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COGNITIVE TEST ANXIETY, ACADEMIC SELF-EFFICACY AND ACADEMIC PERFORMANCE OF SENIOR HIGH SCHOOL STUDENTS

SAMPSON AMOAH MENSAH

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BY

SAMPSON AMOAH MENSAH

THESIS SUBMITTED TO THE DEPARTMENT OF EDUCATION AND PSYCHOLOGY OF THE FACULTY OF EDUCATIONAL FOUNDATIONS, COLLEGE OF EDUCATION STUDIES, UNIVERSITY OF CAPE COAST, IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF MASTER OF PHILOSOPHY DEGREE IN EDUCATIONAL PSYCHOLOGY.

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FEBRUARY 2023

DECLARATION

Candidate's Declaration

I hereby declare that this thesis is the result of my own original research and that no part of it has been presented for another degree in this university or elsewhere.

Candidate's Signature……Date…….

Name: ……..

Supervisor's Declaration

I hereby declare that the preparation and presentation of the thesis were supervised in accordance with the guidelines on supervision of thesis laid down by the University of Cape Coast.

Supervisor's Signature……. .Date……

Name……

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ABSTRACT

The purpose of the study was to investigate cognitive test anxiety, academic self-efficacy and academic performance among senior high school students. The study adopted the positivist paradigm predicated on the quantitative approach to research using a descriptive survey research design. The target population (8,978) was all the students from the five SHS's schools in the district. However, the accessible population consisted of only the second year students totaling 3105. The multi-stage sampling technique was used to select 346 respondents for the study. Cognitive Test Anxiety Scale adapted from Cassady and Johnson (2002) and Academic Self-Efficacy Scale adapted from Muris (2001) was used to collect data from the respondents. Students' academic performance was measured using test scores from the three subjects' areas (English Language, core Maths and Integrated Science). Data was analysed using Multiple Linear Regression, Pearson Product Moment Correlation and independent sample t-test. The result revealed that cognitive test anxiety and academic self-efficacy predicted students' academic performance. In view of this, the study should recommend that educators not only teach the content of the curricular, but also endevour to introduce students to good study skills to increase their level of academic self-efficacy. This alongside will help them to cope with their cognitive test anxiety and ensure a better academic performance.

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KEYWORDS

Academic Performance

Test

Student / Learner

Cognitive Test Anxiety

Academic Self-Efficacy

Sekyere East District

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DEDICATION

To my lovely mother: Comfort Nsia

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LIST OF ACRONYMS

AP	Academic Performance
CTA	Cognitive Test Anxiety
K2ASE	Academic Self-Efficacy
SHS	Senior High School
DF	Degree of Freedom
SD	Standard Deviation

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CHAPTER ONE

INTRODUCTION

The transition of individuals from high school to university education depends on the academic performance at the Senior High School. The high school period is a critical one for students to prepare for the exam to continue their university education in their preferred programs (Koramoah, Dzakadzie & Danyoh, 2022).

This puts pressure on students and causes stress and anxiety (Cadet, 2021). The concept that includes specific worry thoughts or cognitive reactions experience by students as they fear to be negatively evaluated by their teachers, parents, peers and others regarding academic failure is cognitive test anxiety (Maxwell & Ikechuku, 2020). A student's performance measurement may reflect the student's ability or achievement on the exam or indicate his/her ability to cope with stress and anxiety as a result of the assessment experience. That is, the measurement of any unique ability or proficiency can be confused with anxiety (Amalu, 2017). Therefore, in the Ghanaain context, the importance of investigating the relationship between the students' cognitive test anxiety and academic performance becomes important.

Background to the Study

Students' success in examination is among the fundamental objectives in all levels of education (Kogei, 2021). Examinations are the chief source through which the skills and knowledge obtained is determined in the schools. It is organised in order to assess, evaluate as well as testing the affective, cognitive and psychomotor domains of the learners (Olabisi & Abiola, 2014). According to Agunowei and Geteloma (2022)

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the performance of students in examination enables teachers to evaluate the effectiveness of their teaching and learning methods for future improvement. If the performance of students' examinations is encouraging, then it proves that the work of teachers' is efficient and appropriate. Oluoch and Gogo (2022) noted that examination success serves as a good motivator for teachers, students, administrator of schools, labour employers and all other stakeholders in educational system. However, failure to successfully perform in school examinations disheartens all educational stakeholders, particularly students.

In Ghana, placements and selections of students into next higher level of educational institutions and programmes are all depend on the exam performance (Koramoah, Dzakadzie & Danyoh, 2022). With the computerised Schools Selections and Placements Systems (CSSPS) which is used in selecting students into various Senior High School and course of study depend on the performances of students in the Basic Educations Certificates Examinations. Similarly, excellences in academics, qualification and higher performances in achievements has been considered as the procedure for recruitments, placements and advancements in both private and public sectors organisations (Njuguna Mwangi & Ireri, 2022).

Academic performance has been viewed differently by educators, authors and researchers (Kumar, M. Agarwal, N. Agarwal, 2021). According to Alam and Islam (2021) academic performance is about how well the students accomplish or deal with their studies described in their curriculum. To Rodriguez, Regueiro, Pineiro, Estevez and Valle (2020) academic performance is seen as the knowledge level shown in an area

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compared to the norm, and it is measured normally using the average point grade. According to Lamas (2015) student academic performance can be categorised as high or low depending on the criteria set up by the evaluator.

Academic self-efficacy has been identified as one of the key areas responsible for this student academic performance variability (Bhati, Baral and Meher, 2022). Academic self-efficacy motivates students in adopting specifics and effective learning strategy in the achievement of academic goal. These concepts of academic self-efficacies trace its root to Social Cognitive Theory by Bandura (1977). Academic self-efficacies, in the words of Bandura (1986), is "the students judgments of their abilities to study, organize and complete new idea and skill in academic tasks at the expected level'.

However, Bandura (1993) made an assertion that when students doubt themselves and their own ability to perform academically well, the students only become frustrated about poor scores and cannot concentrate on relevant academic tasks. A review of Maxwell and Ikechuku (2020) pointed out that slightly feeling nervous and tense, and moderately experiencing stress about the coming up examination is regarded to be normal. However, severe levels of cognitive test anxiety could have unpleasant implications on students' academic performance. Students experienced severe cognitive test anxiety when the demands of evaluative settings provoke the fear of failure, risk to self-worth and apprehension about being assessed by others (Cassady & Johnson, 2002)

On this note, some researchers have pointed out the need to investigate the relationship between the two variables, students' academic

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self-efficacy and cognitive test anxiety since these psychological elements manifest in students to influence their performance in examination (Sanli, 2021; Roick & Ringeisen, 2017). Other researchers such as Ali, Ejaz and Bagum (2021) and Musa (2020) added that the issue of gender determines the levels of these perceived cognitive test and academic self-efficacy that influence student performance. However, it is still questionable whether relationships exist between the males and females' student in their levels of test anxiety and academic self-efficacy.

Generally, learners' performance in academics which is measured by the result of examination is among the principal aims in education system (Osei-Owusu, 2022). The findings of Kyei and Ampofo (2021) revealed that school is built with the purpose of impacting skills and knowledge to students who pass through them and behinds all is the notion of promoting better academic performance.

Many attempts have been made by teachers, parents and the government of Ghana as well to fulfill these educational objectives. The government has demonstrated its commitment to education by ensuring the effective implementation of its plans on educational reforms (Ministry of Education, 2021). In that same year 2021, it was on record that the government of Ghana spent about 15.6 billion Ghana cedis in educational sector.

Despite this hefty investment in education, SHS students especially in Sekyere East District continue to perform below average in the three core subjects such as English Language, Maths and Science while others performing up to standard (Sekyere East District Education Examination

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Unit, 2021). The reasons for these, no doubt, due to the nature of multivariate school learning. There is the need to consider the idiosyncratic nature of different learners and their capabilities as some students are not able to perform up to their potential in spite of good conditions in the school environment. On this note, Arifin, Wahyudin and Herman (2021) reported that the perception of learners' self-efficacy in mathematics and English Language influences their performances in those subjects irrespective of the level of their ability.

From the existing literature, many studies that have been done in Ghana focused much on how physical infrastructure, effective teaching and learning and other sociological aspects of students influence academic performance (Osei-Owusu, 2022; Brew et al., 2021; Mante, Maosen, Aboagye & Darko, 2021).

Since variables that influence students' academic performance in educational institutions are not limited to only physical environment, economic and other sociological aspects of students but also psychological variables which have received little attention in Ghana and particularly the Sekyere East District. Therefore, it was of the interest of the researcher to investigate how this cognitive test anxiety and academic self-efficacy influences students' academic performance.

Statement of the Problem

In the year 2020, Institutes of Statistically, Socially and Economic Research's (ISSER) reported that the education sector continues to face many challenges. The quality and sustainability of students' academic performance is still complicated and challenging in Ghana (Osei-Owusu,

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2022). Many students are still not getting admission into the tertiary institutions because of their failure to pass especially the three core subjects (ISSER, 2020).

In the Sekyere East District, when the total percentages of the three subjects of the five schools was put together and used it to divide by the number of schools. It showed that in 2018 the students' academic performance in terms of the three core subjects was 51.52% passed and 48.47% failed. In 2019, the performance further decreased to 50.49% passed and 49.54% failed. In 2020, the passed rate slightly increased to 58.3% and the failure rate 41.7%. In 2021, performances dropped where 48.9% of the students passed while 51.1% failed (Sekyere East District Education Examination Unit, 2021)

The analyses of the result currently proved that below half of the students in the district were not able to pass either English Language, core Math or Integrated Science and enter into tertiary institutions. This is causing negative consequences on the human resource development of the district and the country at large.

The situation in the area raises questions about the ways to research into factors determining students' academic performance in the district. From the existing literature in Ghana many studies have been done on instructional strategies, learning environment and other sociological aspects of the students (Osei-Owusu, 2022; Brew et al., 2021; Mante et al., 2021; Abdul-Rahaman et al., 2018).

However, in Ghana particularly Sekyere East District, little attention has been given to the other aspects of psychological variables or

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internal structures or elements within an individual which may improve or hinder the students' abilities to learn adequately. These internal mechanisms such as cognitive components of test-anxieties and academic self-efficacies have been found in studies outside the context of the district to correlates with students' academic performance (Njuguna et al., 2022; Ali, Ejaz & Bagum, 2021; Musa, 2020).

Against this background, while large number of studies appeared to have been carried out on these cognitive test anxiety, academic self-efficacy and student academic performance in other countries, very few have been done in Ghana, particularly at the SHS levels. Therefore, this study is intended to make contributions toward filling this gap.

Purpose of the Study

The main purpose of the study was to investigate the relationship between cognitive test anxiety, academic self-efficacy and academic performance among SHS's students.

Objectives of the Study

1. Examine how cognitive test anxiety and academic self-efficacy predict academic performance (English Language, core Maths and Integrated Science) among SHS's student in the Sekyere East District.
2. Investigate the relationship between cognitive test anxiety and academic self-efficacy among SHS's students in the Sekyere East District.
3. Determine the gender difference in the level of cognitive test anxiety among SHS's students in the Sekyere East District.

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4. Examine the gender difference in the level of academic self-efficacy among SHS's students in the Sekyere East District.

Research Question

The study was guided by this question.

How do cognitive test anxiety and academic self-efficacy predict academic performance in English Language, core Maths and Integrated Science among SHS's students in the Sekyere East District?

Hypotheses

This study additionally was guided by the following hypotheses.

$H_0 1$: There is no statistically significant relationship between cognitive test-anxiety and academic self-efficacy among SHS students in the Sekyere East District.

$H_1 1$: There is statistically significant relationship between cognitive test-anxiety and academic self-efficacy among SHS students' in the Sekyere East District.

$H_0 2$: There is no statistically significant gender difference in the level of cognitive test-anxiety among SHS's students in the Sekyere East District.

$H_1 2$: There is statistically significant gender difference in the level of cognitive test-anxiety among SHS's students in the Sekyere East District.

$H_0 3$: There is no statistically significant gender difference in the level of academic self-efficacy among SHS's students in the Sekyere East District.

$H_1 3$: There is statistically significant gender difference in the level of academic self-efficacy among SHS's students in the Sekyere East District.

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Significance of the Study

The outcome of the study would help the teachers to realise the need to go beyond teaching only intellectual skills and focus on fostering student's personal development of self- beliefs and self- regulatory capacities.

It would also be beneficial to school counselors in informing their decision to counsel students struggling with cognitive test anxieties in their schools.

Teachers would also be further enlightened about the influence that academic self-efficacy has on cognitive test anxiety of students. This would help educators to factor academic self-efficacy in dealing with student test anxiety.

Moreover, copies that would be made available in the library could be served as a source of reference in helping students evaluate and trust their capabilities.

Lastly, the outcome of the study would offer some insights to other investigators who like to be engaged in further research studies and contributes to the improvements of the quality of educations in Ghana and beyond.

Delimitations

The study was geographically delimited to only Government SHS in the Sekyere East District of Ghana.

The study was also only focus on the extent to which cognitive test anxiety and academic self-efficacy relate to academic performance among students in Senior High Schools.

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Limitations

The main difficulty the researcher faced during the collection of data was the quantitative nature this study was basing. The limitation was based on the fact that the respondents did not get any opportunity to openly express themselves and as such they were only restricted to the question items. This could affect the accuracy of the respondents' responses.

Moreover, one of the selected schools in the district was a Girls School which made the female sample size appeared higher than males' counterpart. This could affect the accuracy of the results.

Definition of Terms

Cognitive test anxiety: It is a specific worry thoughts or cognitive reactions experience by students as they fear to be negatively evaluated by their teachers, parents, peers and others regarding academic failure.

Academic self-efficacy: It defines as the beliefs or judgments that the student makes about his or her abilities to complete academic task at the expected level.

Academic performance / Test: The two terms such as academic performance and test were synonymously used in this study and they mean how well the students accomplish or deal with their studies described in their curriculum.

Students / Learners: The two terms interchangeably used to mean individuals who are receiving education or learning in a school environment.

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Gender/ Sex: The two terms namely gender and sex additional used interchangeably in this study. It is seen as an individual or student being a male or a female.

Organisation of the Study

This research study was organised into five main chapters. The first one presents a broad overview of the topic under study which particularly comprises of background to the study, statement of the problem, purpose of the study, research question and hypothesis, significance of the study, delimitations and limitation of the study and definition of terminologies.

Chapter two based on the review of related literatures and specifically, it presented what researchers from other disciplines have done about cognitive components of test anxiety, academic self-efficacy and students' academic performance. Specifically, it presents theoretical, conceptual as well as empirical review on how cognitive test anxiety and academic self-efficacy influence student's academic performance in Senior High Schools.

The third chapter outlines the research methodologies that were used for the study. This comprises of the research design, study area, population, sample and sampling procedures, data collection instruments, data collection procedure, data processing and analysis as well as chapter summary.

The presentation of the results from data collected from the field was analysed, interpreted and discussed in the fourth chapter. The final chapter five presents a summary of the main finding, conclusion and

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recommendation based on the research outcomes and other areas that were suggested for further research.

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CHAPTER TWO

LITERATURE REVIEW

Introduction

This chapter is devoted to the review of related materials which concentrate on theoretical, conceptual and the empirical information considered important to the field under study. The theoretical aspect discusses the basic theories on how cognitive components of test anxiety and academic self-efficacy influence academic performance.

The conceptual frameworks display models to explain the relationships between the predictor variables and the outcome variable. The section of empirical frameworks reviews literature according to the objectives of the study.

Theoretical Framework

The study adopted Cognitive Interference Model (Sarason, 1984), Information Processing Model of Test Anxieties (Tobias, 1985) and Social Cognitive Theory (Bandura, 1977) to explain how cognitive test anxiety and academic self-efficacy influence students' test performance in the Sekyere East district, Ghana.

The Cognitive Interference Model by Sarason (1984)

Proponents of Cognitive Interference Theory (CIT) postulate that negative self-statements frequently accompany evaluation anxiety and may interfere with working memory processes. More specifically, processing negative self-statements diverts attentional resources from on-task processing, resulting in decrements in task performance. Moreover, CIT predicts that components of the working memory subsystems are

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differentially affected by negative self-statements. According to CIT theorists, negative self-statements are automatically processed by the central executive. The result is that the central executive has fewer resources to devote to task demands. In addition, given the verbal nature of negative self-statements, phonological loop functioning is likely to be impaired. The model predicts that visuospatial sketchpad functioning should not be impaired by anxiety.

That is, according to the model anxious students perform poorly on exam not due to intellectual ability, but rather the brain cannot focus on task relevant material due to the flurry of task-irrelevant thoughts that steal working memory. According to this theory, a student with severe level of cognitive components of test anxiety is more probably worry over exam result, compares his or her capabilities to others and linger on the idea of not completely prepared for the exam (Schwarzer & Jerusalem, 1992). In other words, during the examination, student's negative self-centered thought and other unimportance environmental conditions, that is, how best other student is performing or how fast others hearts beat interrupt with the student' attentions and these interruptions lead to failures in learning and examination.

Information Processing Model of Test Anxieties (Tobias, 1985)

Information processing theory further explained the theoretical view of cognitive interferences models by observing the whole ranges of cognitive function that interrupt students' academic performance (Naveh-Benjamin, McKeachie, & Lin, 1987). According to the theory, learning involves four cognitive processes such as coding, storing, organising and

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retrieving and a challenge to any one of these steps cognitively caused test anxiety in student (Naveh-Benjamin et al., 1987). The anxious student at this point performs poorly in exams. According to information processing theory, poor performance is due to the combinations of student incapacity to appropriately retrieve or process important information and its high level is caused by meta-cognitive awareness's of a lack of ability or inadequate exam preparation (Naveh-Benjamin & McKeachie, 1991). With the assertion made by Naveh-Benjamin et al. (1991) high test anxious student poor test performance is not only due to ''freezing up'' during evaluative situations but rather bulks of learning information is not processed effectively.

According to Tobia (1985) student cognitive interference and deficit in their study skills put together and affect the various steps of human information processing systems such as inputs, processing's and outputs. For instance, due to anxiety student diverts their attentions toward anxieties provoking's stimulus instead of important information sources. These lead to limited coding and processing due to shadowing of the required information.

Tobias (1985) moreover pointed out the handicap in processing and output. According to Tobias when a limited capacity of a working memory are used to search for anxiety provoking stimulus, there is a possibility of working memory to unsuccessfully work on tasks at hand and produce unsuccessful output. That is, fillings up the capacities of working memories with unrelated loads on account of anxieties could cause failures in exams. To Cassady (2004) cognitive component of test anxieties has the tendency

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to impair human memory mechanism such as retrieval, storage and processing. When these happen, there is the probability that such student may fail in school exam.

To sum up, these two theories combined to examine how student facing cognitive aspects of test anxiety pay his or her attentions on something else's other than the tests, freezes up during exam and forgets information he or she has learnt. Moreover, the theories examine how student feels inability to take complete stand of his or herself and rather allow other factors to take over before, during and after learning situation.

Social Cognitive Theory (Bandura, 1977)

Bandura (1977) Social Cognitive Theory was used to address how academic self-efficacy influences learners' academic performance in the Sekyere East district. This theory is based on the opinion that an individual is agent anticipatory engaged in his or her own development and can cause things to happen by his or her own actions. In view of social cognitive theory, individuals are either pushed by inner force or shaped automatically and controlled by an external stimulus. Instead, the functions of human are examined in terms of triadic models of reciprocalities in which cognitive and other personally factors, behaviour and environmental event coming to play as interacting determinants of each other. Therefore, Bandura (1986) based on a number of basic capabilities to define the nature of a person. These include intentionality's, forethoughts, self-reactiveness and self-reflectiveness (Bandura, 2004).

Self-efficacy constituted the main components of Bandura's (1977) Social Cognitive Theory. A person's conviction about being successful on

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the specific tasks or achieving goals may determine the level of performance of that task. Bandura (1997) termed this belief as self-efficacy. Bandura (1997) therefore explained self-efficacy as the belief one make about his or her capabilities to organise and execute a given tasks at a specific level.

Bandura (1986) found out that the system of self-efficacy is not a globalist traits rather a specific sets of self-conviction that are joined with specific realm of functioning. That is, an individual cannot master everything as one has different areas in which he or she cultivates self-efficacy. As students' areas of functioning are about academic tasks, their efficacy belief is termed as academic self-efficacy. Sharma and Nasa (2014) therefore termed academic self-efficacies as the judgment one make about his or her beliefs to finish an academic task. Academic self-efficacies are viewed as a psychological constructs where an individual's intellectual performances is based on the developments of cognitive skills. Bandura (1986) disclosed that academic self-efficacies of individuals can be developed through the enhancement of cognitive skills among students.

Moreover, Bandura (1997) made an assertion that a students' success in completing tasks are strongly influenced by the conviction in their abilities to finish the tasks. According to Bandura (1994) self-efficacies develop through four main sources.

a. Mastery Experiences: Mastery experiences imply that one personal efficacy is developed when there is a success while failures weaken this belief.

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b. Vicarious Experience: The vicarious experience implies that when someone observes another person similarly succeeding in a particular task through persistent effort, the belief of a person also raised. The same way, the failure of others also weakens the efficacy of observers.

c. Social Persuasion: When individual receive a positive statement that he can finish a particular goal, he is likely to sustain an effort. However, when there is a discouragement, it weakens the person's effort.

d. Moods: Psychological or emotional states of a person also determine one's belief to succeed in a particular task. That is, an optimistic view raises the perception of self-efficacy while pessimistic mood decreases it.

In view of this, Souza and Srivastava (2021) concluded that students prevent task which they do not have a belief to complete successfully but willingly accept challenging task in an area they believe they can succeed. The present study mainly focuses on how these academic self-efficacies relate to student's test performances in English Language, core Maths and Integrated Science.

Conceptual Framework

Based on the theoretical framework of the study and the empirical review; the study presents a conceptual framework on cognitive test anxiety, academic self-efficacy and academic performance. Additionally, the study sought to determine the differences between male and female in terms of levels of cognitive test anxieties as well as their level of academic self-efficacy. Figure 1 presents the relationships.

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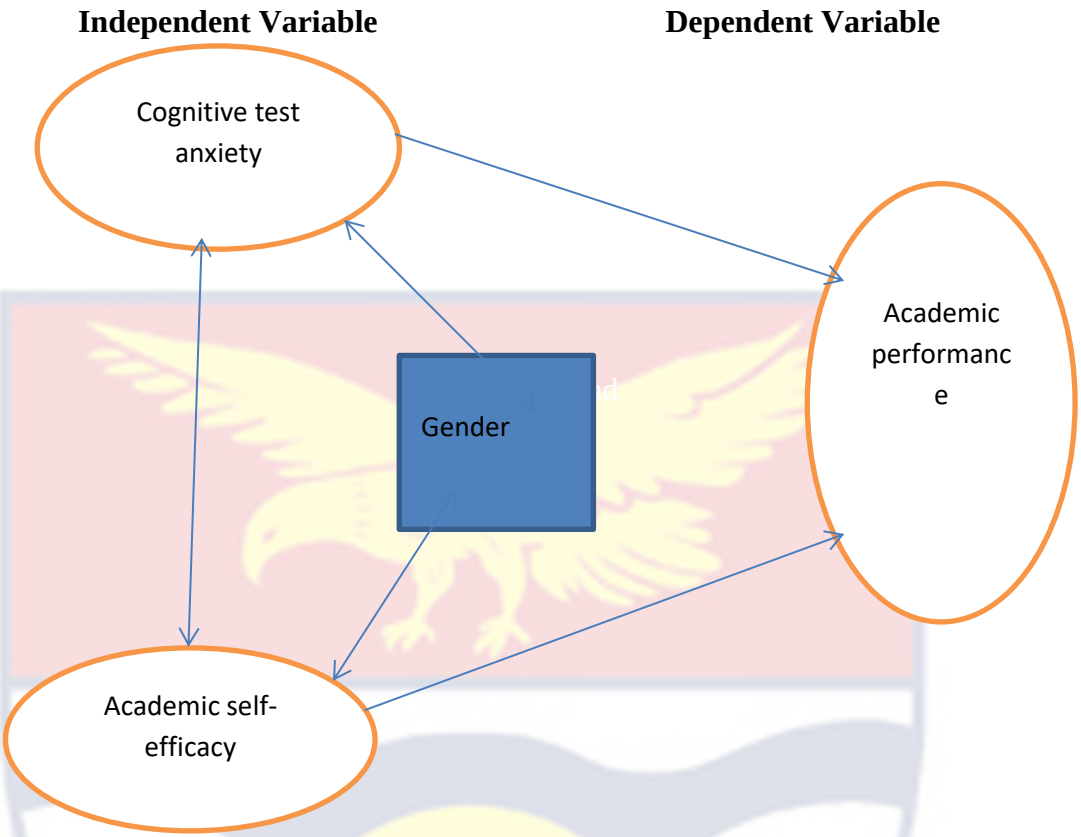

Figure 1: Conceptual Framework of Student's Cognitive Test Anxiety, Academic Self-efficacy and Academic Performance

As shown in in Figure 1, the study proposed direct predictive relationship between cognitive test anxiety and academic performance. The arrow pointing to academic performance explains that it was cognitive test anxiety that had a predictive influence on students' academic performance. In the same way, as shown in figure 1 it was observed that there is another line from academic self-efficacy showing an arrow to students' academic performance. This implies that academic self-efficacy rather had an influence on student' academic performance not both equally influences each other.

Similarly, cognitive test anxiety is proposed to have a connection with academic self-efficacy. The two arrows mean that both the two

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independent variables equally influenced each other. That is, the higher the academic self-efficacy of the students the lower the cognitive test anxiety and the higher the cognitive test anxiety, the lower the academic self-efficacy.

Moreover, figure 1 showed a gender difference in terms of cognitive test anxiety and academic self-efficacy. It was observed that there is one arrow from gender pointing to cognitive test anxiety and another arrow from gender pointing to academic self-efficacy. This implied that being a male or female rather determine the level of such variables.

Conceptual Review

Concept of Cognitive Test Anxiety

According to Owan, Bassey, Omorobi and Esuong (2020), one debilitating effect that brings negative motivation on student performance is test anxiety. Mkpaoro and Nwagu (2019) define test anxiety as emotional reaction or state of stress that experienced by students during or before school exams. Test anxiety is a relatively stable predisposition during examination and it was found out that a moderate level of this anxiety leads to optimal performance while severe one weakens the performance of the students (Maxwell et al., 2020).

Some reasons have been found as key instigators of test anxiety. For instance, Bolbolian, Asgari, Sefidi and Zadeh (2021) and Morales-Martinez et al. (2020) identified a high democratic or autocratic style of parenting, test procrastination, gender differences and inability to solve learning challenges as key instigators of test anxiety. Similarly, other factors such as cultural demands, environmental conditions, societal

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expectations and competition among peers were found in research work conducted by Subramani and Venkatachalam (2019).

Malespina and Singh (2021) interestingly made an assertion that sources of these test anxiety arousal were not necessarily a threatening event but due to the absence of self-efficacies in students that is needed in turning off this arousal anxiety. In this regard, according to Malespina et al, a student considered an evaluative situation as threats if he or she has lower levels of Self-Efficacies and becomes a challenge if he or she has higher levels of Self-Efficacies.

Olusegun and Awuya (2021) pointed out that test anxiety in recent times has been considered as one of the research areas. In a comprehensive conceptualization, the research work by Dawood, Ghadeer, Mitsu, Almutary and Alenezi (2016) disclosed two dimensions of test anxieties and they include cognitive (worry) and emotional (affective) components. In their research, it was found out that the cognitive components (worry) directly influence the students' performance in examination while the emotionality components (physiological arousals of anxieties when students take exams) are associated but do not directly interrupt students' performances in test.

With regard to cognitive components of test anxiety, the term 'worry' initially used to define test anxiety was found inadequately to represent the complex class of cognitive processes. Therefore, the dimension consequently became known as 'cognitive test anxiety'. This cognitive aspect of test anxieties is about the student's cognitive reaction or internal dialogues regarding learning situations. Cassady and Johnson

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(2002) research work revealed that cognitive test anxiety comes about when one; (a) compare self-performances to colleagues, (b) consider the implications of failures, (c) experiences lower level of self-confidences, (d) excessively become worry over evaluations, (e) causes sorrow for parent and (f) feels unprepared for a test.

The modern world we found ourselves is a test conscious age where many people lives are determined by their test performances (Olusegun et al., 2021). According to Subramani et al. (2019) stress in examination is one of the key issues that limit some students from achieving their academic potentials. Salturk and Gungor (2020) aver that student persistently perceive test as sources of increase in anxieties and situations overwhelmed with uncertainties or unfairness in making them display their real performance.

Concept of Academic Self-Efficacy

In educational field, academic self-efficacies is among of the relevant factor that ensure students' success as it motivates the students to adopt good learning strategies (Bhati et al., 2022). Academic self-efficacies belief is regarded as students' perceptions to finish academic task at hand at the specified levels (Bandura, 1997).

Academic self-efficacy is a component found in the theory of self-efficacy coined by Bandura (1986). According to self- efficacies theory, a person efficacy is about the judgment one makes about his or her belief to organise and complete a particular tasks at a specific level (Bandura, 1986) Self-efficacies theory reveals that students' academic self-efficacy could change in strength as a functions of the difficulties of the tasks. That is,

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some students are more efficacious on difficult task while others only on easy task. According to Musa (2020) the belief of self- efficacies is seen to be situational in nature instead of being considered it as permanent traits. Student makes reliable differentiation between his or her perception of self-efficacy across different academic fields which form collectively a loose hierarchy of multidimensional structures. According to Appiah-Twumasi, Agyeman, Ameyaw and Anderson (2022) self- efficacy relates to other psychological constructs including self- concept or self-esteem. Conversely, they are not equal as self-efficacy is specific task evaluations while self-esteem and self-concept are conceptualised as general or overall self-affective evaluations.

According to Bandura (1993), student with a higher academic self-efficacy;

1. views problem as challenges instead of threats and therefore set goal or steps to achieve it.
2. is committed to the set academic goals.
3. believes task-diagnostic orientations that provide needed feedbacks to enhance performances instead of self-diagnostic orientations that encourages low expectation of a student about what he or she can achieve.
4. views failure as a result of inadequate knowledge or effort not due to a lack of ability.
5. increases his or her effort in situations of failures to accomplish the stated goal. This outlines the cyclical or reciprocal relationship among the environments, self and behavior postulated by Bandura's (1977) Theory of Social Cognitive. An environmentalist intervention could enhance self-

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efficacy which may lead a learner to choose challenging's task, that later brings an opportunities for a useful feedbacks and could end up increased self-efficacy and good outcome.

The concept of Academic Performance

Performances in academics of students are the crucial aspect and form part of the salient objectives of education (Narad and Abdullah, 2016). The acquisition of students' academic excellence is of basic motive in all level of academic institutions (Kogei, 2021). According to Kumar et al. (2021) students' academic performance is the central point in which many of important aspect of educational systems revolves and has been an interested area to parents, teachers, researchers, parents and educational planners. In view of Putwain (2016), a better academic performance is regarded as an essential ingredience for securing good jobs for a quality life. In educational sector, academic performance seems to be simple outcome but its consequences on students in any nation is multi-faceted.

At the basic level, according to Narad et al. (2016), the failure or success of any educational institutions depend largely on students' academic performance. Akinleke (2017) similarly avers that the social development or the economy of any nation is determined by the students' academic performance. That is, the better the student performs academically, the better the hopes of the developments of skillful manpower's, which will make contribution to the social development and economy of the country.

Academic performance as a concept is seen as possessing an amorphous nature since it widely includes several elements ranges from

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obtaining professional's degree to the student developments in the morale sense (Gibson & Rankin, 2015). This nature of academic performances moreover create difficulty in coming out with an exhaustive meaning of the term. To some extent, gaining skills or knowledge's as well as completing courses constitute the definition of academic performance while for some others, having an ability to progressively obtain careers constitute the version.

Learner's academic performance, in accordance with Narad et al. (2016), is the knowledge's obtained which is evaluated by teachers using marks or education aims establish by teachers and students to achieve over specified time periods. Díaz-Morales and Escribano (2015) noted academic performance as the combinations of social, economic and psychological elements which bring the complete multi-faceted growths of learners. Generally, academic performance is how well a student accomplishes or deals with his or her tasks or studies as described in the curriculum.

Various factors which affect students" academic performance include personal factors (gender, age, personality, study habits, learning preferences and prior academic achievements), psychological factors (self-efficacy, cognitive test anxiety, attitude etc), environmental factors (home and school environment) and other economic factors (financial status of the parents etc) (Getahun, 2022; Sibomana, Karegeya & Sentongo, 2021; Kumar et al., 2021).

Although academic performance is crucial and it is the basic outcome of educational institutions; its measurement continues to be elusive among policymakers, measurement experts and educators (Lamas,

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2015). Diversity of ways such as grade point averages, report card grades, teacher ratings, standardized test scores, dropout rates and other cognitive test scores are used to measure academic achievement by researchers (Lamas, 2015). Academic performance in the context of this study is however measured using the test score of English Language, core Math and Integrated science prepared by a teacher in the school setting.

Empirical Review

This section presents review previous studies based on the study objectives. It includes; cognitive test anxiety and academic self-efficacy as a predictive power of academic performance, relationship between cognitive test anxieties and academic self-efficacies, relationship between males and females in the levels of cognitive test anxieties, and relationship between males and females in terms of their level of academic self-efficacy.

Cognitive Test Anxiety as a Predictor of Academic Performance

Studies regarding relationships between test anxieties and test performances have revealed that the cognitive component of test anxieties is a predictor of students' exam performances (Amalu, 2017). However, these findings have found contradictory results. While most of the studies have found cognitive test anxieties as predicting students' test performances, others have found no relationship or prediction. For instance, Amalu (2017) in Nigeria conducted a study with the aim to determine how cognitive test anxieties predict test performances in Mathematics and English Language among High Schools. The study took 142 male students and 233 female respondents out of 3,754 SHS's learners

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in 20 schools in Makurdi Metropolis. Using Regression Statistical analysis technique, it was found out that cognitive test anxieties predicted learners' academic performance. Based on the findings, recommendations were suggested for students to learn hard in order to increase their levels of confidence and to prevent self-doubts or self-defeating behaviours.

Similarly, Bosol and Balgalmis (2018) research study aimed to examine the number of factors that predicted success in student academic achievement. A sample of 143 learners was chose from the inner middle side of the Black Sea Region city of Turkey. The data were gathered through availability sampling by visiting the cram schools in downtown Tokat, a city in the Black Sea region of Turkey. Population of the study was 8th graders coming from 10 middle schools. Westside Exam Anxiety and Academic Self-Efficacy Beliefs Scales were used for data collection purposes. The data was analysed through the use of regression analyses. The study outcome revealed cognitive components of test anxiety as a significantly negative predictor of student's test achievement.

In a research by Oluoch, Aloka and Odongo (2018), test anxiety and performance in academics were investigated. The study was designed to determine the extent to which test anxiety beliefs predicted achievement in chemistry among students in public secondary schools in Kenya. A sample of 353 form four students, 10 chemistry and 10 guidance and counseling teachers was selected from 26 public secondary schools from Rachuonyo South Sub County in Homa Bay County using both Stratified random sampling and purposive sampling techniques. Data collection was done using questionnaire and interview schedule. Questionnaire was adapted

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from Test Anxiety Inventory (TAI) By Spielberger (1980). Quantitative data was analyzed both descriptively and inferentially (Pearson Product Moment Correlation, multiple regression and ANOVA) while qualitative data was analysed using thematic analysis. Pearson Product Moment revealed that there was statistically significant negative correlation (r= -.432, n=308, P< .05) between test anxiety and Chemistry academic and that test anxiety accounted for 18.7% (R2=.184) of the variation in performance in chemistry Academic.

Moreover, Ihekwoaba, Chinweuba-eze and Nduji (2020) in their research study aimed at ascertaining how test anxiety and self-concepts predict test achievements among biology students. Out of the 6,890 total populations, 365 participants were used as a sample size for the research. The participants were selected through stratified and simple random technique. The instruments used for data collection were titled Biology Test Anxiety Scale (BTAS); Self-concept Rating Scale (SRS) and Biology Achievement Test (BAT) all developed by the researchers. The regression analysis were used by the researcher to analyse the data. The outcome of the regression analysis revealed significant relationship and that worry components test anxiety negatively predicted academic performance among biology students.

Similarly, Pate, Neely, Malcom, Daugherty, Zagar and Medina (2021) conducted a study to explore how the levels of cognitive test anxiety (CTA) among pharmacy learners predict academic outcome. A sample size of 5260 pharmacy practice experience students were selected for the research. The participants were selected based on the purposive sampling

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technique. Research data's analysis was done with multiples linear regressions. The study outcomes indicated that 22 students (18.5%) cognitively, were severely anxious, 34.5% moderately experienced cognitive test anxieties and 47.1% experienced lower cognitive test anxieties. It was concluded that the highest levels of cognitive test anxieties negatively predicted the test performances of the learners.

Moreover, D'Souza et al. (2021) in their study in India aimed at exploring students' academic self-efficacy, motivation, test anxiety and online academic performances among university learners. Participants of 150 students with their mean age of 19 years studying various courses at an Indian University were used. This was done through stratified and simple random technique. Self-efficacy, academic motivation scale was adopted by the researcher to gather the data. The researcher used regression analysis to analyse the data and it was found out that the cognitive aspect of test anxiety negatively predicted academic performance of students.

Similarly, Sadiq (2018) conducted a study to examine how test anxiety among SHS learners in influence on academic achievements. The study sample size was 432 students consisting of 162 males and 270 females. The sample from the selected population included the students aged ranges from 10 to 16 studying in 9th and 10th classes in Quetta city. The selection of the respondents was done through random technique. The researcher used questionnaire to collect students' information on test anxiety. The Pearson Product Moment Correlation indicated a significant relationship with test anxiety particularly cognitive component as major negative predictor of the student's academic performance.

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Additionally, in Nigeria, Adesola and Li (2018) research study aim was to investigate the relationship between cognitive test anxiety and students' academic performance. The researcher employed stratified and simple random to select a total of 24 participants as a research sample size. The respondents consisted of 14 males and 10 females with the age range between 16 and 27 years. The researcher administered questionnaires to collect data from the students. The Pearson Moment Correlation similarly discovered a high correlation between test anxiety and academic performance.

Shukla (2021) research study investigated the relationships between cognitive test anxieties, home environment and test performance. Simple random sampling techniques were used to take 300 learners from 60 secondary schools in Kalahandi District of Odisha, India. The outcome of the results indicated negative predictive correlations between cognitive component of test anxieties and performances in test.

Furthermore, Adaugo and Ikechukwu (2017) study added to the literature examined cognitive test anxiety and academic performance of student in public secondary schools in Rivers State. The experimental research design was adopted for the study. The population of the study was 650 respondents, while the Tsaro Yamen formula was used to obtain a sample size of 295 respondents. The stratified and simple random sampling technique was adopted in the selection of sample size. The result showed that cognitive test anxiety negatively predicted students' performances in test.

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On the contrary, there are other existing literatures that found no significant predictive correlations between cognitive test anxiety and the student performance in examination. For example, in Turkey, Kulturi and Ozcan (2022) conducted a study to determine how test anxieties cognitively predict the performances of the high-stake exams. In this study, the researcher purposively selects some students studying in 12th-grade high schools located in a mid-sized city center in Turkey. The sample size consisted of 264 respondents and it was revealed that all the dimensions of test anxiety did not obviously predict the performance in test among students.

This research finding however showed contrary results to the above gathered research studies but it was not surprising due to this researcher' sample procedure. The researcher purposively selected particular students instead of giving opportunity to a student to be selected. This difference in sampling procedure could probably influence the results

Another research study carried out by Cadet (2021) aimed at determining the impacts of cognitive test anxieties on performances in examination among learners studying English Languages stands out. The respondents for the study consisted of 103 English Language Learners selected from Government universities found in America, Eastern part. The researcher used purposive sampling technique to select particular students. That is, the investigator interested in students whose second language is English. The cognitive test anxiety scale with 27 items was used to assess the participants' responses on cognitive test anxiety and the test performance was measured using the learners' cumulative GPA. Pearson's

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correlation coefficient analyses indicated no significant correlations between the level of cognitive test anxiety and the, therefore no level of cognitive test anxiety predicted the performance (GPA) of students.

This researcher sampling method the same way was different from other researchers whose findings showed contrary results. Such researchers used probability to give equal chance to all participants. However, this researcher used non probability technique specifically purposive sampling (judgment sampling) method that involves selecting particular participants to conform to certain criterion. In view of this, this could probably account for this contrary result.

Dami, James and Gogwim (2019) moreover in Nigeria conducted a study with the intention to investigate test anxiety as predictive capability to secondary school learners' performance in biology. The study used a convenient sampling technique to select 46 secondary school students as a sample size for the study. Participants were between the age ranges of 15–22 years. The researcher measured participants test anxiety through the use of Westside test anxiety scale (Driscoll, 2004). The statistical tool used was regression analysis and it was found out that test anxiety does not predict student performance in biology.

This literature moreover provided a contrary result. Comparatively, beside the differences in sampling technique, the researcher used a small sample size (46 students) and could affect the research outcome.

In the same way, Afidchao and Wang (2021) conducted a study to investigate relationship between student test anxiety and the students' academic performance in learning foreign language. The researcher

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administered questionnaires to 99 students. However, 81 were complete for statistical analyses. The researcher collected data on student test anxiety using the Foreign Language Classroom Anxiety Scale (FLCAS) developed by Horwitz (1986). The researcher used regression analysis as a statistical tool and it was finally revealed no predictive correlations between test anxiety and reading performance.

In this study, the result obtained by the researcher was different from some researchers' findings. This could be probably the scale used by the researcher (Foreign Language Classroom Anxiety Scale) developed by Horwitz (1986). The content validity of this scale is different from the general test anxiety scale being used by other researchers. This could have an influence on the research results.

Based on these accumulated studies, it is inferred that cognitive components of test anxiety as a predictive power of students' performance in examination lacks consensus and is still not resolved, therefore there is the need for further study.

Academic Self-efficacy as a Predictor of Student Academic Performance

Various studies regarding academic self-efficacies as a predictive power to learners' performance in examinations have produced mixed findings. In a study by Demerdash (2020) investigated the relationship between students' academic self-efficacy and academic achievements. The researcher employed a convenient sampling method to select the 210 learners as his sample size. The participants consisted of 110 females 100 male respondents. These respondents were the learners from grade of one,

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two, and three middle schools with the age intervals of 13-15 years. Morgan-Jinks Student Efficacy Scale (MJSES) was used to measure students' self-efficacy. Pearson correlations and Liner regressions were the tools considered to test the data. The outcome obtained from the analysis of regressions revealed learners academic efficacies as significant positive predictive capabilities to test achievements ($b = 0.370$, $t = 18.619$; $P < 0.01$).

Similarly, Nwamadi and Ekechukwu (2020) conducted a research study in Nigeria to ascertain how Secondary School learners' academic self-efficacies predicted examination performance. The researcher used stratified and simple random probability method to select 339 students as a research sample size. This consisted of 174 males and 164 females' respondents. The participants academic self-efficacy was measured using Self-Efficacy Scale (SES) and their academic performance was measured through the Students' Academic Achievement Test (SAAT). Simple linear regression as a statistical tool was used to test the hypotheses. The findings revealed that students' academic self-efficacy positively predicted their academic performance.

Moreover, Basith, Syahputra and Ichwanto (2020) quantitative research study in China investigated academic self-efficacy as a predictive power of test performances. The study was conducted using students from School of Teacher Training and Educational Science. The researcher employed a simple random technique to sample a sample size of 223 respondents. This included consisting 112 male learners and 111 female learners and they represented for the study. The researcher adapted

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academic self-efficacy scale developed by Byrne et al (2014) and Matoti (2011) to measure students' academic self-efficacy. Their academic performance was measured based on the GPA. Statistical regression analysis was employed by the researcher to analyse the data. It was revealed that academic self-efficacy significantly predicted students' academic performance.

Another study conducted by Fakhrou and Habib (2021) examined how students' academic self-efficacy is related to academic achievement among special education students. The researcher purposively considered the final years students in the Special Education Department. The researcher then used simple random technique to select a sample size of 43 students which included 27 males and 16 females out of 229 students of the Special Education Department. The selected participants responded to the questionnaire. Pearson Product Moment Correlation was employed and finally revealed positive relationship between respondents' academic self-efficacy and academic achievements.

Similarly, Bhati et al., (2022) carried out a research in India to explore academic self-efficacy and test performance among undergraduates. All the undergraduate students enrolled in the three-year undergraduate course during the session 2017-2020 in Panchayat Degree College, Bargarh, Odisha, India was the population under the study. A sample of 120 students was taken through stratified random sampling, in which 60 were boys and 60 were girls. 40 students from each stream of education i.e., Arts, Science, and Commerce were selected as the sample under the study. For the collection of data on self-efficacy, Academic Self-

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efficacy Scale developed by Gafoor and Ashraf was used and academic performance was measured with the help student final GPA. In using a correlational analysis, the researcher found a positive correlation between academic self-efficacy and students' academic performance.

Additionally, Nasir and Iqbal (2019) examined whether there was an existence of predictive relationship between academic self-efficacy of the students and the test achievement among students of pre-service teachers training program. This study was correlational and descriptive in nature for which data were collected through survey method. The study sample comprised of participants of 135 found within the teachers receiving their training in the Elementary Educations Departments, Institutes of Educations and researches, Punjab University through simple random sampling. The participants responded to questionnaire and their academic performance was measured using their midterm exams scores. The outcomes similarly pointed efficacy of the students out as a positive predictive power of learners' test achievement ($r = .56$, $p < .01$). With this finding, recommendation made was that counseling and training programs need to be provided to help develop positive self-beliefs in students.

In Nigeria, another study conducted by Nne and Ekene (2021) investigated the extents to which academic self-efficacies and academic self-concept predicted the test achievements in English Language in Anambra state. With a multi-stage sampling procedure, 600 students were sampled for this study. The outcomes obtained from multiple regressions analysis revealed that efficacies of the students statistically predicted performance in English language.

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Moreover, Arifin, Wahyudin and Herman (2021) research study found in Indonesia explored the relationships between mathematics self-efficacy and student's mathematical understanding. Research respondents consisted of students from primary school with the total number of 44 learners. The participants years ranges between 10 and 11 ages. The participants were split into two different groups, with each group consisting of primary school students from Kuningan and Indonesia. Each group consisted of 22 students. The researchers used questionnaire to assess students' maths self-efficacies and test for students' mathematical understandings. The research outcomes pointed out that student mathematics self-efficacies are positive predictor of student achievements, such as mathematical understanding.

In contradiction to the above views that self-efficacies is positively predictor of learners academic performances, Yusof, Razak, Nordin and Zulkfli (2021) examined self-efficacy, motivations and learning strategy as predictors of Malaysian undergraduate students' test performance. This study employed stratified sampling where the strata or groups classified based on their programs enrolled which are Bachelor in Marketing, Bachelor in Statistics and Bachelor in Finance, Bachelor in Islamic Banking. This study distributed a total of 290 sets of questionnaires and 276 completed questionnaires. and the research data analysis was done with the help of Pearson r and multiple regressions. On the bases of multiple linear regression analysis, the outcomes of the research discovered no predictive relationships between self-efficacy and performance in examination.

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This researcher had a contrary result though the same probability sampling technique was used during the data collection like the other research works gathered. However, unlike other gathered previous works, the researcher in this study restricted the participants to only business students. Other students from different departments with different perception on particular task were not given the chance and this could probably account for these differences in results. This is because academic self-efficacy is about students' belief of their ability on particular task.

Similarly, Rajapakshe (2021) study aimed at investigating academic procrastinations, self-efficacy, motivation and academic performance among undergraduates' learners. This study covers the sample population consisting of undergraduates selected from the 19 non-states degree awarding institutes. The study used purposive sampling techniques to select three larger universities among 19 universities that have approximately 9,000 undergraduates. A simple random sampling method was adopted to collect data from 381 students, during academic year 2019-2020. Structural Equations Models was adopted to explore the degree of relationships among academic procrastination, self-efficacy, motivations and academic performances. With regard to the efficacy of student and the test performance, the Structural Equation Modelling revealed no significant relationship between these two variables among the students.

Moreover, many research studies gathered revealed that academic self-efficacy have an influence on students' academic performance. However, this research work provided a contrary result. The differences

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could be the statistical tool that used by this researcher which was different from other research works gathered.

Additionally, Isah, Olutola, Olatoye and Aderogba (2021) research study in Nigeria assessed the impacts of academic self-efficacy on academic performance of University Science Students in Katsina State, Nigeria. Descriptive survey was considered was considered as research design. A purposive sampling technique was used to select four departments (mathematics, physics, chemistry, biology) from each university. From each of these departments, 20 students were randomly selected to participate in the study. A total of 320 students, therefore, formed the sample for the study. Academic Self-Efficacy Scale and students CGPA record was used as data collection tools. Hypothesis was tested using Pearson Product Moment Correlation. The study outcomes proved no significant predictive relationship between efficacy of the students and performances in test.

In this study, the researcher finding comparatively moreover proved different result. This could be that the researcher in this study the researcher restricted the participants to science department. That is, unlike other gathered studies, in this study, students with different ideas in different departments were not given opportunity to participate and this could influence the results.

In the same way, Prabowo, Nurlaela, Ekohariadi, Buditjahjanto and Yundra (2021) research aim was to analyse the influence of self-esteem and self-efficacy on the academic performance among the Aviation Polytechnic's students. The researcher administered questionnaires to 199

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respondents. However, four respondents answered the questionnaire were incomplete, therefore a total number of 195 were used in data analysis. This study used SEM-PLS data analysis to answer the research hypothesis. The study result revealed no statistically significant different between self-efficacy and academic performance.

This study is a causal research with a quantitative approach and the statistical tool used in the data analysis was moreover different from other research works gathered. To the current researcher view, these contrary results could be probably due to the approach and the differences in the statistical tools being used in analysing the data.

From the existing literatures, academic self-efficacy appeared to be important component that need to be considered further. This is due to the issue of sex differences in the level of academic self-efficacy, and the degree of relationships between academic self-efficacy and student test performance. The current study therefore has the objectives to fill the gap.

Relationship Between Cognitive Test Anxiety and Academic self-efficacy

There is a connection between cognitive test anxieties and academic self-efficacies (Sanli, 2021). However, many research works with variety of views have been found. For instance, Soltaninezhad and Ghaemi (2018) research study assessed the relationships between test anxiety and academic self-efficacy. Through random multistage cluster sampling method, a total of 350 learners from four public High Schools in Kerman were used as respondents. The researcher used questionnaires to collect students'

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information on test anxiety and academic self-efficacy. It was discovered that academic self-efficacy was in relationship with test anxiety.

Moreover, Asayesh, Hosseini, Sharififard, and Kharameh (2016) conducted a cross-sectional's study to investigate the relationship between test anxiety and academic self-efficacy. The researcher used random sampling technique to select 233 paramedical students of Qom University. Test anxiety inventory and the self-efficacy scale were used as data gathering tools. According to univariate regression analysis, increasing of the score of self-efficacy reduce the chance of test anxiety, significantly.

Additionally, research conducted in Romania by Holic (2018) to investigate the correlations between learners' self-efficacy, test anxiety and academic performance. Using the random sampling technique, the study took a total of 253 students as respondents. The finding showed significant relationships between the two variables and it was observed that those who reported higher level of text anxiety experienced low level of self-efficacy.

Another study by Tsai (2013) investigated about test anxiety, self-efficacy and foreign language anxiety among students in Taiwan. The research respondents comprised of 256 students. The range of their mean age was between 16 to 18 years. Out of the 256 respondents, 132 were males and 124 were female students. The researcher used stratified and simple random technique to select these respondents. It was found out that learners with lower level of English self-efficacy exhibited a severe level of English class anxieties than learners with severe levels of English self-efficacies.

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However, Abdi, Bageri, Shoghi, goodarzi and Hosseinzadeh (2012) held a contradictory view when 127 high school students was used in Kermanshah to explore the correlation among self-efficacy, learners' test anxiety and academic achievements. The selection of the respondents was done through non-probability sampling technique (purposive sampling). The results showed no significant correlations between the self-efficacy and the exam anxiety. The contrary results could be due the differences in sampling procedure.

Similarly, in a research by Msayar, Akhmal and Mardhiana (2016) in Malaysia investigated the relationships between exam anxieties and academics self-regulated learning. The sample size consisted of 124 students with the age between 18 to 20 years. The outcomes obtained from the Pearson's regression analysis revealed no prediction between self-regulated learning and test anxieties at level of $p>0.05$ among the students.

Moreover, Barrows, Dunn and Lloyd (2013) study aimed at examining test anxieties, self-efficacies and college exam grades. There were 110 students consisted of 37 males and 73 female students as a respondents. It was revealed that self-efficacies were not found to be a moderator of test-anxieties in examination.

Another study conducted by Alzboon (2016) similarly investigated the correlations between exam anxiety and academic self-efficacy among university learners. The researcher purposely select 534 participants as research sample size. On the bases of correlational analysis, the correlations found between exam anxieties and academic self-efficacy was not significant.

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Relationship Between Males and Females in the Level of Cognitive Test Anxiety

The relationship between male and female learners in the level of cognitive test anxiety has received considerable attention of researchers in recent times (Lowe, 2019). However, the findings of these research studies do not yield consistent results and therefore need further research. For instance, Ali, Ejaz and Bagum (2021) conducted a correlational design study in Pakistan to examine the relationship between males and females in their level of cognitive test anxiety. Stratified and simple random techniques were used to select a sample size of 2081 students. Data on students' cognitive test anxiety were collected using Cognitive Test Anxiety Scale (CTAS) developed by Cassady and Johnson (2002). The research outcomes revealed a significant relationship with female sample learners showing extreme levels of cognitive exam anxieties than male learners.

Furthermore, Bolbolian et al. (2021) research work in Iran investigated academic procrastinations and test anxiety among the dentals Universities learners in Medical Science. The research used 152 dental learners as research respondents. The selection of the respondents was done through stratified and simple random techniques. Data collection was done through questionnaire. In the analysis of the data concerning the gender differences, independent t-test showed a significant sex differences with female learners experiencing more cognitive component of exam anxieties than male learners.

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Moreover, in attempt by Liu and Hong (2021) to investigate English language classroom anxiety, 709 students consisting of 380 males and 329 females students with ages between 9 and 16 from lower and upper level schools in a region in the southern China were sampled for this research work. The study findings showed that the anxieties level of female respondents generally were lesser and were happy in the English reading classes compared to their males' counterpart's students.

Similarly, other evidence was additionally discovered by Cotner, Jeno, Walker, Jorgensen and Vandvik (2020) when the same sex difference concerning in the levels of cognitive test anxiety was investigated. The researchers employed stratified and simple random techniques to sample 400 undergraduate students in biology class. Data on students' cognitive test anxiety collected through questionnaire. The independent sample t-test revealed that females experienced more test anxiety cognitively than the males.

Interestingly, Olusegun and Awuya (2021) research study examined the relationship between test anxiety and academic performances in the University of Dutsin-ma found in Katsina State. The research design of descriptive surveys was considered by the investigator. The undergraduate students in the school were considered as the research population. Two departments were selected from the university using simple random sampling technique. Two hundred and twenty (220) participants were sampled for the study through simple random sampling technique, which consist of one hundred and seventeen (117) males and one hundred and three (103) females. The instrument used in this study was questionnaire to

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elicit information from the respondent on the appraisal of test anxiety on students' academic performance in the study areas and inferential statistics of independent sample t-test was used to test the hypotheses On the bases of gender, the independent sample t-test revealed no significantly sex difference in the level of test anxiety.

Surprisingly, this research study comparatively provided different result. To the researcher view, the result could be the scale this researcher used. This researcher used general test anxiety scale which consists of two dimensions, emotionality and cognitive aspects in the area of test anxiety. However, other gathered research studies which showed contrary results used cognitive test anxiety scale which specifically elicit information on cognitive aspect. That is, the content validity of the two sided scale were not the same and this could affect the result.

Relationship Between Males and Females in the Level of Academic Self-efficacy

From the existing literature, study findings regarding the sex difference in the levels of academic self-efficacies also appeared inconclusive. Musa (2020) for example conducted a study in Uganda aimed at comparing male and female in terms of their self-efficacy level. A sample of 300 students was selected from two universities (public and private) considering three faculties; Education, Humanities and Sciences. The modified academic self-efficacy questionnaire was distributed to 300 participants for the study. 293 questionnaires were returned fully answered and were used to analyze data for this study. The stratified sampling strategy was used to select participants from each faculty (education (98),

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humanities (102) and science (93)). The universities that participated in the study were selected purposively. The sample that participated in the study comprised of 140 females and 153 males. Based on the outcome it was observed that there male and female undergraduate students differed significantly in the levels of their learning self-efficacies ($t(291) = 2.76$, $p < .05$) with a males students having higher academic self-efficacy ($M = 4.63$, $SD = .36$) than females students ($M = 4.02$, $SD = .65$.)

Similarly, Rodríguez, Regueiro, Pineiro, Estevez and Valle (2020) conducted a study to examine the levels of academic self-efficacy in terms males and female students. With the help of stratified and simple random techniques a sample size of 240 students which consisted of 120 males and 120 females was selected. The sample t-test review that Boys are more self-efficacious than Girls and these ultimately results to their academic performance variability.

Additionally, Kassaw and Astatke (2017) explore a descriptive research with the intention of identifying the relationship between males and females students in their levels of goal orientations, academic self-efficacies and performances in test. The correlational research design method was considered for the research. The participants of this study were 482 second and third year students at Woldia College of teacher Education in 2016/17 academic year. The stratified and simple random techniques were used to select the sample size. The questionnaire and students' cumulative GPA was also used as instruments to collect data. The result revealed that male colleagues experienced higher level of academic self-efficacy than females.

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Above all, there are some studies that do not identify male and female learners' differences regarding the levels of academic self-efficacies. For example, the research carried out by Vidic (2021) to ascertain the levels of academic self-efficacies among students stand out. The researcher used purposive sampling technique to select 330 girls and 329 boys as research respondents. The result revealed no significant sex differences in the level of self-efficacy.

This researcher' result was different from other studies gathered. This could be probably the type of sample procedures being used. This researcher used non-probability method and other gathered studies used probability specifically simple random to select the research participants.

Corsi, Zacchia and Zuazu (2021) work in Argentinian and Guatemalan universities similarly examined the differences that exist in the level of self-efficacies among post-graduate female and male learners on renewable energy. Convenient sample technique was used by the researcher to select a sample size of 43 students. The researcher collected information on students' academic self-efficacy using questionnaire. Sample t-test analyses revealed no sex difference in the level of self-efficacies among post-graduates learners.

In this study, the sample size (43 participants) this researcher' used was comparatively small. This could have an influence on the research results. Similarly in Nigeria, Adelodun and Asiru (2015) used the same small sample size of 40 males and 40 female to examine the levels of academic self-efficacies between males and females and the rate at which these efficacies levels affect academic performances in English writings in

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Ibadan, Oyo State. The finding showed relationships between self-efficacy and performance in English writing but no statistically significant sex difference in the levels of academic self-efficacy.

Another study by Mwaura (2021) undertook research to investigate whether there is any relationship between males and females Secondary Schools' learners in Kenya regarding academic self-efficacy level. The samples of 397 learners were considered basing simple random probability strategies. With the use of independent sample t - test analysis, the outcomes did not disclosed any significant relationship between male and female learners in the levels of academic self-efficacies (= -0.80, df= 367, P>0.05.

Chapter Summary

This chapter touched on literature review consisted of the theoretical, the conceptual and the empirical information considered necessary to the domain under study. The theoretical aspect based on the theories of Cognitive Interference Model (Sarason, 1984), Information Processing Models of Test Anxieties (Tobias, 1985) and Social Cognitive Theory (Bandura, 1977) to explain how cognitive test anxieties and academic self-efficacies influence learners performances in test. The conceptual framework displays a model to explain the relationships between the independent variables and the outcome variable.

The empirical studies on the relationship between cognitive test anxiety, academic self-efficacy and academic performance were reviewed. It was evident in the literature that students who experienced severe test anxiety performed poor on examination and students with high level of

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academic self-efficacy performed better in examination. The striking issue is that, larger part of the evidences accumulated in the literatures just pointed to western context which is different from the context of Ghana. Few ones found in Ghana did not specifically consider the cognitive components of test anxieties which could have a direct influence on performances in test.

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CHAPTER THREE

RESEARCH METHODS

Introduction

This chapter explains the procedure and methods that were employed by the researcher in investigating the problem. Specifically, it explains the research design, study area, population, sample and sampling techniques, data collection instruments, data collection procedure, data analysis and chapter summary.

Research Design

Descriptive survey was adopted for the study. The descriptive survey was chosen for the study because it can be used to provide a lot of information from quiet a large sample of individuals and describe some aspects of a population sample in an unbiased way (Creswell, 2012).

The design, however, has its limitations as well. According to Creswell (2012) in using this design, the researcher has to ensure that a sufficient number of the questionnaire have been answered and returned otherwise a meaningful analysis cannot be made. It is susceptible or easily influenced to distortions through the introduction of biases in the measuring instruments. For example, errors due to the use of questionnaires might distort research findings.

In spite these misgivings, the researcher considered the descriptive research to be most appropriate for this study because the research intended to describe the current state of the student cognitive test anxiety, academic self-efficacy and academic performance.

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Study Area

The research was conducted in Sekyere East District in Ashanti Region of Ghana. The choice of the area of study was based on the Sekyere East District Education's Directorate Report, (2022) that many students in the district perform poorly in English Language, core Maths and Integrated science every year in spite of efforts to reverse the trend. Moreover, the area is closed to the researcher's hand and as such, gathering data on the issues was easier and manageable; this attracted the researcher for this investigation. Florentina (2015) indicated that, a better research area for any study should easily be accessible to the investigator and should allow instant rapport with the informants.

Effiduase is the administrative capital of that district and it is found in Ashanti Region. This district was established in the year 1988 and could be located in the North-Eastern side of Ashanti Region, in the approximation between the latitudes 6º45"- 6º55" north and longitudes 1º15"-1º25" west.

Among the districts in the Ashanti Region, Sekyere East District is the biggest of all and it consisted of 43 settlements of different sizes occupied on an estimated area of land of about 730.5sq/km. In the North-East, the district is bounded by Sekyere Kumawu district. In the South-East, it is bounded by Asante Akim Central Municipal. In the South-West bounded by Ejisu Municipal and in the Western part it shares with Sekyere South District while the Eastern side is Asante Akim North Municipal.

The population of the district in accordance with the 2021 Population and Housing Census was 74,789 which included 35,731 males

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and 39,058 females representing 1.4 % of the entire population of the Ashanti Region. The population consists of people with different backgrounds but the area is predominantly inhabited by the Asante tribe and other significant immigrants groups include Dagomba, Mamprusi, Mossi, Sisala, Kokomba, Chikosi, Dagarti and Ewe.

In terms of educational development, the district has a number of schools but greater part was found in the district capital at the expense of surrounded villages. Presently, according to Sekyere East District Education Directorate (2021) the district has 213 basic schools made up of 149 (68.98%) public schools and 64 (31.02%) private schools. There are four (4) senior high and one (1) technical school in the District (i.e Effiduase Senior High School, Effiduase Senior High/Technical School, T.I Ahmadiyya Girls Senior High School, Tijania Senior High School and Krobea Asante Vocational/Technical School). The Pupil-teacher ratio for KG, Primary, JHS, SHS and TVET are 16:1, 22:1, 10:1, 24:1 and 19:1 respectively.

Ghana Statistical Service Report (2021) revealed that farming is the main occupation and about 48.9 % were fully active in the crop cultivation and rearing of animals. Some section of the total population moreover engaged in the service sector while others are active in the manufacturing and commerce sectors.

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Population

The target population for this research comprised of all the learners in the four Senior High Schools plus one Technical School within the Sekyere East District in the Ashanti Region. The five schools included Effiduase Senior High School, T.I Ahmadiyya Girls Senior High School, Effiduase Senior High / Technical School, Asokore Tijania Senior High School and Krobea Asante Vocational Technical School. Apart from T.I Ahmadiyya Girls Senior High School, the rest are mixed (males and females) boarding schools. According to the records from the Sekyere East District Education Directorate, the target population was 8,978 students.

However, the accessible population for the study was the second year learners in all the five Government Second Cyle Schools within the district totaling 3,105 (Sekyere East district Directorate, 2022). The second year students were selected because they are more experienced in the school environment than the first year students. Moreover, they were not busy like their counterparts third year students who were busy for their final examination (WASSCE). Sekyere East District Education Directorate records further showed that there were 1,451 males and 1,654 females' second year students in the four Senior High Schools and other one Technical School within the district.

The result showed that the main age category for both males and females ranges from 14 to 20 years. According to Ghana Statistical Service Report (2021) the students population consists of people with different backgrounds but the area is predominantly inhabited by the Asante tribe and other significant immigrants groups include Dagomba, Mamprusi,

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Mossi, Sisala, Kokomba, Chikosi, Dagarti and Ewe. The main occupation of the respondents' parents was farming and their highest education level was junior high school. The distributions of the accessible population are shown in Table 1.

Table 1: Distribution of Accessible Population for the Study

Name of schools	Boys	Girls	Total
1.Effiduase Senior High School	506	482	988
2.Asokore Tijania Senior High School	288	214	502
3.Effiduase Senior High / Technical School	188	151	339
4.T.I Ahmadiyya Girls Senior High School	-	604	604
5.Krobea Asante Vocational / Technical School	469	203	672
Total	**1451**	**1654**	**3105**

Source: Sekyere East District Education Directorate (2022)

Sample and Sampling Procedures

In many cases when a complete coverage of the entire population cannot be used by the researcher, there is the need to select some part of the accessible population, study them and make generalisations and inferences to the whole population (Amedahe & Asamoah-Gyimah 2015). The aspect selected from the accessible population is term as sample while the sample procedure is the process used in selecting the sample. A multi-stage sampling technique was used in the sampling process. Multi-stage sampling refers to sampling procedures where the sampling is conducted in stages by selecting smaller and smaller sampling units at each stage (Adane, 2013).

In the first place, five senior high schools in the Sekyere East district were purposively sampled. The technique was justified based on the

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assertion made by Amadehe (2002) that the researcher chooses the cases to be included in the sample on the bases of their judgment of their typicality or particularity and knowledge ability about the issues under study. This decision was based on the Sekyere East District Education's Directorate Report, (2022) that the students performed poorly in English Language, core Maths and Integrated science during WASSCE in the year 2018, 2019, 2020 and 2021 in spite of teachers' motivation and availability of school facilities. The five schools were Effiduase Senior High / Commercial School, Asokore T.I Ahmadiyya Girls Senior High School, Effiduase Senior High / Technical School, Asokore Tijania Senior High School and Krobea Asante Vocational Technical School.

The second years were selected totaling 3,105 based on my belief that they were in the best position to provide responses to issues under investigation. The final year students (SHS 3) were excluded from the study because they were busy preparing for the West Africa Senior Secondary Certificate Examination (WASSCE). The first year students too were new and yet to experience multiple examinations administered by the schools. Therefore, the right respondents to use to test their academic performance successfully are the second year students.

In determining the sample size for the study, a sample size determinations table by Krejcie and Morgan (as cited in Cadet, 2021) was employed. According to Oribnabor and Anyanwu (2019) sample size refers to a total number of respondents taking part in the study to represent a research total population. The sample size determination table stipulates that a population of 3000 and 3500 belongs to the corresponding sizes of

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341 and 346, respectively. Conversely, since the population of the five institutions in the present research above 3000 but below 3500, in accordance with the sample size determination table, the sample size 346 of 3500 was selected.

Secondly, to obtain an equal representation of research participants in terms of the number and gender in each school, stratified sampling techniques with proportional allocation methods was employed for the study. Out of the selected schools, four of them were mixed (males and females) and moreover some have larger number than others hence, the adoption of stratified proportionate technique. Based on the sample size of 346, the proportionate quota of respondents to be sampled from each school was calculated with formula,

$$S = \frac{(n)}{N} \times k$$

Where

S means the students' number selected from each school

n means the second year students' total population in each school

N means the whole of the second year learners in all the five schools

K means the needed number of learners for the research

To obtain the total respondents from Efiduase Senior High / Commercial School, the total respondents suitable for that institution was estimated by dividing the total number of accessible population of Effiduase Senior High / Commercial School (988) by the total number of all the accessible population of the 5 Second Cycle Schools (3,105) and multiplied by the recommended sample size (346) and the result was given

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as $\left(\frac{988}{3,105} \times 346 = 110.09\right)$. Since the study's respondents were people and hence could not be in decimals, this was rounded up to a whole number of 1, as appropriate. The calculated quota value was in decimals and therefore it was rounded to the nearest whole number, yielding an accurate sample size of 110.

After obtaining the sample size of 110 of that school, the question was how many males and females needed to be selected? The calculation for gender representative in each mixed school was done. To obtain the number of male participants in that same school of Efiduase Senior High / Commercial School, the total number of males (506) was used to divide by the total number of accessible population (988) of the school and multiply by its sample size (110) and the result constitute the number of males selected for that school$\left(\frac{506}{988} \times 110 = 56\right)$. Similarly in females, the researcher divided the total number of females (482) by the school total accessible population (988) and multiplied by its sample size (110) to give the needed females$\left(\frac{482}{988} \times 110 = 54\right)$. In the rest of the schools, the same process and approach was repeated. Asokore Tijania Senior High School sample size turn out to be $56\left(\frac{502}{3105} \times 346 = 55.93\right)$, $32\left(\frac{288}{502} \times 56 = 32.12\right)$ males, $24\left(\frac{214}{502} \times 56 = 23.87\right)$ females, Krobea Asante Vocational / Technical School (sample size= 75, 52 males, 23 females), Effiduase Senior High / Technical School (sample size=38, 21 males, 17 females) and T.I Ahmadiyya Girls School (sample size=67, 67 females). The summary distributions of the sample sizes selected from each of the Second Cycle School in the Sekyere East District is shown in table 2

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Table 2: Distribution of the Sample Size

Schools	males	females	Total
1.Effiduase Senior High School	54	56	110
2.Asokore Tijania Senior High School	32	24	56
3.Effiduase Senior High / Technical School	21	17	38
4.T.I Ahmadiyya Girls Senior High School	-	67	67
5.Krobea Asante Vocational / Technical School	52	23	75
Total	**153**	**193**	**346**

Source: Field Survey, (2022)

Finally, after the researcher determined the sample size as well as the required males and females of each school, the simple random sampling specifically the lottery method was employed to sample the respondents from each school. The population of each school was homogeneous in nature and this encouraged the researcher to use this method to give each student equal chance to be selected. To be able to select a sample size from a particular school, the whole second year's class register of that particular school was used as the sampling frame.

The researcher identified and addressed the unit names alphabetically and numbered it accordingly. Their names as well as their numbers was written on slips of paper and put into a basket. In the selection, the researcher thoroughly mixed them before taking one slip or paper at a time, blindly, from the basket. The researcher wrote down the person's name and identification number. When a slip is selected and recorded it was thrown back into the basket until the researcher picked another one. Furthermore, researcher rejected specifically whenever a

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previous drawn number is chosen a second or third time. That is, it was returned to the basket. The same process was repeated in all the five schools. In short, the researcher employed the proportionate and simple random sampling procedures to select the 346 Senior High School students as his research final sample size.

Data Collection Instruments

The questionnaire was chosen by the researcher since it offers opportunity to ensure anonymity or confidentiality and suitable when using large sample size.

The questionnaire was divided into four parts: Demographic information, such as gender, was to be gathered in part A of the questionnaire. The questionnaire's second section, part B, was created as a 4-point Likert scale to collect data on students' cognitive test anxieties. The other influence variable which is students' academic self-efficacy scale underwent the same procedure in part C. Part D finally constituted the test items which were used to measure their academic performance. The Cognitive Test Anxiety scale developed by Cassady and Johnson (2002) and Academic self-efficacy scale developed by Muris (2001) were adapted for this research work. Finally, the participants' academic performance was measured with the used of test scores in English Language, core Maths and Integrated science.

Cognitive Test Anxiety scale was originally developed by Cassady and Johnson (2002) to measure the cognitive test anxiety. The measure includes items not only related to cognitive process during the test, but also the cognitive process in test preparation process and after the application of

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test. It is a 27-item measure on a 4-point Likert type scale ranging from 1= Not at all typical of me, 2= only somewhat typical of me, 3= Quite typical of me, and 4= Very typical of me. The scale has a single factor structure. The score obtained from the scale changes from 27 to 108. Higher points reflect the tendency to have higher cognitive test anxiety. Cassady and Johnson (2002) stated that points between 27 to 61 show low-cognitive anxiety, 62 to 71 moderate-cognitive anxiety and 72 to 108 high-cognitive anxiety. The reliability analyses pointed to a high level of internal consistency with Cronbach alpha of .91 (Cassady & Johnson, 2002). Two sample items from the scale are: "During tests, I find myself thinking of the consequences of failing." and "At the beginning of a test, I am so nervous that I often can't think straight."

The researcher adapted this scale on the bases that some words were modified to suit the respondents' understanding. For instance, The items were measure on a four-point Likert scale ranging from 'Not at all true' stand for 1 point, 'Lowly true' stand for 2 points, 'Moderately true' stand for 3 points and 'Highly true' represents 4 points.

Academic Self-Efficacy Scale on this note was originally developed by Muris (2001) to assess the self-efficacy of adolescents. This questionnaire consists of twenty four items, comprising three subtests; social (the first eight items to assess the ability to communicate with peers, decisiveness and achieving to social criteria), academic (the second eight items to assess the ability to manage learning behaviors, mastery of curriculum and to meet the academic expectations) and emotional (the final eight items to assess the ability to control and dealing with negative

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emotions) The scale items measure on five point Likert scale ranging from 1= Not at all to 5= very well. A total score of the scale is obtained by summing up across all items.

The internal consistency of the subscales was 0.85, 0.82 and 0.92 respectively.

The researcher adapted this scale on the reason that the researcher considered only the sub-part of the scale regarding students' academics. Moreover, some of the items were modified in order to fit the study and examples of the items are "My teacher helps me when I get stuck on my academic tasks", "I can study and do other things that are not related to my study". The items were measure on a four-point Likert scale ranging from 'Not at all true' stand for 1 point, 'Lowly true' stand for 2 points, 'Moderately true' stand for 3 points and 'Highly true' represents 4 points.

The test was used in measuring the academic performance of the participants. English Language, core maths and core science subjects were considered. This was because these subjects are core that all students in the selected schools study and moreover basic requirement in determining students' grades at the WASSCE yet a challenge to some students in the Sekyere East district. Teachers of these core subjects from the selected institutions were engaged in the preparations of items and scoring. Thus, comparisons could be done based on the result of the exams across the schools.

The test items were in multiple-choice format with four options. There were twenty (20) questions each for these three subjects such as English Language, Math and Science. Each subject was scored out of 100%

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and the mean score of each participant in the three (3) tests was computed and used as proxy for academic performance. To categorize the test performance into high or low, WASSCE Grading System (2022), average mark of 50% was used. This implies that a score below 50% indicates low performance (below average) and a score above 50% indicates high performance (above average).

Validity of the instrument

To validate the instruments, the questionnaires were given to my supervisor and two other experts in Measurements and Evaluations to go through. Moreover, the test items on the other hand were present to experts (subject coordinators) at the education director to determine its validity. The input made by experts was used in the modification of the items which may not clear.

Pilot Study

The two questionnaires were piloted using 60 students from Juaben Senior High School in the Ashanti Region. The respondents of Juaben Senior High School were not part of the main study. However, these students had similar characteristics to that of the main research respondents. This exercise was purposely done to ascertain the reliability and validity of the instruments. That is, it was conducted just to check whether any difficulties, ambiguities in the items or whether the instruction was not properly done for the respondents. It was moreover assisted in knowing whether the time allocation was favourable. The errors identified after the exercise were corrected with the help of my supervisor, class teachers and other lecturers before the final instruments were administered for data

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collection. Computer analysis of the data was performed to determine a Cronbach's Alpha value. The pilot test outcomes are presented in the Table 3.

Table 3: Reliability Measure of the Questionnaire for Students

Scales	**Cronbach's alpha coefficient**
Cognitive Test Anxiety	0. 84
Academic Self-Efficacy	0. 703

Source: Field Survey, (2022)

From table 3 the cronbach alpha value obtained from the analysis of this piloting were generally above the preferable value of 0.60. In this regard, the two questionnaires were encouraged to use for this study.

Data Collection Procedure

Creswell (2012) maintained that research involves a prolonged and extensive data collection hence the need for the researcher to seek permissions from the authority in the study area. In this regard, an introductory letter that explains the purposes of the study, the need for individuals' participations, anonymities as well as confidentialities of participants' responses was taken from the Head of Department of Education and Psychology and Institutional Review Board of University of Cape Coast to the Headmasters of each school.

The investigator personally submitted letter to the various school Heads to explain the purposes of the study and found out the reasonable time of the students that did not interrupt the normal school programs. Due

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to the difficult nature of work, the investigator trained an assistant to help him gather the data.

During the day, after the establishment of the important contacts with the head master of the school and some teachers, the researcher informed the participants about the purposes and the voluntary nature of the study and also ensured of anonymity and confidentiality for all the responses given. The researcher together with the assistance administered questionnaires to the participants in their respective school assembly Halls. At a sitting, the participants firstly made to respond to the two questionnaires. The researcher and the assistant explained the purpose and procedures for responding to the questionnaires to participants. The various terminologies such as 'cognitive test anxiety' and 'academic self-efficacy' were explained to them in order to ensure familiarity with these concepts. Moreover, the researcher visited participants who encountered difficulties for a necessary guidance.

After the completion of questionnaires, the respondents were made to answer the English Language and Integrated Science test. The completion of this section was done within 45 minutes. The respondents were given a fifteen minute break, after which the Mathematics test was administered and instructed to finish within twenty minutes. Each respondent's questionnaire and test was tight together and collected by the researcher together with the assistance before the respondents finally left the Hall. The same process was repeated in other selected schools on separate dates within the research period time. The data collection was successfully done in each of the school. That is, all the 346 questionnaires

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were successfully completed by all the respondents constituting 100% turn out rate. Finally, the researcher together with assistant used three weeks to complete the data collection.

Data Processing and Analysis

In this study, the collected data was checked, edited and coded. Two Likert scales were given codes. The gathered data were statistically analysed using frequencies and percentages, Multiple Regression Analysis, Pearson's Product Moment Correlation (r) and independent sample t-test.

Research question 1: Multiple regression analysis was conducted to test this question. It was carried out using respondents' scores of the independent variables and dependent variable. It helped to investigate how these independent variables predicted dependent variable.

Hypothesis 1: Pearson's Product Moment Correlation (r) was used to test this hypothesis. That is, it helped to find out the relationship that was found between the two continuous variables.

Hypothesis 2: Independent sample t-test was used. It is used on two different groups of participants to determine their mean values or scores (Pallant, 2010).

Hypothesis 3: independent sample t-test was also used since it enabled the researcher to find the mean difference between male and female students in terms of their level of academic self-efficacy.

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Ethical Issues

A researcher must be aware of the ethics particularly in social research as it ensures the safety of research respondents (Punch, 2013). In this regard, respondents were made to be aware of their rights to privacy, voluntary participations, anonymities and confidentialities based on the principles of University of Cape Coast Institutional Review Board (UCCIRB).

All the ethics and legal standards spelled out by each selected school and University of Cape Coast ethical committee were observed and informed consent was given to the respondents which guaranteed their rights to freely quit the study when felt to do so. The researcher briefed the respondents about the intentions of this research and assured them of their safety. Moreover, respondents' demographics information was carefully considered to avoid being identified with such information.

The next important area of ethical consideration which the researcher put into consideration was the issue of plagiarisms. This usually comes about when an investigator falsifies, distorts data or pirates others work. Moreover, ideas, works, writings or pieces of information that considered from previous studies to back this research work was properly acknowledged by citing the sources appropriately in the in-text and the main referencing styles that the University of Cape Coast has chosen in accordance with APA formats to prevent plagiarism or academic dishonesty.

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Chapter Summary

This chapter has been used to present in detail the research methods used in the study. The study adopted the positivist paradigm predicated on the quantitative approach to research using a correlational research design. Again, it justified the selected study area. It moreover explained how students were selected from the various selected schools in the Sekyere East district. The chapter also discussed how questionnaire was employed as instrument to collect data. The validity and reliability of the instrument was established through pilot studies to ensure that appropriate responses were collected from the respondents. Furthermore, the chapter pointed out the descriptive and inferential statistical tools as the instruments used to analyse the data. It concluded with how ethical standards in research of the University were adhered to

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CHAPTER FOUR

RESULTS AND DISCUSSION

The study aim was to investigate how cognitive test anxiety and academic self-efficacy correlates with academic performance among SHS's students in the Sekyere East District. This chapter presents the results and discussions of the study.

A multistage sample technique specifically purposive, stratified proportionate and simple random (lottery method) was employed to select a sample size of 346 students for the study. The questionnaires was used to collect the research data and analysed using descriptive statistics (frequency and percentage) and inferential statistics (Multiple-regression analysis, Pearson's product moment correlation and independent sample t-test).

This chapter has been organised into three parts. That is, part one is based on the demographic characteristic of the participants, part two concentrates on the analysis of the research question and hypothesis. Part three represents the discussions of the study outcomes.

Section one: Demographic Data

This demographic data focus the respondent's gender and it was analysed using frequencies and percentages. Table 4 presented the results.

Table 4: Respondent's Demographic Characteristics (N=346)

Gender	Frequency (f)	Percentage (%)
Male	153	44
Female	193	56

Source: Field Survey, (2022)

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In table 4, it can be observed that all the 346 respondents from each school were successfully filled the questionnaires constituting 100% turn out rate. Female students constituted the greater percentage and however not surprising that one of the schools was a Girls school.

Section two: Analysis of Research Question and testing of hypotheses

Research Question:

How do cognitive test anxiety and academic self-efficacy predict academic performance at the SHS level in the Sekyere East District

The purpose of this study question was to explore the predictive power of cognitive components forms of test anxiety and academic self-efficacy on academic performance. The Multiple Linear Regression Analysis was employed to analyse the research data. In using regression analyses, the key assumptions were tested.

Testing normality

In multiple linear regressions analyses, one of the assumptions indicated that there should be normal distribution of the variables. In doing this, the outputs from the histogram are checked. It can be observed from the plot of histogram that the assumption of normality is achieved on the bases that the plot has given a normal distribution curve.

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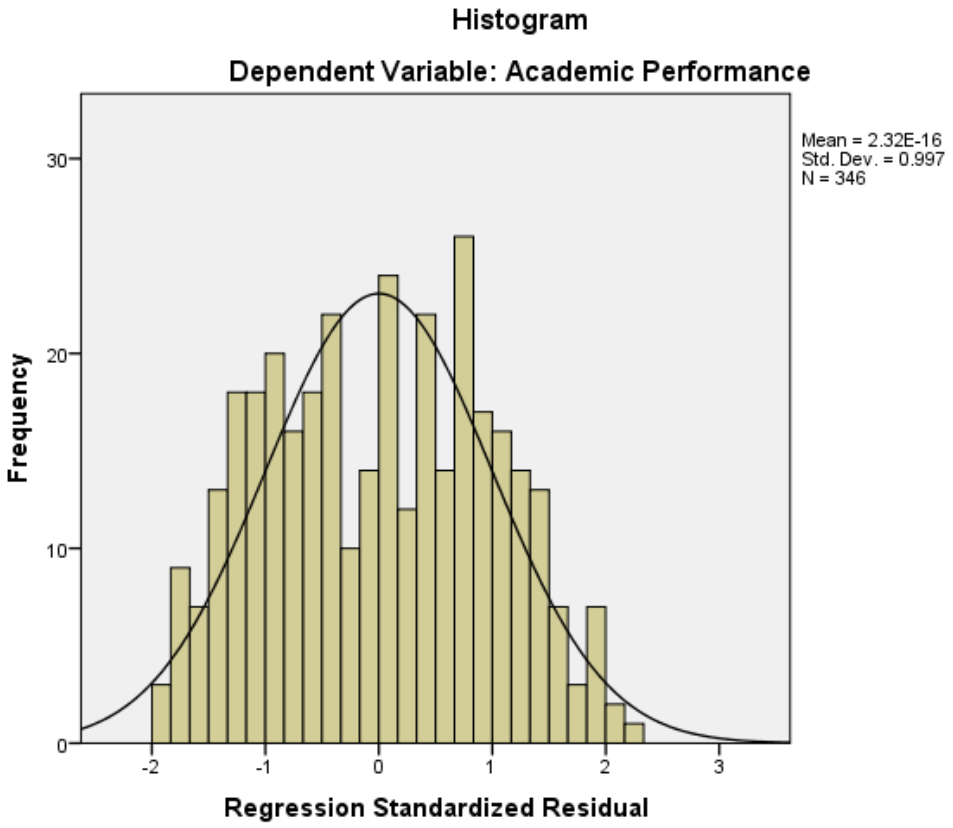

Figure 2: Dependent Variable: Academic Performance

Test for Autocorrelation

This assumption stated that the error associated with any observation is not related to other observation. The Statistic of Durbin-Watson was helped in checking this assumption. The statistics ranges from 0 to 4 and according to Maxwell & David (2007), the values below 1 or above 3 could make the analysis invalid.

The table 5 presented the data and can be observed that this assumption is achieved since the data statistic for Durbin-Watson fall within the range of 0 to 4. This shows an indication of autocorrelation in the research data.

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Table 5: Test for Autocorrelation

Model	R	R Square	Durbin-Watson
Cognitive test anxiety	$.165^a$	.027	2.228
Academic self-efficacy	$.136^a$	.018	2.270

Source: Field Survey, (2022)

Test for Multi-collinearity

Multi-collinearity means that when the predictors (independent variables) are not independent from each other, the results can cause a problem in the estimation of regression coefficients. Moreover, when perfect linear relationships were found among the independence variables, it can cause difficulties in the estimation of regression model.

Tolerance and Variance Inflation Factor (VIF) statistics were useful in assessing this assumption. To achieve this assumption, the VIF scores are expected below 10 and tolerance scores should be above 0.2. This shows an indication of no multi-collinearity in the research data and therefore Regression Analysis could be carry out. Table 6 shows the results.

Table 6: Test for Multi-collinearity

Model	Collinearity Statistics	
	Tolerance	VIF
Constance		
Cognitive test anxiety	1.000	1.000
Academic self-efficacy	1.000	1.000

Source: Field Survey, (2022)

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Test for homoscedasticity

The assumption states that the error variance in the relationship between predictor variables and outcome variable should be the same across all values of the predictors. This assumption could be checked by visual examinations of a scatter plot. The distribution of residuals should be equal, scattered apart and should not be any discernible patterns. In figure 3, it could be observed that the data points randomly appeared and therefore, this assumption was met.

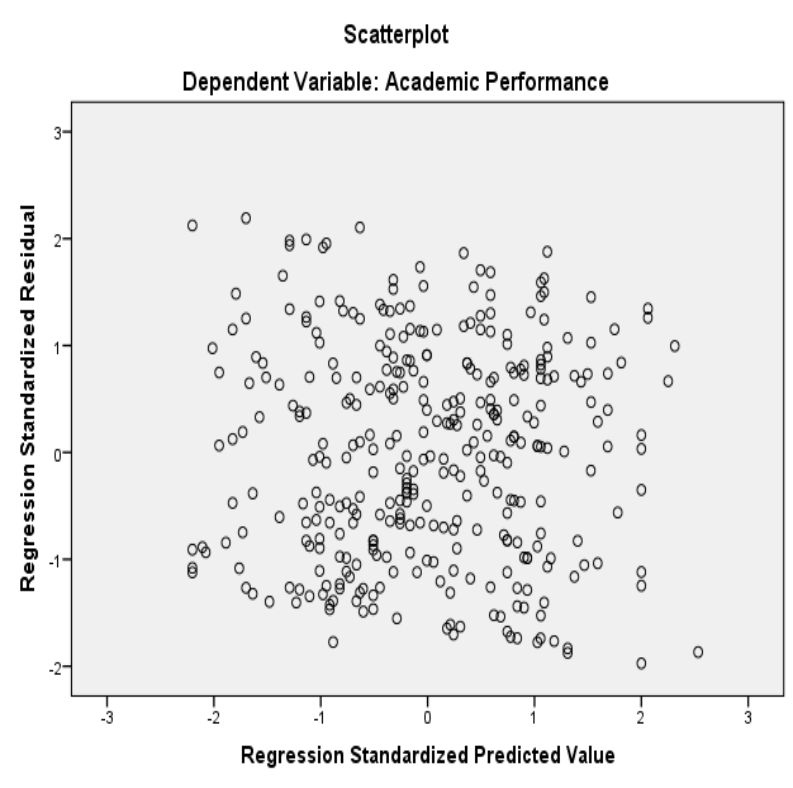

Figure 3: Dependence Variable: Academic Performance

To sum up, it is obvious that the contributions of the predictors on the outcome variable were greatly not due to the strong associations among the variables.

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Analysis of the Main Data

The study Formulated One Research Question and Three Hypotheses

Research Question

How do cognitive test anxiety and academic self-efficacy predict students' academic performance at the SHS level in the Sekyere East District?

The research question sought to examine if cognitive test anxiety and academic self-efficacy perceived by learners in the district impact on their test performance. In analyzing this nature of question, multiple linear regression analysis was carried out. The regression analysis was conducted using the respondents' scores for cognitive test anxiety and academic self-efficacy and their academic performance. The table 7 presents the results.

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Table 7: Multiple Regression Analysis showing Cognitive Test Anxiety (CTA) and Academic Self-Efficacy (ASE) on Academic Performance among SHS's student in the Sekyere East District

	Unstandardized Coefficients		Standardized Coefficient			Collinearity Statistics	
Variable	B	Std. Error	Beta (β)	t	Sig	Tolerance	VIF
CTA	-.297	.108	-.147	-2.746	.006	.975	1.026
ASE	.446	.212	.113	2.101	.036	975	1.026
Constant			62.937				
R			.199				
R Square			.040				
Adjusted R Square			.034				

Source: Field Survey, (2022) $*p < 0.05$ (N = 346)

Dependent Variable: Academic Performance

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As shown in Table 7, the R-value that explains the regression coefficient between cognitive test anxiety, academic self-efficacy and students' academic performance is .199. The value of R-square represents the total change of the learners' test performances as a result of the influence of students' perceived cognitive test anxieties as well as the level of their academic self-efficacies. As depicted in the Table 7, The R-square value which was found to be .040 means that the combination of leaners' cognitive test anxiety and their academic self-efficacy account for 4% in the change of their academic performance. This clearly revealed that it is not only the academic self-efficacy and cognitive test anxiety that influence students' test performance in the Sekyere East District. That is, the remaining 96% constitutes other variables that influence the learners' academic performances district but were not covered in this study.

As shown in the Table 7 the combination of these variables, cognitive test anxiety and the academic self-efficacy in relation to student performance was significant. That is, the respondents' cognitive test anxiety has a t-statistic value of t= -2.746 with a value of p=.006 as regards to academic performance. The t-statistic value of their academic self-efficacy also revealed, t= 2.101 with a value of p=.036.

Moreover, in the table 7 the Beta value recorded for cognitive test anxiety is -.147 representing 14.7% in decreasing student's test performance in an additional unit of learning is higher than that of academic self-efficacy which is .113 representing 11.3% in increasing leaners' performances in an additional unit of studies. This gives an indication that though both of the two variables (cognitive test anxiety and

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academic self-efficacy) has an influence on students' test performances, however cognitive test anxiety comparatively at a higher rate predict students' performances in test than academic self-efficacy. Conclusively, it can be concluded that cognitive test anxiety and academic self-efficacy jointly have significant influence on students' academic performance.

Hypothesis One

$H_0$1: There is no statistically significant relationship between cognitive test-anxiety and academic self-efficacy among SHS students in the Sekyere East District.

$H_1$1: There is statistically significant relationship between cognitive test-anxiety and academic self-efficacy among SHS students in the Sekyere East District.

The first hypothesis intended to investigate if there was any significant relationship between cognitive test anxiety and academic self-efficacy among SHS's students in the Sekyere East District. The Pearson product moment correlation (r) was used to test this hypothesis. Table 8 shows the result.

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Table 8: Relationship between Cognitive Test Anxiety (CTA) and Academic Self-efficacy (ASE)

		CTA	ASE
CTA	Pearson Correlation	1	−.158**
	Sig (2-tailed)		.003
	N	346	346
ASE	Pearson Correlation	−.158**	1
	Sig (2-tailed)	.003	
	N	346	346

**Correlation is significant at the 0.01 level (2-tailed)

From Table 10, the result clearly indicated a linear relationship between cognitive components of test anxieties and the variable of academic self-efficacy. The study revealed a negatively weak correlation between the cognitive components of test anxieties and the perceived self-efficacy of the students (r = -.158), however, the relationship was significant ($p < .01$). This means that when the students' level of cognitive test anxieties increase, their perceived level of efficacy on academic tasks also decreases. With these results, the null hypothesis that predicted that 'there is no statistically significant relationship between the students' cognitive test anxiety and with their academic self-efficacy' was therefore rejected.

Research Hypothesis Two

$H_0 2$: There is no statistically significant gender difference in the level of cognitive test-anxiety among SHS's students in the Sekyere East District.

$H_1 2$: There is statistically significant gender difference in the level of cognitive test-anxiety among SHS's students in the Sekyere East District.

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This hypothesis intended to examine if there was a statistically significant gender differences in the levels of cognitive components of test anxieties among SHS' students' in the Sekyere East District. The independent samples t-test was used in analysing the data. The result is indicated in Table 9 and 10.

The Levene's test for homogeneity of variance was done first to test the homogeneity of variances. The results are presented in Table 9

Table 9: Levene's Test for Equality of Variance

	F	Sig
Equal variance assumed	.815	.367
Equal variance not assumed		

Source: Field Survey, (2022)

From Table 9, it can be seen that the significant value of .367 is greater than .05 at the significant level. These mean that equal variance can be assumed.

Table 10: Gender Difference in the Level of Cognitive Test Anxiety

Gender	N	Mean	SD	Df	t-value	Sig (2-tailed)
Female	193	73.26	11.96	344	3.641	.000
Male	153	68.69	11.13			

Source: Field survey, (2022)

It could be observed from Table 10 that female sample students experienced higher level of cognitive test anxiety (Mean = 73.26, SD = 11.96) than their male counterparts (Mean = 68.69, SD = 11.13). However, the t-test results have shown that there was a statistically significant

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difference in the level of cognitive test anxiety between males and females students in the Sekyere East District (t (344) = 3.641, p< 0.01). As a result, the null hypothesis that there is no statistically significant gender difference in the level of cognitive test anxiety among SHS's students in the Sekyere East District was rejected. This result brings conclusion that gender is among the factors that determined learners cognitive test anxieties in SHS schools in the Sekyere East District.

Research Hypothesis Three

$H_0$3: There is no statistically significant gender difference in the level of academic self-efficacy among SHS's students in the Sekyere East District.

$H_1$3: There is statistically significant gender difference in the level of academic self-efficacy among SHS's students in the Sekyere East District.

This hypothesis additionally investigated whether there was a statistically significant gender difference in the level of SHS student's academic self-efficacy in the Sekyere East District. The independent samples t-test moreover was used to test this hypothesis. Tables 11 and 12 presented the results.

Table 11: Levene's Test for Equality of Variances

	F	Sig
Equal variance assumed	.124	.725
Equal variance not assumed		

Source: Field Survey, (2022)

In Table 11, it can moreover observe that the significant value of .725 is above .05 at the significant level. These mean that equal variance can be assumed.

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Table 12: Gender Difference in the Level of Academic Self-efficacy

Gender	N	Mean	SD	Df	t-value	Sig (2-tailed)
Female	193	15.12	6.26	344	-1.578	.116
Male	153	16.14	5.65			

Source: Field survey, (2022)

From Table 12, the t- test result showed no significant gender differences in the levels of academic self-efficacy among SHS's students in the Sekyere East District ($t(344) = -1.578$, $p > 0.05$). That is, the mean score of the female students was 15.12 while that of male students was 16.14. Academic self-efficacy level of the male students ($M = 16.14$, $SD = 5.65$) in this study though was higher than that of female students ($M = 15.12$, $SD = 6.26$) however the difference was just 1.02. Therefore, the statistical test with respect to academic self-efficacy no wonder it revealed no significant difference. Based on these results, the null hypothesis stated that 'male and female learners did not differ in terms of their level of academic self-efficacy' was accepted in this study. This also however concluded that gender is not a factor in determining the level of academic self-efficacy among the SHS's learners in the Sekyere East District.

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Discussion of Results

This section discusses the results based on the research question and hypotheses underpinning the study.

How do Cognitive Test Anxiety and Academic Self-Efficacy Predict Academic Performance?

The investigation of this research question is about how the learners' cognitive test anxiety and academic self-efficacy predict academic performances in English Language, core Math and Science. The results showed 4.0% change in students' academic performance as explained by the influence of students' cognitive test anxiety and academic self-efficacy. The findings imply that though cognitive test anxiety and academic self-efficacy influence test performances among SHS's learners in the Sekyere East District, however with regard to the recorded percentage (4.0%), there could other variables largely influencing the students in their studies in the district.

The findings presented indicate that cognitive components of test anxiety are predicted in decreasing student's academic performance. That is, the cognitive test anxiety experienced by students before or during examination negatively influences how the students learn and ultimately affected their level of academic performance. These findings support the study by Pate et al, (2021) in United States of America, that cognitive test anxiety is a psychological variable that negatively influence the students' learning process.

The present results moreover buttresses the research findings found in India by Shukla (2021), that cognitive component of test anxiety

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negatively predicted students' academic performance. Similarly, in Nigeria, Amalu (2017) and Adaugo et al (2017) research studies supported the present findings that, the higher the cognitive components of test anxieties, the lower the student poor test scores.

The researcher suggested that the outcome of this negative relationship could be based on assertion made by Oluoch et al (2018) that students who have cognitive test anxiety suffer from intruding thoughts occur before, during or after testing situation and this negatively influence their performance. Amalu (2017) added such students face difficulties in all the stages of processing information such as inadequacy in encoding, organisation and retrieving information. These difficulties associated with intruding thoughts that came about according to Pate et al. (2021) are due to student's thinking over the consequence of low performance in examinations.

This assertion is well grounded in Ghanaians schools on the bases that parents usually place high expectations on their wards over improvements in their academic performance. For instance, parents pressurise their wards in Senior High Schools to obtain high scores in WASSCE examination so that they can get admission into prestigious and reputed higher institution in the country. Admission to programmes such as medicine, law and to mention a few are largely the needed preferences for parent because such courses are regarded to ensure career opportunities.

Consequently, student generally develops anxieties cognitively and remains anxious before the examination due to uncertainties about good performance or failure. Student who experiences severe level of these

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anxieties are cognitively disturbed during examinations. That is, logically, a severe level of anxieties could block student's thought and this leads to negative frame of minds and ultimately poor test performance. It was therefore not surprising that the SHS students' in the district who experienced a high level of cognitive test anxieties similarly perform low in English Language, Mathematics and Integreted Science test.

These findings stand to reason that Rhoads et al (2020) and Dami et al (2019) research works about test anxiety and academic performance which showed contradiction to this current study and other reviewed studies could probably due to the participants' affective components (emotionality) responses inclusion in the cognitive components in such studies.

In this regard, the researcher conclusively suggested more further studies that will put these cognitive and affective components differences into consideration by researching about how students' cognitive forms of test anxiety and affective forms of test anxiety differences respond to performances in test.

Based on the result, academic self-efficacy on the other hand was found to be positively predicted students' academic performance. This present result is consistent with the finding revealed by Bhati et al. (2022), that academic-self-efficacy positively predicted academic performance. Moreover, the study findings discovered by Nne et al (2021) and Arifin et al. (2021), all confirmed this current study results.

That is not all but similarly the studies conducted by Nwamadi (2020) and Demerdash (2020), they all found out that academic-self-

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efficacy positively predicted test performance. Thus, the higher the academic self-efficacy of the students, the higher their test performance and the lower the academic self-efficacy, the lower the students' test performance.

This significant positive connection between academic self-efficacy and academic performance of these students in the present study could be attributed to the claim made by Wibowo et al. (2021) who explained that academic self-efficacy is one of the student's psychological variables that deals with student's self-beliefs, motivational orientations and judgment about his or her abilities to completely achieve educational goal.

Basith et al (2020) put it clear that student beliefs in his or her innate capabilities consists of evaluating his or her cognitive strength, determinations and perseverance to control setbacks that would interrupt with using his or her inherent ability to accomplish academic targets. That is, the strengths of the student's self-efficacy beliefs affect his or her choice for plan and action.

Nasir et al (2019) viewed efficacious student as not just to set goal and put effort to accomplish such a target goal but he or she exhibits coping behaviours and perseverance when he or she encounters challenges, more organised and performs well than student who doubts his or her study capacities.

Some students have difficulties in schools not due to lack of ability to perform well but because they hold the belief that irrespective of the effort putting they cannot have a better performance. This is a typical case in Ghana, where rampant of examination malpractices are in high rate and

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as such a student has lost the sense of self-accomplishments and relies largely on "crutches" to write and pass his or her exams. Therefore, students have learnt to see themselves as being not capable of handling academic tasks and as a result it negatively affected their academic performance in school. The present study results similarly revealed positive prediction on the bases that the SHS' students in the Sekyere East District experienced lower level of academic self-efficacy and as such, they also performed low in English Language, Math and Integrated Science test.

Seeing the relevance of this academic self-efficacy, there is the need particularly the teachers to assist students in developing the level of their academic self-efficacy. It is a fact that little is known to authorities or teachers in the Ghanaian schools about the effective ways of improving academic self-efficacy of the students. Literatures on academic self-efficacy could be useful to teachers in helping them to develop an appropriate intervention or instructional techniques for students.

For example, the four sources of self-efficacy namely mastery experiences, vicarious experiences, social persuasions and the person moods postulated by Bandura (1994) could be considered in the development and implementation of instructional strategies in Ghanaian schools to enhance students' academic self-efficacy. A suggestive practical example, at the end of lessons, a teacher could do revisions by asking their students about the new things they have achieved in each day. In doing so, it will help to promote their mastery experience. Moreover, students could be assisted by their teachers to set realistic goals at the commencements of

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every term, because according to Bandura (1997) setting goals contribute to student initial self-efficacy belief for achieving those goals.

Relationship Between Cognitive Test Anxiety and Academic Self-efficacy

It was predicted in the first hypothesis that 'there is no statistically significant relationship between student cognitive test anxiety and with their academic self-efficacy'. The aim of this hypothesis was to examine whether relationship was found between these two variables. The results of this study indicated that academic self-efficacy of students had a significant negative correlation to cognitive test anxiety ($r = -.165$, $p < 0.01$) which means that the lower the academic self-efficacy, the higher the cognitive test anxiety among the SHS's students in the Sekyere East District. This called for the null hypothesis to be rejected. This finding harmonises the study reports previously revealed by Malespina et al (2021) and Sanli (2020), the students whose academic efficacy was high experienced low level of cognitive test anxiety and vice vesa. This along way similarly corroborate with other previous works of Soltaninezhad et al (2018) and Roick (2017) who found the negative relationship between cognitive test anxiety and academic self-efficacy in their research studies.

In attempt to explain the negative relationships between students' cognitive test anxiety and with their academic self-efficacy, Bandura (1997) viewed academic self-efficacies as learners' belief in terms of their skill to be able to successfully finish specified academic tasks. He further explained that students' academic efficacy could be low or high depending on the level of his or her belief.

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The SHS's students in the Sekyere East District base on the present study results experience low level of academic self-efficacy. The negative correlation between these students' cognitive test anxieties and their academic self-efficacies as revealed by the present study logically could be based on the explanation given by Bandura (1993), that students with low self-efficacy see themselves as less competent or unintelligent and therefore lose motivation to execute difficult academic task and instead concentrate on likely negative results. That is, such students with lower level of self-efficacy divert their concentration on other ways their likely failures on tasks could endanger their lives (Bandura, 1993).

Moreover, according to Arifin et al. (2021), a student with lower level of self-efficacy does not search for opportunity to acquire the needed skill required to make success more likely and also the need to build self-confidence about his or her capabilities.

In view of the researcher, low efficacious student who performs poorly logically may regard academic tasks as threat and attributes the poor outcomes to his or her own negative internal characteristics. In the thinking condition, it is possible that they do not have self-belief to manage the academic tasks and rather dwell on their coping deficiencies leading them to develop anxiety. Therefore, it is not surprising that SHS's students in the Sekyere East District whose academic efficacy level is low also experience a higher level of cognitive components of test anxieties.

Gender Difference in the Level of Cognitive Test Anxiety

Independent sample t-test for males and females scores of cognitive test anxiety in this study also gave an indication that male and female

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SHS's students in the Sekyere East District differ in the level of their cognitive test anxiety. The analysis is that female sample students in comparison of males' counterparts experienced higher cognitive test anxiety. The difference stated that "female students experienced higher cognitive test anxiety than males", to the researcher's view, it could probably due to the gender role acceptation and social expectations. This is because societies have made the girls to believe that anxiety is a feminine trait. Therefore, when they encounter to it, they are in no doubt to accept it. The males on the other hand show defensive actions against this anxiety as they consider it as an unaccepted for their masculinity. That is, the males as a cultural demand probably learn to cope with this anxiety or use some coping strategies against it.

Moreover, in Ghanaian societies, it is believed that more pressure is placed on female students to succeed in school than males. The researcher's opinion is that since high premium is placed on the female students' academic performance, it may create in their minds to do everything possible to obtain excellent results. When they become uncertain about their ability or belief to meet these demands, it could lead them to develop varying levels of anxiety and tension before, during or after competitive examinations and even likely to affect their performance.

A research work conducted in Pakistan by Ali et al (2021) to investigate the relationship between males and females in their level of cognitive test anxiety similarly revealed that female students experienced higher cognitive test anxiety than their male counterparts' students. These

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findings of the present study are in no doubt agreed with this previous study.

In Iran, another research study conducted by Bolbolian et al (2021) to investigate whether relationship exist between males and female students in the level of cognitive test anxiety. It was found out that female students experienced a severe cognitive test anxiety than their counterpart males. Similarly, the present result is in consonance with this study.

In the same way, in the United Kingdom, Megreya et al (2021) research work findings support the current study report, that female sample students cognitively experienced test anxiety than the male colleagues. That is to say it could probably due to the socialization pattern and gender role stereotypes, female students before, during or after competitive examinations experience a high sense of cognitive test anxiety than male students.

Interestingly, Mardhiana et al (2016) in Malaysia similarly conducted research to find out if relationship could be found between gender groups in terms of the level of test anxiety. The study results proved no relationship between these gender groups in their level of test anxiety. This study result that differ the current findings and other previous studies could be due to the smaller sample size with few female respondents that was used in the study. The sample size of 124 respondents that was used in the study was comparatively smaller than the current study and other previous study being revealed.

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Gender Difference in the Level of Academic Self-efficacy

Finally, this part based on the study outcomes also showed that male and female students did not differ in terms of their level of academic self-efficacy. The mean score of males (16.14) was higher than that of females (15.12). However, when the independent t was employed to analyse whether the difference between the two means was significant, it showed that it was not significant ($p = .116 > .05$). This implies that sex difference does not have a significant impact on the academic self-efficacies.

The findings of this current study confirms that of Mwaura (2021) whose research work also pointed out that there is no influence of sex differences in the level of academic self-efficacy. This additionally collaborates with the work of Vidict (2021) who insisted that the level of academic self-efficacy among SHS's students is not as a result of their gender difference.

Similar study conducted in the same year in Italy by Corsi et al (2021) moreover claimed gender differences as having no significant impact in determining the level of academic self-efficacy among students. In this regard, the present study result is in no doubt supported the fact that gender difference (male and female students) is not a determinate factor of influencing the level of academic self-efficacy.

On the basis of possible reason for this current results, the researcher's attribution support the assertion given by Baji (2020) who claimed that there is no significant difference in the level of academic self-efficacy between male and female students and as such a significant

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difference can only be existed if it is based on the context of learning specific subjects. That is, male students have higher academic self-efficacy for mathematics while female students have higher academic self-efficacy for English subjects, reading, and social activities (Arifin et al., 2021). In support of this view, the present study accordingly did not specifically measure the respondents' belief about individual separate specific subjects such as either mathematics efficacy or English language efficacy but respondents' belief about the general academic tasks. Therefore, it not surprising that the current study also followed the trend supporting the idea that gender differences have no influence in terms of the level of academic self-efficacy among learners.

From the foregoing, there was enough evidence to support the current results that stated 'no relationship was found between male students and that of female counterparts in terms of the level academic self-efficacy. However, for a better conclusion, the researcher encourage further studies to investigate the relationship between male and female students base on their academic self-efficacy in specific subjects such as Mathematics, English Language and Integrated Science.

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CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

Summary

The purpose of this research was to examine the predictive power of cognitive test anxiety and academic self-efficacy to academic performance in English language, core Maths and Integrated Science among Senior High School students in the Sekyere East District. The study moreover examined the relationship that are found between this cognitive test anxiety and academic self-efficacy and the extent to which males and females differ in the levels of these variables.

In all, the study answered one research question made up of two divisions and tested three hypotheses.

The literature review of the study consisted of theories, conceptual frameworks and the empirical studies necessary for this study. The theoretical aspect based on theories in relation to cognitive components of test anxiety and academic self-efficacy and their role within the fields of academic. The aspect of conceptual frameworks displayed a model to explain the relationships between the predictor variables and the outcome variable. The empirical aspect reviewed under the following sub-themes: Cognitive test anxieties as a predictive power of academic performance, academic self-efficacy as a predictive power of academic performance, relationship between cognitive test anxiety and academic self-efficacy, gender differences in the levels of cognitive test anxiety and again male and female differences in the level of academic self-efficacy.

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The study adopted correlation research design. A sample of 346 second year students was selected from all the Senior High Schools in the Skyere East District found in Ashanti Region through purposive, proportionate stratified and simple random method specifically lottery method. The collection of data was done with the use of questionnaires. Data was analysed using regression analysis, Pearson Moment correlation and independent sample t-test.

Key Findings

The study showed that cognitive test anxiety and academic self-efficacy have predictive power on test performance among SHS's students in the Skyere East District. That is, cognitive test anxiety negatively predicted student academic performance and academic self-efficacy positively predicted their performance

In addition, the study revealed that there was a significant negative correlation between cognitive test anxiety and academic self-efficacy among SHS's learners. That is, in the study, the correlation coefficient revealed that the lower the student academic self-efficacy, the higher their cognitive test anxiety.

Furthermore, in this study, it was found out that there was a significant difference between male and female students in terms of the level of cognitive test anxiety. That is, based on the study results the female sample students experienced a high cognitive test anxiety compared to their male counterparts.

Finally, the sample t-test revealed no significant difference between males and females in terms of the level of academic self-efficacy. That is,

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the gender difference has no a significant impact in the level of student academic self-efficacy and as such any difference that may happened could be due to other mediating factors or certain restrictions such as measuring students' efficacy belief in specific learning context.

Conclusions

Base on the research outcomes, conclusions can be drawn that psychological variables such as cognitive test anxiety and academic self-efficacy play a pivotal role in students' academic performance. Students with higher levels of academic self-efficacy demonstrated a remarkable capacity to overcome the challenges posed by perceived cognitive test anxiety and will maintain their motivation to excel academically.

Moreover, the negative correlation between cognitive test anxiety and academic self-efficacy suggest that the higher the cognitive test anxiety, the lower the academic self-efficacy and the higher the academic self-efficacy, the lower the test anxiety. Therefore, cultivating a resilient mindset could positively impact students' intrinsic drive to learn and thus reduce test anxiety

Recommendations

Based on the findings of the study, the following recommendations are presented.

Teachers should not only teach the content but also help learners to adopt good study skills, mastery of content to promote their academic self-efficacy in order to reduce their test anxiety level. This ultimately improves their academic performance.

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Moreover, teachers should be given equal opportunities to both females and male learners in promoting academic self-efficacy since no relationship was found between the two groups.

Test anxiety interventions and prevention programmes should be done in schools especially targeting female students who appeared more to be suffering from severe test anxiety.

Suggestions for Further Research

Further study on the cognitive components of test anxieties, academic self-efficacy and students' test performance in Maths, English Language and Science could be conducted in another district areas that consist of private SHS's on the bases that the present study relied on only Sekyere East District with no private SHS's in examining the reliable result for generalisation.

Test anxiety in general (emotionality and cognitive dimensions) is still a challenge among students particularly in the various schools in Ghana. The present study focused mainly on how the cognitive components at the expense of emotional aspects predict students' academic performance. Therefore, to ensure a comprehensive conclusion, further studies should also be done on emotional aspects of students to find how it should impact on learner's exam performances in SHS or Junior High Schools.

Finally, though the study has provided evidence to support that academic self-efficacy is a positive predictor of students' test performances (Mathematics, English language and Integrated Science) and no gender difference in terms of its level. However, in this study, a general academic

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self-efficacy's scale was considered in measuring the respondents' self-belief and compares it to their performance. Therefore, further studies should be done by using specific scales that measure respondents' self-belief about each specific subject (either Mathematics, English language or Integrated Science) to ensure effective conclusion.

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APPENDICES

APPENDIX A

UNIVERSITY OF CAPE COAST

FACULTY OF EDUCATIONAL FOUNDA

DEPARTMENT OF EDUCATION AND PSYCHOLOGY

QUESTIONNAIRES

Dear Respondent,

I am conducting a study on the topic: *cognitive test anxiety and academic self-efficacy as correlates of Senior High School students' academic performance in the Sekyere East District*. This is for academic purpose and you are assured of complete confidentiality and anonymity of all the responses that will be provided. There is no right or wrong answer for any of the given response.

Answer all the questions in each section

SECTION A

DEMOGRAPHIC CHARACTERISTICS

Direction: Tick where applicable

Gender

a. Male ( )

b. Female ( )

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SECTION B

COGNITIVE TEST ANXIETY SCALE

Directions: Read and think carefully about each of the statement below and respond as truthfully as you can. With the alternatives: **1 = Not at all True, 2 = Lowly True, 3 = Moderately True, 4 = Highly True,** circle any one from the four alternatives (1 – 4) in the cell that best describes your feelings before, during and after examination.

1	I lose sleeps over worrying about examination.	1	2	3	4
2	While taking crucial examinations, I find myself wondering whether my colleagues are performing better than me.	1	2	3	4
3	I have fewer difficulties than other students in receiving tests instruction straights.	1	2	3	4
4	I freeze up on things like test.	1	2	3	4
5	I am less nervous about test than other students.	1	2	3	4
6	During exams, I find myself thinking of the implications of failure.	1	2	3	4
7	At the beginning of tests, I am so anxious that I sometimes cannot think straights.	1	2	3	4
8	The prospects of taking tests in one of my subjects would not cause me to worry.	1	2	3	4
9	I ‘m calmer in tests situation than other students.	1	2	3	4
10	I have fewer difficulties than other students in studying a given topics in textbooks.	1	2	3	4
11	When I’m under pressure to have answers to questions, my mind goes blank	1	2	3	4
12	During exams, the thoughts normally occur to me that I may not be too bright.	1	2	3	4
13	I do better in speed test in which there is time limit.	1	2	3	4
14	During examinations, I become so nervous that I forget	1	2	3	4

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	fact I really know.				
15	I feel I could have performed better after taking the examinations.	1	2	3	4
16	I worry more about performing well on test than I should.	1	2	3	4
17	Before taking an exam, I feel confident and relaxed.	1	2	3	4
18	While taking an exam, I feel confident and relaxed.	1	2	3	4
19	During test, I have the feeling that I am not performing better.	1	2	3	4
20	When I take an exam that is difficult, I feel defeated before I even start.	1	2	3	4
21	When I find unpredicted question in exams it causes me to feel challenged rather than panicky.	1	2	3	4
22	I am a poor exam taker in the sense that my performances in exams does not reveal how much I really know about topic.	1	2	3	4
23	I'm not good at taking exams.	1	2	3	4
24	It takes me some time to settle down after receiving my copy of an exam so that I can start to think clearly.	1	2	3	4
25	I feel under a lot of pressure to obtain better grades in exams.	1	2	3	4
26	I don't perform better in exams.	1	2	3	4
27	My nervousness throughout exams makes me make thoughtless mistakes	1	2	3	4

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SECTION C

ACADEMIC SELF-EFFICACY SCALE

Directions: With the options: **1 = Not at all True, 2 = Lowly true, 3 = Moderately true, 4 = Highly true**, circle any one from the alternatives (1 – 4) in the cell that best describes your beliefs regarding learning.

Items	Statements	Not at all true	Lowly true	Moderately true	Highly true
1	My teacher helps me when I get stuck on my academic tasks.	1	2	3	4
2	I can study and do other things that are not related to my study.	1	2	3	4
3	I study every subject completely before any test given by the teacher.	1	2	3	4
4	I finish up my task if I have any before I go to school every day.	1	2	3	4
5	I pay attentions and confidence during every lesson.	1	2	3	4
6	I can succeed and understand all my subjects in the school.	1	2	3	4
7	I assist my parents with some works and do my study at the same time with confidence.	1	2	3	4
8	I confidently feel that I can pass my examination with better grades.	1	2	3	4

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APPENDIX B

TEST

Answer all questions

15minutes

Circle the right answer

ENGLISH LANGUAGE TEST

There is underlined word and a space in each of the following sentences.

Among the options A to D, select the word that gives the most nearly opposite in meaning to this underlined word and also fill the space correctly.

1. The louvre blades down here are opaque while those up are …….

A. distinct B. transparent

C. plain D. bright

2. The accused confirmed his statement at the court but his accomplice .....his

A. discredited B. scrutinized

C. denied. D. declined

3. Adama was admitted to hospital, but was…….. after three days.

A. relieved B. freed C. released D. discharged

4. While Members of Parliament endorsed the motion, the Cabinet ..... it.

A. refuted B. registered

C. rejected D. condemned

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5. The water in that pond is muddy but that in the overhead tank is……

A. plain B. clear

C. stagnant D. potable

*Select the word from the options A to D that **best complete** each following sentences.*

6. Most people are prone …….. conflicting emotions

A. by B. to

C. from D. with

7. Good traders have a keen eye ……..profit

A. about B. over

C. around D. on

8. There is no point in acquiring a tool unless one means to use it, ……..

A. wasn't there? B. is there?

C. isn't there? D. doesn't there?

9. The commission has palced a ban …… all public protests

A. across B. down

C. on D. in

10. Not many people are capable of ……

A. enduring B. bearing

C. sustaining D. suffering.

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Select the word from the options A to D that gives the ***nearest in meaning*** *to the underlined word in* ***each*** *sentence.*

11. Injuries keep many sportsmen from achieving their full <u>potential</u>.

A. power B. pinnacle

C. capacity D. merit

12. Writing became the <u>focal</u> point of his life after his retirement.

A. singular B. central

C. actual D. chosen

13. The unforgettable learning experience has <u>fortified</u> my determination.

A. promoted B. mounted

C. boosted D. assisted

14. It is possible to draw a <u>parallel</u> between the two positions.

A. liking B. agreement

C. similarity D. line

15. Abena made <u>derogatory</u> remarks about the standard of my work.

A. uncomplimentary B. senseless

C. ignorant D. unsupportive

Select one from the options that gives the best interpretation in each of the following sentences

16. Joanita told Ken fair and square to pack his bags and go. This means that Joanita told him

A. very pleasantly B. in fair terms

C. several times D. very clearly

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17. In his determination to succeed, Adam threw caution to the wind. This means that he

A. started to take risks B. explored every chance

C. threw aside every distraction D. started to make sincere efforts

18. She knew beyond a shadow of a doubt that he was lying. This means that she was quiet

A. profound B. blunt C. right C. certain

19. The baker said he was fresh out of flour. This means that the baker

A. ordered a new supply B. reserved a little for the future

C. recently finished his supply D. had just made fresh flour

20. The findings are at odds with what is going on in the rest of the country. This means that the findings are

A. under the direction of the government B. out of the ordinary

C. made public D. different from reality

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INTEGRATED SCIENCE TEST

Answer All Questions

Time: 15 minutes

Circle the correct answer

1. The motion of molecules in a gas may be described as

A. rotational B. rectilinear

C. random D. linear

2. Which of these substances has the highest density?

A. Kerosene B. Mecury

C. Water D. Wax

3. The IUPAC name for CO2 is

A. carbon (IV) oxide B. carbon (II) oxide

C. carbon oxide (II) D. carbon oxide (IV)

4. The concentration of a solution is given as 60 parts per million. This is the same as

A. 60 kg cm-3 B. 60 g dm-3

C. 60 g cm-3 D. 60 mg dm-3

5. The unit measure of the amount of substance is the

A. molar mass B. gramme

C. mole D. kilogram

6. Which one of these units is derived?

A. K B. Pa

C. Kg D. s

7. In flowering plants, mineral salts are transported through the

A. cambium B. phloem

C. stomata D. xylem

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8. Plants absorb water from the ground to the branches through the process of

A. adhesion B. capillarity

C. cohesion D. viscosity

9. Organism having a definite cell wall, a nucleus but lacking chlorophyll is likely to belong to the kingdom

A. Fungi B. Plantae

C. Prokaryotae D. Prototista

10. The lowest group into which an organism can be classified is

A. class B. genus

C. phylum D. species

11. The relative proportion of various particle sizes in a given soil sample is called

A. coarseness B. Profile

C. structure D. texture

12. Tsetse fly is the vector of the organism that causes

A. elephantiasis B. malaria

C. sleeping sickness D. river blindness

13. The inorganic mineral particles of the soil are derived from

A. decaying animals B. decaying plants

C. parent rocks D. root nodules

14. The sedimentary rock is also referred to as

A. stratified rock B. slated rock

C. silica rock D. separated rock

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15. Plants absorb water from the ground to the branches through the process of

A. adhesion B. capillarity

C. cohesion D. viscosity

16. Fungi are characterized by the possession of

A. chlorophyll B. mycelia

C. roots D. stomata

17. One of these processes brings about the disintegration of a rock?

A. Dissociation B. Metamorghosis

C. Moulting D. Weathering

18. Which one of these is an igneous rock?

A. Granite B. Limestone

C. Sand D. Shale

19. A metal block is raised to a height above ground level. The type of energy possessed by the block at that height is

A. chemical B. kinetic

C. heat D. potential

20. Which of the following forms of energy cannot be transformed directly into heat energy?

A. Chemicals energy B. Electricals energy

C. Kinetics energy D. Potentials energy

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CORE MATHEMATICS TEST

Answer All Question

Time: 20 minutes

Circle the correct answer

1.Factorize completely $3r^2s - 9rs^2$

A. $r^2s^2(3r - 9s)$ B. $rs(3r - s)$

$C. 3rs(s - 3r)$ D. $3rs(r - 3s)$

2. Simplify $10\frac{2}{5} - 6\frac{2}{3} + 3$

A. $6\frac{4}{15}$ B. $6\frac{11}{15}$

C $7\frac{4}{15}$ D. $7\frac{11}{15}$

3. Evaluate $1001^2 - 1$

A. 1002 B.1002000

C. 1000200 D.10020

4. Expand $(2x - y)(2x + y)$

A. $2x^2 - y^2$ B. $4x^2 - y^2$

C. $4x^2 + y^2$ D.$4x^2 + 4xy - y^2$

5. Which of the following is a factor of $mr - nw - nm + rw$?

A. $(r - n)$ B. $(m - w)$

C. $(n + w)$ D. $(r + n)$

6. Simplify $\frac{(2x)^4}{2x^4}$

A. 5 B. 8

B.C.3 D.4

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7. If $(b-5)$ is a factor of $2b^2-7b-15$. Find the other factor.

A. $(2b-3)$ B. $(b+3)$

C. $(b-3)$ D. $(2b+3)$

8. Simplify $(5a+3b)-(2a-7b)$

A. 3a-10b B. 3a+10b

C .3a+4b D.3a+4b

9. Simplify $\frac{x}{5}+3=\frac{x}{3}+5$

A. 15 B. 1

C. -15 D. -1

10. Simplify (3x +5y) – (x+2y)

A. 2x-3y B. 2x+3y

C. 4x+7y D. 4x-7y

11. One factor of $6x^2+33x$-10 is

A.6x+2 C.x-2

B.6x-2 D. x-5

12. If y is a positive integer, list the values of y which satisfies the inequality

$3y-4<6$ and $y-1>0$

A. {2,3,4,5} C. {1,2,3}

B. {2,3,4} D.{2,3}

13. Simplify (5a+3b)-(2a-7b)

A. 3a-10b B. 3a+10b

C .3a+4b D.3a+4b

14. One factor of $7x^2+33x$-10 is

A.7x+2 C.x-2

B.7x-2 D. x-5

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15. Evaluate $\frac{3\frac{1}{4}\times 1\frac{3}{5}}{11\frac{1}{3}-5\frac{1}{3}}$

A. $\frac{14}{15}$ C. $\frac{13}{15}$

B. $\frac{4}{5}$ D. $\frac{11}{15}$

16 Solve $3(x+1) \leq 5(x+2)+15$

A. $x \leq -14$ C. $x \geq -11$

B. $x \geq -14$ D. $x \leq -11$

17. Factorise $(4b+3r)2-(b-4r)2$

A. $(4b-y)(b+7r)$ B. $(3b+r)(4b-7r)$

C. $(4b+r)(b-7r)$ D. $(3b-r)(4b+7r)$

18. Given that $\frac{4x}{5}+2y=-\frac{2}{3}+\frac{6y}{5}$, evaluate the value of (x+y)

A. $\frac{4}{7}$ B. $-\frac{4}{7}$

C. $-\frac{5}{6}$ D. $\frac{5}{6}$

19. If y is a positive integer, list the values of y which satisfies the inequality

$3y-4<6$ and $y-1>0$

A. {2,3,4,5} C. {1,2,3}

B. {2,3,4} D.{2,3}

20. Factorise $(4b+3r)2-(b-4r)2$

A. $(4b-y)(b+7r)$ B. $(3b+r)(4b-7r)$

C. $(4b+r)(b-7r)$ D. $(3b-r)(4b+7r)$

GOOD LUCK

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APPENDIX C

ETHICAL CLEARANCE

UNIVERSITY OF CAPE COAST
COLLEGE OF EDUCATION STUDIES
ETHICAL REVIEW BOARD

UNIVERSITY POST OFFICE
CAPE COAST, GHANA

Our Ref: CES/ERB/ucc/edu/17-23/03

Date: 17 February, 2023

Your Ref: .....

Dear Sir/Madam,

ETHICAL REQUIREMENTS CLEARANCE FOR RESEARCH STUDY

The bearer, Sampson Amoah Mensah Reg. No. EF/PPC/20/0007 is a M.Phil. / ~~Ph.D~~. student in the Department of Education and Psychology in the College of Education Studies University of Cape Coast, Cape Coast, Ghana. He / ~~She~~ wishes to undertake a research study on the topic:

Cognitive test anxiety and academic self-efficacy as correlates of senior high school students' academic performance in the Sekyere East District

The Ethical Review Board (ERB) of the College of Education Studies (CES) has assessed his/~~her~~ proposal and confirm that the proposal satisfies the College's ethical requirements for the conduct of the study.

In view of the above, the researcher has been cleared and given approval to commence his/~~her~~ study. The ERB would be grateful if you would give him/~~her~~ the necessary assistance to facilitate the conduct of the said research.

Thank you.
Yours faithfully,

Prof. Linda Dzama Forde
(Secretary, CES-ERB)

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