midway that they have psychophysiological responses before examinations.

The major students' psychophysiological responses prior to examination are feeling tensed up, panicked, worried and sad, inability to sleep, quiet and moody, upset and nervous. Hughes (2019) discovered physiological symptoms such as sweater palms, racing, heart beat and stomach upset, some of which are confirmed in the study. Others include muscle spasms, elevated body temperature and increased blood flow (Ross, 2017).

**Table 5: Means and Standard Deviations of Psychophysiological Responses During Examination**

Variables	Mean	Std
I feel nervousness during examination.	3.12	1.47
I feel emotionally worried.	3.42	1.38
My mind goes blank during examination.	3.31	1.46
I feel worried during examination.	2.12	1.46
I sweat much during examination.	3.23	1.23
My heart beats fast during examination.	3.49	1.38
I visit the washroom severally during examination.	3.23	1.22
My hands and arms tremble during examination.	2.64	1.43
Mean	3.07	1.19

Table 5 indicates that students heart beats fast during examination paper than the others were rated as the most influential variable on the measured factor [mean= 3.49, standard deviation = 1.38], which revealed respondents' opinions on the variable relatively disperse around the mean score. While taking an examination, students feel emotionally worried, which can interfere with their performance was rated second [mean = 3.42, standard deviation = 1.38], which demonstrate divergent views of respondents. Students' mind goes blank during an examination was identified as the third variables [mean= 3.31, standard deviation = 1.46]. When taking a test, students; feel nervous, which can cause them to make careless errors was ranked fifth [means = 3.12 and standard deviations = 1.47], revealed respondents' opinions disperse around the mean. Due to fear of failing examination, students sweat a lot at examination hall was identified as the sixth variables [mean= 2.12, standard deviation = 1.46]. The overall mean and standard deviation are 3.07 and 1.19 respectively indicating that overall, the respondents agreed above midway that they have psychophysiological responses during examinations.

The major students' psychophysiological responses to anxiety in the course of examination are feeling fast heart beats, emotionally worried, blank mind, sweat, visiting washroom and nervous. Hughes (2019) discovered physiological symptoms such as sweater palms, racing, heart beat and stomach upset some of which found by the present study. Others include muscle spasms, elevated body temperature and increased blood flow (Ross, 2017).

**Table 6: Means and Standard Deviations of Psychophysiological Responses After Examination**

Variables	Mean	Std
I usually feel depressed after talking a examination.	2.91	1.35
I feel worried after taken examination.	3.37	1.38
I feel nervous when examinations are released.	3.67	1.43
I heart beats very fast after examination.	3.49	1.45
I am unable to sleep after examination.	2.18	1.22
I freeze upon hearing examinations results are released.	3.26	1.40
I feel uneasy and upset when I finish writing examination.	3.01	1.32
Mean	3.18	1.36

Table 6 indicated that students' sometimes feel their heart beats very fast after examination was rated as the most influential variable on the measured factor [ mean= 3.49, standard deviation = 1.45], which revealed respondents' opinions on the variable relatively disperse around the mean score. After taking an important examination, students get worried about possible failure was rated second [mean= 3.37, standard deviation = 1.38], which demonstrate divergent views of respondents. Students' freeze upon and suggest like final examinations even after they have finished writing was identified as the third variables [mean= 3.26, standard deviation = 1.40]. The fourth rated variable is students usually get depressed after talking a test [means = 2.91. standard deviations = 1.35]. The overall mean and standard deviation are 3.31 and 1.40 respectively indicate that, the respondents agreed above midway that they have psychophysiological responses.

The major students' psychophysiological responses to examination anxiety are feeling nervous, freeze up, heat beats, worried and uneasiness and upset. Some of the responses identified by Hughes (2019) as physiological symptoms such as sweater palms, racing, heart beat and stomach upset etc are confirmed in the present study. Others include muscle spasms, elevated body temperature and increased blood flow (Ross, 2017).

### **CONCLUSION AND IMPLICATIONS**

Examination is reckoned as a means of unearthing the knowledge, competencies, values and attitudes that students have accumulated over a period of study. However, there seems to be a symbiotic association between examination and anxiety, which usually has detrimental effects on students. The current study's revelation confirms that examination anxiety is a critical issue at all levels of education highlighting the widespread impact of examination anxiety. Students regard examination as stressful and consequently demonstrate high level of anxiety before and after examination, and moderate level of anxiety during examination, which all can bring unfavourable influence on them. Students experiencing anxiety at the three stages of examination is not a good development necessitating the attention of teachers, heads of school, educators, counsellors, psychologists and researchers. These stakeholders need to make frantic efforts to offer immense assistance to students to make them have reduced examination anxiety to minimise the negative effects that this phenomenon can have on their social, physical, mental, psychological and academic development. It is when students are able to go through all sorts of assessments without anxiety that education can serve its selection functions well; the right calibre of high school students would be selected for further studies to develop their human capital for both private and public benefits of education to be realised. That would also enable qualified students to be employed in the sectors they fit most for them to execute their responsibilities well and become productive and assets to their countries.

The study's outcomes emphasise the need for schools to implement psychological support systems, stress management programmes, learning styles and academic counselling to enable students study, take examinations and receive examination feedback without anxiety. Considering the study's findings, school counsellors who offer counselling services for students need to have tailor-made services and approaches to cure anxiety that students experienced before, during and after examination. School counsellors can have differentiated counselling services that may address pre-examination, examination and post-examination anxieties for students thereby aiding students to effectively develop themselves. Approaching counselling on examination anxiety in this manner would help students deal with the phenomenon.

Students also need to be educated on test anxiety management techniques to enable them study and take examinations without anxiety assuring that students' real capabilities and performance would be unveiled after programmes of study. This would be a sure way that the school system can use to exquisitely execute its selection functions exquisitely.

It is worthwhile for future study to identify the distinct factors that cause anxiety before, during and after examination, to help find antidotes. Unveiling these would help researchers, educators and counsellors to know how best to deal with students' anxiety at the various stages of examination. The current study could also be replicated at the other levels of education to broaden the scope and understanding of the anxiety students experience at the pre, during and post-examination stages. It is also suggested that future research should adopt mixed methods approach integrating qualitative and quantitative insights to better understand students' examination anxiety and ramifications.

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