UNIVERSITY OF CAPE COAST

# FACTORS INFLUENCING ACADEMIC ACHIEVEMENT OF MEDICAL STUDENTS IN THE UNIVERSITY OF CAPE COAST

EDITH ASIBU

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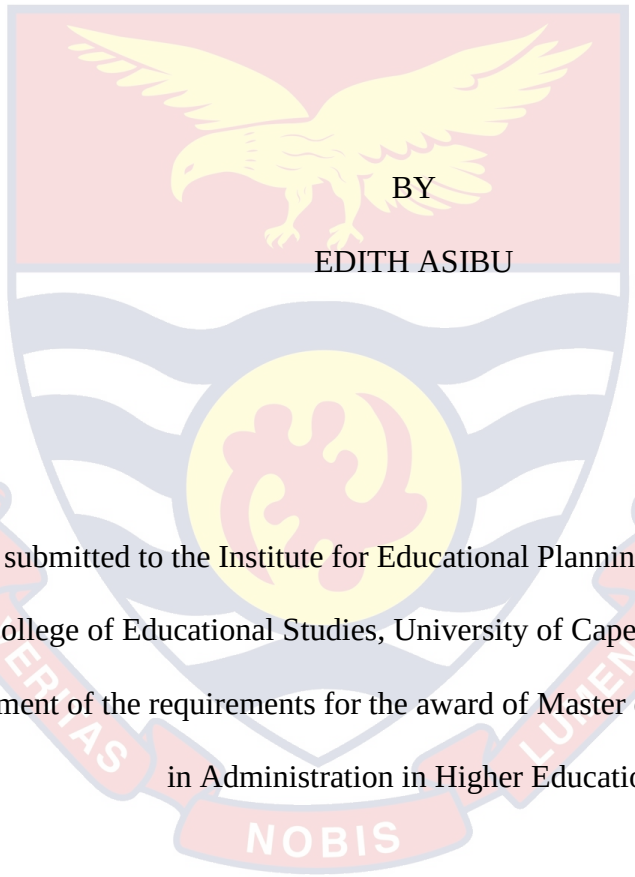

BY

EDITH ASIBU

Thesis submitted to the Institute for Educational Planning and Administration, College of Educational Studies, University of Cape Coast, in partial fulfillment of the requirements for the award of Master of Philosophy degree in Administration in Higher Education

JULY 2021

# 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: Edith Asibu

## Supervisor's Declaration

We 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.

Principal Supervisor's Signature...…… Date ….……...

Name: Prof. Michael Amakyi

Co-Supervisor's Signature...…… Date ….……...

Name: Dr. Michael Boakye- Yiadom

## ABSTRACT

This study was to examine factors influencing the academic achievement of undergraduate medical students in the School of Medical Sciences at the University of Cape Coast (UCC). The specific objectives that guided the study were to; determine the socio-demographic characteristics that influence the academic achievement; identify school related factors that influence high academic achievement; evaluate student's personal factors that influence high academic achievement. A mixed method approach was employed for the study. The sample size was 129 for the study. For quantitative dimension the researcher used stratified and systematic sampling techniques, 123 questionnaires out of 254 were retrieved from undergraduate medical students. Using the qualitative dimension of the study, 6 key informants were purposively selected to participate in the study because of their number. With respect to the first objective, the result showed that socio-demographic characteristics had a positive influence on the academic achievement of the students. The second research objective showed that school related factors had a positive effect on academic achievement of the students. The third objective also showed that personal factors had a positive influence on academic achievement of the students comparatively; the results showed that school related factors had a positive influence on academic achievement of students larger than the two other determinants. The results also showed that age, marital status, family income and level of students were not statistically significant in relation to academic achievement of students. This study recommends that University of Cape Coast should build more facilities, introduce creative methods of teaching, and provide accommodation for those off campus to facilitate medical teaching and learning.

**KEY WORDS**

Academic achievement

Personal factors

Institutional factors

Assessment tools

Medical student

**ACKNOWLEDGEMENT**

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## DEDICATION

To my family and friends for their love and support from the beginning of my academic life to this point of completion

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## LIST OF ACRONYMS

| | |
|---|---|
| CGPA | Cumulative Grade Point Average |
| GMDC | Ghana Medical and Dental Council |
| GSS | Ghana Statistical Service |
| OECD | Organization for Economic Co-operation and Development |
| SCCT | Social Cognitive Career Theory |
| SOT | Self Determination Theory |
| UAE | United Arab Emirates |
| UCC | University of Cape Coast |
| WHO | World Health Organization |

# CHAPTER ONE

# INTRODUCTION

This research was undertaken to delve into the academic achievement of the medical students who enrolled right after Senior High School and the continuing students of University of Cape Coast. The expected outcome of this research informs and equips students who have the motivation to enter medical school on the strategies they need to enhance their academic achievement. The study will also inform policy makers to make informed decision regarding their selection of students into the medical field. The aim of this chapter is to orient to the background to the study, statement of the problem, research objectives and questions, significance of the study, conceptual definition of terms, delimitations of the study and organization of the study.

## Background to the Study

Globally, investing in human capital has become the backbone of economic prosperity and social well-being in many countries in the 21st century (Tremblay, Lalanchette, & Roseveare, 2012). This is because, through education, nations are investing in their human capital so as to impact knowledge, develop and sustain a skilled workforce who will remain competitive in global market. One of the many avenues for obtaining these skill sets is through higher education as it produces students who are expected to play a vital role in sustaining the economy (Dill & Van Vught, 2010). It is on this basis that investing in students at higher education has become increasingly important on national agendas and has undergone profound

reforms worldwide over the past decades (Organisation for Economic Co-operation and Development [OECD], 2014).

In as much as obtaining higher education is relevant to building human capital and economic development, these benefits will inure when students successfully pass-through tertiary education (Poku, Aawaar, & Worae, 2013). Success in tertiary education is measured in terms of academic achievement –a pass mark or grade obtained in any of the programmes including students in medical schools (Bailey, Calcagno, Jenkins, Kienzl & Leinbach, 2005; Calcagno, Bailey & Jenkins, 2008; Scott, Bailey & Kienzl, 2006; Wright, Fox, Murray, Carruthers, & Thrall, 2012). Medical schools play an important role in producing best quality students who become great practitioners and work forces responsible for the country's health development (Daniels & Thrall, 2008).

In sub-Saharan Africa, countries are scaling up medical education as part of strengthening the health sector (Greysen, Dovlo, Olapade-Olaopa, Jacobs, Sewankambo & Mullan, 2011). Medical schools and medical educators play a key role in improving the population's health as well as addressing the underlying doctor shortages in each of a country (Greysen et al., 2011). These attempts in the health sector are to address health problems in Africa. Indeed, the World Health Organization [WHO] (2010) stressed that Africans suffer 25 percent of the world's total burden of disease, but has only 3 percent health workers to combat these diseases. Statistically, WHO (2010) stated that Africa has only an estimated 145,000 physicians to serve over 800,000,000 people. These suggest the need to improve on medical education

and train medical doctors to reduce the ratio of 18 physicians per 100,000 population (WHO, 2010).

Ghana, like many other sub-Saharan African countries, has been training medical students at the tertiary level and beyond to fill this gap. The education of medical students is therefore held in high esteem in the nation where the profession is saddled with greater responsibility. It has been pointed that the health of a nation is congruent with the performance of its medical team; hence, the academic excellence of medical students is vital for a healthy society (Nourian, Mousavinasab, Fehri, Mohammadzadeh & Mohammadi, 2008). It is on this basis that the Ghana Medical and Dental Council (GMDC) has put measures in place to regulate the practice of medicine and approval of courses of instruction for the training of doctors as well as examination within the minimum period of undergraduate training of 5 years followed by 2 years pre-registration internship (Medical and Dental Council, 2015).

In Ghana, academic achievement of medical students, just as in any other field, is characterized by the ability of a student to study, remember and communicate his or her facts, knowledge and skills orally or on paper except that they are examined both at the preclinical and clinical stages (Suleman, Aslam, Sarwar, Lodhi & Hussain, 2012). This process of assessment is equally applied in almost every tertiary institution in Ghana including the medical students in the University of Cape Coast. The School of Medical Sciences in UCC can pride itself with taught through course modules, clinical teaching centre, Ultra-Modern laboratories, diagnostic centre, anatomy and cell biology, medical students hostels, presidential special initiative hostel, clinical

students' hostel and Maersk clinical skills laboratory for the training of medical students (School of Medical Sciences Manual, UCC, 2015).

Furthermore, the University of Cape Coast School of Medical Sciences, through the implementation of the Community Based Experience and Learning (COBES) Programme, exposes students to the biopsychosocial model of health and medical education which brings them into direct contact with communities and helps them appreciate the determinants of health, disease and poverty and organizes the white coat ceremony for the medical students who are due to commence their clinical rotations in August every year (School of Medical Sciences Manual, UCC, 2015). The white coat ceremony is a symbolic activity to induct the clinical students into the medical profession. Considering the roles medical students play in the short and long term as health workers in Ghana, it is imperative to determine the factors that influence their academic achievement. It is against this background that the current study seeks to examine the factors that influence the academic achievement of medical students in the University of Cape Coast.

**Statement of the Problem**

Academic achievement is one of the important indicators to assess a student's level of competence and evaluate the quality of education at the tertiary level (Odiri, 2015). It is typically defined in terms of performance and grades (Suleman et al., 2012). Academic achievement, as an indicator, is a complex process influenced by several factors. Hence, it is important to understand the factors which are responsible for determining the differences in academic achievement among students. The performance of medical students attracts the attention of all those involved in medical education since they

graduate not only to form instrumental part of the human capital of every country but also save lives. As a result, stakeholders including faculty members, medical school selection committees, curriculum planners and instructional designers need to monitor their performances during preclinical and clinical stage (Alfayez, Strand & Carline, 1990).

Therefore, medical educators have attempted to create effective academic programmes and environment to support the success of all students who are invited to begin the lifelong process of medical training to propel medical students to higher academic achievement (Dyrbye, Thomas, & Shanafelt, 2005). However, it is also important to stress that medical students face distinctive challenges during their required course work compared to the university undergraduate curriculum (Lujan & DiCarlo, 2006). The reason is that in the preclinical years, medical students face enormous academic pressure, loneliness, fear of failure and extended dependence on their parents. In the clinical years, however, their problems largely emerge from conflicts with peers, teaching faculty and loss of their friends as a result of the frequent rotations (Ashouri & Rasekhi, 2015).

These challenges arise due to several predictors ranging from academic, cognitive, psychosocial and demographic factors. Previous study shows that poor performers in the early years of medical school become unsuccessful doctors and are also likely to misconduct themselves (Kruzicevic, Barisic, Banozic, Esteban, Sapunar & Puljak, 2012; Mills, Heyworth, Rosenwax, Carr & Rosenberg, 2009). Therefore, for the benefit of the students and society, in the long run, it is important to identify the

predictors of academic achievement and render timely academic assistance to the students to cope with their studies.

Studies suggest that a student's academic achievement does not entirely depend on attendance, but also on several other influencing factors (Jaykaran, Chavda & Kantharia, 2011; Hidayat, Vansal, Kim, Sullivan & Salbu, 2012). Aside the effect of absenteeism on the student's academic achievement, gender and previous academic achievement on student's academic grade is well established among students of other professional courses and foreign medical students (Frischenschlager, Haidinger & Mitterauer, 2005; Mills et al., 2009: Jaykaran et al., 2011; Hidayat et al., 2012). Also, Abdu-Raheem (2012), in his study on gender differences and the students' academic achievement, reported that there was no significant difference between the achievement mean scores of male and female students in the experimental and control groups.

These studies did not investigate the prior and post tertiary education and previous academic achievement variables and institutional related factors that influence the achievement of medical students. Furthermore, the studies failed to assess the assessment tools employed in evaluating the medical students' academic achievement. In addition, there has been relatively little research work specifically estimating factors influencing medical student's academic achievement in Ghana. To fill this knowledge gap, this study seeks to explore both quantitative and qualitative methods to determine predictors of high academic achievement of prior and post tertiary medical students of the School of Medical Sciences at the University of Cape Coast.

**Objectives of the Study**

The general objective of this study is to examine factors that influencing academic achievement of undergraduate medical students in the School of Medical Sciences at the University of Cape Coast (UCC). Specifically, the study seeks to:

1. Determine the socio-demographic characteristics that influence the academic achievement of undergraduate medical students.
2. Identify school related factors that influence high academic achievement among medical students in UCC.
3. Evaluate the personal factors that influence high academic achievement among medical students in UCC.

**Research Questions**

The following research questions guided the study:

1. What is the socio-demographic characteristics that influence the academic achievement of medical students in UCC?
2. What are institutional related factors that influence the academic achievement among medical students in UCC?
3. What are the personal factors that influence the academic achievement in of the medical students in UCC?

**Hypothesis of the Study**

Ho: There is no significant difference between sex and grades of medical students.

H1: There is a significant relationship between sex and grades of medical students.

Ho: There is no significant difference between age and grades of medical students.

H1: There is a significant relationship between age and grades of medical students.

Ho: There is no significant difference between marital status and grades of medical students.

H1: There is a significant relationship between marital status and grades of medical students.

Ho: Institutional related factors do not influence high academic achievement among medical students.

H1: Institutional related factors do influence high academic achievement among medical students.

Ho: Personal factors of students do not influence high academic achievement among medical students.

H1: Personal factors of students do influence high academic achievement among medical students.

**Significance of the Study**

This study highlights the benefit of working towards developing comparative measures of learning outcomes to keep the spotlight on teaching and learning within Schools of Medical Sciences. Measures of the learning outcomes also hold important promises for higher education faculties and leaders in providing evidence-based diagnosis tools on the strengths and weaknesses of their courses and programmes to be used as part of their quality improvement efforts. Assessing the learning achievements attained by the students and factors responsible for their achievement are also essential to

better understand the interplay between teaching and learning and faculties in moving towards more student-centered pedagogies.

This study will provide information to the School of Medical Sciences, lecturers, and other stakeholders in education to serve as a basis for the evaluation of not only the students' knowledge, but also the effectiveness of the teaching processes, and perhaps, provides a gauge of the students' satisfaction. This study is to increase the practical knowledge about the medical education in University of Cape Coast School of Medical Sciences to better inform educators, national policy makers, and potential funders about the challenges and opportunities in the medicine education. These stakeholders can leverage the information from this study to develop strategies that strengthen the learning outcomes of the medical students. Finally, findings will add new knowledge to the existing body of information on the academic achievement of medical students and serve as material input to assist future researchers on the subject.

**Conceptual Definition of Terms**

**Academic achievement** is the extent to which medical students at the University of Cape Coast School of Medical Sciences achieved their short - or long-term educational goals or performed in an examination or test.

**Personal factors** are the individual characters or behave ours of the medical students at the University of Cape Coast School of Medical Sciences that influenced their academic performance.

**Institutional factors** are the policy, infrastructure, teaching and learning process, curriculum and human resource related factors of University of Cape

Coast School of Medical Sciences that influence the achievement of the medical students.

**Assessment tools** refers to a wide variety of methods that educators use to measure or evaluate the learning progress or skills acquisition of the medical students at the University of Cape Coast, School of Medical Sciences.

**Medical student** is a person or student following a course of study leading to qualification as a doctor of medicine at the University of Cape Coast School of Medical Sciences.

**Delimitations of the Study**

This study was delimited to not only medical students at the tertiary level of the School of Medical Sciences in the University of Cape Coast, but also focused on both medical students who entered directly from the Senior High School as well as those with prior tertiary education. Also, the study only covered the factors that influence the academic achievement of the medical students.

**Organization of the Study**

This study is organized into five chapters. Chapter One is the introduction which covers the background to the study, statement of the problem, objectives of the study, the research questions, hypothesis, significance of the study, conceptual definition of terms, delimitations, and organization of the study. Chapter Two deals with the review of related literature. It covers the theoretical and empirical frameworks. Chapter Three, which presents the methodology used for the study, comprises research design, sources of data, population, sample and sampling procedures, research instruments, reliability and validity of instruments, data collection procedures,

data analysis and ethical considerations. Chapter Four looks at the results and discussion of the study. Finally, Chapter Five focuses on the summary, conclusion, and recommendations of the study.

# CHAPTER TWO

# LITERATURE REVIEW

## Introduction

This chapter entails a review of relevant literature in order to position the study in an appropriate theoretical, empirical and conceptual framework. It discusses theories that are related to the factors that influence the academic achievement of medical students. It explains academic achievement and subsequently discusses the factors that influence it among students at the tertiary level of education. The chapter further presents the work done by other researchers which are considered relevant to the subject of the study. The core of the literature is on the factors and how they influence the medical students' academic achievement in the world at large and Africa in particular. The essence of this review is partly to provide a framework which constitutes the basis for drawing similarities and differences in the study.

## Theoretical Framework

The major theories used to explain factors that cause academic achievement in this study were self-determination theory, Urie Bronfenbrenner's ecological systems theory and social cognitive theory. These theories were chosen because they were appropriate for discussing the factors that influence the academic achievement of medical students. The section that follows looks at the theories' general arguments, assumptions and how these factors affect the academic achievement of medical students.

## Self-Determination Theory

One of the major theories that underpinned this study was the self-determination theory (SDT) (Deci & Ryan, 2000; Kusurkar, Ten Cate, Van

Asperen & Croiset, 2011). The assumptions behind this theory can be traced to the ideas of Maslow and Herzberg who extensively discuss issues on motivation. Motivation has been viewed as the intention or desire to act. According to SDT, different types of motivation exist along a continuum (Ryan & Deci, 2000). These types of motivation are extrinsic and intrinsic. Extrinsic motivation, a type which originates from external factors, can be distinguished into three subtypes: external regulation (behaviour to satisfy an external demand, e.g. external/parental pressure or behaviour to obtain a reward or avoid a punishment), introjected regulation (e.g. internal pressure or feelings of guilt or shame), and identified regulation (valuing a behavioural goal as personally important). Intrinsic motivation indicates that the motivation originates from genuine interest. Intrinsically motivated students experience enjoyment and satisfaction while learning (Ryan & Deci, 2000; Wall & Little, 2005).

Intrinsic motivation and identified regulation together form autonomous motivation (AM). Introjected regulation and external regulation together form controlled motivation (CM). Autonomous motivation is more desirable than controlled motivation because it seems to be associated with deep learning, better academic performance and less exhaustion (Kusurkar et al., 2011; Kusurkar, Ten Cate, Vos, Westers & Croiset, 2013). As per SDT, to feel autonomously motivated, three basic psychological needs should be fulfilled: feeling autonomy (feeling of choice in an action), feeling competence (feeling capable of reaching a goal) and feeling related (feeling like belonging to the group) (Deci & Ryan, 2000). Fulfilment of these needs in a learning environment can move a student from controlled motivation

towards autonomous motivation. In contrast, non-fulfilment can move a student along the SDT continuum from autonomous motivation towards controlled motivation (Kusurkar & Croiset, 2015; ten Cate, Kusurkar & Williams, 2011)

Medical students might achieve academic success or not depending on the type of motivation they have. When a medical student is strongly influenced by external regulation, a situation whereby there is pressure from parents or there is a reward or punishment at stake might determine the extent to which they will study and perform academically. In terms of internal regulation, it can be argued that a medical student, for the avoidance of shame from colleagues and family members, might do everything possible to study and excel academically. When a medical student is internally motivated, there is a higher possibility of performing well as compared to when he or she is externally motivated. External factors that influence the academic achievement of medical students are embedded in external motivation while internal or personal factors are also entrenched in internal motivation.

**Ecological Systems Theory**

The study also adopted Urie Bronfenbrenner's ecological systems theory. He developed the ecological systems theory in an attempt to define and understand human development within the context of the system of relationships that form the person's environment. According to Bronfenbrenner's initial theory (1989), the environment, is comprised four layers of systems which interact in complex ways and can both affect and be affected by the person's development. These are microsystems, mesosystem,

ecosystems and macrosystem. In 1995, he added another layer known as chronosystem.

**Microsystem**: The microsystem is defined as the pattern of activities, roles, and interpersonal relationships experienced by a developing person in a particular setting with particular physical and material features and containing other persons with distinctive characteristics of temperament, personality, and systems of belief (Bronfenbrenner, 1995). In other words, this layer forms a set of structures with which a person has direct contact, and the influences between the developing person and these structures are bidirectional. The person influences and is also influenced by the microsystem. If this theory is extended from human development to organizational development, and an individual school is the unit of interest, the microsystem of the university would include students, parents and family members, administration, lecturers and the university community (Johnson, 2008).

**Mesosystem**: The mesosystem comprises the linkages between microsystems (Bronfenbrenner, 1995). Just as the direction of influence between the school and each structure within the microsystems is bi-directional, the mesosystem involves bi-directional influences between these various structures. An example of the mesosystem of an individual school can be seen in the interactions and dynamics between two of its microsystems, students and parents. Parental expectations regarding the academic and extra-curricular success of their children can often create a dynamic that directly and indirectly impacts the atmosphere and climate of the school. Unreasonably, high expectations and low tolerance of failure can create a dynamic between a parent and a child that are characterized by tension and fear. This dynamic

impacts the school in various direct and indirect ways, including, the students' behaviour in the lecture room resulting from such expectations, pressures to ensure their student's success placed on school personnel by the parent, or an attempt by school personnel to shield students from such parental pressures by restricting the amount of information that is communicated regarding student achievement (Johnson, 2008).

**Exosystem**: The exosystem represents the larger social system, and encompasses events, contingencies, decisions, and policies over which the developing person has no influence. The exosystem thus exerts a unidirectional influence that directly or indirectly impacts the developing person. The exosystem of an individual school might be comprised of such structures as state regulations, local economics, district mandates, and local disasters (Johnson, 2008).

**Macrosystem**: The macrosystem can be seen as the "social blueprint" of a given culture, subculture, or broad social context and consists of the overarching pattern of values, belief systems, lifestyles, opportunities, customs, and resources embedded therein (Bronfenbrenner, 1995). This system is generally considered to exert a unidirectional influence upon not only the person, but also the micro, meso, and exosystems as well. The macrosystem of an individual school is embodied not only in the cultural, political, social, and economic climate of the local community, but also that of the nation as a whole (Johnson, 2008).

**Chronosystem**: Although not one of the four system layers per se, the chronosystem represents a time-based dimension that influences the operation of all levels of the ecological systems. The chronosystem can refer to both

short- and long-term time dimensions of the individual over the course of a lifespan, as well as the socio-historical time dimension of the macrosystem in which the individual lives. The chronosystem of an individual school, therefore, may be represented by both the day-to-day and year-to-year developmental changes that occur in its student body, teaching staff, curricular choices, etc., as well as the overall number of years in operation (i.e., a newer school faces challenges and opportunities that differ from those of a school that has been in operation for a length of time).

In an attempt to understand the causes of academic performance medical students in the university, one has to take into account the individual students as well as the context within which it occurs. The relevance of this theory to the study is that it allows the researcher to view the academic performance in the university as a phenomenon that is influenced by wider social systems. The theory opined that medical students are directly present within some of these social systems, such as their household, school and immediate neighbourhood, and there are others in which they are not directly represented, but which impinge on their developments including their siblings, social networks and their parents or carers friendship, leisure and the workplace relationships (Bronfenbrenner, 1986). In addition, the theory makes us aware of the influences of wider social systems, including the cultures, political systems, social institutions, and values that exist in the society and argues that they should be taken into account in the students' educational upbringing.

By inference, the influences and experiences that result from the interactions between different social systems play a key role in determining

the extent to which students perform in the university. From the constructs of the ecological theory, the performance of the medical students is inextricably linked with the characteristics of social systems in the University of Cape Coast. The ecological theory is, therefore, the most appropriate theory for studying the causes of academic performance in the university and for locating target(s) of intervention. It is appropriate because it directs attention to the whole and not any part, system, or aspect of the situation of the medical students.

Consequently, it is within this framework that the present study seeks to investigate the factors that influence the medical students' academic performance in University of Cape Coast. Since learning outcomes depend on the way it is presented to the learner by his or her lecturers, the way the learner interacts with the learning experiences presented to him or her and the environment within which the learning takes place, it is therefore expected that these entities would be affected by factors associated with the school environment, home and community conditions, teacher, education administration and the medical students themselves.

**Social Cognitive Career Theory**

Social Cognitive Career Theory (SCCT) emerged from Bandura's general social cognitive theory to predict the success and performance of individuals with regard to their cognitive, psychological, and behavioural aspects. The SCCT model emphasizes the role of individual abilities, self-efficacy beliefs, outcome expectations, and extrinsic factors in achieving academic or professional success (Lent, Brown, & Hackett, 1994). Accordingly, learning is an active cognitive process in the mind which is

influenced by factors such as age, personality traits such as compliance with environmental conditions, attendance in the classroom (Credé, Roch & Kieszczynka, 2010), positive interaction with others, intrinsic and extrinsic motivational goals, characteristics of the study approach, and individual self-regulating learning strategies (Poropat, 2009).

Self-regulated strategies for learning are defined as the ability to learn based on individual endeavours; cognitive and metacognitive self-regulations are considered as example of these strategies developed by Bandura (Caprara, Fida Vecchione Del Bove, Vecchio, Barbaranelli & Bandura, 2008). Cognitive learning strategies include mental review, expanding and content-organizing; finally, metacognitive learning strategies include critical thinking, self-learning, organizing, self-controlling, and self-assessment (Ashman & Conway, 2017)

With regards to these strategies, Zimmerman stated that "learners, rather than relying on lecturers, parents, or other educational authorities, manage their own efforts", which will lead the learners to adopt their way of studying and improve their performance. Cognitive strategies for learners include mental review, semantic expansion, and information-organizing. On the other hand, individuals may use metacognitive strategies to monitor, guide and, if necessary, modify their cognitive strategies, which include planning, supervising and organizing the learning process (Schunk & Zimmerman, 2010). In this regard, self-regulating learners are those who have planning, content-organizing, self-learning, self-controlling, and self-evaluating capabilities (Ashman & Conway, 2017).

On the other hand, motivational self-regulation refers to the active use of motivational strategies that enhance learning; during the learning process, learners find themselves competent, self-confident, and independent and can plan, organize, self-control, and self-assess for learning (Schunk & Zimmerman, 2010). However, the results of research in using cognitive and metacognitive strategies are contradictory regarding the academic achievement of learners, which is attributed to motivational stimuli or individual's perceptions of their ability or outcome expectations in the future (Sitzmann & Ely, 2011; Muwonge, Schiefele, Ssenyonga & Kibedi, 2018). According to Bandura's social cognitive theory, the outcome expectations predict behaviours, meaning that these expectations can affect the person's ultimate behaviour using positive motivators or negative consequences that reduce motivation (Bandura, 1986).

The results of the studies on the role of learning strategies and learning expectations are also contradictory. For example, among the students of United Arab Emirates (UAE) universities, self-efficacy and metacognitive strategies were the strongest predictors of academic achievement (Al-Harthy, Was & Isaacson, 2010). Also, a study on the effect of using self-regulating strategies on the abilities of learners who study through virtual education showed that the use of these strategies alone was not effective in improving their learning (Kizilcec, Pérez-Sanagustín & Maldonado, 2016).

However, studies on the relationship between learning strategies and academic performance of medical students are limited. A review study on self-regulated learning in the medical students' learning environment suggested that novice students in pre-clinical environment need more support from

others, specifically from seniors, to help them formulate learning objectives and handle the new learning environment (Cho, Marjadi, Langendyk & Hu, 2017).

**The Concept of Academic Achievement**

Different scholars have defined the concept of academic achievement. It has often been used interchangeably with academic performance. For instance, Kevin (2000) defined over achievers as students whose school attainment is more than expectations formed based on their activities. The concept of over and under achievement suggests that there are variables in addition to ability which have positive effects on achievement and there is no perfect positive correlation between intelligence and attainment.

Kobaland and Musek (2001) stated that there are two broad groups of definitions of academic achievement. The first one could be considered more objective because it refers to numerical scores of a pupil's knowledge, which measures the degree of a pupil's adaptation to school work and to the educational system. The second group is a more subjective one, as its determination of academic success is reliant upon the student's attitudes towards his academic achievement, as well as the attitudes of significant towards his/her success (p. 9).

Similarly, Cary, Roseth, David and Roger (2008) defined academic achievement as "performance on task with measures including comprehension, quality and accuracy of answers of tests, quality and accuracy of problem solving, frequency and quantity of desired outcome, time or rate to solution, time on task, level reasoning and critical thinking, creativity, recall and retention, and transfer of tasks" (p. 29). Subsequently, academic

achievement refers to a successful accomplishment or performance in a particular subject area and is indicated by grades, marks and scores of descriptive commentaries. Academic performance also refers to how students' study and how they cope with or accomplish different tasks given to them by their teachers in a fixed time or academic year (Dimbisso, 2009). He further stated that achievement encompasses actual accomplishment of the student's potential ability.

Inasmuch as some medical students can perform well academically, others experience low academic performance. The concept of low academic performance varies in its definition. Bakare (1994) described poor academic performance as any performance that falls below a desired standard. Aremu (2000) viewed poor academic performance as a performance that is adjudged by the examinee as falling below an expected standard. The interpretation of this expected or desired standard is better appreciated from the perpetual cognitive ability of the assessor of the performance. The assessor can therefore give different interpretations to the performance of the student.

Similarly, Tapia (2002) noted that the current educational system perceives that the student fails if he or she does not pass or performs below his or her potential is also appropriate for determining academic failure. Diaz (2003) considers low academic performance as the situation in which the subject does not attain the expected achievement according to his or her abilities, resulting in an altered personality which affects all other aspects of life. Similarly, Nonis, Philhours, Syamil and Hudson (2005) noted that, in the current educational system, a student who fails is the one who does not pass.

However, it is more appropriate to determine one's academic failure when the student performs below his or her potential.

The criteria of excellence can be from 40 to 100, depending on the subjective yardstick of the evaluator or assessor (Asikhia, 2010; Aremu, 2004). Most of the researchers around the world used the GPA to measure the student achievement (Darling, 2005; Galiher, 2006). They used GPA to measure student achievement in a particular semester. Other researchers measure student achievement through the results they obtain from a particular subject or the previous year's results (Hijazi & Naqvi, 2006). In this study, student academic achievement will be measured through their first and second term assessment results (using 40% continuous assessment and 60% end-of-first and second semester examination). The performance of students can be influenced by several factors such as demographic characteristics, school, home and lecturers.

**Factors that influence Academic Achievement of Medical Students**

Various factors contribute to the academic achievements of students. Rothstein (2000) argues that learning is a product of formal schooling, communities, families and peers. Socio-economic and socio-cultural forces can affect learning and thus, the school achievement. In this section, the researcher reviews literature on socio-demographic factors, school related factors, teachers-related factor, home-related factors, student characteristics.

**Socio-demographic Factors**

The factors that influence academic achievement would be categorized into demographic factors such as gender, age, parental socio-economic status, and education.

**Gender**

The relationship between gender and the academic achievement of students has been discussed in the last decade (Eitle, 2005). A gap between the achievement of boys and girls has been found, with girls showing better achievement than boys in certain instances (Chambers & Schreiber, 2004). Gender, ethnicity, and father's occupation are significant contributors to student achievement (McCoy, 2005). Different researches found significant differences in academic achievement of male and female students (Umunadi, 2009; Sarsani & Ravi, 2010; Asthana, 2011). Researchers (Naderi Habibollah, Rohni Abdullah, TengkuAizan, Jamaluddin & Vijay, 2009; Singh & Parveen, 2010) found no gender difference in educational achievement of students.

Yates and James (2006) did a study to predict strugglers at Nottingham University in the United Kingdom. They prove that male medical students tend to struggle more than female students. Another study that was done in Austria, at the Vienna Medical School; however, found that male gender is one of the three factors which are relevant in predicting academic success (Frischenschlager et al., 2005). Craig, Driscoll and Gholson (2004) ascertained no significant differences based on gender for single best answer assessments, but female students perform better in the modified essay question assessments. James and Chilvers (2001) also came to the conclusion that female gender is a highly significant predictor of success in obtaining honours at Bachelor of Medicine, Bachelor of Surgery (BMBS) in the cohorts between 1986 and 1990, but also that gender is no predictor for success in examinations in the earlier years of the medical programme at Nottingham Medical School.

Gender have also been linked to undergraduate academic performance (Barrow, Reilly & Woodfield, 2009; Khwaileh & Zaza, 2011; Sheard, 2009). The majority of studies indicate that female gender is associated with better academic performance. Typical examples of these findings are reported by Khwaileh and Zaza (2011) and Dayioglu and Turut-Asik (2007). In a sample of 26,122 students in Jordan University, Jordan, Khwaileh and Zaza found that female students consistently recorded higher GPAs in a 5-year period. In a study involving 10,343 students at the Middle East Technical University, Turkey, Dayioglu and Turut-Asik (2007) also found that female students had a higher cumulative grade point average (CGPA) (2.70) compared to male students (2.48).

**Age or Maturity**

Most studies talk about maturity without providing the reader with a definition. These articles have been used in this study as maturity not necessarily representing age. The study of James and Chilvers (2001), which was done to find academic and non- academic predictors of success, discovered that older, mature or graduate entrants are more successful at obtaining a first-class degree at Bachelor of Medical Science for the whole cohort; however, they are less likely to be successful at passing the BMBS. Frischenschlager et al. (2005) as well as Richardson (1995) found evidence that maturity and intrinsic motivational structure are linked to a superior academic performance.

Later research that was conducted by Yates and James (2006) used a different approach, and looked at the prediction of strugglers. They concluded that mature age (>21 years) and the possession of a previous degree are not

predictive factors for strugglers. Evidence on the effect of age on academic performance is not consistent. For example, Dayioglu and Turut-Asik (2007) reported a significant negative relationship between age and CGPA, suggesting that older age is associated with lower CGPA. This contradicts findings reported by Sheard (2009) which showed that mature-age students – students older than the typical undergraduate student–had higher final GPAs than younger undergraduates.

**Socio-economic Status of Family**

When analysing a family's social economic status, the household income, earners' education and occupation are examined as well as combined income, versus that of an individual when their own attributes are assessed. Lareau (2003) observes that socio-economic status is typically organised into three categories: high, middle, and low to describe the three areas a family or an individual may fall into when placing a family or individual into one of these categories any or all of the three variables income, education, and occupation can be assessed. Additionally, low income and little education have shown to be strong predictors of a range of physical and mental health problems due to environmental conditions which may be the entire cause of that person's social predicament to begin with.

Parental education and family SES levels have positive correlations with the student's quality of achievement (Jeynes, 2002; Mitchell & Collom, 2001). The students with high level of SES perform better than the middle-class students and the middle-class students perform better than the students with low level of SES (Garzon, 2006; Kirkup, 2008). The achievement of students is negatively correlated with the low SES level of parents because it

hinders the individual in gaining access to sources and resources of learning (Duke, 2000; Eamon, 2005). Low SES level strongly affects the achievement of students, dragging them down to a lower level (Sander, 2001). This effect is most visible at the post-secondary level. It is also observed that the economically-disadvantaged parents are less able to afford the cost of education of their children at higher levels and consequently, they do not work at their fullest potential (Rouse & Barrow, 2006).

Krashen (2005) concluded that students whose parents are educated score higher on standardized tests than those whose parents were not educated. Again, he states that educated parents can better communicate with their children regarding the school work, activities and the information being taught at school. They can better assist their children in their work and participate at school. According to Roberts and Sampson (2011), the students' academic accomplishments and activities, perceptions of their coping strategies and positive attributions, and background characteristics (i.e., family income, parents' level of education, guidance from parents and number of negative situations in the home) were indirectly related to their composite scores, through academic achievement in high school.

**Parental Style**

Researchers emphasised on parental styles and confirmed significant and positive relationship of authoritative parenting style with academic success (Kazmi, Muhammad, & Tahir, 2011; Yinusa & Basil, 2008). Murphy (2009) studied parental encouragement involving parental actions associated with parenting styles. Astone and Sara (2001) focused on parental practices involving parental involvement and parental encouragement; whereas

Lakshmi and Arora (2006) focused on parental behaviour and found that parental acceptance and encouragement were positively related with academic achievement. Garikai (2010) confirmed a positive relationship of parental education with parental encouragement while Okpala, Okpala and Smith (2001) revealed that parental encouragement influenced cognitive development of their children whereas Kazmi et al., (2011) have found that parental encouragement is significantly related to achievement motivation of the students.

Sharma and Tahira (2011) also investigated the influence of parental education, parental occupation and family size on science achievement of the secondary school students in Western Uttar Pradesh in India. 1,500 students were selected as a sample for the study and data was collected using a questionnaire that assessed personal information and science achievement test developed by the researchers themselves. The results indicated that family variables including parental education had significant relationship with the achievement of their children. Muola (2010) investigated the relationship between academic achievement motivation and home environment among students in Machakos District. The results indicated a low, but positive relationship (0.15) of parental education with academic achievement of the students and revealed a positive relationship between parental education and academic achievement of their children. Sunitha (2005) found that parental education was also found to have significant and positive relationship with academic achievements of the student. Tavani and Losh (2003) found that parental education had also positive relationship with achievement motivation of the students.

**Personal Factors that influence Academic Achievement**

Several students' characteristics have generally been identified as influences on their academic achievement. These include time with books and homework, attendance of lecturers, attitude towards schooling, self-concept and motivation, intelligence, student competence, study habit, students' anxiety, health and nutritional status.

According to Pumipat (2005), the students' academic achievement largely depends on motivation, study habits, anxiety, adjustment, responsibility and interaction between teachers/students. Cupinit (2007) argued that the students' study habits predicted academic achievement of students. Paying attention in class was positively related to academic achievement with the statistical significance at the level of .01. In the study of Kamwang (2003), study habits were positively related to academic achievement with statistical significance at the level of .001, and it can also be used to predict academic achievement statistically significant at .001.

According to the study by Kamwang (2003), poor academic achievement might result from irregular class attendance, lack of preparation before class, class attention, revision after class, and class participation. Regarding interaction between instructors /students, it was found that interaction between instructors /students was positively related to academic achievement of students in Songkhla Province (Jankoop, 2003). Based on the study by Laeheem (2007), the interaction between instructors /students held a positive relation to the students' academic achievement with the statistical significance at the level of .001, and the academic achievement could be

predicted with the interaction between instructors /students significantly at .001.

The personality of the student plays instrumental role on the academic performance. According to Baltas and Baltas (2000), two American cardiologists, Rosenman and Friedman determined two different types (Type A and Type B) of personality depending on heart disorders and individual behaviours. Type A expresses someone who is more active, more work-oriented, more passionate and competitive while type B is calm, patient, balance and right minded. A student who belongs to Type A stand a chance of performing well academically as compared to Type B student.

The personality of the students also determines whether he or she can achieve or not. Lievens, Coetsier, De Fruyt and De Maeseneer (2002) investigated two sets of traits: firstly, the typical personality traits of medical students as compared to students from other academic majors, and secondly the personality traits that predict academic performance of students in pre-clinical years. They conducted a cross-sectional inventory and a prospective longitudinal study of one cohort of medical students from five Flemish Medical Universities. A total of 631 medical students as well as 914 first-year students of seven other academic majors completed the Five-Factor Model of Personality test. They demonstrated that medical students score highest on extraversion and agreeableness. Conscientiousness (self-achievement and self-discipline) significantly predicts final scores in each pre-clinical year.

Furthermore, medical students who score low on conscientiousness and high on gregariousness and are excitement-seeking are significantly less likely to sit examinations successfully (Lievens et al. 2002). Ferguson, James,

Sanders and Mcmanus (2003) studied different personality domains and verified the finding of Lievens et al. (2002) when they showed that conscientiousness is a very strong predictor of success in preclinical performance. They found that higher scores on conscientiousness are significantly related to better performance across most (78%) of the assessments. Students scoring higher on agreeableness performed better on 33 percent of the assessments. A literature review also reveals that sufficient preliminary data indicate an impact of personality on medical school progression (Ferguson et al., 2002).

Frischenschlager et al. (2005) distributed a questionnaire amongst medical students at the University of Vienna, Austria, and obtained a response rate of 50 percent. They found that successful students more often report that they learn easily, prefer autonomy over guidance and are less impaired by nervousness at the examinations. McManus, Richards, Winder and Sproston (1998) studied the relationship between the learning style (surface, deep or strategic) and the performance in the clinical years and final examination. Two cohorts of medical students from St Mary's Hospital Medical School, London, UK, were followed up to their final year. They were sent questionnaires before they started their studies as well as after completion.

Only 51 percent of the first cohort and 65 percent of the second cohort replied to the second questionnaire. An important finding is that knowledge that is acquired by a clinical student can be predicted from the learning style measured at the time of application to a medical school. A correlation is seen between clinical experience and study habits; students with a deep and strategic learning approach show higher levels of overall experience. A-level

grades show a significant correlation with performance in final examinations, but there is almost no association between A-levels and learning style (McManus et al., 1998).

Todres, Tsimtsiou, Sidhu, Stephenson and Jones (2012) conducted semi- structured interviews with medical students of a London Medical School, to explore the students' attitudes and approaches to learning, social relationships and conceptualisations of professional life beyond graduation. A number of 18 students participated. High-achieving students seem to reflect on their approaches to learning and learning experiences, and they show a greater awareness of their learning methods than re-sitting students who could articulate what needs to be learned rather than how they would go about learning it. They only often start to think about their learning style after they have failed. High achievers appear to be more learning-goal orientated than re-sitting students who are more performance-goal orientated (Todres et al., 2012). Richardson (1995) found a relationship between deep (or meaning) orientated learning and maturity of the students. He concludes that the mature students are motivated by intrinsic goals and that life experiences promote the deep learning orientation (Richardson 1995).

Furthermore, study motivation can play an important personal factor to influence student performance. Motivation can be through either an internal need to achieve and expand knowledge and experience (intrinsic motivation) or as a product of demands of external situations and sources (extrinsic motivation) (Murphy & Roopchand 2003). Murphy and Roopchand (2003) explored the relationship between motivation and self-esteem for traditional (age between 18-21) and mature students (age between 22 and 48) at

Universities in the North-East of England. One hundred and sixty students were asked to fill out an intrinsic motivation towards Learning Questionnaire and the Rosenberg Global Self-Esteem Questionnaire. The results revealed that intrinsic motivation towards learning and self-esteem are related. Mature female students have the highest intrinsic motivation scores as well as the highest self- esteem scores in the sample (Murphy & Roopchand, 2003).

The results show mature student participants to have significantly higher levels of self-esteem and intrinsic motivation towards learning. There may be several explanations for this. Firstly, in terms of self-esteem, this tends to increase as we become older. Secondly, in terms of intrinsic motivation, mature students may develop a clearer perspective on the purpose of their education simply through accumulation of life experience. The researchers (Murphy & Roopchand, 2003) proposed possible reasons for another finding, which states that women have higher intrinsic motivation and self-esteem. They quote Stables and Stables (1995), who reported that young women (rather than men) are more likely to study subjects that are of interest to them and which they enjoy, which reflect the role of autonomy in their subject and career choices. This could explain the higher levels of intrinsic motivation.

In a study, conducted by Rolfe, Ringland and Pearson (2004), at the University of Newcastle, Australia, the findings were similar. They concluded that, compared to secondary entrants, tertiary entrants are more likely to be motivated to study medicine intrinsically or because of a desire to be independent or prevent disease, whereas secondary students are more often motivated by parental expectation (external motivation). In a prospective cohort study amongst successful students and unsuccessful students,

Frischenschlager et al. (2005) found that in the group of very successful students, the wish to study medicine is of distinctly shorter duration in comparison with unsuccessful students. These students are also less frequently advised to study medicine. The successful students more often state that they enjoy acquiring knowledge, tend to study other subjects, and consider a successful study as important. Successful students are also more confident that they would be able to complete their studies than unsuccessful students. Successful students have fewer ideas about their future specialisation.

The use of alcohol and related drinks also influences academic performance among undergraduates (Pettit & De Bar, 2011; Ukwayi, Lucy, Chibuzo & Undelikwo, 2013; Wechsler, 1995; Wolaver, 2002). In Ukwayi's et al. (2013) study in Nigerian reported a significant relationship between alcohol use and academic performance such that a unit increase in alcohol consumption would result in 61 percent decrease in examination success. Pettit et al. (2011) also reported that more consumption of energy drink that may have alcohol together with caffeine and other active ingredients in its content was significantly negatively correlated with undergraduate grade point average, suggesting that increased consumption is associated with a fall in the average grade point. Although students give several reasons for taking alcohol, including to keep awake and for fun, perhaps alcoholic drinks negatively affect the average grade point by disrupting studies, reducing amount of study time, class attendance, and concentration during examination (Ukwayi et al., 2013).

**School Factors and Academic Achievement**

Several school factors influence academic achievement. These include teacher attendance in school, teachers' interest and motivation, and teaching effectiveness and methods of teaching. In the school aspects, the item "Teacher has mastery of the subject matter" had the greatest mean with a very high impact. The rest of the indicators were deemed to be of high impact with the indicator, "Teacher is always late" having the lowest mean. Fredriksen, Rhodes, Reddy and Way (2004) conducted a longitudinal study on the effects of adolescent sleep loss during middle school. Their study revealed that the participants' sleep loss had a relationship with more depressive symptoms, lower self-esteem, and lower grades.

Ofoegbu (2004) linked poor academic achievement of students to poor teachers' achievement in terms of accomplishing the teaching task, negative attitudes to work and poor teaching habits which have been attributed to poor motivation. Corroborating this position, Lockheed and Verspoor (2001) asserted that lack of motivation and professional commitment on the part of teachers leads to poor attendance and unprofessional attitudes towards students which in turn academically affects the achievement of the students.

The influence of effective teaching on students' academic achievement has been the subject of several studies. The quality of teachers and their commitment are key inputs in educational production to perform better achievement. A teacher's knowledge of the subject matter coupled with textbooks, instructional time and other learning materials have great influence on learning (Lockheed & Verspoor, 2001).

Another factor is teacher motivation. A highly motivated person puts the maximum effort in his or her job. Ofoegbu (2004) linked poor academic achievement of students to poor teachers' achievement in terms of accomplishing the teaching task, negative attitudes to work and poor teaching habits which have been attributed to poor motivation. Corroborating this position, Lockheed and Verspoor (2001) asserted that lack of motivation and professional commitment on the part of teachers leads to poor attendance and unprofessional attitudes towards pupils which in turn academically affects the achievement of the students.

Barnes (2003) indicates how teachers are being encouraged in Ghana to facilitate local level development, which although can have positive impact on schooling, can also lead to teacher absenteeism and lateness. In another study, Fobih, Akyeampong and Koomson (1999) found that about 85 percent of teachers go to school late. They found that lateness ranged from five minutes up to one and a half hours. This meant that teaching time was lost, teachers taught fewer hours and the shortening of the lectures' periods for students. Lateness and absenteeism were also found to affect the completion of course outline. When the course instruction is not completed, students find it difficult to understand the content that needs to be taught in the next class which foundation in most cases is based on the previous class (Etsey, 2005; Etsey Amedahe, & Edjah, 2005). Pryor and Ampiah (2003) argued that most students are not able to follow school work because they do not possess the understanding from previous work that is prerequisite for the course content.

## Conceptual Framework

Researchers use the conceptual framework to demonstrate and explain the relationships between the variables used in a study. This section proposes a conceptual framework within which the concept and academic achievement are treated in this work. The selection of the model is based on the belief that the quality of input invariably affects the quality of output in this case, academic achievement (Acato 2006). It shows that academic achievement as a dependent variable is related to the independent variables, which are school-related factors, socio-demographic factors, students-personal factors. Figure 1 shows that these factors are linked to academic achievement. If the factors are favourable, then the academic achievement of students is likely to be favourable and if they are unfavourable, then academic achievement may be low. Figure 1 shows the relationship between different factors and academic achievement.

Factors influencing students' academic achievements

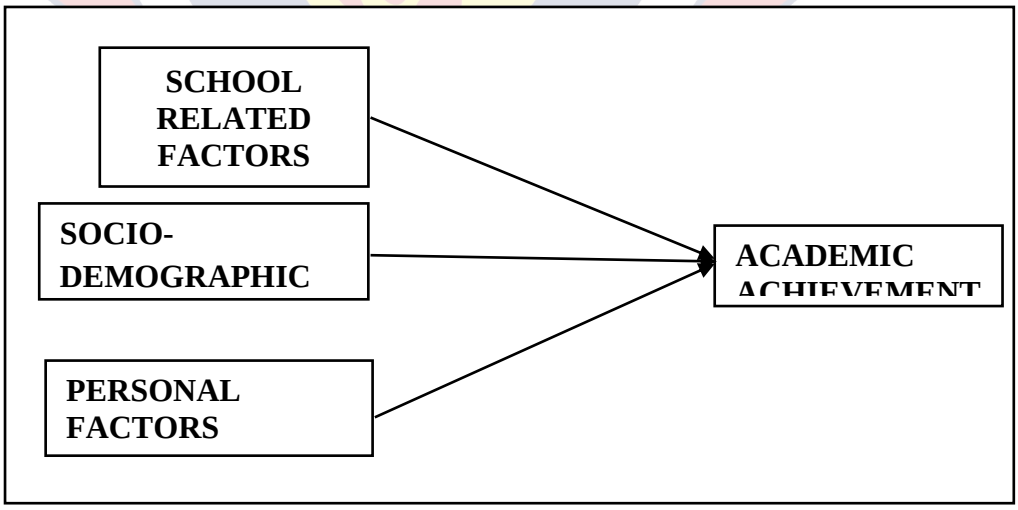



*Figure 1*: Relationship between different factors and academic achievement

Source: Authors construct based on literature (Geiser & Santelics (2007; Staffolani & Bratti (2002)

The figure depicts the factors influencing the academic achievement of students in the medical field. On the left-hand side of the framework are the independent variables comprising school (teachers') related factors, which were conceptualized as qualification, teaching experience, competence and knowledge are linked to academic achievement of the students. That is, the type of teachers related factor is likely to contribute to the students' academic achievement of the student in future, an argument supported by (Considine & Zappala, 2002). Personal factors such as the personality of students, attendance in lecturers, attitude towards schooling, self-concept and motivation, can also influence the academics of the medical students. That is, students from high social and economic backgrounds will perform better than their counter parts from low social economic backgrounds (Owen, 2009). Socio-demographic factors include age, sex or gender, parental styles and socio-economic status of the parents

Linking the social cognitive theory to the conceptual framework of the study, it can be argued that learning, as an active cognitive process in the mind, is influenced by factors such as age, personality traits that is compliance with environmental conditions and attendance in the classroom (Credé, Roch & Kieszczynka, 2010), positive interaction with others, intrinsic and extrinsic motivational goals, characteristics of the study approach, and individual self-regulating learning strategies (Poropat, 2009). These traits fall under the personal and socio-demographic factors in the framework; hence, might influence the academic achievement of the students.

# CHAPTER THREE

# RESEARCH METHODS

## Introduction

This chapter deals with the procedures that are adopted in conducting the research. The chapter considers the area of the study, research design, choice of the population, sample and sampling procedures, data collection instruments, pre- testing, validity and reliability, method of data collection, and analysis as well as ethical considerations.

## Study Area

The University of Cape Coast, which is one of the largest universities in Ghana, was inaugurated in December, 15, 1962, as a University College and placed in a special relationship with the university of Ghana. According to Alemna (1994) University of Cape Coast is the third university in Ghana, established basically as an institution for the training of educationalists and teachers. It is found along Accra- Takoradi road in the central region zone that is the southern part of Ghana. The University was formally called University College of Cape Coast. On October, 1, 1971, the University attained the status of a full and independent University with the authority to confer its own degrees, diplomas and certificates by an Act of parliament – University of Cape Coast Act 1971 (Act 390) and subsequently, the UCC 1992 (PNDC Law 278) (Dwarko & Kwarteng, 2003).

The main purpose for the establishment of UCC was to train graduate teachers for second cycle institutions, such as training colleges, secondary and technical institutions. The University began with a bachelor of education programme on a regular basis. It has expanded its tentacles to different

programmes in addition to bachelor of education. Currently, UCC offers many academic programmes which are grouped under five colleges headed by provosts, namely college of Humanities and Legal Studies, College of Education Studies, College of Agricultural and Natural Sciences, College of Distance Education and College of Health and Allied Sciences, (UCC, 2015). The University of Cape Coast School of Medical Sciences Ultra-modern Laboratories, Diagnostics Centre, the Anatomy and Cell Biology, Medical Student's Hostel and Maersk Clinical Skills Laboratory fort the effective training of medical officers. The University of Cape Coast School of Medical Sciences has six departments namely; Department of Paediatrics, Department of Pathology, Department of Internal Medicine and Therapeutics, Department of Pain and Anaesthetics, Department of Obstetrics and Gynaecology and Department of Surgery under the school of Medical Sciences.

The School organises the white coat ceremony for the medical students who are due to commence their clinical rotations in August every year. Since the last five years, University of Cape Coast School of Medical Sciences averagely graduates 70 medical officers each year. The University of Cape Coast has programmes from certificate to doctorate levels. These programmes are run in diverse forms. Most of the programmes are in sandwich, distance and regular basis. The focused area of the study was the school of Medical Sciences under the College of Health and Allied Sciences.

**Research Approach**

The study employed a mixed research approach to measuring and analysing the primary data collected in the study. This approach is characterized by a rigorous use and integration of both qualitative and

quantitative approaches or collection of qualitative and quantitative data from different sources, to find out if findings from the two sources converge (Nassaji, 2015). It ensures that data are collected sequentially and analysed separately. Again, the qualitative aspect of the mixed method often involves an inductive exploration of the data to identify recurring themes, patterns, or concepts and then describing and interpreting those categories.

Of course, in qualitative research, the data collected qualitatively can also be analyzed quantitatively (Nassaji, 2015). The qualitative data provide a supportive secondary role to the quantitative data (Creswell & Plano Clark, 2011). It supports the use of interview to gather textual data in details (Moumen, 2020). The use of interview for the in-depth data gathering influence the decision to use the qualitative research approach to measuring and analysing the data collected in respect of the variables and specific research objectives. Quantitative research approach shows a predetermined nature and depends on instrument-based questions, make use of attitude, observational, census and performance data and analyze and interpret them by means of statistical analyses (Mariani & Baggio, 2020). In quantitative approach aspect of the mixed method, the variables are numerically measured. The mixed method uses both quantitative and qualitative methods to balance each other's strength and weakness or confuse methods to answer a research question or questions in all ways (Askun & Cizel, 2020).

**Research Design**

Research design is the overall plan for connecting the conceptual research problems to the pertinent empirical research (Van Wyk, 2012). The study employed the descriptive survey research as a main research design.

This was primarily informed by the nature of the overall purpose of the study, thus to describe in details the factors that influence the academic achievement of medical students in the University of Cape Coast. These essence of the use of this design is to only observe and measure the variables of interest without any control or manipulations (Nassaji, 2015). Thus, the use of descriptive survey helps the researcher to identify characteristics, frequencies, trends and categories.

This study design was chosen for this study allowed the researcher to describe the variables, factors and academic achievement, and establish the relationship between them (Sarantakos, 2005). The nature of the timing of the data collection was cross-sectional because quantitative data were collected from different categories of respondents at the same time. Cross-sectional studies capture aspects of social life including population characteristics, individual behaviour, social interaction and aspects of social groups, institutions and structures (Blaikie, 2009). This design was used because the substance of this study entails a detailed explanation on the factors that influence the academic achievement of medical students in the University of Cape Coast.

**Data and Sources**

The data for the study were collected from primary and secondary sources. The primary data were collected from the field by the use of questionnaires and interview guides while the secondary data were obtained from related literature and relevant published materials.

**Population**

The target population of the study included medical students and heads of department at the School of Medical Sciences (UCC). The accessible population of this study included medical students in 2nd year to 5th year who can help explore the predictors of high academic performance among students and the head of departments who supervise teaching and learning processes of students in the various departments. There were 6 heads of department and 740 students (2nd year to 5th year) at the School of Medical Sciences (UCC). The second-year medical students were the baseline because they could testify with their results whether their performance have increased or not and explain the factors that could influence changes in their performances. The population comprised both male and female medical students.

**Sample and Sampling Procedures**

The researcher adopted both probability and non-probability sampling techniques in selecting the respondents for the study. As stated earlier, the total population for the medical students in University of Cape Coast was 740 and 6 heads of department. In determining a representative sample size from this population, the Krejcie and Morgan (1970) sample size determination formula was utilized and applied. The follow is given as

$s = X^2\ NP\ (1\text{-}P) \div d^2(N\text{-}1) + X^2P\ (1\text{-}P)$

s = required sample size

$X^2$ = the table value of chi-square for 1 degree of freedom at the desired confidence level (3.841)

N = the population size

P = the population proportion (assumed to be .50 since this would provide the maximum sample size).

d = the degree of accuracy expressed as a proportion (.05)

After computations, the sample size was 254. In applying a sampling technique to enhance representatives, the multi-stage sampling technique was adopted including stratified and systematic sampling techniques. The sample size was divided according to levels of students ($2^{nd}$ to $5^{th}$ year) using stratified sampling technique to enhance representativeness. Since there are four strata, the researchers divided the sample size (254) by 4 given approximately 64 medical students at each level. The systematic sampling technique was employed to identify the medical students with the use of sampling frame (student register). The researcher compiled the list of all medical student from $2^{nd}$ to final year to aid the selection of respondents. In doing so, the systematic sampling technique formula, $\frac{population}{sample\ size}$, was used to arrive as the $k^{th}$ term. For example, given a population of 740 medical students in UCC with a sample of 254, the $k^{th}$ term was approximately 3.

The researcher, at random, selected the number (3) from 1 and 3 which was added to the $k^{th}$ term to systematically identify the subsequent respondents. For example, 6+3=9, 9+3=12, 12+3=15 +….. +254. The same procedure was carried out to obtain a sample size of 254.

**Table 1: Expected Proportion of Medical Students with Respect to Levels**

| Institutions | Sample |
|---|---|
| 2nd year | 64 |
| 3rd year | 64 |
| 4th year | 64 |
| 5th year | 64 |

Source: Field work, Asibu (2020).

The response rate however affected that the sample size for the study. In the entire researcher retrieved 123 questionnaires out of the expected 254 questionnaires. Most of the respondents decided not to respond to the questionnaires which made it difficult to obtain the expected sample for the study given that participation for the study was voluntary. Table 2 showed the number of respondents that participated based on the level.

**Table 2: Proportion of Medical Students with Respect to Levels**

| Institutions | Sample |
|---|---|
| 2nd year | 1 |
| 3rd year | 24 |
| 4th year | 49 |
| 5th year | 49 |

Source: Field work, Asibu (2020)

For the qualitative dimension of the study, purposive sampling technique was adopted in administering the instruments (interviews). For the interviews, 6 key informants were allowed to participate in the study. The interviews were done at their work premises during lunch break at their respective posts or any place of their convenience.

**Data Collection Instruments**

The research instruments employed in the study for primary data collection were the interview guide for interviewing the Heads of Department as well as medical students and questionnaire for the medical students. Semi-structured interview guide is a guide with questions developed in advance but also allows the interviewer to stray from the interview guide, asking follow-ups as the interviewer believes appropriate (Burns & Grove, 2010). Semi-structured interview guide leaves little room for variation in responses from participants of the study. The interview guide is flexible and allows new questions to be asked during the interview because of what the participants express.

The themes used were the same for each interviewee. Semi-structured interview was used because it allowed participants to have the chance to make their comments when they needed to and also provide the interviewer the opportunity to gather more new information as new questions emerged and further clarifications were sought from the participants (Creswell, 2014). The use of semi-structured interview techniques gave room for the interviewer to respond quickly to what participants said by directing subsequent questions to the information the participant provided (Creswell, 2014).

As a qualitative method of research, a semi-structured interview was allocated to certain themes. The interview guide themes were in three sections. Theme one was based on the effects of socio-demographic characteristics such as age, gender, previous academic performance, and prior tertiary education on the achievement of medical students. Theme Two covered institutional - related factors that influence high academic achievement among medical

students and Theme Three explored the personal factors of students that influence high academic achievement.

The questionnaire for this study covered sets of questions that were used to gather information in a statistical form. Large amounts of information can be collected from many people in a short period of time and in a relatively cost-effective way using questionnaire (Cohen, Manion & Morrison, 2013). The limitation of questionnaire arises when sometimes there is a level of researcher imposition (Burns & Grove, 2010). The questionnaire is made up of closed ended questions designed by the researcher, but was checked by the supervisor of this research.

The questionnaire for this study consists of 3 sections. Section A asked questions about the socio- demographic characteristics of respondents. Section B also asked questions about institutional related factors that influence high academic achievement among medical students. Section C comprised questions on personal factors of students that influence high academic achievement. The response of the questionnaire was rated in a scale as follows: 5 – Strongly agree; 4 – Agree; 3- Not sure; 2 – Strongly disagree and 1 –Disagree as well as 1-Always, 2-Almost Always, 3-Sometimes, and 4-Never.

**Pre-testing of Instruments**

A pre-test study of the questionnaire and the interview guide was conducted on 10 medical students and 2 heads of departments at School of Medical Sciences, Kwame Nkrumah University of Science and Technology. The research instruments were pre-tested in order to test its validity and reliability as a data collection tools and to ensure its effectiveness. Pre-testing

gave an estimate of the time to interview or ask each respondents question. The participants in the pre-testing were similar to those in the main study, but the pre-testing was done in the similar settings, but they were not included in the final study.

**Validity and Reliability**

This study was based on real-life experiences, obtained through probing and in-depth interviews and structured questionnaire administration. The questionnaire and interview guide were pre - tested in a setting that was not part of this study. The pre-test study assisted in the development and testing of the adequacy of the research instruments. The items in the sub-scales were adopted through empirically validated sources (…….).

To ensure trustworthiness of findings, different procedures and data collection instruments were used to provide data to strengthen a crystallization of meaning and interpretation of the findings of this study. The internal consistency of the questionnaire was calculated by applying Cronbach's alpha that depicted that the instrument is reliable and consistent for data compilation of the current study. The reliability results are presented in Table 2.

**Data Collection Procedures**

In the collection of data for this study, procedures were followed for the interview and administering of the questionnaire. Before the start of data collection, letters of approval were sent to the heads of departments and the consent of all participants (medical students) was sought through verbal communication. The data collection using questionnaire was conducted at the lecture theater each morning at 9am and 2pm in the afternoon. They could fill the questionnaire on their own, but were informed about the objective of the

study and its significance. The respondents were assisted when they called for clarity on any aspect of the questionnaire. The answered questionnaires were collected on the same day it was administered. A period of one week was used in the administering of questionnaire. The percentage rate of the returned questionnaire was calculated.

The semi-structured interview guide was used to interview six (6) heads of departments at the School of Medical Sciences (UCC) and Two Hundred and fifty-four (254) medical students. The collection of data was face-to-face between the interviewer and the respondents of the study. The interviews were scheduled at the offices of the heads of department and 254 students filled the questionnaires for me in their respective classrooms. Also, the participants were informed about the protection of the information they provided. Audio recording were used during the interview session to record the responses during the interview. Each respondent was interviewed separately and responses were entered appropriately in the interview guide to avoid error in coding of the responses. The interviewer carefully listened, asked, and probed questions, observed, and then interpreted questions to respondents during the interview session.

**Data Processing and Data Analysis**

Qualitative content analysis was used to analyze the data collected through interviews. According to Creswell (2013), qualitative content analysis ensured the subjective interpretation of the content of the text data through systematic classification process of coding and identifying themes or patterns. The audio recorded during the interview were transcribed into written document. The transcribed interviews were read several times to obtain the

sense of the whole data and the recorded interview was repeatedly listened in a sole attempt to discover any recurring feature which was not noted in the previous listening. Careful reading of the transcribed interview data was very necessary because it made it easy to organize the data in a way which allowed irrelevant information to be separated from the relevant ones for the study (Creswell, 2014).

The data under study were grouped into categories and sub categories, which were created through interpretation of the contents of the sentences acquired from the data transcribed. The responses of the respondents were thoroughly compared with each other severally and were put in the rightful categories. Small excerpts from the narratives will be used to exemplify the meanings of the categories. Dots were used to separate them (...) indicating that each part had been taken from one identified participant. The strongest example was used to represent other similar examples.

In order to obtain the readily available data file, the data were coded in Statistical Package for Social Sciences (SPSS version 25.0) software from the structured questionnaire. The tasks involved included identifying, classifying and assigning a numeric or character symbol to data which was done in only one way pre-coded. Thus, in this study, all of the responses were pre-coded. They were taken from the list of responses, a number of corresponding to a particular selection was given. The process was applied to every earlier question that needed this treatment. Upon completion, the data were then entered to SPSS software package for the next steps.

Data analysis was done in respect to the unique characteristics of the objectives or hypotheses with appropriate data analytical tools. Descriptive

statistics were used because it presented data in a more meaningful way, which allowed simpler interpretation of the data. Also, inferential statistics of Chi square, Kruskal Wallis and Mann Whitney Tests, Pearson Product Moment Correlation and Spearman Correlation coefficient at 95 % confidence interval, $p<0.05$ considered statistically significant were used to identify the relationship between the dependent variable (academic performance) and the predictor variables to test the hypotheses of the study. The findings were presented in Tables and Figures.

**Ethical Considerations**

The data collection was carried out according to the research design developed for this study and throughout the research process. The research was conducted in an ethical manner by involving the medical students and their heads of department in the research process. A letter of introduction and approval from the Institute of Educational Planning and Administration was sent to the administrator of the School of Medical Sciences (UCC) to obtain permission before the start of data collection. The consents of the medical students and heads of department were sought through verbal communication and provision of introduction letter was demanded before administering of the questions and interviews. To ensure the confidentiality of the information collected during and after the collection of data, names and addresses of participants were not used in the study. The participants could voluntarily participate in the study.

It was imperative to protect information gathered from respondents and the study organisation in the course of the research. The researcher ensured that responses given by participants were traced back to the respondents in the

analysis. Respondents' names were not included in the questionnaire or interview guide to ensure confidentiality. Hence, speakers A1, A2, A3, A4, A5 and A6 in the interviews were used to substitute the identity of the respondents. Data were obtained by means of audio recording and were later transcribed. Respondents were obliged to provide written informed consent, which required that respondents were competent and had full understanding of the study, voluntariness in participation and the freedom to decline or withdraw at any time during the research process (Terre Blanche, Durrheim & Painter, 2006).

# CHAPTER FOUR

# RESULTS AND DISCUSSIONS

## Introduction

This section presents the findings from the field. Data were analysed and discussed based on the research objectives. The chapter is divided into various subsections. The first subsection focuses on the background characteristics of the respondents. The other subsections on socio-demographic characteristics that influence the academic achievement of undergraduate medical students, school related factors that influence high academic achievement among medical students in the University of Cape Coast and the students' personal factors that influence high academic achievement among medical students in the University of Cape Coast.

## Background of Respondents

The background of the respondents is in relation to age, sex, marital status, level of students, monthly allowance, family monthly income, average study hours during weekdays and weekends and average hours of sleep in a day. The subsequent section takes this up for discussion in Table 3.

According to the Ghana Statistical Service [GSS] (2012), the majority of the youth population in the tertiary education in Ghana ranges between the ages of 15 and 24 years. The ages of respondents for this study fell within this range although the unit of analysis was the medical students, constituting students from SHS as well as those who enrolled after first degree. In this regard, some of the medical student were above 24 years. The results gathered from the field were categorised into age intervals of three. This helped the researcher identify the majority of the international students who fell within a

specific age interval. Table 3 presents the age categories of medical students in University of Cape Coast.

**Medical Students' Background Characteristics and Academic Behaviour**

This section of the study assessed the medical students' socio-demographic and economic characteristics and how they related to their academic behaviour. To achieve academically, the medical students are expected to put up an academic behaviour. The academic behaviour of medical students was based on activities such as attendance to lectures, tutorials, practical sessions, problem based learning and clinical teaching. The background characteristics of the medical students (sex, age, marital status, family income, monthly allowance, area of residence and level of the students) was used to establish the relationship with their academic behaviour using a cross tabulation and the chi-square test.

**Table 3: Background Characteristics of Respondents**

| Characteristics | Frequency (N=123) | Percent |
|---|---|---|
| **Age (years)** | | |
| 19-22 | 42 | 34.1 |
| 23-26 | 68 | 55.3 |
| 27-31 | 13 | 10.6 |
| **Sex** | | |
| Male | 55 | 44.7 |
| Female | 68 | 55.3 |
| **Marital status** | | |
| Not married | 117 | 95.1 |
| Married | 3 | 2.4 |
| Divorced | 1 | 0.8 |
| Widowed | 1 | 0.8 |
| Cohabiting | 1 | 0.8 |
| **Level of students** | | |
| 200 | 1 | 0.8 |
| 300 | 24 | 19.5 |
| 400 | 49 | 39.8 |
| 500 | 49 | 39.8 |
| **Area of residence** | | |
| On campus | 115 | 93.5 |
| Off-campus | 8 | 6.5 |
| **Family income** | | |
| Below ⊄200 Gh | 14 | 11.4 |
| ⊄201-400 Gh | 2 | 1.6 |
| ⊄401-600 Gh | 6 | 4.9 |
| ⊄601-800 Gh | 2 | 1.6 |
| ⊄801-1000 Gh | 8 | 6.5 |
| Above ⊄1000 Gh | 91 | 74 |
| **Monthly allowance of students** | | |
| Below ⊄200 Gh | 29 | 23.6 |
| ⊄201-400 Gh | 38 | 30.9 |
| ⊄401-600 Gh | 32 | 26 |
| ⊄601-800 Gh | 6 | 4.9 |
| ⊄801-1000 Gh | 10 | 8.1 |
| Above ⊄1000 Gh | 8 | 6.5 |

Source: Field work, Asibu (2020)

The age categories of the medical students in University of Cape Coast depict that given the age range of 19 and 31 years, the majority of them fell

between 23-26 years. As shown in Table 3 respondents representing almost 34.1 percent were aged between 19-22 while the least age (13) category recorded was between 27-31 years. It can be deduced that the greater number of the medical students are within their youthful age. Another socio-demographic characteristic of the medical students was their sex. Information on the sex of the respondents helped the researcher to determine the majority of the sex group enrolled into the medical school in the University of Cape Coast. The sample size of 123 respondents consisted of 55 (44.7%) males and 68 (55.3%) females. The study showed that the majority of the medical students were females.

In relation to the marital status of the international students, a display of the respondents reported marital status indicated that an overwhelming majority of medical students were single. The finding revealed just five categories in relation to the marital status. That is, 117(95.1%) were single and 3(2.4%) were married. The study found out that one medical student was seen in each of the following categories divorced, widowed and cohabiting. It can be deduced that the majority of the medical students who participated in the study were single.

The level of the medical students is critical to the current study as it will help identify their experiences as well as their performances as far as their decision to enrol into medical school is concerned. The level of student was categorised as follows: 200, 300, 400 and 500 as displayed in Table 3. The study revealed that a larger proportion of the respondents were in level 400 and 500. In addition to their levels, it was apparent that the majority 115 (93.5%) of them were living on campus while a few (6.5%) lived outside

campus. With respect to the family income of the medical students, 91respondent representing 74 percent of them stated that their families earned more than 1000Gh with 32 respondents representing 26 percent stating that their family earned 1000Gh or less. This could imply that to be in medical school, one should come from an affluent family. Although the study showed that family the income of many of the medical students were more than 1000Gh, a third 38 (30.9%) of them said they received a monthly allowance between 201-400Gh.

**Hours of studying and sleeping**

As part of the background characteristics of the medical students, the study sought to find out from the medical students the hours they spent on studies during the working weeks, weekends and on sleeping. The study used descriptive statistics such as the mean, mode, standard deviation and variance to describe hours spent on these activities.

**Table 4: Hours of Studying and Sleeping**

| | Studying hours | | Sleeping hours per day |
|---|---|---|---|
| | Weekdays | Weekends | |
| Mean | 5.77724 | 5.6667 | 6.0081 |
| Standard deviation | 5.95862 | 3.14842 | 2.61614 |
| Variance | 35.505 | 9.913 | 6.844 |
| Maximum | 0 | 0 | 1 |
| Minimum | 14 | 15 | 13 |

Source: Field work, Asibu (2020)

Table 4 showed the average hours the medical students spent on their studies during the working weeks and weekends as well as hours spent on sleeping in a day. It was evident from the data distribution that on average,

each medical student spent six hours per day studying in both week days and weekends. Although their means are the same, smaller standard deviation (3.14) and variance (9.91) indicate that medical students were more confident with studying for six hours than studying for the same number of hours during the working days. This revelation could be possible because medical students had lectures to attend during the week days and for that matter could not have the adequate time to study during the week days as compared to the weekends where they were free to attend to their books. With respect to the average hours spent on sleeping, it was observed that medical students did not meet the required number of hours (eight hours) an individual need to sleep or rest. A plausible explanation to this outcome could be that medical school requires a lot of hard work and efforts to be able to make the grades one desires. As a result, most of them had to forgo some hours for sleeping to undertake other activities given that the average hours of six was spent on studies.

**Socio-Demographic Characteristics and Academic Achievement**

The first objective of the study was to determine how socio-demographic characteristics of medical students influence their academic achievement in University of Cape Coast. Responses from all the sampled students indicated that there were differences in the academic achievements of medical students as far as their socio-demographic and economic characteristics were concerned. In this regard, variables such as age, sex, family income, marital status, monthly allowance, level of students and area of residence of medical students were measured against their current grade point average. The section therefore operationalised performance or academic achievement using an objective measure such as the current grade point

average. The Kruskal Wallis (H) and Man Whitney (U) test was used to determine the relationship between the independent variables (categorical) and the dependent variable (continuous). This was relevant because it helped determine their academic achievement and subsequently compared against their socio-demographic characteristics. Their responses on the current grade point average are extracted and presented against their background characteristics in Table 5.

A general outlook of the data distribution showed a statistically significant difference in the medical students' current grade point average and sex, place of residence and monthly allowance. However, there was no statistically significant difference in the academic achievement of the medical students as far as age, marital status, level of students and family income was concerned. With respect to the sex of the medical students, the study showed that the distribution of current grade point average differs across the males and females. The mean ranks (females=64.10; males=59.10; z=-0.746) indicated that the current grade point average of female medical students was higher than their male counterparts in the University of Cape Coast. The z value of 0.746 showed that current grade point average female medical students was about 75 percent higher than their male medical students. The study depicted a similar trend in area of residence of the medical students and monthly allowance and how they affected their academic achievement. Indeed, there was statistically significant difference in the current grade point average of the medical students who lived on campus and those who lived off campus.

**Studying and Sleeping Hours and Academic Achievement**

As part of the school and personal factors associated with academic achievement, the researcher wanted to examine how the number of hours medical students spent on studying and resting/sleeping influenced their current grade point average. As seen in Table 4, medical students spent, on average, approximately 6 hours studying a day during the working week, 6 hours studying a day on weekends and 6 hours sleeping in a day. It can therefore be deduced that medical student spent almost the same number of hours studying and sleeping in a day. The Pearson product moment correlation coefficient was employed to test the strength and direction of the relationship between the hours medical students spent on academic or studies during the working week and weekends as well as hours spent on sleeping and how it was associated with grade point average

The data analysis showed that there was a positive weak statistically significant relationship between hours spent on studies in a working day and current grade point average. Thus, as medical students spent longer hours on studies, it increased their current grade point average, but not that much. It can therefore be deduced that the average studying hours of the medical students did not influence their hours on academics that much. The results also depicted the average hours of sleep have a significant relationship with CGPA, with a *p*-value of 0.185 with a significant level of 0.04.

This indicates a positive weak relationship between the hours of sleep and academic achievement. That is, as average hours spent of sleep increases, it positively influences current grade point average but the influence was not a strong one. This arises from the fact that average hours of sleep in a day was

positively associated with average hours of studying during the weekend considering the fact that a *p* value of 0.261 depicts statistically weak positive relationship between these two variables. The reason could be that when one was able to have the at least 6 hours of sleep per day, he or she would accumulate enough energy to study during the weekend; and eventually positively influence current grade point average.

**Table 5: Average influence of Socio-demographic Characteristics on grade point**

| Background characteristics | Current Grade Point Average | | |
|---|---|---|---|
| | Mean Rank | H/U | P value |
| **Sex** | | 1727 | 0.046<br>z= -0.746 |
| Male | 59.40 | | |
| Female | 64.10 | | |
| **Area of residence** | | 442.5 | 0.014<br>z=-0.184 |
| On campus | 62.15 | | |
| Off campus | 59.81 | | |
| **Age (years)** | | 1.129 | 0.569 |
| 19-22 | 61.67 | | |
| 23-26 | 60.38 | | |
| 27-31 | 71.54 | | |
| **Marital status** | | 1.033 | 0.905 |
| Single | 61.84 | | |
| Married | 56.00 | | |
| Divorced | 85.00 | | |
| Widowed | 85.00 | | |
| Cohabiting | 53.00 | | |
| **Level of students** | | 4.864 | 0.182 |
| Level 200 | 85.00 | | |
| Level 300 | 54.46 | | |
| Level 400 | 57.44 | | |
| Level 500 | 69.79 | | |
| **Family income** | | 7.220 | 0.205 |
| Below ⊄200Gh | 64.07 | | |
| ⊄200-400Gh | 112.25 | | |
| ⊄401-600Gh | 49.83 | | |
| ⊄601-800Gh | 97.25 | | |
| ⊄801-1000Gh | 63.88 | | |
| Above ⊄1000gh | 60.44 | | |
| **Monthly allowance** | | 2.862 | 0.021 |
| Below ⊄200Gh | 56.50 | | |
| ⊄200-400Gh | 66.57 | | |
| ⊄401-600Gh | 56.98 | | |
| ⊄601-800Gh | 69.58 | | |
| ⊄801-1000Gh | 69.45 | | |
| Above ⊄1000gh | 65.31 | | |

Source: Field work, Asibu (2020)

Using the mean ranks (on campus=62.15; off campus=59.81; z=-0.184), the study found that those living on campus made higher grade points than those who lived off campus. The z value of 0.746 indicated that the current average grade point of the medical students who lived on campus was about 18 percent higher than their medical students who lived off campus. In addition, the study sought to find out whether the differences in monthly allowance of the medical students had any influence on the current grade point. The data was consistent with the hypothesis that there was a significant difference across different categories of monthly allowance. A general observation of the mean ranks (⊄601-800Gh=69.58; ⊄801-1000Gh=69.45 and above ⊄1000gh=65.31) suggested that medical students who received ⊄600-1000 Gh had a better current grade point average as compared to those in other categories.

To obtain a detailed explanation of the background characteristics and academic achievement, interviews were conducted by the researcher. The interviews showed varied responses with respect to the background characteristics of the medical students and how it informed their academic achievement. While some key informants were confident that their background had a role to play, others did not. Thus, the responses from the interviews showed that their academic achievement had no relationship with the sex, age, marital status, family income, monthly allowance and area of residence. But a few were quick to relate these characteristics to their academic achievement.

With respect to the sex of the medical students and their academic achievement, there were mixed responses from participants. While a section

felt sex determined academic achievement, others said otherwise. Responses gathered from the interviews partially confirmed the data in the descriptive Table 5. The following are some of the pertinent responses gathered. Respondent one had this to say:

> *I think whether male or female, it doesn't matter. Males can do well and females can also do well. It all depends on how hard the work to achieve good grades. If you are a male or female and you work hard you will get better grades. But, if you don't sorry.*

A response from another respondent was definite with respect to the females doing better than males in terms of academic achievement within the medical field although he admitted that females over the years had challenged the status quo. The changing trend, he alluded, could be because females have taken the profession more seriously than the male counterparts. He narrated:

> *You see gone were the days when males were dominating the medical field because it was challenging and they guys were confident in going to the medical school. So obviously they were performing. Previously, I think the male medical students in UCC were performing better than the females. I don't know may be the females were afraid of science. But, recently, things are changing and now I think the females in the medical field perform well than the males. It could be the males are not taking things*

> *serious as compared to the females* (a 38-year-old male worker in medical school)

The mixed responses on age and the achievement of the medical students showed in the descriptive statistics can also be verified from the interviews that further sought to obtain information in this regard. Respondent three in the medical school responded:

> *In the medical school, we have people with different ages. Young and matured one, I guess. But whether you will achieve academic success or not is no respecter of age. It doesn't count at all. If you are young and you study hard you will pass. The same applied if you are old. So, they should just study.*

In relation to on and off campuses, all the interviewed participants shared similar views that the medical students on campus had a slight advantage to achieve academic success as compared to those off campus. The reason was that being on campus gives students the opportunity to focus more on their books and regularly attend to lectures and clinical teachings. This, notwithstanding, participants argued that it was not automatic to pass and make good grades ones the student was on campus and that he or she should work hard to increase the current grade point. The narratives were consistent with the data gathered in the descriptive Table 5.

> *This is neither here or there. Once the person is a serious student residence won't matter. But, off course a serious student living on campus is more like to get good grade than a serious student living off campus. Being on campus*

*helps you to make use of the university resources you see. ether……* (a 41-year-old female worker in medical school)

Another important determinant of the academic achievement was monthly income. The responses from the interviews are as follows.

*For a student to learn hard, they need money, so medical students also need money on them for feeding, buying books etc. If there are no monies on them, obviously, they will be affected and it will affect their studies as well. So, those with money, all things being equal, will have a sound mind to study and pass than those with little or no money* (a 43-year-old female worker in medical school).

From the narrative, it could be deduced that monthly allowance, areas of residence and the sex of the medical students played an important role in determining their academic achievement. In this regard, the responses from the interviews supported the information in Table 6. Although in some instances, there were variations in the views of participants concerning the difference in age, marital status, level of students and family income and how they relate to the academic achievement, the majority of them did not view these characteristics as statistically significant.

**Table 6: Attendance to Academic Activities**

| Activity (%) | Frequency | Percent |
|---|---|---|
| **Lectures** | | |
| 100 | 85 | 69.1 |
| 75 | 38 | 30.9 |
| 50 | - | - |
| 25 | - | - |
| I don't attend | - | - |
| **Tutorials** | | |
| 100 | 93 | 75.6 |
| 75 | 23 | 18.7 |
| 50 | 4 | 3.3 |
| 25 | 1 | 0.8 |
| I don't attend | 2 | 1.6 |
| **Practical session** | | |
| 100 | 98 | 79.7 |
| 75 | 19 | 15.4 |
| 50 | 4 | 3.3 |
| 25 | 2 | 1.6 |
| I don't attend | - | - |
| **Problem - based learning** | | |
| 100 | 64 | 52.0 |
| 75 | 40 | 32.5 |
| 50 | 15 | 12.2 |
| 25 | 4 | 3.3 |
| I don't attend | - | - |
| **Clinical teaching** | | |
| 100 | 100 | 81.3 |
| 75 | 19 | 15.4 |
| 50 | - | - |
| 25 | 1 | 0.8 |
| I don't attend | 3 | 2.4 |

Source: Field work, Asibu (2020)

Attendance to the above-mentioned activities was rated in percentages ranging from 100%, 75%, 50%, 25% and I do not attend. For instance, when a medical student ticked 100%, it implied that he or she was present at all times during that academic session. But, prior to this, the study presented the data on the academic behaviour of the medical students in relation to their attendance

to lectures, tutorials, practical sessions, problem based learning and clinical teaching in order to obtain information on which the activities dominated in terms of attendance which were subsequently used to establish a relationship with their socio-demographic and economic characteristics. This is displayed in Table 6.

A cursory look at the data distribution depicted that the majority of the medical students were available for all the academic activities. For all intend and purposes, one could argue that they were actively involved in these activities. Comparatively, an overwhelming majority 100(81.3%) of the medical students were always available for the clinical teachings relative to lectures 85 (69.1%), tutorials 93(75.6%), practical session as (79.7%) and problem-based teaching 01(52%). From the statistics, it could be said that medical students were always present at practical session, next to clinical teaching. It should be stressed that a few 3(2.4%) and 2(1.6%) did not attend clinical teaching and tutorials respectively. From Table 6, it can be deduced that a majority of the medical students were always present at the clinical teaching. Based on this finding, the researcher tested the relationship of the socio-demographic and economic characteristics and attendance to clinical teaching using the chi-square. This is also presented in Table 7.

Attendance to clinical teaching was not significantly different across the sex of the medical students. Although the female medical students 58(85.3%) appeared to always attend clinical teaching than their male counterparts 42(76.4%), there was no statistically significant difference. In other words, attendance to clinical teachings was the same across sexes.

**Table 7: Relationship between Background Characteristics and Clinical Teaching**

| Characteristics | Attendance to Clinical Teaching | | | | | Total | *p*-value |
|---|---|---|---|---|---|---|---|
| | 100% | 75% | 50% | 25% | I don't attend | | |
| **Sex** | | | | | | | 0.388* |
| Male | 42(76.4) | 11(20) | - | 1(1.8) | 1(1.8) | 55(100) | |
| Female | 58(85.3) | 8(11.8) | - | 0(0) | 2(2.9) | 68(100) | |
| **Area of residence** | | | | | | | 0.212* |
| On campus | 95(82.6) | 17(14.8) | - | 1(0.9) | 2(1.7) | 115(100) | |
| Off campus | 5(62.5) | 2(25) | - | 0(0) | 1(12.5) | 8(100) | |
| **Age (years)** | | | | | | | 0.064* |
| 19-22 | 35(83.3) | 7(16.7) | - | 0(0) | 0(0) | 42(100) | |
| 23-26 | 56(82.4) | 9(13.2) | - | 0(0) | 3(4.4) | 68(100) | |
| 27-31 | 9(69.2) | 3(23.1) | | 1(7.7) | 0(0) | 13(100) | |
| **Marital status** | | | | | | | 0.000* |
| Single | 99(84.6) | 17(14.5) | - | 1(0.9) | 0(0) | 117(100) | |
| Married | 1(33.3) | 1(33.3) | - | 0(0) | 1(33.3) | 3(100) | |
| Divorced | 0(0) | 0(0) | - | 0(0) | 1(100) | 1(100) | |
| Widowed | 0(0) | 1(100) | | 0(0) | 0(0) | 1(100) | |
| Cohabiting | 0(0) | 0(0) | - | 0(0) | 1(100) | 1(100) | |
| **Level of students** | | | | | | | 0.000* |
| Level 200 | 0(0) | 0(0) | - | 0(0) | 1(100) | 1(100) | |
| Level 300 | 14(58.3) | 8(33.3) | - | 1(4.2) | 1(4.2) | 24(100) | |
| Level 400 | 44(89.8) | 4(8.2) | - | 0(0) | 1(2) | 49(100) | |
| Level 500 | 42(85.7) | 7(14.3) | - | 0(0) | 0(0) | 49(100) | |

Table 7 continued

| | | | | | | |
|---|---|---|---|---|---|---|
| **Family income** | | | | | | 0.221* |
| Below ⊄200Gh | 9(64.3) | 3(21.4) | 0(0) | 2(14.3) | 14(100) | |
| ⊄200-400Gh | 1(50) | 1(50) | 0(0) | 0(0) | 2(100) | |
| ⊄401-600Gh | 6(100) | 0(0) | 0(0) | 0(0) | 6(100) | |
| ⊄601-800Gh | 1(50) | 1(50) | 0(0) | 0(0) | 2(100) | |
| ⊄801-1000Gh | 5(62.5) | 3(37.5) | 0(0) | 0(0) | 8(100) | |
| Above ⊄1000gh | 78(85.7) | 11(12.1) | 1(1.1) | 1(1.1) | 91(100) | |
| **Monthly allowance** | | | | | | 0.172* |
| Below ⊄200Gh | 21(72.4) | 5(17.2) | 1(3.4) | 2(6.9) | 29(100) | |
| ⊄200-400Gh | 34(89.5) | 3(7.9) | 0(0) | 1(2.6) | 38(100) | |
| ⊄401-600Gh | 28(87.5) | 4(12.5) | 0(0) | 0(0) | 32(100) | |
| ⊄601-800Gh | 6(100) | 0(0) | 0(0) | 0(0) | 6(100) | |
| ⊄801-1000Gh | 5(50) | 5(50) | 0(0) | 0(0) | 10(100) | |
| Above ⊄1000gh | 6(75) | 2(25) | 0(0) | 0(0) | 8(100) | |

Source: Field work, Asibu (2020)

In cognisance with whether their area of residence influenced the attendance of the clinical teaching, it was evident from the data distribution that staying on campus or off campus did not have any influence on their attendance. This is because the p-value=0.212>0.05. Thus, whether medical students stayed on campus or not had no influence on attending clinical teaching.

In a similar vein, the age categories of the medical students did not influence their attendance to the clinical teaching. Thus, the medical students attended clinical teaching irrespective of their age bracket. This implied that the level of enthusiasm to attend this exercise was the same across the age categories of the medical students. The marital status and level of students appeared to influence the decision to attend clinical teaching. There is statistically significance difference between marital status, level of the medical students and attendance to clinical teaching. Thus, attending clinical teaching varied across the marital status and level of medical students. In specific terms, single medical students 99 (84.6%) always attended clinical teaching more than those who were in a relationship, married or once married. It is also important to state that the medical student who was cohabiting did not attend clinical teaching at all.

The study also revealed that fourth year medical students 44(89.3%) attended clinical teachings always as compared to those in other year groups. This could probably be since it was part of the requirements for level 400 medical students. Attending clinical teaching was not statistically significantly different from both monthly income and allowance categories. Thus, whether one earned or received higher or lower income or allowance did not influence

attendance to clinical teaching. Attending clinical teaching did not differ among the medical students who received ⊄1000Gh and below and those who received above ⊄1000Gh as monthly income or allowance.

**School Related Factors and Academic Achievement**

The second objective of the study was to examine the school related factors that influenced academic achievement among medical students. There are several factors that affect the performance of the medical students. The section of the study therefore sought to find out from the respondents whether their current academic achievement was based on school or institutional factors. These indicators were also measured using Likert scale [strongly agree (SA), agree (A), neutral (N), disagree (D) and strongly disagree (SD)]. This was used to measure how they agree with their school related factors that affect academic achievement. In addition to this, the researcher conducted spearman correlation to test the significance level (0.05) of their academic achievement (current grade point average) against the school related factors medical students indicated. This is displayed in Table 8.

The study also used the means and standard deviations to determine which of the school - related factors medical students agreed or disagreed to influence the academic achievement. The school related factors were measured based on certain indicators such as the availability of course related materials at the library, internet access, comfortable lecture rooms for teaching, conducive school environment, conditions of school infrastructure and materials, knowledge of lecturers about the course, attendance of lecturers and attitude of lecturers towards work.

**Table 8: School factors and how it influences academic achievement**

| Statements | SD | D | N | A | SA | Mean | SD |
|---|---|---|---|---|---|---|---|
| | n (%) | n (%) | n (%) | n (%) | n (%) | | |
| Available books at the library | 7(5.7) | 3(2.4) | 12(9.8) | 52(42.3) | 49(39.8) | 4.08 | 1.05 |
| Available internet access | 8(6.5) | 13(10.6) | 12(9.8) | 52(42.3) | 38(30.9) | 3.80 | 1.17 |
| Comfortable lecture rooms for teaching | 3(2.4) | - | 13(10.6) | 59(48) | 48(39) | 4.21 | 0.82 |
| Conducive school environment | 4(3.2) | 3(2.4) | 13(10.6) | 55(44.7) | 48(39) | 4.19 | 0.84 |
| Conditions of school infrastructure and materials | 4(3.3) | 8(6.5) | 15(12.2) | 57(46.3) | 39(31.7) | 3.96 | 0.99 |
| Knowledge of lecturers about the course | 2(1.6) | 2(1.6) | 8(6.5) | 56(45.5) | 55(44.7) | 4.30 | 0.79 |
| Attendance of lecturers | 3(2.4) | 1(0.8) | 7(5.7) | 61(49.6) | 51(41.5) | 4.26 | 0.81 |
| Attitude of lecturers towards work | 3(2.4) | 2(1.6) | 12(9.8) | 63(51.2) | 43(35) | 4.14 | 0.84 |

Source: Field work, Asibu (2020)

Table 8 showed the agreement levels of medical students in relation to their school factors that affect academic achievement. The study revealed that medical students generally agreed that school factors played an important role in their academic achievement. A critical analysis of the data distribution depicted that 101(82.1%) medical student attested to the fact that available course materials and books at the library contributed to their academic achievement while 90(73.3%) stressed on their reliance on available internet provided by the institution that aid their learning and thereby influenced academic achievement. As 107(87%) argued that lecture rooms were comfortable enough, 103(78%) admitted to the fact the conducive nature of the school environment played an instrumental role towards their academic achievement.

The study further revealed that the majority of medical students 96(78%) and 111(90.2%) respectively considered the good infrastructural and material conditions at the university and knowledge of lecturers on courses taught lead to their academic achievement. Medical students pointed to the fact that the attitude of lectures towards work and their attendance to lectures are also key factors that led to that academic achievement. This is because 106((86.2%) and 112(91.1%) of medical students respectively attested to this. Comparing the means and standard deviations of each of the school related factors that influence their academic achievement, one could argue that the level of knowledge of lecturers in relation to the courses aided in the academic achievement. Thus, with a mean of 4.3 and standard deviation of 0.79, medical students were consistence in their response to the fact that, among all the school related factors, the knowledge lecturers possessed about the course

highly determined their academic achievement as compared to the other factors.

Following the knowledge level of lecturers, attendance to lectures by lecturers recorded a mean of 4.26 and standard deviation of 0.81 indicating how important it is for lecturer to lecture. This implied that possessing and sharing knowledge about a course in class could prove far prudent to medical students as compared to directing them to do internet search. The rationale for this assertion is supported by the fact that internet accessibility did not really offer much influence on their academic success since it recorded the least mean (3.80) and standard deviation (1.17). According to the finding of the study, it appeared medical students could manage without internet accessibility as far as lecturers possessed the knowledge about the subject matter or course and attended lectures as and when they were supposed to and taught them accordingly.

In relation to school related factors influencing academic achievement, the researcher solicited the views of respondents with the following statements:

1. How does school infrastructure influence academic achievement?
2. How does knowledge of lecturers determine academic achievement?
3. How does attendance of lecturers help them achieve academic success?

In relation to the first question, a 22-year-old female medical student said:

> *Errm, for me the school has a lot of lecture rooms and space for us to study. There is a library, I resort to the*

> *books there whenever I need more information or I didn't understand something in class. My school also has a library so it is good for us and for me in particular. Trust me it's been of help to me.*

Another participant stressed had this to say:

> *Every university need infrastructure to help the students study effectively. UCC has built facilities for students and medical students are benefiting from these facilities but we can still do more in terms of expanding our infrastructure to aid teaching and learning* (a 59-year-old male worker in medical school).

In relation to the knowledge of lecturers and their attitude to work affecting academic achievement, this was the response of a 25-year-old male medical students:

> *I think the lecturers are doing well. They are always present in class for lectures. Sometimes it is even annoying…, hahaha, because they hardly miss lectures. They are often around to teach us and I think they should be commended. They are also well informed about the subject they teach except for a few ones whose style of teaching is not helping because it is difficult to get what they say*.

Another respondent from medical school held a similar but different view about how lectures are delivered:

> *In my class, there is this lecturer who, I won't mention the name, but the way he is handling the course I don't like it. It's like he doesn't know what the course is all about. Sometimes he says certain things and refuse to explain it expecting us to know it. He teaches as if we know everything. He needs to come to our level. Mmnn but for attitude is okay aaa.*

The third question on attendance to lecturers elicited a number of responses from participants. In the response of a thirteenth respondent, he stressed:

> *Lecturers in our school are very punctual. They are mostly on time for lectures too. A few times when the lecturer won't be available they inform us about it.*

A 59-year-old worker from the school of medical sciences articulated measures in place to ensure that lecturers attend lectures:

> *In medical school we always insist that lecturers are in class. To ensure this we (management) go to classes from time to time to check whether the lecturers are there. Sometimes we allow the students to also assess the lecturer so that we know which lecturer has been absenting him or herself and we query that lecturer. So, some of these measures are there so that they are punctua*l.

In spite of the positive responses from the participants, there are a section of the participants who mentioned that lack infrastructure, inaccessible

learning materials and limited practical sessions are problems that need to be tackled as soon as possible. In addition to that, some stressed on the need to motivate lecturers aside the words of encouragements. Another respondent lamented:

> *It is no doubt that UCC is trying hard to build facilities, but these are not enough for medical students who need to do practical and clinical to link theory to practice. Learning materials are also outmoded. We need new or current versions of books or models because the world is moving fast and things are changing but we can't be relying on old methods to solve new problems. So, these issues need to be addressed.*

To get a better understanding of how medical students associate school related factors to their academic achievement, the study further used a spearman correlation to establish a relationship between school related factors and current grade point average of medical students. The spearman correlation test is a non-parametric test that determined the strength and direction of the relationship between the dependent variable (current grade point average) and independent variable (school related factors). An assumption was that if the probability value (p value) is less than the significant value, it means the test is significant. However, if the probability value (p value) is greater than the significant value, it means the test is not significant (Ofori & Dampson, 2011). Table 9 showed that the probability value (p value) of 0.033 is less than or falls within the significant value of 0.05; hence the test is statistically significant at 0.05.

**Table 9: Spearman correlation between school related factors and CGPA**

| | | | Current grade point | school factors |
|---|---|---|---|---|
| Spearman's rho | CGPA | cc | 1.000 | 0.717** |
| | | Sig. (2-tailed) | 0.033 | |
| | | N | 123 | 123 |
| | School Factors | cc | 0.717** | 1.000 |
| | | Sig. (2-tailed) | 0.033 | |
| | | N | 123 | 123 |

**Correlation is significant at the 0.05 level (2-tailed)
Source: Field work, Asibu (2020)

To test for the strength and direction of the relationship between current grade point average (CGPA) and school related factors, the spearman correlation have abbreviations of correlation coefficient (cc), commitment (commit), sample size (N), significant (sig.) and correlation (corr.) that showed a strong positive relationship between the two variables. From Table 8, the variable in the first row and that in the first column is current grade point average and this gives a correlation coefficient of 1 but this value is not relevant to the study. Using current grade point average in the first row against school related factors in the second column where the two variables meet gives the correlation coefficient (cc) of 0.717*, its p-value, Sig. (2-tailed) is 0.033 and N (sample size) is 123.

The explanatory footnote provided at the bottom of Table 9 which reads: **correlation is significant at the 0.05 level (2-tailed) indicates that the correlation coefficient of 0.717*, between current grade point average and

school related factors is significant will increase when school related factors are favourable is true. There is a strong positive significant relationship between current grade point average and school related factors. The correlation analysis supports the descriptive analysis in Table 8 that revealed that the majority of medical students were in agreement with all the school related factors that influence academic achievement. This implies that the existence of books at the library, internet accessibility, comfortable classroom for teaching and learning, conducive condition of school infrastructure, frequent attendance of lecturers and the knowledge they possessed in addition to their positive attitude to work highly and positively influenced the current grade point average to a large extent.

**Personal Related Factors and Academic Achievement**

The third specific objective of the current study was to determine whether or not personal factors of medical students influence academic achievement. It was necessary to calculate the percentages of the personal factors because the study wanted to elicited information from respondents particularly on the individual actions that also affected their performance as students. Personal factors were operationalised with statements such as 'I have time to study for my quizzes', 'I pay attention in class always', 'I attend classes regularly', 'I (will) attend clinical regularly', 'I am always on time for lectures', 'I have regular interactions with lecturers concerning academics', 'I follow up on library reference suggested by lecturers', 'I am always available for group discussions and 'I always feel sleepy in the classroom. The responses from the respondents were categorised into always (A), almost always (AA), sometimes and never (N) are shown in Table 10. The study also

used the means and standard deviations to determine which of school related factors medical students agreed or disagreed to influencing academic achievement.

**Table 10: Personal- Related factors and its Influence on Academic Achievement**

| Statement | A | AA | S | N | Mean | SD |
|---|---|---|---|---|---|---|
| | n (%) | n (%) | n (%) | n (%) | | |
| I have time to study for my quizzes' | 41(33.3) | 42(34.1) | 34(27.6) | 6(4.9) | 2.04 | 0.89 |
| I pay attention in class always | 30(24.4) | 51(41.5) | 40(32.5) | 2(1.6) | 2.11 | 0.79 |
| I attend classes regularly' | 58(47.2) | 43(35) | 18(14.6) | 4(3.3) | 1.73 | 0.82 |
| I (will) attend clinical regularly' | 70(56.9) | 37(30.1) | 14(11.4) | 2(1.6) | 1.57 | 0.75 |
| I am always on time for lectures' | 47(38.2) | 44(35.8) | 29(23.6) | 3(2.4) | 1.90 | 0.84 |
| I have regular interactions with lecturers concerning academics | 15(12.2) | 18(14.6) | 66(53.7) | 24(19.5) | 2.80 | 0.89 |
| 'I follow up on library reference suggested by lecturers | 13(10.6) | 26(21.1) | 62(50.4) | 22(17.9) | 2.75 | 0.87 |
| I am always available for group discussions | 32(26) | 41(33.3) | 38(30.9) | 12(9.8) | 2.24 | 0.95 |
| I always feel sleepy in the classroom | 24(19.5) | 9(7.3) | 79(64.2) | 11(8.9) | 2.62 | 0.89 |

Source: Field work, Asibu (2020)

As Table 10 depicts, the majority of the respondents 83(67.4%) observed that they always made time to study for quizzes and exams while 34(27.6%) of the respondent said they sometime made time for it. 81 of the respondents representing 65.9% always paid attention in class whereas 40(32.5%) sometimes paid attention. The study also revealed that the majority of the medical students 101(82.2%) regularly attended classes with a few 4(3.3%) stressing otherwise. In attending clinical, the study depicted that the majority of the medical students 107(87%) were involved in clinical as compared to those who did not make time for it.

It is also important to stress that medical students 66(53.7%) sometimes had regular interactions with lecturers concerning their academics with 33( 26.8%) always having academic discussions with lecturers and 34(19.5%) who had never interacted with their lecturers at all. Going to lectures on time appeared to be a personal activity the medical students adhered to given that 91( 74%) of them said they were always on time for lectures. 29(23.6%) of the respondents indicated that they sometimes went for lectures on time-relation to following up on references suggested by lecturers in the library, it was observed that medical students did not always adhered to that. It was indicated that 62(50.4%) of the medical students argued that they sometimes visited the library to follow up on the suggested reading materials recommended by their lecturers. For the other half of the sampled population, 13(10.6%) of the respondents always did follow up of the recommended references while 22(17.9%) never followed up. In addition, the study revealed that medical students sometimes felt sleepy as classes were ongoing as 79(64.2%) of them attested to this. It was imperative to note that 33(26.8 %)

of the medical students always felt sleepy during class session while 11(8.9%) of them expressed otherwise.

Comparing the means and standard deviations of each of the personal related factors that influence their academic achievement, one could argue that among all the personal related factors, attending clinical regularly (mean=1.5, SD=0.75) highly determined their academic achievement as compared to the other factors.

In addition to this, paying attention in class (mean=2.11, SD=0.79) appeared to contribute to the personal factors that helped them in their academic achievement. This may imply that attending to lectures regularly coupled with paying attention to lecturers could transform in the academic achievement, all things being equal. In fact, a careful look at the data distribution, with respect to the means and standard deviations, depicted that medical students were not consistent with their responses in relation to having time to study for their quizzes, having regular interaction with lecturers, available for group discussions and feeling sleepy during lecture period. This is because the deviations from the mean was much wider and inconsistent as compared to the preceding factors.

The study went further to establish a relationship between personal related factors to their academic achievement with the use of spearman ranked correlation. Like the school related factors, the spearman correlation test helped to determine the strength and direction of the relationship between the dependent variable (current grade point average) and independent variable (personal related factors). Following the same assumption that the probability value (p value) less than the significant value means the test is significant

while the probability value (p value) greater than the significant value means the test is not significant (Ofori & Dampson, 2011), Table 11 showed that the probability value (p value) of 0.092 is less than or falls outside the significant value of 0.05; hence the test is not statistically significant at 0.05.

**Table 11: Spearman Correlation between Personal Related Factors and CGPA**

| | | | Current Grade Point | Personal factors |
|---|---|---|---|---|
| Spearman's rho. | CGPA | cc | 1.000 | 0.152** |
| | | Sig. (2-tailed) | 0.092 | |
| | | N | 123 | 123 |
| | Personal factors | cc | 0.152** | 1.000 |
| | | Sig. (2-tailed) | 0.092 | |
| | | N | 123 | 123 |

Source: Fieldwork, Asibu (2020)
**Correlation is significant at the 0.05 level (2-tailed)

To test for the strength and direction of the relationship between current grade point average (CGPA) and personal related factors, the spearman correlation have abbreviations of correlation coefficient (cc), commitment (commit), sample size (N), significant (sig.) and correlation (corr.) that depicted a weak positive correlation. The data analysis in Table 11 showed that the current grade point average in the first row and that in the first column gives a correlation coefficient of 1. The intersection between current grade point average in the first row and personal - related factors in the second

column gives the correlation coefficient (cc) of 0.152*, its p-value, Sig. (2-tailed) is 0.092 and N (sample size) is 123.

The explanatory footnote provided at the bottom of Table 11 which reads: **correlation is significant at the 0.05 level (2-tailed). This indicates that the correlation coefficient of 0.152*, the relationship between current grade point average and personal related factors is not statistically significant. Thus, although medical students stated these personal factors in the descriptive analysis (Table 10) as influencing academic achievement, the further analysis indicates that such a relationship (positive but weak) is not significant. This also implied that, for all medical students, personal factors do not necessarily influence academic achievement (current grade point average). A plausible explanation to this effect could be that medical students considers the influence of school related factors to academic achievement more than the personal related factors.

To obtain further details on the personal factors that affect academic achievement, responses from the participants were consistent with the information gathered from the descriptive data. Some participants shared their experiences and explained that to achieve academic success did not only depend on school related factors, but on the individual as well. Another respondent from medical school stressed:

> *I don't have time for myself at all because I stay outside campus and I have a lot to do at home so it doesn't make me have time to learn the way my friends are doing. I stay in Cape Coast and I don't have money so my parents told me to come to school from home…..hmm.*

*staying at home makes learning difficult for me. If I had been on campus at least I can make use of the library as my friends have been doing. But it is well.*

A similar sentiment was shared by a respondent from medical school who intimated:

*I stay outside campus and I am trying hard to make it because it's not easy to study from home. I come to school every day to class. Sometimes I miss class because of family issues. But I am planning of studying on campus next year to make up…. mmmn*

Another respondent from medical school had a contrary experience to the initial sentiments stressed:

*Errr In my case I know I am a student and my parents have invested in me so I study hard, make sure I am at every lecture and do my best to make good grades you see... Medicine is not an easy discipline oo and I was told it requires a lot of discipline to pass. Some I have joined a group studies where we discuss issues we don't understand in class and it has helped us so far and I have really benefitted.*

As assessment of the narratives on the personal factors that affect the academic achievement depicted that medical students had to maintain some levels of discipline if they were to achieve academic success. It imperative to add that medical students living outside campus found it extremely difficult to maintain the discipline required to progress in the medical school as

compared to those on campus. Strategies such as group discussions, making use of the library and attendance to lectures were very important moves medical students need to make to ensure that they were on the right trajectory to academic achievement. These were initiatives by the medical students to achieve academic success.

**Table 12: Pearson Correlation on CGPA, studying and sleeping**

| | | CGPA | Average studying hour in working day | Average studying hour on weekend | Average hours of sleep per day |
|---|---|---|---|---|---|
| CGPA | Pearson correlation | 1 | | | |
| | Sig. (2 tailed) | | | | |
| | N | 123 | | | |
| Average studying hour in working day | Pearson correlation | 0.177 | 1 | | |
| | Sig. (2 tailed) | 0.046 | | | |
| | N | 123 | 123 | | |
| Average studying hour on weekend | Pearson correlation | 0.089 | 0.438** | 1 | |
| | Sig. (2 tailed) | 0.326 | 0.000 | | |
| | N | 123 | 123 | 123 | |
| Average hours of sleep per day | Pearson correlation | 0.185* | 0.111 | 0.261** | 1 |
| | Sig. (2 tailed) | 0.04 | 0.220 | 0.004 | |
| | N | 123 | 123 | 123 | 123 |

Source: Fieldwork, Asibu (2020)
**. Correlation is significant at the 0.05 level (2-tailed).

# DISCUSSION OF FINDINGS

## Introduction

This section discusses the findings of the study. The finding of the study is related to the empirical and theoretical literature. It would either confirm or contradicts theories relating to factors influencing the academic achievement of the students. The section would first discuss the findings in relation to the specific objectives of the study: the socio-demographic background characteristics of medical students, school and personal related factors influencing academic achievement and subsequently relate them to the works of other scholars.

To begin with the socio-demographic characteristic of the respondents, the section will deal with the sex, age and income. With regard to the sex of the medical students and academic achievement, the current study showed that females experienced better academic achievement more than their male counterparts. This finding confirms Chambers and Schreiber (2004) assertion that girls are showing better achievement than boys in certain instances. This is also in line with the summary of James and Chilvers (2001) that females are highly significant predictors of success in obtaining honours at Bachelor of Medicine, Bachelor of Surgery (BMBS) in the cohorts between 1986 and 1990. However, these findings contradicted Frischenschlager et al. (2005) study that found males predicting academic success more than females.

Other typical examples that corroborate with the findings of the current study were findings reported by Khwaileh and Zaza (2011) who in a sample of 26,122 students in Jordan University, found that female students consistently recorded higher GPAs in a 5-year period. In a study involving 10,343 students

at the Middle East Technical University, Turkey, Dayioglu and Turut-Asik (2007) also found that female students had a higher cumulative grade point average (CGPA) (2.70) are compared to male students (2.48).

Age was not statistically significant to the academic achievement of the medical students. The finding of the study agreed with Yates and James (2006) that mature age (>21 years) and the possession of a previous degree were not predictive factors for academic achievement. Apart from that, the finding of the current study contradicted a number of studies that saw a statistically significant relationship between age and academic performance. For example, the current study contradicted James and Chilvers (2001) study which discovered that older, mature or graduate entrants are more successful at obtaining a first-class degree at Bachelor of Medical Sciences for the whole cohort. Similarly, Frischenschlager et al. (2005) as well as Richardson (1995) found evidence that maturity and intrinsic motivational structure were linked to superior academic performance. Other studies conducted by Dayioglu and Turut-Asik (2007) concluded that there was a significant relationship between age and academic achievement suggesting that older age is associated with lower CGPA. This contradicts findings reported by Sheard (2009) which showed that mature-age students had higher final GPAs than younger undergraduates.

Also, the current study found that family income was not a predictive factor to the academic achievement of the medical students in that there was no statistically significant difference between the two variables. This contradicts the assertion that parental and family income levels have positive correlations with the students quality of achievement (Jeynes, 2002; Mitchell

& Collom, 2001). The current study also diverges from Duke's (2000) and Eamon's (2005) assertions that the achievement of the students is negatively correlated with the low-income level of parents because it hinders the individual in gaining access to sources and resources of learning. Moreover, Catherine (2015) found that income level of parents especially those with high incomes have a significant impact on academic performance of students within the Kitale Municipality of Kenya. The current study however confirms Garzon's (2006) and Kirkup's (2008) assertion that students with high level of income perform are better than the middle-class students and the middle-class students perform better than the students with low level of income.

The second objective of the study was on the school related factors that influenced academic achievement of medical students. The study found that among other things, the knowledge of the lecturers of the course influenced their academic achievement. This finding corroborates Lockheed and Verspoor's (2001) study that a teacher's knowledge of the subject matter coupled with textbooks, instructional time and other learning materials have great influence on learning and influence the academic performance of students. This is also similar to Adediwura and Tayo's (2007) argument of the existence of high correlation between what the teachers' subject knowledge, what they teach students and higher academic achievement. In line with the current study finding, Adediwura and Tayo (2007) further accentuated that the ability of a lecturer to teach effectively and result in a positive impact on the academic achievement of students depends on the in-depth knowledge the teacher possesses. Therefore, a lecturer whose understanding of the subject

content uses clearer expressions comparative to those whose backgrounds of subjects mastery are weaker.

The study also found that lecturers in the medical school attended classes frequently. This supports Manlove and Elliot cited in Muzenda's (2013) study that the overall academic performance of students is determined by the teacher's attendance to class. Moreover, further analysis from the research revealed a correlation between the teacher attendance and the student achievement. Jacobs & Kritsonis (1997) cited in Muzenda's (2013) study revealed that teachers who posted the highest level of absenteeism recorded the lowest scores of students' academic performances. The findings are consistent with the previous studies by Eggen & Kauchak (2001), Schacter & Thum (2004) and Starr (2002) who found high positive correlations between the teachers competence (attendance and attitude to work) and the students' academic achievements.

In relation to the lecturer's attitudes to work, the study revealed that they have a positive attitude and this confirms Eggen and Kauchak's (2001) study which indicated that positive teachers' attitudes are fundamental to effective teaching and students' academic achievements. In addition, Brunning, Schraw and Ronning (1999) argued that teachers' attitudes could facilitate a caring and supportive classroom environment and the elements of these attitude include caring, enthusiasm, teaching efficacy, democratic practices to promote students' responsibility, effective use of lesson, constructive interaction with learners and high expectation to promote learners' motivation.

In relation to the lecture rooms and environment, 87 percent and 78 percent of the medical students argued that it was comfortable and conducive for respectively the academic work and played an important role in their academic achievement.

This supported the Mphale and Mhlauli's (2014) assertion that positive classroom environment was a determining factor of academic performance. This also corroborated Osei-Mensah's (2012) argument that the environment which a school was located had an impact on the students' academic performance.

Personal related - factors and academic achievement was the third objective of the study. It was evident from the study that medical students formed groups for discussions, made use of the library and attended other tutorial session as initiative to achieve academic success. These actions be likened to the self-determination theory expounded by Deci and Ryan (2000) and Kusurkar, Ten Cate, Van Asperen and Croiset, (2011) who argued that autonomous motivation associated with deep learning, feeling autonomy, feeling competence and feeling belonging to a group would make a person want to achieve. Thus, the fulfilment of these needs in a learning environment could move a student towards autonomous motivation to obtain academic achievement.

One of the important issues that emerged in the study was whether medical students paid attention in class or not. The study found that the majority of the medical students (66%) always paid attention in class. This confirms Chupinit's (2007) argument that paying attention in class was positively related to academic achievement with the statistical significance at

the level of .01. With regard to attending class, the current study revealed that the majority of the medical students (82.2%) attended class regularly. This finding confirms Kamwang's (2003) analysis that poor academic achievement might result from irregular class attendance, lack of preparation before class, lack of class attention. In other words, high academic performance might emanate from regular class attendance, preparation before class and paying attention in class.

It was found that medical students (53.7%) sometimes had regular interactions with lecturers concerning their academics. This contradicted with the assertion that regular interaction between instructors /students positively influenced academic achievement of students in Songkhla Province (Jankoop, 2003). Also, Laeheem (2007) argued that the interaction between instructors /students held a positive relation to students' academic achievement with the statistical significance at the level of .001, and the academic achievement could be predicted with the interaction between instructors /students significantly at .001.

The finding of the study depicted that 74 percent of the medical students were always on time for lectures, but it was observed that medical students did not always adhere to following up on references suggested by lecturers in the library. This is because almost half (50%) of the medical students sometimes visited the library to follow up on the suggested reading materials. In addition, the study revealed that medical students sometimes felt sleepy as classes were ongoing as 64.2 percent of them attested to this. A general assessment of preceding observation showed that apart from going for

lecture on time, medical students did little in terms of searching for additional information at the library and most often felt sleepy in class.

These observations suggested inform the attitudes of the medical students to school and hence affect their academic performance and this is similar to other study findings. As Kpolovie, Joe, and Okoto (2014) put it, the students' attitudes to school and their interest in learning influence their academic performance. For example, Awang, Ahmad, Bakar, Ghani, Yunus, Ibrahim and Rahman. (2013), found that there was a statistical significance relationship between the students' attitudes towards their learning and academic performance. Janssen and O'Brien (2014) argued that although students learning has an impact on academic performance, it is indirect.

In terms of attendance to clinical regularly, the study showed that attending clinical regularly (mean=1.5, SD=0.75) highly determined their academic achievement and this was confirmed by the overwhelming majority (81.3)of the medical students who were by far always available for clinical teachings. This confirms Komakech's (2015) argument that there is a positive relationship between students' attendance to school and academic performance. Similar findings were shared in Nigeria by Oghuvbu (2017) who had the same result as Komakeck. He found that there is a positive correlation between class attendance and academic performance. Stanca (2010) also found that class attendance has a statistically significant impact on academic performance. Several studies have also found the same relationship (Aden, Yahye, Dahir, 2013).

Linking the social cognitive theory to the study findings, it can be argued that learning as an active cognitive process in the mind is influenced by

factors such as sex (male or female), monthly allowance, personality trait of the medical students, area of residence, environmental condition and attendance in the classroom, positive interaction with lecturers, knowledge of lecturers on the subject matter as well as attendance of lectures. All these traits fall under the personal, school and socio-demographic factors might influence the academic achievement of the students.

The cursory look at the finding suggest that academic achievement is attainable based on a number of factors ranging from microsystem (individual) to mesosystems to macrosystem (institution). The personal factors such as paying attention in class, attending lectures and group discussion among others, the school factors such as available books, infrastructure, knowledge of lecturers and so on and the meso factors which include the interaction between medical students, the lecturers and monthly allowance from the guardian or family members all play a role in academic achievement. As parents, lecturers and the university at large play their roles to enhance the welfare of the medical students, medical student correspondingly perform in response to the support they have received from other stakeholders.

# CHAPTER FIVE

# SUMMARY, CONCLUSION AND RECOMMENDATION

## Introduction

This chapter presents a summary of the findings that emerged from the study and data analysis. The study examines the factors that influence the academic achievement of the medical students in the University of Cape Coast. The study was a descriptive research and quantitative data were collected from 123 medical students using a Likert-response schedule. Six respondents were interviewed in addition to the 123 respondents. It draws conclusion and makes recommendations to stakeholders and policymakers on how best they can help medical students improve their academic performance. This study will add to available literature and influence future research on academic achievement.

## Summary

The study addressed three specific objectives, namely to determine the socio-demographic characteristics that influence the academic achievement of the undergraduate medical students; identify school related factors that influence high academic achievement among medical students in UCC; evaluate students' personal factors that influence high academic achievement among medical students in UCC.

With regard to the socio-demographic characteristics that influence the academic achievement, key findings showed that:

1. The monthly allowance of the medical students determined academic achievement in the sense that those with higher monthly allowance

were more likely to perform better than those with lower monthly allowance.

2. Medical students who lived on campus stood a chance of higher academic achievement than those who stayed outside campus.
3. Female medical students were in a better position to achieve academic success compared to male medical students.
4. Age, marital status, family income and level of students were not statistically significant in relation to academic achievement.
5. Medical students actively participated in all academic activities. However, the study showed that the majority of them were consciously and actively involved in clinical teachings.
6. With reference to clinical teachings, single medical students always attended to this activity more than the married medical students.
7. It was also revealed that fourth year medical students attended clinical teaching always as compared to those in other year groups.

The findings on school related factors and academic achievement among medical students include:

1. The majority of medical student agreed that school factors played a role in their academic achievement.
2. Among all the factors that influenced academic achievement, the knowledge of lecturers (mean=4.3, SD=0.79) about the courses they taught was an important factor medical student to academic achievement as compared to other factors.
3. In addition, medical students viewed attendance to lectures by lecturers as an immediate factor following the knowledge lecturers possessed. In

as much as they possessed the knowledge, lecturers should be available to shared it in class.

4. The study depicted that medical students could manage without internet accessibility as far as lecturers possessed the knowledge about the subject matter or course and attended lectures accordingly.
5. There is a strong positive significant relationship between current grade point average and school related factors. A favourable school related factor could lead to an increase in CGPA all things being equal.

With personal factors and academic achievement of medical students, some main findings were made:

1. Attending clinical regularly played an important role in the academic achievement of medical students.
2. Medical students also revealed that paying attention in class was another factor that could lead to academic achievement.
3. With a much wider standard deviation medical students were not too sure whether having time to study for their quizzes, having regular interaction with lecturers, available for group discussions and feeling sleepy during lecture period could result to higher academic achievement.
4. Although medical student saw personal factors as indicators of academic achievement, the further analysis indicates that such a relationship is not significant.
5. The study showed that there is a positive weak statistically significant relationship between hours spent on studies in a working day and current grade point average. Thus, as medical students spend longer

hours on studies, it increases their current grade point average but not that much.

6. The results also depict average hours of sleep have a significant relationship with CGPA, with a *p*-value of 0.185 with a significant level of 0.04. This indicates a positive weak relationship between the hours of sleep and academic achievements.

**Conclusions**

The following conclusions were drawn in respect of the study objectives:

1. The financial standing of students, in a form of allowances received from the family, guardians or government, plays an instrumental role in the academic achievement of student at the tertiary level.
2. The area of residence of medical students is an important determinant of their academic success since those who lived on campus performed well academically than those who lived outside campus.
3. Female medical students have experienced better academic achievement more than male medical students in the University of Cape Coast.
4. Medical students place much importance and relevance to clinical teachings as compared to tutorials, lectures and practical sessions.
5. School related factors such as the knowledge of lecturers and attendance to lectures by lecturers were the dominant factors that influenced the academic achievement of medical students

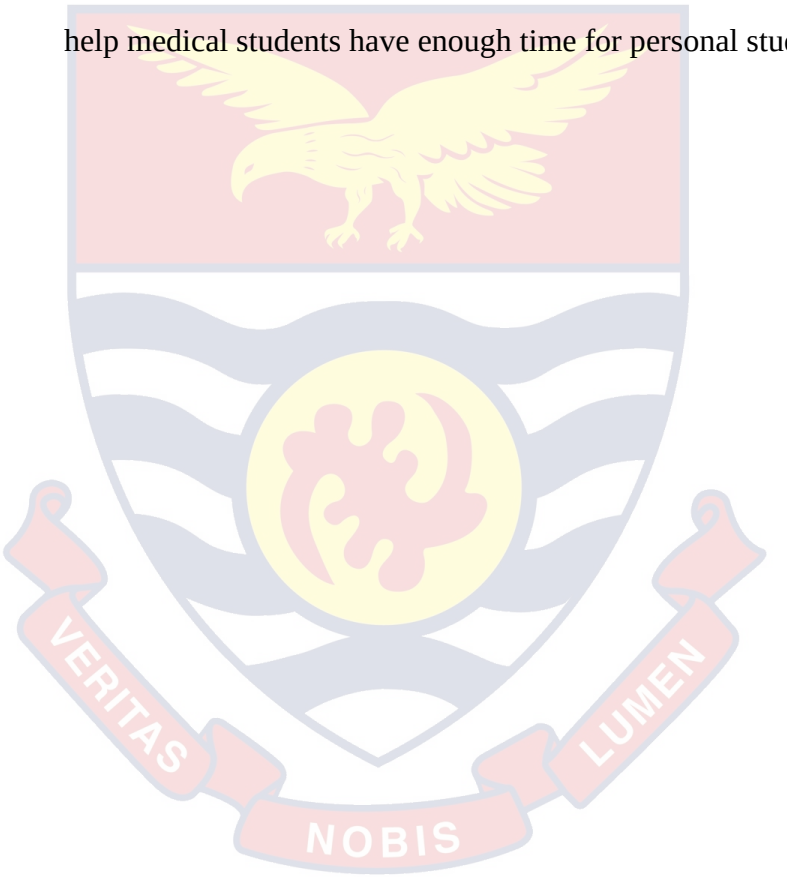
6. School related factors were statistically significant in the influence of academic achievement of medical student relative to personal factors which was not significant.
7. The hours spent on studies in a working day have a positive influence on current grade point average but not that much.

**Recommendations**

Based on the conclusions drawn on medical students' academic achievement, the following recommendations are made to the management of University of Cape Coast as well as students in the university:

1. The study concluded that school related factors are important to the academic achievement of medical students. Since the participant mention of lack of infrastructure, the study recommend that the University of Cape Coast build more facilities including the provision of logistics to facilitate medical teaching and learning.
2. The university should also introduce creative methods of teaching to make the subject more interesting to medical student. The audio-visual system in addition to the traditional face to face teaching and learning at the School of Medical Sciences to enhance the knowledge base of medical students.
3. The university should identify needy medical students and make special accommodation provisions to those who are off campus so that they can afford accommodation on campus, as this will eventually aid their educational development.
4. The School of Medical Sciences and the university should revise the preclinical syllabus to link theory with practice.

5. The counselling department of the School of Medical Sciences should have a one on one counselling section with male and female medical students in order to know their academic problems and address them as such.
6. Since studying during the working week has a positive influence on the CGPA of medical students, the management of the School of Medical Science should adjust the time frame allotted for medical subjects to help medical students have enough time for personal studies.



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## APPENDIX

## UNIVERSITY OF CAPE COAST

## QUESTIONNAIRE

I am a graduate student with the Department……., University of Cape Coast, collecting data for my thesis on the **"Factors that influence the academic achievement or performance of medical students in the University of Cape Coast"**. I will be most grateful if you could take time off your busy schedules to answer this questionnaire as candidly as you can. No name is needed and your responses will be treated with utmost confidentiality. Please tick [√] and fill the space where necessary

**Section A: Background of respondents**

1. Sex a) Male [ ] b) Female [ ]
2. Age……..
3. Marital status a) single [ ] b) Married [ ] c) Divorced [ ] d) Widowed [ ] e) Cohabiting [ ]
4. Level of student …….
5. What is your family monthly income? a) below GH¢ 200 [ ] b) GH¢201-400 [ ] c) GH¢401-600[ ] d) GH¢601-800 [ ] e) GH¢801-1000 [ ]f) above GH¢1000 [ ]
6. What is your monthly allowance? a) below GH¢ 200 [ ] b) GH¢201-400 [ ] c) GH¢401-600[ ] d) GH¢601-800 [ ] e) GH¢801-1000 [ ]f) above GH¢1000 [ ]
7. Are you living a) on-campus [ ] b) off campus [ ]?
8. Average studying hours in the working week per day? .....
9. Average studying hours during the weekends per day…….

10. Average hours of sleep per day ……..

11. What is your current grade point average (CGPA)……?

**Section B: Assessment tools used in evaluating student's academic achievement**

*Check the answer that best describes each statement below.*1-Yes, 2- No

| **Statements** | **Yes** | **No** |
|---|---|---|
| I am assessed based on my class participation | | |
| I am assessed based on quizzes | | |
| I am assessed based on my clinical | | |
| I am assessed based on my grades | | |
| I am assessed based on assignments | | |
| I am assessed based on project works | | |

Others, specify ……

**Section C: School related factors that influence high academic achievement**

*Check the answer that best describes how much you agree or disagree with each statement below.*1-strongly disagree (SD), 2-disagree (D), 3-neutral (N), 4-agree (A), 5-strongly agree (SA)

| **Statements** | **1 SD** | **2 D** | **3 N** | **4 A** | **5 SA** |
|---|---|---|---|---|---|
| There are available books at the library to help us study | | | | | |
| Available internet accessibility to aid learning | | | | | |
| Classroom is comfortable enough for teaching and learning | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| School environment is conducive for learning | | | | | |
| The school infrastructure and materials are in good condition for learning | | | | | |
| The lecturers are frequently attending class | | | | | |
| The lecturers have more knowledge on the course | | | | | |
| Lecturers have positive attitude to work | | | | | |

**Section D: Personal factors that influence high academic achievement**

*Check the answer that best describes each statement below.*

1-Always (A), 2-Almost Always (AA), 3-Sometimes (S), 4-Never (N)

| **Statement** | **1 A** | **2 AA** | **3 S** | **4 N** |
|---|---|---|---|---|
| I have time to study for my quizzes and exams | | | | |
| I pay attention in class always | | | | |
| I attend classes regularly | | | | |
| I (will) attend clinical regularly | | | | |
| I am always on time for lectures/classes | | | | |
| I have regular interaction with lecturers concerning academics | | | | |
| I follow up on library references suggested by lecturers | | | | |
| I am always available for group discussions | | | | |
| I always feel sleepy in the classroom | | | | |

**Section D: Social and lifestyle characteristics**

1. Hours spent on TV, movies and music in a day

   a) Less than 2 hours [ ] b) 3-4 hours [ ] c) more than 4 hours [ ] d) do not spent time on such activities [ ]

2. Hours spent on social networking/chatting online (not related to studies)

   a) Less than 2 hrs [ ] b) 3-4 hors [ ] c) more than 4 hours [ ] d) do not use it [ ]

3. Time dedicated for hobbies

   a) Every day [ ] b) once a week [ ] c) once a month [ ] d) no hobby [ ]

4. Time spent with friends

   a) Every day [ ] b) less than 3 times per week c) more than 3 times per week [ ]

5. Time spent on extracurricular activities

   a) Less than 5 hours per week [ ] b) more than 5 hours per week [ ] c) 1-2 events per year [ ] d) none [ ]

6. Attending medical conferences

   a) More than 4 events per year [ ] b) less than 4 events per year [ ] c) none [ ]

7. Regarding consumption of beverages (coffee, Cola, Red Bull, energy drink etc)

   a) Regularly consume such beverages once every day [ ]

   b) Regularly consume such beverages several times every day [ ]

c) I do not consume caffeinated drinks [ ]

**Section E: Study habit: tick as many as possible**

1. I prefer to study

   a) Alone [ ] b) with one of my colleagues [ ] c) in groups [ ]

2. Which technique do you prefer as a medical student?

   a) Note forming [ ] b) highlighting [ ] c) summarising [ ]
   d) recording [ ] e) reading loudly [ ] f) reading silently
   f) reading and memorising [ ] g) only memorising [ ]

3. Which of these techniques is/ are the most effective?

   a) Note forming [ ] b) highlighting [ ] c) summarising [ ]
   d) recording [ ] e) reading loudly [ ] f) reading silently
   f) reading and memorising [ ] g) only memorising [ ]

4. Rate the following according to your attendance (tick the box available)

| **Activity** | 100% | 75% | 50% | 25% | I do not attend |
|---|---|---|---|---|---|
| Lectures | | | | | |
| Tutorials | | | | | |
| Practical sessions | | | | | |
| Problem-based learning | | | | | |
| Clinical teaching | | | | | |

Thank you for your time

**UNIVERSITY OF CAPE COAST**

**INTERVIEW GUIDE WITH KEY INFORMANTS**

I am a graduate student with the Department of ……, University of Cape Coast, collecting data for my thesis on the **"Factors that influence the academic achievement or performance of medical students in the University of Cape Coast"**. I will be most grateful if you could take time off your busy schedules to respond to these questions as candidly as you can. No name is needed and your responses will be treated with utmost confidentiality.

**Demographic characteristics of participants**

1. Age
2. Marital status
3. Position

**Assessment tools used in evaluating student's academic achievement**

4. How are medical students assessed?
5. Is the mode of assessment effective? If yes why, if no why?
6. How would you assess the performance of medical students? Based on (gender, sex, marital status, level, place of residence etc.)

**School related factors that influence high academic achievement**

7. How does school related factors affect the academic performance of student positively?
8. How does school related factors that affect the academic performance of student negatively?
9. How does personal related factors that affect the academic performance of student positively?

10. How does personal related factors that affect the academic performance of student negatively?
11. How are motivate lecturers to ensure that they deliver on the job?
12. In your view, how can the performance of medical students be improved?