UNIVERSITY OF EDUCATION, WINNEBA

STRESS MANAGEMENT AMONG STUDENT-TEACHERS WITH ORTHOPAEDIC IMPAIRMENTS IN COLLEGES OF EDUCATION IN THE EASTERN REGION, GHANA

KENNETH KOFI DARKO

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KENNETH KOFI DARKO
(9160150005)

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DECLARATION

STUDENT'S DECLARATION

I, Kenneth Kofi Darko, declare that this thesis, with the exception of quotations and references contained in published works which have all been identified and duly acknowledged, is entirely my own original work, and it has not been submitted, either in part or whole, for another degree elsewhere.

Signature : ……

Date : ……

SUPERVISORS' DECLARATION

We hereby declare that the preparation and presentation of this work was supervised in accordance with the guidelines for supervision of thesis/dissertation/project as laid down by the University of Education, Winneba.

Dr. Yao E. Yekple (Principal Supervisor)

Signature : ……

Date : ……

Professor Yaw Nyadu Offei (Co-Supervisor)

Signature : ……

Date : ……

DEDICATION

To my family and all student-teachers with orthopaedic impairments in Ghana.

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My deepest gratitude goes to God who provided all that was required to complete this work.

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ABBREVIATION

ADA	:	Americans with Disability Act
ADAA	:	Anxiety and Depression Association of America
BDI	:	Beck Depression Inventory
CADE	:	Convention against Discrimination in Education
CANTAB	:	Cambridge Neuropsychological Test Automated Battery
CESCR	:	Covenant on Economic, Social and Cultural Rights
CGPA	:	Cumulative Grade Point Average
CNS	:	Central Nervous System
CoE	:	Colleges of Education
CRC	:	Convention on the Rights of the Child
CRPD-UN	:	United Nations Convention on the Rights of Persons with Disabilities
CSEs	:	Core self-evaluations
CTAS	:	Children's Test Anxiety Scale
DRC	:	Disability Rights Commission
ED	:	United States of America, the Department of Education
FAPE	:	Free Appropriate Public Education
GES	:	Ghana Education Service
GHQ	:	General Health Questionnaire
HADS	:	Hospital Anxiety and Depression Scale
HEIs	:	Higher Education Institutions
IDEIA	:	Individuals with Disabilities Education Improvement Act
ISCED 4	:	International System of Classification of Education

MDD	:	Child and Anxiety and Depression Scale
MMPI	:	Minnesota Multiphasic Personality Inventory scales
NCEA	:	National Certificate of Educational Achievement
NCTE	:	National Council for Tertiary Education
PBL	:	Problem-based learning
PISA	:	Program for International Student Assessment
PL	:	Public Law
PRINCOF	:	Principals of Colleges of Education
PTC	:	Presbyterian Training College
SAT	:	Stanford Achievement Test
SDGs	:	Sustainable Development Goals
SMPP	:	Stress Management Pilot Program
STAF	:	Spielberger Trait Anxiety Form
STH	:	Somatotrophic Hormone
TED	:	Teacher Education Division
UDL	:	Universal Design for Learning
UiTM	:	University of Technology MARA
UN	:	United Nations
UNESCO	:	United Nations Educational, Scientific and Cultural Organization
US	:	United States of America
USAID	:	United States Agency for International Development (USAID)
WRAT 4	:	Wide Range Achievement Test 4

ABSTRACT

Globally, education policies and laws provide frameworks for a least restrictive education for all persons, including those with orthopaedic impairments. However, curriculum designers and implementers often lack an understanding of the stressors of these student and has occasioned insufficiencies in accommodations to ensure that these students attain their educational goals as much as practicable. The Study assessed the stressors that are experienced by student-teachers with orthopaedic impairments in colleges of education in Ghana. The study adopted the qualitative research approach and a phenomenological case study design. Data were generated using semi-structured interviews. Purposive sampling technique was used to identify the research sites while census sampling technique was used to determine the inclusion of the respondents. The techniques were employed to sample four (4) respondents from four (4) colleges in the Eastern Region of Ghana. Data generated were analysed qualitatively and thematically, and the results were presented in a descriptive form. Verbatim quotations were used to describe responses intermittently. It came out that the student-teachers with orthopaedic impairments encounter several forms of stressors. For instance, the students have financial burdens, labeling by regular students, and heavy course loads. Some of the sources of stress cited by the students include, but not limited to, execution of basic chores such as fetching water, participating in co-curricular activities, and the unfriendly nature of the colleges' physical environment. Some of the effects of the stresses confronting student-teachers with orthopaedic impairments include frequent change in behavior, abnormal and antisocial lifestyles including mood swings and other health issues. Additionally, there is loss in concentration, and excessive use of drugs. Among the coping strategies adopted by the students to surmount their challenges include use of sleep and relaxation techniques, and time management techniques. The study recommended that management of Colleges of Education have to make frantic efforts in sourcing scholarship schemes and other financial aids for the students with orthopaedic impairments while making the college environment accessible for all students, ensuring a multiplicity of social activities, and making water and accessible to all areas of their campuses.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Globally, over a tenth of students with disabilities in tertiary levels of education have a documented orthopaedic impairment as defined by the Americans with Disability Act (ADA). However, curriculum designers and implementers often lack an understanding of the experiences of these students. The situation has occasioned insufficiencies in curricular accommodations to ensure that these students attain their educational goals as much as practicable.

According to the Individuals with Disabilities Education Improvement Act (IDEIA), orthopaedic impairment is an impairment caused by congenital or environmental factors. It is caused by anomalies including diseases such as poliomyelitis and bone tuberculosis. It is also caused by other factors such as cerebral palsy, amputations, and fractures or burns that lead to contractures. It is further defined as a bone-, joint-, or muscle-related disability that is so severe that it negatively affects a person's educational performance. The condition may be caused by genetic abnormalities or acquired through other environmental factors that affect the normal functioning of bones, joints or muscles.

Since the physical conditions of students with orthopaedic impairments challenge their motor abilities, it is instructive for policy planners and implementers to leverage prudent measures to ensure a least restrictive school environment and to guide their inclusion in all curricular and co-curricular activities in the school. Students with orthopaedic impairments, like their regular peers, have rights to all levels of formal education. According to Bult, Verschuren, Lindeman, Jongmans, Westers, Claassen and Ketelaar (2017), the need for a guaranteed education for all persons, including those

with disabilities, is enshrined in the Universal Declaration on Human Rights which was adopted in 1948. After the declaration, the right to education was widely recognised and developed by several international normative instruments and was elaborated by United Nations (UN) bodies including the Covenant on Economic, Social and Cultural Rights (CESCR) of 1966, the Convention on the Rights of the Child (CRC) of 1989, the United Nations Educational, Scientific and Cultural Organization (UNESCO), and the Convention Against Discrimination in Education (CADE) of 1960.

In the United States of America, the Department of Education (ED) entreats all school districts to provide a "Free Appropriate Public Education" (FAPE) to each person with a disability who is in the school district's jurisdiction, regardless of the nature or severity of the person's disability. Under this regulation, all persons with disabilities within the jurisdiction of a school district are entitled to a free appropriate public education. The ED defines a person with a disability as "any person who has a physical or mental impairment which substantially limits one or more major life activities, and/or has a record of such an impairment". In the United States of America (US), an appropriate education may comprise education in regular classes, education in regular classes with the use of related aids and services, or special education and related services in separate classrooms for all or portions of the school day.

To be appropriate, education programmes for students with disabilities, including those with orthopaedic impairments, must be designed to meet their individual needs to the same extent as the needs of nondisabled students. This implies that persons with disabilities must be provided with an opportunity to participate in academic services that are equal to those provided to persons without disabilities (Bult, et al 2017). According to (Bult, et al 2017), these services may include co-curricular activities such as physical education, transportation, health services, recreational

activities, special interest groups or clubs sponsored by the school, and referrals to agencies that assist persons with disabilities and employment of students.

The European Commission (2013) observes that across Europe, there is a marked expansion in higher education participation, with a growing emphasis on the inclusion of previously under-represented groups including students with orthopaedic impairments and others from disadvantaged backgrounds. This expansion is supported by the European Union (EU) and national governments and is driven by both social justice and economic concerns. Policy documents, for example, the European Disability Strategy 2010-2020 (European Commission, 2013), the United Nations Convention on the Rights of Persons with Disabilities (UN, 2006) and the European Education Strategy 2020 (European Commission, 2013), subscribe to the view that it is necessary to increase participation of persons who, traditionally, did not have the opportunity to gain higher levels of academic qualification.

The case of education in the developed world is not the same in many parts of Africa. Several factors such as poor socio-economic backgrounds and poor governments' will to invest in the education of the disabled have left several students with orthopaedic impairments out of school. A few of these students who make it to some form of higher education continues to face challenges that range from infrastructural to manpower inequities (Imms, 2018). According to Imms, eighty per cent of the estimated one hundred and forty million out-of-school children in the world are persons with disabilities and girls. Notwithstanding various efforts made by world bodies to bridge the education gap between the western world and Africa, it appears persons with disabilities continue to lack requisite education. For instance, in a 2018 World Bank brief, it came to light that in 2017, the World Bank and United States Agency for International Development (USAID) established the Disability-Inclusive

Education in Africa Program where a $3 million trust fund was established to increase access for students, including those with orthopaedic impairments and to design and implement inclusive education programmes across Africa.

Existing literature examining the intersecting relationships between disability, education, social discrimination, and economic disadvantage implies that persons with disabilities are severely underrepresented in higher education in Ghana. Several pieces of research conducted by Appiagyei (2006), Kassah (2008), Naami, Hayashi and Liese (2012), and Naami (2015), suggest that many Ghanaians with disabilities are poor, lack education, and are unemployed. Naami, et al (2012), Ghanaians with mobility challenges in particular whose range of employment opportunities are limited due to the physical requirements of some jobs perceive inadequate education as a leading cause of unemployment and identify further education as the most important support. Accessible higher education is especially important to people with mobility disabilities in Ghana to break the cycle of poverty.

One of the major stressors of persons with orthopaedic impairments towards higher education is the physical environment of colleges. In Ghana, most tertiary institutions have buildings that are not disability-friendly. Factors such as the absence of ramps attached to buildings and the undulating nature of college lands suggest that colleges of education students with orthopaedic impairments encounter stressors that may impact negatively on their education. Riddell, Tinklin and Watson (2015) observe that physical access is a widely documented barrier for students with orthopaedic impairments in higher education and learning institutions. While in some developed contexts such as the United Kingdom and the United States, physical barriers are being reduced in postsecondary environments (Kendall, 2016; Yssel, Pak, & Beilke, 2016), they persist in developing contexts with limited resources. In Ghana, the existing body

of research documents the widespread nature of physical access challenges experienced by people with disabilities in colleges of education, especially those with mobility disabilities. People with disabilities have daily struggles in accessing the buildings of colleges of education (Edusei, 2011).

Teacher education plays a crucial role in preparing individuals to facilitate the teaching and learning process in schools. The European Commission (2012) determined that "within educational institutions, teaching professionals are the most important determinants of how learners will perform; and it is what teachers know, do and care about that matters (Newman, 2019). Teacher education in Ghana dates back to 1835 when the first training college, the Presbyterian Training College (PTC) was established in Akropong-Akuapim in the Eastern region of Ghana. Currently, there are forty-six and five public and privately-owned colleges of education respectively. These colleges have a core mandate to produce teachers for basic education.

Over the past forty years, teacher education in Ghana has undergone several modifications. These modifications are a result of policy changes that are aimed at producing well-trained teachers to meet the educational needs of the country at various times. These changes have resulted in the production of a different cohort of teachers with different types of certificates (Anamuah-Mensah, 2006). Colleges of education, formerly known as Teacher Training Institutes, initially offered 2-year Post-Middle Certificate "B" programmes, followed by 4-year Post-Middle Certificate "A" and 2-year Post–Secondary Certificate "A" programmes. The 2-year program was later extended to a 3-year program, which ran alongside the 4-year certificate "A" programmes until it was curtailed in the 1980s (Addo-Obeng, 2008 in Newman, 2019).

In the early 2000s, following a comprehensive review of the educational system in Ghana, the Government published a White Paper and declared that "all teacher training colleges will be upgraded into diploma-awarding institutions and be affiliated to the education-oriented universities" (Government of Ghana, 2004). In this regard, 38 teacher training colleges operating at a level equivalent to level 4 of the International System of Classification of Education (ISCED 4) were re-designated as Colleges of Education (CoE) to offer tertiary education in 2008 (Newman, 2019).

Before their elevation and re-designation as tertiary institutions, teacher training institutions were regulated by the Ghana Education Service (GES) and were directly supervised by the Teacher Education Division (TED), a division of the Ghana Education Service. Thus funding, appointment of staff and determination of requirements to enrolment in the institutions were the responsibilities of the GES. However, the assessment and certification of the products of TTIs have been the responsibility of the Institute of Education (IoE) of the University of Cape Coast. The IoE has over the years collaborated with the Teacher Education Division to develop and constantly evaluate the curriculum of pre-university teacher education in Ghana (Opare, 2008).

The Colleges of Education Act, Act 847 was passed to give legal backing to the new status of the institutions in 2012 and were been placed under the National Council for Tertiary Education (NCTE), being the government agency responsible for the regulation of tertiary education institutions in the country. Newman (2019) observes that since the re-designation of TTIs as colleges in 2008, the institutions have faced. According to Acheampong (2018), colleges of education have not done enough reviews on the types of services and accommodations required to support students with motor

challenges since the colleges are run with some sort of militarized training embedded in them.

The college of education system is required to give students with motor challenges greater access to public education, establish an infrastructure for educating them, and promote greater inclusion of persons with disabilities, including those with orthopaedic impairments, alongside their nondisabled peers. According to Agnihotri, Gray, Colantonio, Polatajko, Cameron, Wiseman-Hakes and Keightley (2012), many problems such as over-and under-identification of certain subgroups of students, delays in identifying and serving students, and bureaucratic, regulatory, and financial barriers that complicate the program. More importantly, Agnihotri (2012) shows that students with various forms of physical disabilities are mostly challenged by the conditions of the school environment and therefore lag behind their non-disabled peers in educational achievements and are more likely to drop from college.

Meanwhile, like other students, college students with orthopaedic impairments are faced with excess challenges that has health implications for them (Kaplan, et al, 2010). In the view of Kaplan, et al, (2010), the challenges may lead to chest pains, rapid heartbeat, overeating, stomach upset, short temper and anxiety. Additionally, stressed students may engage in unhealthy behaviours like smoking, gambling, excessive drinking and overeating or skipping meals. Additionally, Kaplan, et al (2010) contend that school-related challenges is a widespread phenomenon among students with orthopaedic impairments and has been shown to impact negatively on students' academic performance and emotional well-being and contributes to school failure or dropouts. In the view of Teicher, et al, (2010), school-related challenges is often caused by restrictive conditions of school environments. In most cases, the school environment

is valued as the most significant, and therefore, sources of student challenges within this context may be especially evocative and disruptive (Teicher, et al, 2010).

Common educational researches direct that intense negative emotions, such as anxiety and fear of examinations or depression (Valiente, Swanson, & Eisenberg, 2012) can have adverse effects on cognitive processing and impaired learning performances. As a result, there is a growing interest in, and knowledge about the interplay of mood, emotions, and academic works. D'Mello and Graesser (2012) contend that one way to study the effects of such emotional states on students with orthopaedic impairments is to investigate how a stressful academic event can induce a specific mood, which in turn affects performance and learning.

1.2 Statement of the Problem

Global education policy directives such as the UN Convention on the Rights of Persons with Disabilities (CRPD-UN, 2006) and the UN Sustainable Development Goals (SDGs; UN, 2015) promote equal access to all levels of education for all, including persons with disabilities. Ideally, all school environments, including colleges of education, need to be least restrictive and support formal education. However, college procedures, from enrolment to graduation, seem to be unfavourable for individuals with orthopaedic and other physical impairments. It is observed that most colleges in Ghana lack the requisite adaptations and accommodations needed to cater for the physiological and anatomical abilities of students with orthopaedic impairments.

While some classes are located on the second and third floors, most steep walkways are not provided with ramps. Alternative sources of water in most colleges are located far from the halls of residence. This is an indication that any student with mobility challenges would be stressed under such conditions juxtaposed with their

"regular" peers. What is not known is how these students manage these situations in the colleges since that can affect their academic lives negatively.

Additionally, a search through libraries, journals, and books, indicate the abundance of studies on the stress among students with orthopaedic impairments in colleges of education in Ghana (Naami, 2019; Agyekum, 2021), however, studies on stress among student-teachers with orthopaedic impairments were not sighted.

The aforementioned observations about student-teachers with orthopaedic impairments in colleges of education gave the researcher the impetus to conduct a study to find out the nature of stress and their management among students-teachers with orthopaedic impairments and ascertain the mechanisms by which they surmount these stressors.

1.3 Purpose of the study

The purpose of the study was to examine the stressors student-teachers with orthopaedic impairments encounter in colleges of education in Ghana and how they are managed.

1.4 Objectives of the study

The study sort to:

1. Investigate the kinds of stressors student-teachers with orthopaedic impairments encounter in Ghana
2. Establish the sources of stress among student-teachers with orthopaedic impairments.
3. Ascertain the effect of stress on the academic wellbeing of students with orthopaedic impairments.

4. Establish how students-teachers with orthopaedic impairments manage their stresses.

1.5 Research questions

The following research questions were used to drive the study:

1. What kinds of stress do student-teachers with orthopaedic impairments encounter in Ghana?
2. What are the sources of stress among student-teachers with orthopaedic impairments?
3. How do stress influence the academic performances of student-teachers with orthopaedic impairments?
4. What stress management strategies are adopted by student-teachers with orthopaedic impairments?

1.6 Significance of the study

The results of the study will shed light on how students with orthopaedic impairments in the selected colleges of Education manage their stresses. This valuable information will enable authorities of respective colleges to implement measures and provide support for this specific group of students.

It is crucial that the minister in charge of tertiary education remains informed about the significant challenges encountered by student-teachers with orthopaedic impairments. These challenges should inform policy decisions, such as making adapted physical education compulsory in Colleges of Education.

Furthermore, the study's findings will assist counsellors in colleges of education in understanding the impact of stress on the academic performance of student-teachers with orthopaedic impairments. The empirical data gathered will aid in developing effective support strategies for the overall well-being of these students, allowing counsellors to guide them in adopting efficient learning strategies.

Additionally, it is anticipated that the study's findings will enlighten the Principals of Colleges of Education (PRINCOF) about the need to adapt physical infrastructure and provide amenities that cater to the mobility needs of student-teachers with orthopaedic impairments. For instance, PRINCOF may recognize the importance of establishing scholarship schemes and offering financial aids specifically for students with disabilities, including those with orthopaedic impairments.

Finally, the results of this study will contribute to the existing body of literature, filling a gap in research on student-teachers with orthopaedic impairments. It will provide valuable insights for researchers interested in conducting similar studies, thus expanding knowledge in this area.

1.7 Delimitation of the study

The study focuses on the Eastern Region of Ghana given the high number of colleges and the similarities shared among them. Out of the five colleges in the region, four were included in the study, as the fifth college faced topography challenges that hindered access for students with mobility impairments. The research specifically focuses on students with physical impairments, as they are believed to face significant challenges within the college environment. The selected colleges in the Eastern Region were chosen because they possess similar characteristics in terms of staff qualifications,

facilities, administrative systems, and curriculum. This allows for generalization of the study findings to the broader context of the region.

While there are three categories of students with disabilities in Colleges of Education in Ghana (visual impairments, hearing impairments, and orthopaedic impairments), the researcher's interest lied in student-teachers with orthopaedic impairments, as little attention has been given to this group of students. The researcher's personal experience in a College of Education and teaching profession highlighted the need for a comprehensive study on the challenges faced by students with orthopaedic impairments in the Colleges.

1.8 Limitation of the Study

A few challenges were encountered during the study. For instance, access to data was hampered. In some instances, some of the research participants were not available. This led to the researcher travelling to and from the research sites many times. It was therefore challenging to reach all the participants and study sites scattered all over the Eastern Region.

Again, apart from scarcity of students with orthopaedic impairments in collages of education, some of the respondents were not willing to provide the data which they felt was classical or sensitive. The situation led to the use of more time for the interviews than the anticipated periods and days. Additionally, academic work in colleges is very strenuous. This made it challenging to have quality time with the respondents. As a result, most of them were tempted to give very scanty information on questions they were asked.

Notwithstanding the numerous setbacks, the research findings were not impacted gravely. The participants were given assurances of anonymity and in some cases, they

were motivated with material rewards after participating in the study. In some cases, the participants were probed and prompted to give sufficient data.

1.9 Operational definition of terms

Colleges of education: an institution of higher learning, especially one providing a general or liberal arts education rather than technical or professional training. It is also described as a constituent unit of a university, furnishing courses of instruction in the liberal arts and sciences, usually leading to a bachelor's degree. Again, it is an institution for vocational, technical, or professional instruction, including medicine, pharmacy, agriculture, or music, often a part of a university.

Orthopaedic Impairment: a severe skeletal, muscular, or neuromuscular impairment. It is an impairment resulting from congenital anomalies (e.g., skeletal deformity or spina bifida).

Student-teacher: a student who is guided and gradually introduced into a teaching role for a particular class by a mentor or a cooperating teacher. They are those students admitted in the colleges of education to offer the Diploma in Basic Education Program, spanning three years.

Stress: pressure or tension on a material object. It is a state of mental or emotional strain resulting from the negative impact of demanding circumstances.

Stress management strategies: the specific efforts, both behavioral and psychological, that people employ to master, manage, reduce, or minimize stressful events. Two general coping strategies have been distinguished: problem-solving strategies are efforts to do something active to alleviate stressful circumstances, whereas emotion-focused coping strategies involve efforts to regulate the emotional consequences of

stressful or potentially stressful events. Research indicates that people use both types of strategies to combat most stressful events (Folkman & Lazarus, 2010).

1.10 Organization of the study

This study is presented in six chapters. Chapter one presents the introduction which consists of the background to the study, the statement of the problem and purpose of the study, the scope and limitations of the study, and the definition of key terms. Chapter two entails the review of related literature. It makes use of secondary information such as newspapers, encyclopaedias, journals, and books related to the research topic while the third chapter examines the methodology used in harvesting data.

Chapter four examined the data collection and analysis of findings while chapter five comprised of the discussion of results. Chapter six concludes the research by summarizing, concluding, and making recommendations based on the findings. It also covers the implications of the study. References and appendices follow at the end of chapter five.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

The chapter presents the literature reviewed for the study. The review covered key themes in the research questions of the study such as:

- Theoretical framework,
- Conceptual framework,
- General challenges of student-teachers with orthopaedic impairments
- Sources of the challenges,
- College challenges and academic wellbeing of students-teachers with orthopaedic impairments,
- Management of challenges among students-teachers with orthopaedic impairments in colleges of education, and
- Summary of Review of Literature.

2.1 Theoretical framework.

The theoretical framework for the study was adopted from the Transactional Model of stress and Coping theory which is also referred to as the psychological stress theory.

2.1.1 Transactional Model of Stress and Coping

This theory was propounded by Lazarus in 1966. Lazarus states that stress is experienced when a person perceives that the *"demands exceed the personal and social resources the individual is able to mobilise"*. Neither the environmental event nor the person's response defines stress, rather the individual's perception of the psychological situation is the critical factor. According to Lazarus, the effects that stress has on a

person is based more on that person's feelings of threat, vulnerability and ability to cope than on the stressful event itself. He defines stress as a *"particular relationship between the person and environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her wellbeing" p.12).*

Two concepts are central to any Transactional Model of stress and Coping theory: appraisal, (i.e., individuals' evaluation of the significance of what is happening for their well-being), and coping (i.e., individuals' efforts in thought and action to manage specific demands) (Lazarus, 1993). Since its first presentation as a comprehensive theory (Lazarus, 1966), the Lazarus stress theory has undergone several essential revisions (Lazarus 1991, Lazarus & Folkman, 1984, Lazarus & Launier 1978). In the latest version Lazarus (1991) stressed that stress is regarded as a relational concept, i.e., stress is not defined as a specific kind of external stimulation nor a specific pattern of physiological, behavioural, or subjective reactions. Instead, stress is viewed as a relationship (transaction) between individuals and their environment.

Psychological stress refers to a relationship with the environment that the person appraises as significant for his or her wellbeing and in which the demands tax or exceed available coping resources (Lazarus & Folkman, 1986, p. 63). This definition points to two processes as central mediators within the person–environment transaction: cognitive appraisal and coping. The concept of appraisal, introduced into emotion research by Arnold (1960) and elaborated concerning stress processes by Lazarus, (1966), and Lazarus and Launier (1978), is a key factor for understanding stress-relevant transactions. This concept is based on the idea that emotional processes (including stress) are dependent on actual expectancies that persons manifest about the significance and outcome of a specific encounter.

This concept is necessary to explain individual differences in quality, intensity, and duration of an elicited emotion in environments that are objectively equal for different individuals. It is generally assumed that the resulting state is generated, maintained, and eventually altered by a specific pattern of appraisals. These appraisals, in turn, are determined by several personal and situational factors. The most important factors on the personal side are motivational dispositions, goals, values, and generalized expectancies. Relevant situational parameters are predictability, controllability, and imminence of a potentially stressful event. In his monograph on emotion and adaptation, Lazarus (1991) developed a comprehensive emotion theory that also includes a stress theory (cf. Lazarus 1993). These forms rely on different sources of information. Primary appraisal concerns whether something of relevance to the individual's wellbeing occurs, whereas secondary appraisal concerns coping options.

Within primary appraisal, three components are distinguished: goal relevance describes the extent to which an encounter refers to issues about which the person cares. Goal congruence defines the extent to which an episode proceeds per personal goals. Type of ego- involvement designates aspects of personal commitment such as self-esteem, moral values, ego-ideal, or ego-identity. Likewise, three secondary appraisal components are distinguished: blame or credit results from an individual's appraisal of who is responsible for a certain event.

By coping potential, Lazarus means a person's evaluation of the prospects for generating certain behavioural or cognitive operations that will positively influence a personally relevant encounter. Future expectations refer to the appraisal of the further course of an encounter with respect to goal congruence or incongruence. Specific patterns of primary and secondary appraisal lead to different kinds of stress. Three types are distinguished: harm, threat, and challenge (Lazarus & Folkman, 1984). Harm refers

to the (psychological) damage or loss that has already happened. Threat is the anticipation of harm that may be imminent. Challenge results from demands that a person feels confident about mastering. These different kinds of psychological stress are embedded in specific types of emotional reactions, thus illustrating the close conjunction of the fields of stress and emotions.

Lazarus (1991) distinguishes 15 basic emotions. Nine of these are negative (anger, fright, anxiety, guilt, shame, sadness, envy, jealousy, and disgust), whereas four are positive (happiness, pride, relief, and love). (Two more emotions, hope and compassion, have a mixed valence.) At a molecular level of analysis, the anxiety reaction, for example, is based on the following pattern of primary and secondary appraisals: there must be some goal relevance to the encounter. Furthermore, goal incongruence is high, i.e., personal goals are thwarted. Finally, ego- involvement concentrates on the protection of personal meaning or ego- identity against existential threats. At a more molar level, specific appraisal patterns related to stress or distinct emotional reactions are described as core relational themes. The theme of anxiety, for example, is the confrontation with uncertainty and existential threat. The core relational theme of relief, however, is `a distressing goal-incongruent condition that has changed for the better or gone away' (Lazarus, 1991).

Coping is intimately related to the concept of cognitive appraisal and, hence, to the stress relevant person-environment transactions. Most approaches in coping research follow Folkman and Lazarus (1980, p. 223), who define coping as `the cognitive and behavioural efforts made to master, tolerate, or reduce external and internal demands and conflicts among them.' This definition contains the following implications:

a) Coping actions are not classified according to their effects (e.g., as reality-distorting), but according to certain characteristics of the coping process.
b) This process encompasses behavioural as well as cognitive reactions in the individual.
c) In most cases, coping consists of different single acts and is organized sequentially, forming a coping episode. In this sense, coping is often characterized by the simultaneous occurrence of different action sequences and, hence, an interconnection of coping episodes.
d) Coping actions can be distinguished by their focus on different elements of a stressful encounter (Lazarus & Folkman, 1984). They can attempt to change the person–environment realities behind negative emotions or stress (problem-focused coping). They can also relate to internal elements and try to reduce a negative emotional state, or change the appraisal of the demanding situation (emotion-focused coping).

This theory is very relevant to the study for the reason that the study focused on the experiences of students-teachers with orthopaedic impairments and their coping strategies. The psychological theory serves as a set of accepted beliefs or organized principles that can explain and guide analysis of the data that was collected for the study. This theory would serve as a guide for the researcher to compare and contrast certain behaviours of the sample as far as their current conditions is concerned.

2.2 Conceptual framework

The conceptual framework for the study considered the following strands: Stress prevalence levels, source and types, effects as well as stress coping and management among colleges of education students in the Eastern Region of Ghana. The framework is represented diagrammatically in figure 1 as the Researcher's conceptual framework for stress and its management among colleges of education students in the Eastern Region of Ghana.

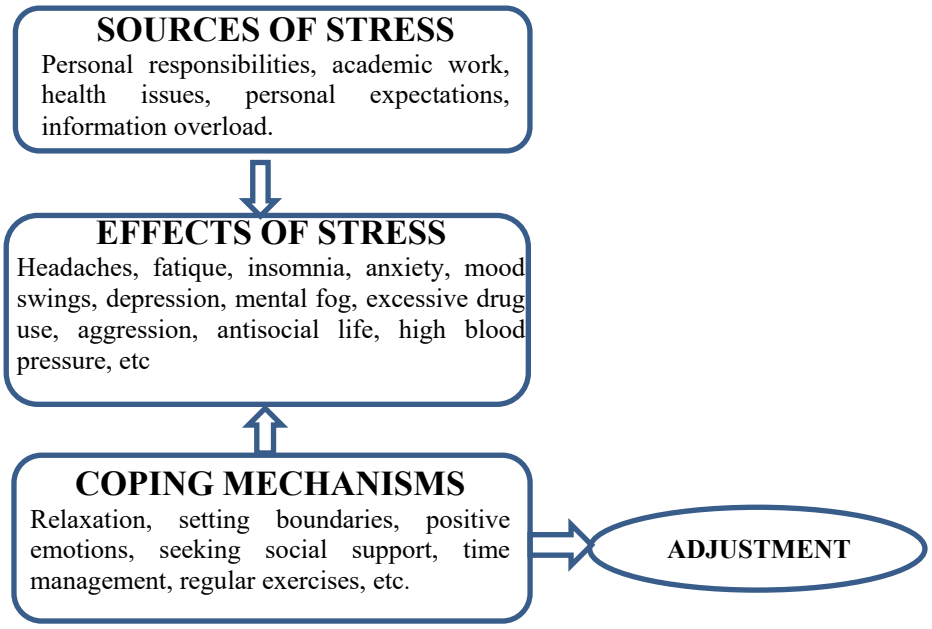

Figure 1: Researcher's Conceptual Framework

From the framework student-teachers with orthopaedic impairments have several stress-related challenges in colleges of education, particularly restrictions on college environments where a number of infrastructures largely impede the successes of these students. Other factors, including absence of ramps and suitable walkways pose grave challenges for them. It can be pointed out most colleges visited do not have improved facilities as some they operate with infrastructure acquired in the 20th century. Consequently, the numerous difficulties of these students could significantly affect their academic wellbeing.

The framework touched on the numerous sources of stress among college students with orthopaedic impairments in Ghana, notably personal responsibilities, academic work, health issues, personal expectations, and information overload among others. It is important to note that stress sources vary among people, and multiple stressors can interact and amplify each other, further contributing to stress levels.

Managing stress involves identifying and addressing the sources effectively through stress management techniques, self-care, seeking support, and adopting healthy coping strategies.

Nature of the curriculum is perceived as a major source of challenges in the colleges for students with orthopaedic impairments as it does not make specialised provisions in the handling of peculiar needs of students with orthopaedic impairments. For instance, students with writing needs are not provided with extra time as pertains in some universities in the country.

It is imperative to not that individual with orthopaedic impairments adapt to their academic stressors by adopting several coping strategies. It is important to underscore the fact that though the effects of stress on students, including those with orthopaedic impairments could be dire, effective coping strategies could help surmount the ramifications of such stressors. For instance, some of them consult with disability service providers or experts in the field for more specific insights tailored to their peculiar challenges. Further, these students employ several other strategies, notably accommodations and support systems which include accessing assistive technologies, extended time for exams, note-taking assistance, or specialized tutoring. Other important coping strategies worthy of mentioning include self-advocacy and effective communication with counsellors and other experts, use of effective time management and proactive organization modes, seeking emotional support and well-being, and through building a support network with friends, family, peers, mentors, and disability services staff to get encouragement, guidance, and a sense of belonging, largely to alleviate academic stress.

It is important to note that when students with orthopaedic impairments adopt appropriate coping mechanisms, it can significantly contribute to their adjustment and overall well-being in school. Effective coping mechanisms help students navigate challenges, manage stress, and maintain a positive academic experience. Effective stress management means a reduction in stress levels, emotional stability, an improved problem solving skills among the students, increased resilience, and improved social relationship.

The opposite is true where several negative consequences can arise when students, including those with orthopaedic impairments, are unable to manage their stresses. A failed management of stress could breed academic decline, emotional and mental health issues, physical health problems, disengagement and lack of motivation, relationship strain, and increased risk-taking behaviours.

2.3 Kind of stressors experienced by student-teachers with orthopaedic impairments

Students with orthopaedic impairment have a unique cluster of challenges that go a long way to affect their general wellbeing as college students. The learning environment of students with disabilities including those with orthopaedic impairments plays a role in their learning capacities. An appropriate learning environment encourages independence, self-motivation, self-direction, personal empowerment and academic achievement Aroni, 2010).

According to Aroni, organisation of a learning environment is done to enhance maximum movement and interaction of the learners. Similarly, Schwartz (2015) contends that teachers of students with orthopaedic impairment should focus on making the class physically, emotionally, socially and academically inclusive. This is doable

by facilitating the development of a healthy balance of the relationships among learners, learning materials and content to be learned while recognizing and understanding unique individual challenges that result from varied physical dispositions, academic abilities, the pace of learning and how these impacts on participation and access to the general education curriculum.

According to Schwartz (2015), several environmental modifications are required to accommodate students with physical impairments. Fatigue or endurance may necessitate medication which may require that students get rest breaks between lessons. Pavements and ramps must be provided at all entrances of classrooms for easy access for those with wheelchairs. In the classroom learners with wheelchairs may require preferential seating to attend better to learning activities. In some cases, learners may require specially designed chairs and tables to accommodate their physical state.

The need to ensure the availability of appropriate teaching resources for persons with orthopaedic impairment in a school is paramount. For instance, according to Sherwood (2015), students with physical impairment can participate in general curriculum elements when provided with appropriate accommodations that include an extension of time, lowering the complexity of the concept, and reasonable rest breaks. Assistive technology, including communication boards, typewriters, word cards, picture schedules and Augmentative and Alternative communication like gestures, object manipulation and picture cards are useful in teaching students with orthopaedic impairments (Aroni, 2010). According to Aroni, the provision of teaching and learning resources and assistive technologies give learners a level playfield and allow them to demonstrate competence and participation on an equal basis enhancing their independence and quality of life. In the view of Gericke (2016), the provision of appropriate seating facilities for students with orthopaedic impairments improves their

posture and movement during class participation and enhances their receptiveness to learning; they also become physically receptive in taking in new information.

Learners with orthopaedic impairment may have very stiff muscles. For instance, in the case of spastic cerebral palsy, loose, contorted, abnormal and purposeless muscle movements like those with athetoid cerebral palsy, poor body balance and uncoordinated voluntary movement like those with ataxic cerebral palsy are prominent (Sherwood, 2015). Sherwood contended that this degree could range from mild to severe causing problems with communication, fine and gross motor coordination and positioning which negatively affects their participation in learning activities and acquisition of skills and knowledge required for their academic achievement and successes. When planning for instructional strategies for these learners, teachers have to take into account factors like barriers to participation in learning that result from multi-handicapping conditions, possible adaptations and individualization of instructional approaches and an appropriate learning environment that might enhance the learners access to the curriculum content and the provision of relevant teaching and learning aids as well as assistive technologies that will maximize participation (Marilyn, 2018).

Proper positioning and seating is important aspect of consideration in planning for instructions for learners with orthopaedic impairments. Poor positioning may impede accessibility required to enhance the quality and precision of movement and ability to accomplish tasks. In the view of Vickerman (2019), proper position will increase access and participation in learning activities by enabling learners to manipulate learning materials on a work surface and improve their writing skills and reduce deformities. This is achieved through a wide range of special chairs to achieve optimal positioning. Additionally, persons with moderate or severe orthopaedic

impairments may require mobility devices like walkers, powered scooters, manual wheelchairs, grab bars with rails, canes or crutches to move freely in the school environment. This gives them the independence they need to locate and access learning materials and participate in learning and other curriculum activities in school.

The physiological makeup of students with orthopaedic impairments makes them have challenges with lower self-concepts that go a long way to impact their academic achievements. According to Vickerman (2019), self-esteem is a personal judgment about worth and accepting or rejecting of self that appears in one's attitude. It has a prominent role in mental health and personality balance. Similarly, in the view of Rozenberg (2015), low self-esteem unsettles human balance and vitality, negatively influencing efficiency in learning and creativity. According to Rozenberg (2015), self-esteem is a production of social life and life values. This is the life and society that make the person efficient and give him a kind of accepting the self. Rozenberg continues to posit that one of the most disastrous outcomes of defected inefficient self-esteem is the slowed personal function and person's reduced efficiency.

Defected self-esteem deprives a person of using complete mental and intellectual power. For instance, according to Stikland and Angimary (2014), several surveys show that self-concept is the basis for all evoked behaviour. This is the self-concept that includes all possible selves in each individual's personality and recognizes them. These possible "selves" can create motivation necessary for induction of required behaviours and through this way self-concept is correlated with self-esteem. Persons, who have a high level of self-esteem, have a highly-distinct self-concept. The survey of Stikland and Angimary (2004) on self-esteem and body image of physically disabled persons show that physical health and academic performances have positive significant relationships with self-esteem and assessment of self.

The level of self-esteem will decrease in the existence of a physical disability. In a survey conducted by Kink (2013) on adolescents with physical disabilities, it was found out that women with disabilities had lower levels of social acceptance perception, sport competence and dream imagination compared with physically normal samples. What is glaring is the fact that persons with disabilities face challenges with labelling and therefore battles with self-concept even as they start school. However, what is not known is whether or not students at college levels also have challenges with their self-concepts that affect their academic performances.

In a study conducted by the National Academy of Education (US-based group of scholars) on quality teacher preparedness, findings revealed that teachers who were well trained acquired knowledge and teaching skills which enabled them to develop quality teaching instructions and learning activities that produced high students achievement (Allan, Hodkinson & Vickerman. 2019). A similar study by the Centre for The Study of Teaching and Policy concluded that effective teaching required teachers with deep knowledge of the subject matter, an understanding of how people learn and an ability to use principles of learning and teaching to stimulate student achievement. This study would assess the teacher competency in handling students with orthopaedic impairment.

Teachers of learners with orthopaedic impairment are equipped with knowledge and skills that encompass eighteen (18) instructions of physical management of student and educational environment, health maintenance, use of assistive technology and adaptation of the curriculum. In addition, they should collaborate and consult within the education system and with relevant professionals (Sherwood, 2015). According to Sherwood, teachers who possess appropriate knowledge and skills have the ability to

design learning activities that are student-centered and embrace participatory dialogue technique that engages learners with varying needs, interests and aptitudes.

For teachers to appropriately prepare instructions that effectively access learners with orthopaedic impairments two components are critical during teacher training; acquisition of relevant knowledge in subject matter and skills in how to teach that subject matter (Mitchell, Allan & Ehrenberg, 2016). Effective teachers understand and are able to apply differentiated teaching strategies that help learners increase achievement. They apply knowledge of learners to motivate and engage students, diagnose the learning needs of learners and make inbuilt adaptations and accommodations to increase learners' participation in classroom activities and develop a positive climate in the classroom so as to make a stimulating learning environment (Darling, 2016).

According to Gargiulo (2012), pre-service teacher training in the knowledge of teaching and learning, subject matter knowledge and experience are leading factors in teacher effectiveness. Gargiulo observed that well-trained teachers in the area of physical disabilities outperform those not trained because the latter are equipped with knowledge and skills about specific physical conditions and are therefore able to provide developmental teaching that encompasses teaching based on student functional level) and strategic teaching (teaching skills that enhance student success).

Marilyn (2018) pointed out that few teachers have been trained in the area of physical disabilities. In a study conducted by Stafford, Williams and Heller (2001) to establish the level of competence in teaching learners with orthopaedic impairments, 91.6% to 94.5% agreed or strongly agreed that teachers should be trained in characteristics and educational implications of handling specific conditions among

learners with physical disabilities and health impairments through the provision of relevant instructional adaptations and assistive technology.

According to Gargiulo (2012), teachers are required to be highly qualified with graduate-level education and be fully certified or licensed in the field of special education. They are further required to be trained in at least one general course that equips them with knowledge and skills on the identification of learners with special educational needs. The US Bureau of Statistics has noted that teacher knowledge in the identification of learners with orthopaedic impairments is a prerequisite for the ability to plan for individualized learning instructions.

Curriculum adaptation for learners with orthopaedic impairment is paramount for teaching and learning in schools and colleges. Orthopaedic impairment is a disorder of movement and posture that is classified by specific motor patterns. The poor motor functions are related to movement and may be complicated further by associated conditions occurring alongside it such as sensory impairment and learning disabilities. Students with orthopaedic impairments can be placed in schools based on the severity of the condition and the learners' educational needs. Sherwood (2015) argued that for learners with physical disabilities focus should be placed on the content and the instructional methods and not necessarily where teaching occurs. It is the methodologies employed by the teachers that remove the barriers to the curriculum by planning for instructional strategies that encourage individual participation in learning activities. To ensure active participation, teachers are required to prepare students for high achievements in the general education curriculum just like their non-disabled counterparts by delivering data-driven instructions using research-based strategies (Gargiulo, 2012).

According to Marilyn (2018), good teachers address individual functional limitations and psychosocial and environmental barriers to participation in learning activities. They ensure the psychosocial and environmental adjustment of learners. Psychosocial and environmental factors for optimal learning include motivation, self-concept and self-esteem, social competence, behavioural and emotional functioning, ineffective learning environment and inaccessible physical environment. These factors vary from one individual to another depending on the severity of the resulting interactional effects. Marilyn has observed that the lack of teacher consideration of different learning capabilities among learners during the preparation of instructional activities has been cited as a possible contributory factor for limited participation of learners with physical disabilities in learning activities and has played a big role in causing low academic achievement for these learners.

One way of ensuring access to the primary school curriculum for learners with cerebral palsy is by encouraging them to participate in learning activities via the concepts like Universal Design for Learning (UDL) (Yeh & Bedford, 2014). UDL allows teachers the flexibility necessary to re-design curriculum, instructions and evaluation procedures capable of meeting the needs of all learners by planning for instructional strategies that allow learning goals to be achieved by individuals with wide differences in their abilities to see, hear, speak, move, read, write, organize, engage or remember or by providing them with multiple pathways through which to access and participate actively in learning activities (Marilyn, 2018). According to Marilyn, adaptations in UDL are built into instructional activities during planning, rather than being added as an afterthought.

2.4 Sources of challenges for student-teachers with orthopaedic impairments

College students with orthopaedic impairment face many challenges ranging from non-friendly infrastructure, mobility, inadequate teaching and learning materials, stigma, and discrimination. Harikiran (2012) has observed that there are disparities between students with orthopaedic impairments and their regular peers. Harikiran (2012) added that students with different types of disabilities experience different obstacles and problems in their everyday lives, consequently discouraging potential students with disabilities which leads to lower enrolment rate of such students.

According to Suldo (2009), a comparison of enrolment rates of students with and without disabilities show that students with disabilities are 40% as likely to enter higher education as students without disabilities in United States of America. Although some researches by Suldo (2009) and Sin (2012) show that the support for students with disabilities exists as a part of higher institutions' practice, there remain several problems that exist and can be linked to the potential lack of knowledge about how to exactly help these students. Many different types of disabilities can affect students and each of these disabilities requires appropriate support. What is not known is the specific conditions that are best classified as challenges for students with orthopaedic impairments in colleges of education in Ghana (Sun, 2012).

It is important to note that disabilities, including orthopaedic impairments could affect students in a course of their studies. Sun (2012) has observed that teachers required suitable knowledge and skills to cater for the learning needs of students with any form of physical impairments in a regular classroom at any level of schooling.

Similarly, Ghana has enacted laws to encourage students with disabilities in general to attain any level of education, however, observed school infrastructure,

coupled with attitude of teachers appears to deter students with disabilities from attaining the fullest goal in education. The use of technology to support learners with orthopaedic impairments has received several thumbs up all over the world. Yet, according to Thai (2010), to include some technological solution in the higher educational process requires, in many cases, an appropriate financial budget and appropriate skills. According to (Johnson, 2009), there is a question about how effective the usage of technology regarding making students' learning experience better is since students with different types of disabilities need special methods of teaching which can, in some cases, help others without disabilities to better understand some particular topics.

According to Harikiran (2012), when considering more accessible education for students with disabilities many different barriers can be identified as inadequate funding, physical inaccessibility, accommodation process, lack of individualization, ineffective dispute resolution mechanisms, negative attitudes and stereotypes, lack of available options, lack of information to families or prospective students about options, inconsistency (lack of equivalence) between various education providers and sectors, insufficient equipment, technological aiding means and other devices, disability unrecognized or undiagnosed, lack of proper training and support from teachers, and large class sizes. Addressing all mentioned issues is important for creating a well-suited educational environment for students with disabilities.

One major consideration required for effective education of persons with orthopaedic impairments is the type of physical infrastructure that can promote motor activities. Meanwhile, according to Suldo (2009), policies regulating construction of buildings in Ghana have not been well enforced to ensure barrier-free designs. It was in the light of this development that this study was undertaken to contribute to the

development of social consciousness concerning the education of persons with orthopaedic impairments in colleges of education in Ghana.

Similarly, the GES (2004) has enumerated some challenges facing the Government of Ghana in ensuring social inclusion. Architectural barriers have been cited where public places including school environment remain inaccessible to persons with special needs. Consequently, the physically disabled persons have difficulty gaining access to classrooms and other important areas of the school. Additionally, there are problems of inadequate assessment facilities. The few assessment centres are urban-based and poorly equipped, and there is inadequate structures or funds for pre or post-training programmes to equip regular teachers with pedagogical skills that can enable them respond to students with orthopaedic impairments (Sun, 2012).

Thai (2010) has observed that when embarking on education beyond high school, students with orthopaedic impairments face a range of challenges over and above their peers without disabilities. According to Agolla and Ongori (2009), despite the passage of legislation to the contrary, some college campuses remain physically inaccessible, programmatically, and attitudinally to many students with disabilities. The result is often quite disturbing, as students with disabilities are less likely to remain in their programmes of study than are their non-disabled peers (Agolla & Ongori, 2009).

Similarly, Thai (2010) has indicated that at the postsecondary level, students with orthopaedic impairments must self-identify as people with disabilities, provide documentation of their disabilities to their institutions' Disability Service offices, request reasonable accommodations for their disabilities if warranted, problem-solve if accommodations break down or fail to meet their needs, and interact with faculty concerning reasonable accommodations. Additionally, Thai (2010) contended that new

college students may need time to learn how to interact with college personnel in such a proactive manner because, these skills, in general, may not be required or taught at the secondary level in Australia. Students lacking problem-solving skills often react passively to budding academic difficulties (Green, 1996 cited in Johnson, 2009).

According to Harikiran (2012), other students do not make their disabilities known to Disability Service office staff and, therefore, do not receive accommodations. Similarly, others register for services through Disability Service offices yet fail to initiate requests for accommodations. Typically, Disability Service office providers offer accommodations that are functional rather than interactional (Suldo, 2009), meaning that the Disability Service office staff suggests what accommodations may be provided for given the disability types instead of asking about the supports a particular student with disabilities may need in a given class. To further complicate their adjustment to post-secondary life, the support network of other students with disabilities and the disability culture familiar to them in secondary school radically changes in college (Cawthon & Cole, 2010; Stodden et al., 2003 cited in Sun, 2012).

The level of support from family and friends offered to students with orthopaedic impairment varies widely in different countries. And the amount of competition among students at the postsecondary level is higher than in high school (Cawthon & Cole, 2010 cited in Sun, 2012). In addition, those with disabilities often have fragile self-esteem (Suldo, 2009), and additionally, many students with orthopaedic impairments are reluctant to ask for help for fear of being viewed as burdensome.

Another important source of challenge for college students with orthopaedic impairments is institutional barriers. There is a lack of consensus among professionals

regarding the accommodations needed by postsecondary students with disabilities (Agolla & Ongori, 2009). For instance, American postsecondary students with disabilities have repeatedly noted that their requests for reasonable accommodations under disability anti-discrimination laws are often not implemented in a timely fashion or in an effective manner, and because different disabilities present varying access needs, an examination of some specific barriers is warranted and that physical access to many buildings for students using wheelchairs may be non-existent (Gilson, 2010 cited in Thai, 2010) or so cumbersome as to discourage students using wheelchairs.

College faculty have been labelled as barriers to the education of students with disabilities, including those with orthopaedic impairments though, they play key roles in creating a supportive environment for students with disabilities (Suldo, 2009). Although many faculties are willing to interact positively with students with disabilities, they may unintentionally erect barriers inhibiting student success. Suldo (2009) observes that some faculty have never been adequately trained in providing accommodations to students with or have not been exposed to students with disabilities. The result is that faculty often are unaware of how to adapt their teaching to suit the needs of students with a variety of learning styles.

2.4.1 Stress and academic performances of students-teachers with orthopaedic impairments

Currently, stress has become an important topic for researchers due to its effects on daily lives. To some extent, stress is normal for students because they study in a highly competitive world and they must adjust their academic life in this situation. Harsh long-lasting stress can both declined the academic effectiveness of students, and increase the potential use of drugs and narcotics along with negative behaviours (Richlin-Klonsky & Hoe, 2013).

Schooling has always been considered a highly stressful situation for students. There are some reasons for stress among students like examinations, assignments, and financial problem. Students encounter some physical, emotional, social, as well as family problems. These problems affect students' learning and academic performance (Chew-Graham, Rogers, & Yassin, 2013). Other problems such as anxiety, depression, sleep anomalies, interpersonal conflict, and lower academic performance are some outcome of stress (Yusoff, 2011).

Responses to stress affect the mind, body, and behaviour along those we live, work and cooperate with (Mazumdar, 2012). In stressful situations, people seek ways to reduce it, because they cannot tolerate the persistence of the tension. The extra stress traces its signs often on everything. It is vital to learn how to recognize when our stress is not controllable. Mazumdar (2012) has indicated that, the most dangerous thing about this phenomenon is how easily it can move in on us. Stress cannot be simply taken out from our lives; however we should try to minimize it, and the shift of stress inside people is considered as the major peril in this phenomenon.

It has been argued that an individual can have possibly anxious thoughts, difficulty concentrating or remember because of being stressed. Stress can lead also to change in people's behaviours, such as nail-biting, heavy breathing, teeth clenching and hand wringing. When people are stressed, they may feel cold hands and feet, butterflies in the stomach, and sometimes increased heart rate, which all are regarded as common physiological effects of stress, which can be connected to the emotion of anxiety (Auerbach & Gramling, 2008). Physical and psychological responses to stress generally occur together, principally when stressors become more intense. However, one category of stress responses can influence other responses. For instance, mild chest pain may lead to the psychological stress response of worrying about getting a heart attack.

Physical responses can be when a person escapes from a terrible accident or some other frightening events, he or she will experience rapid breathing, increased heart beating, sweating, and even shaking a little later. These reactions are part of a general pattern known as the fight-or-flight syndrome. The psychological responses to stress can appear as changes in emotions, thoughts (cognition), and behaviours (Bernstein, 2008).

Lo (2002) has observed that biochemical changes take place in the body in response to stress; changes like adrenal enlargement, gastrointestinal ulcers and thymicolymphatic shrinkage. He reported these signs in people who had high levels of stress for a long duration of time. These changes in the body were recognized as objective indices of stress. Again, this work confirmed previous research by Bernstein (2008) citing Selye (1936) who termed the response pattern as the "general adaptive syndrome" (GAS) or "biologic stress syndrome".

Previous to Selye's work, Cannon (1929) had earlier defined stress as, "the fight or flight response to describe a mobilization of the organism that prepares it more effectively to be aggressive or to flee (p. 11)." Selye (2011) has shown that continuous exposure to excessive stress can cause a stage of adaptation or resistance by the body. In this stage of resistance, the body responds by secreting granules in the bloodstream which are discharged by the adrenal cortex. This depletes the corticoids containing lipid storage material. Upon depletion of corticoids, this stage is followed by the stage of exhaustion, where maximum wear and tear and maximum biological activity takes place in the body. This may leave some irreversible scars on the skin. This process has also been associated with accelerated ageing (Selye 2011).

Kanner, Coyne, Schafer and Lazarus (2011) examined Selye's stress response mechanism, relating these adaptations to nervous and vascular systems of the body. The nervous stimulation caused a general stress response. This response caused a discharge of hormones, resulting in the involution of lymphatic organs, enlargement of the adrenals, fatigue and other signs which can produce injury to any part of the body. The stressors or mediators were also found to excite the hypothalamus complex bundle of nerve cells and fibres. It is in the hypothalamus where the corticotropic hormone-releasing factor is formed.

According to Kanner et al (2011) corticotropic hormone is sent to the pituitary gland which releases the Adrenocorticotropic Hormone (ACTH). The ACTH then triggers the secretion of corticoids from the adrenal cortex. The corticoid suppresses immune reaction, inflammation and various enzyme responses which help the body to cope with potential pathogens or stressors along with other hormones like mineralocorticoids, Somatotrophic Hormone (STH) or growth hormone. These hormones (catecholamine and adrenaline) play a great role in one's adaption to stress. Adrenaline helps to accelerate the pulse rate, elevate blood pressure and blood circulation in muscles and stimulate the Central Nervous System (CNS). Adrenaline also enhances the blood coagulation mechanism to protect against excessive bleeding if injuries occur during the time of stress.

Aktekin, Karaman, Senol, Erdem, Erengin and Akaydin (2011) also reported that higher stress scores decreased academic performance. Aktekin assessed the psychological change in undergraduate medical students in Antalya, Turkey. Participants were all first-year undergraduate students in the areas of medicine, economics and physical education. A detailed self-report questionnaire was given during the first registration term of 1996, followed by a questionnaire the next year. Components of the

questionnaire included a 12-item General Health Questionnaire (GHQ), the Spielberger State-Trait Anxiety Inventory (STAI) and the Beck Depression Inventory (BDI). Results showed a significant increase in the stressful life events from year 1 to year 2 along with a significant rise in the anxiety level among students from year 1 to year 2. However, the Beck Depression Inventory scores were high for students of year 1, with a decrease of scores in year 2.

According to Barker (2007), students having low self-esteem had difficulties in academic performance and suffered more stress anxiety. Conclusions were that students with low self-esteem and excessive stress utilized maladaptive coping strategies. Barker reported excessive stress as the significant risk factor for various maladaptive coping outcomes among youth. The maladaptive coping may include anger, frustration, abuse-related events, peer harassment and chronic victimization (Barker, 2007; Compas, Connor-Smith, Saltzman, Thomsen, & Wadsworth, 2011). According to Compas, Connor-Smith, Saltzman, Thomsen, and Wadsworth (2011), the harmful effects of stress have been considered to also cause feelings of worthlessness and being overwhelmed.

Stewart, Lam, and Betson (2009) also confirmed the role of maladaptive coping. They conducted a longitudinal study of stress-related measures and academic performance during the first two years of a medical study. Participants were 121 first-year medical school students. Measures of academic performance both before entering medical education and during medical school were obtained. The State-Trait Anxiety Inventory was used to assess trait anxiety and depression was measured by Beck Depression Inventory. Stress management was assessed using a self-report of coping strategies. Students were asked to indicate how they responded to stressors during the previous two weeks.

Vos (2008) also confirmed the role of excessive stress on academic performance. The scholar conducted a study to determine if stress management techniques like hypnosis helped to improve overall academic performance in college students based on the Greeff self1-concept questionnaire consisting ten subscales, each representing a different aspect of self-concept. The subscales are derived from the fifty-two true/false response items aimed at measuring various dimensions of self-concept, notably physical, social, academic, Moral, personal, family, emotional, sexual, financial, and identity self-concepts.

According to Vos, each subscale assesses a specific area of self-concept, providing a comprehensive view of an individual's self-perception across multiple domains. Vos randomly selected a hundred and twenty students from the Psychology Department of the University of Stellenbosch in South Africa. The group represented the relatively small student population of the university. One experimental group was exposed to active alert hypnosis while the other group was exposed to relaxation hypnosis. Both groups were exposed to weekly sessions for a period of eight weeks**.** A comparison group of 30 students underwent only progressive relaxation for the same period of time. The post-test measurements were based on the Greeff self-concept questionnaire which showed an overall academic improvement in students within both treatment groups.

2.4.2 Stress and health implications for student-teachers with orthopaedic impairments

Stress is a common element in the lives of every individual, regardless of race or cultural background (Garrett, 2011). Over the past few decades, there has been significant investigation on the issues of stress and management of stress (Dziegielewski, Turnage & Roest-Marti, 2014). In addition, college students have been

shown to possess a unique set of stressors that can affect their daily experiences (Garrett, 2011).

Similarly, according to Selye (1974 p. 27), stress is a "nonspecific response of the body to any demands made upon it". In other words, as demands are made on an individual or as situations arise, the body attempts to adjust or adapt to the situation in order to re-establish normalcy (Selye 1974). Selye (1974) further stated that there is a series of physiological reactions that occurs in response to environmental demands or any noxious stimulus. Some familiar reactions to demands made on the body include increased heart rate, respiratory rate, blood pressure and blood glucose level. These compensatory reactions occur to ensure the muscles and vital organs have an ample supply of oxygen, energy and nutrients to handle the challenging situation (Nathan, 2012).

In addition, Nathan (2012) stated that prolonged and severe stress may be psychologically damaging, in that it may hinder a person's ability to engage in effective behaviour. Another view of the effect of stress on the body was presented by Lazarus and Folkman (2014) when they stated that stress is more than a response to environmental demands, but is also related to personal perception. If an individual perceives a situation as stressful, then it is indeed stressful. Also, if an individual is susceptible or vulnerable to the negative effects produced by stressors, the situation may pose a threat or may be harmful to the individual (Lazarus & Folkman, 2014). These scholars further contend that an individual's well-being may be at risk whenever their resources to manage the stressful situation is limited or depleted. Collectively, when multiple demands are made on an individual, they usually experience intense feelings of stress related to role-ambiguity, role-strain and role-overload (Dziegielewski, 2014).

The belief that there is a relationship between stress and disease has been discussed for several decades. Holmes and Rahe (2007) were among the first researchers who identified a relationship between stressful life experiences and the onset of disease. In addition to an overall definition of stress, Lazarus and Folkman (2014) found out that hassles and uplifts seem to be a better predictor of a person's well-being. Daily hassles have been defined by Kanner et'al (2011) as irritating or annoying factors that occur on a daily basis, and place demands on an individual. On the other hand, uplifts have been described as positive experiences that buffer the negative effects of hassles (Kanner, et'al, 2011). According to Lazarus and Folkman (2014), the severity and intensity of daily hassles and uplifts are key determinants of illness and well-being.

College students have a unique cluster of stressful experiences or stressors (Garrett, 2011). According to Ross, Neibling and Heckert (2009), there are several explanations for increased stress levels in college students. First, students have to make significant adjustments to college life. Second, because of the pressure of studies, there is a strain placed on interpersonal relationships. Third, housing arrangements and changes in lifestyle contribute to stress experienced by college students. In addition, students in college experience stress related to academic requirements, support systems, and ineffective coping skills.

Frazier and Schauben (2014) used the Psychological Distress Inventory to obtain information regarding stress experienced by a group of female college students. The researchers found out that female college students experienced stress related to financial problems, test pressure, failing a test, rejection from someone, dissolution of relationships, depression and feelings of low self-esteem. On the contrary, Ross, et al (2009) conducted a study on college students of both genders and found out a different set of stressors that were common among all college students; those experiences

associated with stress included a change in eating and sleeping habits, new responsibilities, heavier workloads and breaks.

Similarly, Phinney and Haas (2013) reported a unique set of stressful experiences among ethnic minority in First-Generation College freshmen. More specifically, sources of stress included difficult financial challenges, domestic responsibilities, responsibilities related to holding a job while in school, and a heavy academic load. Also, the ethnic minority college freshmen experienced stressors such as conflicts in time management, the pressure associated with their academic workload and problems within their family (Phinney & Haas, 2013).

In addition to the identification of stressors experienced by first-generation ethnic minority freshmen, Phinney and Haas (2013) found out that students who expressed strong social support congruent with their educational goals experienced more feelings of self-efficacy, self-confidence and self-determination. Consequently, these students believed they were more successful in their academic endeavours in that they were better able to cope with their stressful experiences.

A descriptive study by Phinney and Haas (2013) revealed that traditional students were younger, and they reported more stressors associated with their peers and stress related to social activities in college. On the other hand, the non-traditional students were older, and therefore reported stress related to family issues, due to multiple roles within the family setting. These students' dynamics exist in Colleges of Education in Ghana. There are both traditional and non-traditional students with Orthopaedic impairments in the colleges. However, what is yet to be established is whether there are any discrepancies in their stress levels of individual students with orthopaedic impairments as has been pointed out by Dill and Henley (2008).

Besides the usual stressors associated with college life, students enrolled in a curriculum of a caring profession seem to face additional stressors related to their clinical practicum (Dziegielewski et al., 2014). Also, burnout among caring professionals, such as those in medicine, nursing and social work, is an issue of concern. In fact, Dziegielewski et'al (2014) stated that the risk of emotional exhaustion is high among this population of professionals. Health care college students and professionals are subjected to chronic stressors due to the nature of their work and environmental factors. In other words, health care professionals are constantly bombarded with several environmental and psychological stressors.

Kanner et'al (2011) and Lazarus and Folkman (2014) determined that the number of identified stressors is not the only element that may jeopardize a person's wellbeing. The researchers found that if there is an increase in the severity and intensity of the stressors, or hassles and uplifts, a person's well-being is significantly affected. In other words, there is often physiological or psychological disequilibrium when the stressors are severe and intense.

2.5 Stress and students' academic performance

Stress among student has long been a topic for discussion amongst researchers. Some research from the 1950s indicates a negative correlation between anxiety and academic performance and other research did not support that correlation. Robinson (1966) worked with students at Brigham Young University to test the hypothesis that honours students with high academic ability have less anxiety than honours students with lower academic ability. The academic ability of students was measured using the College Ability Test. To measure anxiety, students took the Minnesota Multiphasic Personality Inventory scales (MMPI) and Welsh's Anxiety Index (AI). All three of the assessments were given during college orientation. The scores of students who achieved

a Grade Point Average (GPA) of 3.5 or higher during their first freshman semester were used.

Students with a GPA of 3.5 or higher during the first freshman semester were first divided into two groups based on GPA. The high honours group consisted of students with a GPA of 3.8 or higher. The honours group consisted of students with a GPA of 3.5 to 3.8. The high honours and honours groups were further divided into three additional groups of high, middle, and low abilities based on scores from the College Ability Test with students from the high and low groups being used for the study.

Nelson and Harwood (2010) conducted a study comparing researches on learning disabilities and anxiety to determine the connection between the two. The researchers analysed 58 studies, which included 3,336 students. The researchers used a computer program to analyse the data from the studies. The effect sizes mean, and standard deviations were computed for each study. The results of the effect size computations were used to determine whether or not students with learning disabilities experienced higher levels of anxiety than students without learning disabilities. The higher the effect size, the stronger the relationship between learning disabilities and anxiety. Negative effect sizes mean that a relationship was not found between learning disabilities and anxiety levels. The researchers found a positive effect size value for 95% of the studies with an average of 0.61 and a range of -0.21 to 1.83. The researchers concluded that students with learning disabilities are significantly more likely to suffer from academic anxiety.

Stress and anxiety have been linked to poor academic performance. High levels of academic anxiety can negatively affect working memory (Owens, Stevenson, Hadwin, & Norgate, 2012). Anxiety is also associated with high levels of worry that

can affect academic performance. Researchers tested the relationship between anxiety, academic performance, and working memory. Two groups of 12-13- year old students completed self-report questionnaires about anxiety. Parents and students each had to sign consent forms for the students to participate in the studies.

To measure anxiety, Owens, Stevenson, Hadwin and Norgate (2012) used the Spielberger Trait Anxiety Form (STAF). Depression was measured using the Major Depressive Disorder subscale of the Revised Child and Anxiety and Depression Scale (MDD). To measure worry about tests, the researchers used the Worry subscale of the Children's Test Anxiety Scale (CTAS). The researchers used the raw scores from the math, English, and science subtests of the National Curriculum Standard Assessment Tests (SATs) to measure academic performance.

Results of the self-report questionnaires indicated a negative correlation between stress, depression, and worry, and academic performance with $r = -0.43$ for anxiety and depression, and $r = -0.42$ for worry. As students' levels of anxiety, depression, and worry increased, academic performance decreased. High levels of anxiety and depression also contributed to higher levels of worry in students. Students' working memory was assessed using the Automated Working Memory Assessment (AWMA). Students were tested on forwards and backwards digit recall and spatial span. The Cambridge Neuropsychological Test Automated Battery (CANTAB) was also used to measure working memory.

To measure academic performance, the SATs raw scores were used as well as the spelling and math subtests from the Wide Range Achievement Test 4 (WRAT 4). There was a negative correlation between anxiety, depression, and worry, and working memory. Higher levels of anxiety related to poorer working memory with $r = -0.40$.

Higher levels of anxiety led to more worry with $r = 0.50$. Stress, anxiety and depression lead to higher levels of worry with regards to academic tasks. Higher levels of anxiety, depression, and worry can lead to lower academic performance and poorer working memory. School tasks that involve more working memory are greatly affected by anxiety and depression (Owens et al., 2012). Students benefit from lowering the levels of anxiety in school to support healthy working memory.

Lower self-efficacy of students can lead to higher levels of anxiety (Ahmed, Minnaert, Kuyper, & van der Werf, 2011). In this quantitative, non-experimental study, researchers had 495 seventh grade students' complete questionnaires about math self-concept and math anxiety in Strathclyde. The results indicated that higher self-concept correlated with lower levels of anxiety. Researchers were unable to determine whether lower self-concept leads to higher levels of anxiety or if higher levels of anxiety lead to lower levels of self-concept. The situation is different for different students. However, when comparing the data using a chi-square difference test, data suggest that low self-concept is a strong cause of anxiety more than anxiety is a cause of low self-concept.

Average students and students with learning disabilities are not alone in academic anxiety given that gifted students can also encounter anxiety. Fletcher and Speirs (2012) conducted research on how perfectionism and achievement motivation can affect gifted students. Perfectionist students can suffer from academic anxiety because of unrealistic expectations set by themselves or others. Perfectionism is not limited to gifted students. There is some disagreement in research as to whether perfectionism is harmful or helpful because not all students react to pressure in the same ways, and research generally focuses on either the good or bad results of perfectionism. Some research focuses on different types of perfectionism. Self-prescribed perfectionism is when students have high expectations for themselves. Self-prescribed

perfectionism can be beneficial to students as long as students are not too hard on themselves. Socially prescribed perfectionism is when others imposed their high expectations on students. Socially prescribed perfectionism tends to be more harmful to students. Students may develop anxiety problems because they are very worried about fulfilling others expectations. Researchers did not fully explore the connection between perfectionism and anxiety.

McClure, Meyer, Garisch, Fischer, Weir and Walkey (2011) conducted a study about the relationship between success attributions and motivation in students. The study explored students' attributions for success and failure at school. The researchers studied ability, effort, task difficulty, and luck attributions. Ability-based and effort-based are two types of attributions that researchers related to anxiety levels in students. This study also focuses on how students view attributions as personal or social. For this study, researchers used a stratified national sample of 5333 students representing the demographics of public schools in New Zealand. The students were 14 and 15-year-olds from 19 public schools throughout the country. Researchers used the students' scores on the National Certificate of Educational Achievement (NCEA), which is a national standardized test in New Zealand. At the end of the school year, students completed the Motivation Survey.

The Motivation Survey was created for the purpose of this study. Students rated the influence of different reasons for their good and bad performances on tests. The survey used a scale of 1 to 4 with 1 meaning no influence and 4 meaning big influence. Students also rated their levels of motivation. Owens, Stevenson, Hadwin and Norgate (2012) analyzed the results of the Motivation Survey and NCEA using a mixed-design ANOVA. Results varied based on gender. Female students were more likely than male students to believe their good grades were because of effort, but poorer grades were

because of ability. Females were more likely than males to relate the reason for a grade to the difficulty of the test.

Students who attributed their academic performance to ability tend to have higher levels of anxiety. Students who attribute their academic performance to the effort they put in tend to have higher levels of anxiety. The results of the Motivation Survey suggest that anxiety levels are higher in female students than male students. The results of this study would probably be different in other cultures because of "Tall Poppy Syndrome", where individuals who stand out or excel in some way could become targets of jealousy, resentment, or criticism from their peers or society at large. Often in New Zealand, students who perform very well in school are not always given recognition or praise. Attributions in cultures where high achievement is desired could be different.

The importance of helping students before failure was evident. Low math self-concept at an early age can lead to increased math anxiety when older. Students who failed had higher levels of anxiety and lower levels of self-concept. The study was limited because of time. Researchers would have liked to track the students' math self-concept and math anxiety over many years and different settings (Ahmed, et'al, 2011).

Overall anxiety levels can vary based on culture. A study by Lee (2009) explored the relationship between math self-concept, math self-efficacy, and math anxiety. The differences between levels in different countries were explored as well. Researchers analysed data from 41 different countries for differences in the relationship between math self-concept, self-efficacy, and anxiety. The researchers also wanted to find out the overall differences between levels of self-concept, self-efficacy, and anxiety. Data from the Program for International Student Assessment (PISA) in 2003 cited in OECD

(2004) was analysed for this study, 250,000 students participated in the PISA. All students were 15 years old, and participants used a scale-response to answer questions about math self-concept, self-efficacy, and anxiety.

Results were varied in different countries. In North America and Western Europe, students who scored well in math tended to have higher math self-concept and lower math anxiety. In several Asian countries, students who scored well in math tended to have low math concept and higher math anxiety. Results of the PISA math assessment show an overall high negative correlation between math scores and math anxiety (-0.65). Students who score well tend to have lower levels of math anxiety.

2.6 Emotional Challenges of College Students with Orthopaedic Impairments

College students with orthopaedic impairments face a myriad of emotional challenges that arise from their disabilities. These challenges encompass various aspects such as social isolation, self-esteem and body image issues, anxiety and depression, coping with discrimination and stereotypes, academic stress and pressure, and adjustment difficulties.

Feelings of social isolation and loneliness are common among students with orthopaedic impairments due to physical limitations and mobility issues. These challenges hinder their full participation in social activities, interaction with peers, and access to certain areas of the campus, leading to a sense of exclusion and impacting their overall emotional well-being.

Research by Maranzan (2016), Sachs and Schreuer (2011), Trammell (2009), Eccles (2018), Kravets (2016), and Gibbons & Birks (2016) highlights the recurring presence of stigma towards students with disabilities, including those with orthopaedic

impairments, in postsecondary institutions. Negative perceptions, misconceptions, and lack of empathy from peers and educators can affect the learning outcomes and well-being of students with disabilities.

Students with orthopaedic impairments often experience frustrations arising from a lack of support, negative attitudes, and physical barriers (Johnson, 2016). The emotional impact is particularly significant for students with mobility disabilities, auditory disabilities, and learning disabilities. Negative treatments, such as attaching negative labels or evil connotations to their names, further exacerbate emotional distress.

Negative perceptions about disabilities within postsecondary institutions can impact students' sense of belonging, community participation, and emotional well-being (Akin & Huang, 2019). Students in Ghana specifically express negative emotions due to mistreatment and inaccessible educational environments (Braun & Naami, 2019). Consequently, students with disabilities may experience stress, depression, anxiety, fear, isolation, and insecurity (Squires & Countermine, 2018).

Concerns related to self-esteem and body image are significant among individuals with orthopaedic impairments. They may feel self-conscious about their physical appearance and perceive themselves as different from their peers. Negative societal attitudes and stigmatization contribute to a negative self-perception, impacting their confidence and emotional well-being (Squires & Countermine, 2018; Akin & Huang, 2019).

Coping with discrimination, stereotypes, and the additional challenges imposed by orthopaedic impairments can create significant stress for students. The need for accommodations, extra time, or assistive technology adds to their academic workload

and pressure, resulting in heightened stress levels and emotional strain (Squires & Countermine, 2018).

Unfortunately, students with disabilities may also face bullying and cyberbullying from their peers without disabilities. These acts of aggression can lead to physical harm, emotional distress, and lower self-esteem for students with disabilities (Green, 2018; Crosslin & Golman, 2014; Findley, 2015; Kowalski, 2016).

In conclusion, college students with orthopaedic impairments encounter a range of emotional challenges stemming from their disabilities. These challenges encompass social isolation, self-esteem and body image issues, anxiety and depression, coping with discrimination and stereotypes, academic stress and pressure, and adjustment difficulties. Understanding and addressing these challenges is crucial in creating an inclusive and supportive environment for students with orthopaedic impairments in higher education.

2.7 Stress coping strategies for student – teachers with orthopaedic impairment

Almost every event in the lives of humans brings about one form of stress or the other. Some of the stress situations are negative whiles others are positive. In most cases, it is imperative to find ways of managing and coping with any form of stress which in return will ensure that there is proper functioning of the individual. Lazarus and Folkman (2010) pointed out that when individuals face stressful events that can be controlled by them, they mostly respond with problem-focused strategies. In contrast, when they face stressful events that they cannot control, they mostly respond with emotional-focused strategies. Similarly, Stone and Neale (2009) divided coping methods into eight types: distraction, situation re-definition, direct action, catharsis, and acceptance, seeking social support, relaxation and religion. However, Folkman and

Lazarus used problem- and emotion-focused coping methods as the basis of coping such as direct coping, alienation, self-control, search for social support, accept responsibilities, prevention/avoidance, plan for solving problems and positive appraisal coping.

Lazarus and Folkman (2010) citing Folkman and Lazarus (1980) indicated that coping does not necessarily result in success. They comment that successful coping includes becoming aware of incidents and situations that one perceives as being stressful, and recognizing stressors means being aware of how your body responds to stress. In the view of Anspaugh (2008), dealing successfully with stress might require using different types of techniques namely, problem-focused coping and emotion-focused coping (in Carver, Scheier & Weintraub, 2007). Other tried and test strategies include but not limited to physical activity, relaxation technique, social support, time management strategy, meditations, body scanning, deep breathing, guided imagery, self-massage as well as medication strategies for stress relief (Carver, Scheier & Weintraub, 2007).

2.7.1 Physical activity

In the view of the Anxiety and Depression Association of America (ADAA) (2016) cited by www.adaa.org, stress is an inevitable part of life. Seven out of ten adults in the United States say they experience stress or anxiety daily, and most say it interferes at least moderately with their lives, according to the most recent ADAA survey on stress and anxiety disorders in 2016. Similarly, when the A Carver, Scheier & Weintraub, 2007PA surveyed people in 2008, more people reported physical and emotional symptoms due to stress than they did in 2007, and nearly half reported that their stress has increased in the past year. It's impossible to eliminate, but you can learn to manage stress, and most people usually do.

According to a 2020 ADAA online poll, some 14 percent of people make use of regular exercise to cope with stress. 18 percent reported talking to friends or family, 17 percent were comfortable with sleeping, 14 percent preferred watching movies or TV, 14 percent preferred eating while 13 percent liked to listen to music. It is likely that persons with disabilities in the various Colleges of Education within the research site might also be experiencing this constant rise in their stress levels that would need immediate intervention. No research has been conducted in this area of the study, therefore, was the need to conduct this study.

Exercise could be the most recommended by health care professionals in managing stress. And among ADAA poll takers who exercise, a healthy percentage is already on the right track: Walking (29 percent), running (20 percent), and yoga (11 percent) are their preferred strategies. ADAA observed that exercising one's body go a long way to enhance the body's thinking capacity. According to the ADAA, the physical benefits of exercise include improving physical condition and fighting disease, and always staying physically active. Exercise is also considered vital for maintaining mental fitness, and it can reduce stress. Studies show that it is very effective at reducing fatigue, improving alertness and concentration, and enhancing overall cognitive function. This can be especially helpful when stress has depleted your energy or ability to concentrate (APAA, 2016). APAA further adds that when stress affects the brain, with its many nerve connections, the rest of the body feels the impact as well. So it stands to reason that if your body feels better, so does your mind.

As a result, exercise and other physical activities produce endorphins (chemicals in the brain that act as natural painkillers) and also improve the ability to sleep, which in turn reduces stress. ADAA (2016) maintains that meditation, acupuncture, massage therapy, even breathing deeply can cause your body to produce endorphins.

Conventional wisdom holds that a workout of low to moderate intensity makes one feel energized and healthy while regular participation in aerobics has been shown to decrease overall levels of tension, elevate and stabilize mood, improve sleep and self-esteem. The APAA added that even five minutes of aerobic exercise can stimulate anti-anxiety effects.

The results of most studies and researches imply that exercise (doing physical activities) is very effective in decreasing stress and depression, increasing mental health, improving life quality, decreasing phobia of success and worry of losing (Morgan, 2007). Zoman (2003) believes that those physically in shape tend to experience less physiological and mental clashes while tackling stressful incidences. Furthermore, the rate of mental diseases is lower in athletes than in others (Zoman, 2003). Based on several studies, there is a positive relationship between physical exercises and mental characteristics (Brad, 2000). Additionally, doing physical exercises has a positive effect on lowering mental stress and depression (Khabiri, 2009).

According to research findings, during athletic competitions, athletes who apply emotion-based coping strategies exhibit more negative affections while those who use problem-based coping strategies show more positive affections (Masoudniya, 2008). Ntoumanis and Biddel (2000) Gaudreau et al. (2001) and Pensgarrd and Robert (2003) delineated that athletes mostly utilize problem-based coping strategies. Theories studied in the present research discuss whether there are any differences between athletic and nonathletic university students regarding a) problem-based and emotion-based techniques, and b) the intensity of the experienced stress. The research method is causal-comparative and descriptive. Here, athletic and non-athletic are the independent variables while different coping strategies are the dependent variables. The sample included 204 university students selected randomly and divided into two equal groups

of 102 athletic and 102 non-athletic students. The university selected was Zabol University, Southeastern Iran.

In a study conducted by Husam and Adnan (2011) to find out the impact of exercises in managing stress among faculty members in the University of Westminster, exercise was found to be a common strategy among most of the faculty members. 64% of respondents reported that they overcome their stress through exercises (Such as indoor games, Gym and Aerobics) and yoga. 4.3.2 Spirituality 57% of faculty indicated that they followed the path of spirituality to cope with their stress. 4.3.3 Time Management In order to cope with their stress, 57% of faculty members responded that they do effective time management through absolute attention to their priorities. 4.3.4 Spend Time with Family Spend time with positive people and family can reduce your stress. 57% of respondents indicated that they spend quality time with their families to cope with their stress.

2.7.2 The relaxation technique

Relaxation is an effective way to help reduce muscle tension associated with stress. There are many different relaxation techniques eg: yoga, tai chi, meditation and massage. Some people find that simply taking “time out” during the day or after a stressful situation is sufficient to reduce stress levels. There are more formalised relaxation techniques available, notably Jacobson’s progressive relaxation technique, and the Mitchell method. In the various Colleges of Education in Ghana, college authorities had to make times off for students to relax mostly after lectures. What is not clear is whether this arrangement is still available for students, including those with disabilities, to manage their stress levels. According to Misra and Mckean (2000), most of the time our minds are focused on external influences – the things that are going on around us and in our lives. The fundamental principle of relaxation is to instead focus

our attention back on ourselves – this enables us to become more aware of our inner tensions and work on relieving them. This scholar further adds that whatever the relaxation technique is that works best for you, remember to focus on yourself and try to lockout for external pressures whilst you relax - this is the basic principle of mindfulness.

In the view of Husam and Adnan (2011), a powerful relaxation technique requires that you lay down somewhere comfortable and firm, like a rug or mat on the floor or a firm bed. Choose a warm (but not hot) dark room if possible. This technique involves progressively contracting and relaxing the main muscle groups around the body that store tension. If at any point during this technique you feel pain or cramp then stop. This technique is widely practised but may take some time to master.

Maintaining good health is also an important way to reduce stress. Exercising can help to release the stress that is built up in the body. The body is prepared to do something physical, and exercise will afford it a healthy way to make use of this preparation (Misra & Mckean, 2000 citing Greenberg, 1996). Students have access to exercise facilities on campus that can help them. Participating in intramural sports can be a way to also release stress and have fun at the same time. Eating properly also can help students to reduce stress. Being able to eat on a schedule and not skipping meals can help to reduce stress. Stress can build up when meals are skipped and the nutrition needed for the body is not provided. It is all a matter of changing eating habits that can help reduce some of the stress.

Undergraduate students recognize the presence of personal and academic stress in their lives. Stressors can be addressed through support groups, counselling, and academic support. Given the effects of stress on health and academic performance,

college administrators should consider intertwining stress management training with orientation activities. Students should be informed of the resources available on campus to help them through their stress. Stress in college cannot be prevented, but we can do a better job at educating students on how to prepare and manage stress.

2.7.3 Empirical Studies on stress coping among Students

Although numerous physical mechanisms accompany the stress response, there are also psychological considerations that accompany the physiological response. Misra and Mckean (2000) defined coping as "constantly changing cognitive & behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person" pg. 3. Coping was termed to be an environmental or cognitive strategy to ease the stress response. A coping response subsequently follows after a physiological stress response. Homeostasis of the body is achieved by successful coping. Coping is therefore an essential component of dealing with stress responses.

Lazarus explained coping as a complex interaction of the cognitive and affective domain. Lo (2002) described coping, in the form of outcomes that demonstrated either an adaptive or maladaptive strategy. Adaptive coping strategies are conceptualized as stress-reducing. Examples are people performing exercises, relaxation techniques like Yoga, meditation, deep breathing, and proper nutrition. On the other hand, maladaptive coping strategies were conceptualized as reducing stress for a short period of time but with potential long term adverse effects on health. Examples include people under alcohol/ drug addiction, cigarette smoking and interpersonal withdrawal. When a person successfully uses an adaptive coping strategy, target organ activation is reduced or eliminated and homeostasis is re-established. However, the chances of target organ disease are increased in maladaptive coping strategies.

Struthers, Perry and Menec (2000) examined 203 college students‟ academic coping style and emotional factors, to measure their academic stress and performance. Student Coping Instrument (SCOPE) was used to measure student coping style. The structural educational analysis showed problem focus coping and motivation to be more effective in reducing academic stress and improving course grades. Students having low course grades had greater academic stress. Thus results showed problem-focused coping helped students to be motivated and perform better.

Similarly, Lo (2002) conducted a study to examine stress coping mechanisms in students. This study confirmed the findings reported by Struthers, et al. (2000). Lo conducted a cohort study to identify the perception and sources of stress, the coping mechanism used and the relationship of self-esteem in 332 nursing students. The questionnaire consisted of the General Health Questionnaire (GHQ-12), the Self-esteem Scale, and the modified Ways of Coping Scale. Results showed 1st-year students experienced a high level of stress as compared to students in 3rd year. An association was reported between avoidance in coping behaviours and negative Self-esteem. Positive self-esteem was correlated with proactive coping behaviour. Coping strategies used by students were: problem-solving, recreation & sports, meditation and yoga. Thus, results showed positive self-esteem played an important role in coping behaviour.

In a related study, Bensoussan (2012) indicated that students with high levels of anxiety may also have more difficulty when learning a new language than students with lower levels of anxiety. Anxiety can also lead to problems with reading comprehension. Some students are so worried about failing an assignment or test that the students cannot retrieve information or store new information. Bensoussan (2012) found out that

teachers' willingness to work with their students to repair poor test scores has a positive effect on reducing test anxiety.

Finlinson (2016) conducted a quantitative study of 265 students learning English as a second language, the researcher found out that when students were given the choice of different repair behaviours, students rated all choices higher than not changing anything. For the purpose of the study, repair behaviour refers to what students would like to do to make themselves feel better after receiving a low grade on a test. Students rated the following choices (listed from highest rated to lowest rated): correct incorrect responses to improve grade, answer extra credit questions, take a different test, any of the listed choices, have a one-on-one discussion with the teacher, discuss the test as a class, nothing, and correct incorrect responses without improving the grade. The data show that students put the highest preference for improving their grades.

In addition to rating the repair behaviours, Finlinson (2016) asked students to give suggestions about what would help their overall feels about testing. The results showed that students did not mind doing extra work if it meant improving their grades. When students felt they were getting the attention and support of their teachers, they felt less anxiety. Many students suffer from test anxiety because of a lack of study skills. Teaching test-taking skills and study skills address the issues before becoming big problems. Discussing the test with students can also help. According to Kim, Oh, Chiaburu, and Brown (2012), students felt less anxiety about testing when a class discussion was held about the test. Additionally, students felt better about testing when given the opportunity for extra credit, such as bonus questions. The results of the study indicated that the emotional aspects of anxiety should be addressed along with the cognitive aspects.

In another quantitative study, Kim, Oh, Chiaburu, and Brown (2012) explored the relationship between core self-evaluations and learning motivation. Core self-evaluations (CSEs) are indicative of how students learn. CSEs involve a student's self-concept, self-efficacy, sense of self-worth, and other ways in which students measure themselves. Positive CSEs have been linked to higher levels of academic motivation. Researchers found out that students who have positive CSEs were more likely to use coping strategies to deal with negative emotions such as stress and anxiety. Researchers wanted to determine whether CSEs were more important indicators of academic motivation than general mental ability or conscientiousness. They hypothesized that CSEs are better indicators of academic motivation than general mental ability and conscientiousness. The researchers also hypothesized that academic motivation is an important indicator of academic performance.

Using convenience sampling technique, 631 students were sampled in two different sections of Alabama University. The students answered questions to measure their CSEs. Researchers compared the CSEs to questions based on self-efficacy, self-esteem, locus of control, and emotional stability. Data showed that the questions measuring CSE and questions measuring the other areas showed similar results. The results of the CSE surveys were compared to the results of tools measuring the students' course-specific self-efficacy, students' goals for the course, the student's commitment to achieving their goals, academic motivation, academic performance, general mental ability, and conscientiousness. The data show a positive correlation between CSEs and academic motivation and academic performance. Students with positive CSEs were also more likely to have higher levels of course-specific self-efficacy, course goals, commitment to those goals, academic motivation and performance, general mental ability, and conscientiousness. Students who demonstrated higher levels of academic

motivation were more likely to demonstrate higher levels of performance independent of general mental ability. The data showed the importance of positive self-evaluations on students' motivation and performance (Kim et al, 2012).

Marszał-Wiśniewska, Goryńska and Strelau (2011) also found the motivation to be an important factor in reducing test anxiety and increasing motivation. Students feel positive and negative emotions before, during, and after a test. Students who practised motivational strategies had higher levels of emotional functioning when faced with stress or anxiety during a test. In a quantitative, non-experimental study, 135 college students participated in a personality assessment and mood measurement before and after a test. The participants answered questions regarding their moods. They rated each question on a scale using the Mood Adjective Check List. Students with high emotional reactivity did not show a significant increase in hedonic tone (pleasure) after completing an exam. Students with low emotional reactivity showed a significant increase in hedonic tone after completing an exam. Students with high emotional reactivity reported higher levels of anxiety than students with low emotional reactivity.

Coping as a way to control anxiety is a form of emotional self-regulation (Ader & Erktin, 2010). Coping has a direct effect on anxiety levels, and anxiety levels have a negative effect on math achievement levels. "Non-productive" coping strategies, which focus on the emotional aspects of academic anxiety, were the most successful when dealing with anxiety. Students benefit from learning stress-reducing techniques and relaxation techniques to improve coping skills. Researchers, including Tajrishi, Mohammadkhani, and Jadidi (2011) and Downing, Ning and Shin (2011) measured the effects of emotional self-regulation on math and test anxiety in a quantitative, non-experimental study. The study consisted of 751 people. Most of the students were in

their last year of high school, with an average age of 18.1 years. The participants were students in a class preparing them for a college entrance exam.

Metacognition is related to anxiety. People can have positive or negative metacognitive beliefs. Students with more positive metacognitive beliefs are better at coping with anxiety. Students with more negative metacognitive beliefs reported higher levels of anxiety in an Iranian study (Tajrishi, Mohammadkhani, & Jadidi, 2011). Students in the study completed two questionnaires, the Metacognitions Questionnaire 30 (MCQ-30) and the Hospital Anxiety and Depression Scale (HADS). High scores on the MCQ-30 meant high levels of negative metacognitions. High scores on the HADS meant high levels of anxiety and depression. MCQ-30 scores and HADS scores had a strong positive correlation.

Problem-Based Learning (PBL) is a teaching method that has been shown to improve metacognition skills in students. Two groups of students in Hong Kong participated in a study about the effects of PBL. One group received PBL instruction while the other group received traditional lecture-based instruction. Metacognition levels were measured at the beginning and end of the study using the Learning and Study Strategies Inventory (LSSI). The students in the PBL group had significant increases in LSSI scores at the end of the study. The increase was much more significant than students in the traditional instruction group (Downing, Ning & Shin, 2011).

Mindfulness is another method of combating academic anxiety. Mindfulness meditation is a form of meditating where a person focuses on the present and looks at the emotions they are feeling. The focus is on being aware of emotions and understanding how to work with the emotions. Beauchemin, Hutchins and Patterson (2008) conducted a pilot study to determine the effects of mindfulness meditation on

students with learning disabilities. Thirty-four students with learning disabilities participated in the study. The average age of the students was 16.61 years old. The Social Skills Rating System was used to assess the students. Parents, teachers, and students were used for the rating system. Researchers administered the State-Trait Anxiety Inventory to the students to measure state and trait anxiety. After learning and using mindfulness meditation, students rated themselves on focus, their feelings about mindfulness meditation, and whether or not they would keep using the meditation. They also answered open-ended questions about their experiences in the study. Students and the two participating teachers participated in training to learn mindfulness meditation techniques. The students and teachers practiced mindfulness meditation for five weeks during each class.

The students responded positively to the mindfulness meditation study. Average scores for state and trait anxiety decreased from 42.86 at the beginning of the study to 39.68 at the end for trait anxiety and 38.21 to 32.59 for state anxiety. Scores on the Social Skills Rating System showed a significant change from the beginning of the study to the end of the study. Students rated their skills much higher at the end than at the beginning (from an average percentile rank of 31 to 43.5). Teachers also reported a significant increase in the social skills score for students at the end of the study. Scores for problem behaviours decreased at the end of the study. Teachers' ratings of students' academic skills increased significantly as well. Most of the students reported they enjoyed the mindfulness meditation and would continue using the techniques learned.

Mindfulness-based cognitive therapy involves sessions with a therapist, but teachers can use aspects of mindfulness in the classroom. Semple, Lee, Rosa and Miller (2010) conducted a quantitative, experimental study involving 25 children between the ages of 9 and 13. Mindfulness-Based Cognitive Therapy for Children (MBCT-C)

requires 12 sessions of group therapy over 12 weeks. Students were required to attend at least eight of the sessions in order to complete the study. Twenty students completed the study. Parents were required to complete the Child Behaviour Checklist to give researchers information on the participants' behaviours and any problems they might have. Students were required to complete the Multidimensional Anxiety Scale for Children and the State-Trait Anxiety Inventory for Children. Students rated themselves for both surveys (Semple, Lee, Rosa & Miller, 2010).

Students attended 12 weekly MBCT-C sessions. For each 90-minute session, students were divided into groups of eight students. Therapists led students through breathing and meditation exercises during the sessions. MCBT-C focuses on sensory experiences and encourages students to be aware of their feelings and what is going on around them. Therapists taught breathing exercises, meditation, and mindful movements to the students. MCBT-C was effective for reducing anxiety in students with the highest levels of anxiety, but no significant reduction was shown for students with lower levels of anxiety. At the beginning of the study, six students reported high levels of anxiety and majority of the students reported a significant decrease in attention problems after completion of the MBCT-C sessions. Parents reported a decrease in students' behaviour problems from the beginning to the end of the study. More research needs to be done, but researchers found out that MBCT-C has benefits for children with attention, anxiety, and behaviour problems.

Chen (2012) conducted a study on the relationship between test question order and anxiety. Using a sample of convenience, 250 college students in China, who were majoring in English and enrolled in an English-speaking course, were used. The students were from three different semesters of classes. One hundred students from semester one were used to determine the difficulty level of the test questions. Seventy-

two students from semester two participated in the first study, and seventy-eight students from the third semester participated in study two. Students were divided into three groups based on their scores on the Test Anxiety Inventory (TAI). Group A contained students with the highest levels of anxiety, Group B contained students with a medium level of anxiety, and Group C contained students with the lowest levels of anxiety. Students completed a 60-question computerized examination with questions in a fixed order.

The groups were divided into two subgroups. The rest of the 240 test questions were answered by groups A1, B1, and C1 in easy to hard order. Groups A2, B2, and C2 answered the same questions in hard to easy order. For Groups A1 and A2 as well as B1 and B2, the differences in mean test scores between the easy to hard and hard to easy tests were significant. For Group A, the t-test *p-value* was .014. Group B's t-test *p-value* was .039. For Groups C1 and C2, the difference in mean test score was insignificant with a *p-value* of .12. The order is important for students with medium and high levels of anxiety. Students' higher levels of anxiety benefit the most from tests with the easy to hard question order.

The 78 students who participated in the second study also took the TAI. Like the first study, students were divided into three groups based on their levels of anxiety: Groups, D, E, and F. the three groups also took the same 60-question test as the students in the first study. Researchers picked out the 32 difficult questions and used the scores to divide the groups into subgroups D1, D2, E1, E2, F1, and F2. Each subgroup consists of students of equal academic ability. Students in groups D1, E1, and F1 took a computerized adaptive test containing 128 questions. If a student answered a question correctly, the next question was more difficult. If a student answered a question incorrectly, the next question was easier. Groups D2, E2, and F2 took the same test, but

in the hard to easy order. The results of the second study were significantly different for all three groups. Students in Groups D1, E1, and F1 performed better on the adaptive tests than the students in Groups D2, E2, and F2 who took the fixed order, hard to easy tests. The t-test *p-value* for Group D was, .009, Group E was .024, and Group F was .043 (Chen, 2012). Test question order is important to student performance. Students with higher levels of anxiety benefit more from easy to hard question order or adaptive question order than students with low levels of anxiety. Teachers can use the results of the study to help relieve test anxiety in students.

Many different factors may influence anxiety levels among college students in Ghana. Yet the effects of their anxiety could vary for different students. Low levels of anxiety can be beneficial for some students, but high levels of anxiety could be detrimental. The students in the various Colleges of Education may be using several techniques for reducing anxiety. This study is would point out some of the strategies that are common among these students.

2.8 Summary of Review of Literature

There was a general overview of the definitions that have been given by several scholars the world over. For instance, Luthans (2008) has pointed out that stress is an individual's response to a disturbing factor in the environment, and the consequence of such reaction. Stress involves the interaction of the person and environment whiles Butler (2013) also pointed out that there are at least three ways of defining stress, each of which contributes something to the current understanding of the concept. Butler has it that there is the stimulus-based definition of stress which suggests that stress results from pressure. The greater the pressure the more likely that the recipient, whether a person or a load-bearing beam, will succumb. When the (external) stimulus becomes too great, (internal) collapse becomes inevitable. This definition focuses on external

sources of stress and encapsulates well its cumulative nature. Adding one more to the weight on the beam may make little difference to the total load but may yet be enough to cause it to break. One thing that is worth noting is that all the definitions are having common indices except their wordings that differ.

Also, the section reviewed Transactional Model of stress and Coping theory propounded by Lazarus in 1996. The theory emphasized the role of cognitive processes in the experience of stress. According to Lazarus, stress is not solely determined by external events, instead, it is influenced by how individuals appraise and interpret stressful events. He proposed that individuals engage in cognitive appraisals, which involve evaluating the significance of a situation, their available resources, and their ability to cope, in turn, shape emotional and physiological responses to stress. Overall, the Transactional Model of stress and Coping theory highlights the relevance of cognitive processes, such as appraisal and coping, in understanding a particular stress response.

In reviewing the causes and sources of stress among students with orthopaedic impairments in colleges of education, the researcher delved deep into literature to tap several related factors. While individual vary, physical limitations were seen to be one of the major causes of stress among these class of students. Orthopaedic impairments can affect mobility and physical functioning, and could create challenges in everyday activities, such as navigating the school environment, participating in physical education programmes, or accessing resources.

These limitations can lead to feelings of frustration, isolation, and stress. Similarly, students with orthopaedic impairments may face additional academic challenges related to their condition. These challenges could include difficulties in

taking notes, completing assignments, participating in class activities, or accessing educational materials. Meeting academic expectations while managing the impact of their impairment is stressful.

Social interactions, medical treatments and appointments, transition and future concerns, psychological factors are counted among the numerous stressors of collge students with orthopaedic impairments. It is essential to consider that each student's experience with stress will be unique, and the specific causes and impacts may vary. Supportive environments, accessibility accommodations, inclusive education practices, and social and emotional support systems can help mitigate the stress experienced by students with orthopaedic impairments.

Disabilities can have a myriad of effects on college students with orthopaedic impairments, impacting different aspects of their college experience. These students could face specific academic challenges related to their disability, difficulties with reading, writing, note-taking, time management, concentration, or accessing course materials aside physical and mobility limitations, social and emotional impact, mental health concerns, financial burdens, access to resources and support, and career and employment concerns.

Students with physical disabilities face unique challenges in coping with and managing stress in schools and colleges. However, access to support services, self-advocacy, peer and social support, counselling and mental health support, physical health and self-care, and creating an inclusive environment among other things were reviewed in this section.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter presents the methodology for the study. The areas covered are the research approach, research design, population, sample size, and sampling technique, instrumentation, validity, reliability, the procedure for data collection, and data analysis procedure.

3.1 Research Approach

This study adopted of qualitative research method. In the view of McEwan (2003), qualitative research considers the holistic description of what is been studied rather than comparing the effects of a particular treatment as done in the quantitative research approach. Moreover, qualitative researchers employ vivid description of the researched phenomenon to its minimum level such that it becomes clearer to the ordinary person. According to Patton (2018), the qualitative research approach seeks insight into issues rather than statistical analysis.

According to Paton, quantitative and qualitative research approaches have been highly utilized in educational research by a significant number of scholars. The tendency has been to employ one of the approaches at a time. This could have been due to debates with regard to these two approaches and the underlying differences in approach. According to Paton, there were those scholars who posited that the quantitative approach was more scientific than the qualitative approach because of the positivistic foundations, but of course, proponents of the more post-modern or constructivist's qualitative approach thought otherwise. In the views of Paton, new developments in research have however proved that both approaches have weaknesses and strengths and none seem to be superior in relation to the other.

For the purpose of this study, the researcher specifically decided on the qualitative design given that it was the design that could allow for data concerned with describing meanings, rather than drawing statistical inferences. It further gave room for the use of techniques, such as interviews, observations and recordings that could help the researcher in assessing comprehensive data for the research with use of exploratory and probing questions, delving deep into the thoughts of participants and elicit nuanced responses. The loss of reliability by qualitative methods is encountered in terms of validity by providing a more in-depth and rich description of the behavior or situation, rather, there are multiple realities constructed by people who experience a phenomenon (Walliman, 2005).

It is assumed that in a qualitative study, the researcher becomes the instrument of data collection and results may vary greatly depending upon who conducts the research (Weinreich, 2009). Yet, qualitative research comes with numerous advantages that made the researcher adopt it.

- Qualitative approaches enable researchers to elicit, detailed data that allows participants' ideas to remain intact- thereby providing the context for healthy behaviour. (Weinreich, 2009, p. 8)
- Results obtained have sufficient details that enable the reader to understand the idiosyncrasies of the situation (Neil, 2006, pp. 85-89).
- Data collection, analysis and interpretation are performed in flexible ways. It is noticed that this approach does not detach research subjects from their natural settings as well as their operational terms (Silverman, 2000 p. 485).

Despite the above strengths, few limitations of the qualitative approaches are outlined:

- When using the qualitative research approach, it is very unlikely to avoid subjectivity and this compromises the reliability and validity of approaches and results
- It is not easy to detect or prevent bias from the researcher.
- Data collection and analysis may be labour intensive and time-consuming (Mbengwa, 2006, p. 258).

Notwithstanding, using this approach as a yardstick as far as this study was concerned, the researcher ensured that the questions that were raised to collect the necessary data from the respondents were set in such a way the respondents gave a comprehensive description of the situation on the research site as far as their stress and stress coping strategies were concerned. Again, the researcher asked questions that sought insight into the phenomena under study.

Like the constructivist, the author managed to ask questions with probes and prompts that helped to tap all the experiences and views of the study sample in such a way that nothing was left out uncovered.

3.2 Research Design

Phenomenology design was used to explore the experiences of student-teachers with orthopaedic impairments. The phenomenological design provided a comprehensive framework for exploring the lived experiences and meaning-making processes associated with stress management among student-teachers with orthopaedic impairments. The design focused on understanding the essence and underlying structures of experiences of the students.

The transcendental phenomenological approach was adopted to serve as a guiding framework to delve into the deeper layers of consciousness and intentionality

that shape the participants' stress management experiences. The design is well-suited for this study as it allows for a rich and detailed exploration of the subjective realities and lived experiences of student-teachers with orthopaedic impairments in the Eastern Region of Ghana. It sought to uncover the meaning-making processes and the ways in which individuals make sense of and navigate challenges associated with stress management in their educational journeys.

The transcendental phenomenological approach guided the analysis by focusing on the essential structures and meanings embedded within the participants' narratives. Through a process of phenomenological reduction, the researcher identified common themes, patterns, and structures that emerged from the data. These findings shed light on the underlying processes and the essence of stress management experiences among student-teachers with orthopaedic impairments.

The study employed semi-structured and open-ended interviews as the primary data collection method, enabling participants to freely express their experiences, thoughts, emotions, and coping strategies related to stress management. The interviews were designed to elicit rich narratives and descriptions, providing a deep understanding of the participants' unique perspectives.

By employing phenomenological design, the study aimed to provide a comprehensive and nuanced understanding of stress management experiences among student-teachers with orthopaedic impairments. The transcendental phenomenological approach facilitated a deep exploration of the underlying structures and meanings, contributing to the existing body of knowledge in this area. Ultimately, the findings of this study will inform interventions, support services, and educational practices that can

effectively address the unique stress management needs of student-teachers with orthopaedic impairments in Colleges of Education in the Eastern Region of Ghana.

3.3 Population

Cozby (2009) described a research population as an aggregate or totality of all the objects, subjects or members that conform to a set of specifications. In this study, the accessible population comprised four students with orthopaedic impairments in Colleges of Education in the Eastern Region. Although, there are seven public Colleges of Education in the Eastern Region of Ghana (Abetifi Presby College of Education, Kibi Presby College of Education, S.D.A College of Education-Koforidua, Presbyterian College of Education-Akropong, Presbyterian Women's College of Education-Aburi, Mount Mary College of Education-Somanya, and Methodist College of Education - Oda), only four of them, namely Abetifi Presby College of Education, Kibi Presby College of Education, S.D.A College of Education-Koforidua, Presbyterian College of Education-Akropong had students with orthopaedic impairments at the time of data collection.

3.4 Sample size

A sample size denotes a small and representative proportion of the research population (Cohen, Manion & Morrison, 2011). A sample size of four was selected for the study. The sample size comprised two males and two females. Sarantakos (2012) contended that sample size enables researchers to study a reasonable number of units in place of a target population and to obtain data that is representative of the whole population. However, for the purpose of this study, the sample size is equal to the population since only four of the colleges had students with Orthopaedic impairments. Sarantakos (2012) cautions that the sample size would depend on the relationship

researchers want to explore within the sub-groups of the entire population. Table 1 shows the analysis of the sample size.

Table 1: The sample size for the study

School	Male	Female
Abetifi Presbyterian College of Education	1	0
Kibi Presbyterian College of Education	1	0
Presbyterian College of Education, Akropong	0	1
S.D.A. College of Education, Koforidua	0	1
Total	**2(50%)**	**2(50%)**

Source: Fieldwork data (Jan, 2017).

Table 1 presents the sample size for the study. It can be noticed that a total of four Colleges of Education were purposefully sampled for the study The colleges included Abetifi Presbyterian College of Education, Kibi Presbyterian College of Education, Presbyterian College of Education, Akropong, and S.D.A. College of Education in Koforidua. Each of the colleges had one participant for the study of which two were females (50%) with the remaining two being males (50%).

3.5 Sampling technique

According to Smith (2008), sampling technique refers to the mode of selection of a subset of persons or things from a larger population (sampling frame) (Scott & Morrison, 2007), with the intention of representing the particular population. Purposive and Census sampling techniques under the non-probability sampling technique were used for the selection of the research sites and the research participants respectively.

3.5.1 Purposive sampling technique

Purposive sampling is a non-probability sampling technique in which researchers purposefully select individuals or cases that possess specific characteristics or meet

certain criteria relevant to the research objective. It involves intentionally choosing participants who can provide valuable insights or information related to the study's focus (Creswell, 2014).

The homogeneous sampling under purposive sampling techniques was adopted in selecting the study sites (the Colleges of Education). Under this approach the participating colleges were selected based on their shared characteristics and qualities relevant to the respective research questions, allowing for a focused exploration of the population. The approach helped the researcher to gain a detailed understanding of larger population by delving deep into the shared experiences, perspectives, or behaviours, and gaining insights that are specific to the group. Though the findings had limited generalizability, the technique provided valuable insights for understanding and addressing the phenomena under study.

3.5.2 The Census sampling technique

Census method (Complete Enumeration Method) wherein each and every item in the universe is selected in the data collection process (Korb, 2012) was used to select the four respondents for the study. According to Korb, the universe might constitute a particular place, a group of people or any specific locality which is the complete set of items and which are of interest in any particular situation.

3.6 Instrumentation

A semi-structured interview guide (Appendix A) was used to solicit data for the study. A total of twelve (12) semi-structured interview questions were designed to gather data for the study.

This type of interview guide provided a balance between structured and unstructured approaches as they offered a framework of predetermined questions and

allowed flexibility for follow-up questions and probing. Again, it helped to capture the perspectives of the participants, experiences, and insights. While allowing participants to elaborate on their responses. Additionally, it facilitated in-depth exploration of the variables of interest to the researcher, enabled researchers to understand the context in which participants' experiences occur, promoted a dynamic interaction between the researcher and the participant, and allowed for some consistency across interviews, making data collection more comparable.

3.7 Research Validity

Validity is defined by Cohen (2007) as criteria that is used to measure trustworthiness and credibility of the facts drawn from the research instruments. Validity in this study was achieved since the responses agreed with the questions (Denscombe, 2007). Validity of the data can be achieved through honesty, richness and approaches by the interviewers within the objectives of the research (Lodico, Spaulding & Voegtle, 2006).

In order to enhance the validity of the study, the interview guide was discussed with the researcher's friends, supervisors and other lecturers for expert views. This enhanced both the face and content validities since these personalities helped to examine whether the items were related to the research questions and whether or not they comprehensively covered the details of the study. Suggestions made were incorporated to refine the content and improve the data collection instruments. Further, the validity was enhanced as a result of further adjustments made after the pre-testing. All the modifications pointed out at the pre-test stage went a long way to enhance the validity of the study. Additionally, the study was conducted in the natural settings of the participants where participants answered the questions in a very relaxed manner without any tensions.

3.8 Research Reliability

To minimize any personal biases on the results of this study, member checks were utilized during and after interviews to increase the credibility and transferability of the study results (Lincoln & Guba, 1985). During the interviews, the researcher restated and summarized data. After the raw data were transcribed, the researcher asked individual participant to review the content of their transcripts for accuracy.

In addition, direction from faculty and other experts helped the researcher to focus on relevant details offered by participants, leading the researcher developing themes from the data. Lastly, the researcher included ample and relevant quotes from participants to substantiate the findings as directed by Maxwell in his 2005 proposition.

In guaranteeing credibility of the research process and outcomes, the researcher demonstrated integrity, transparency, and rigor of the study through various means, including clearly documenting the research design, methods, and data collection procedures, employing appropriate data analysis techniques, and addressing potential biases or conflicts of interest. Effectively, the researcher was weary of affiliations, or personal beliefs that could influence the research process or outcomes. Additionally, the manuscripts was subjected to rigorous peer review to identify and mitigate potential biases and conflicts of interest whiles independent experts in the field were tasked to provide valuable feedback and scrutiny on the research design, methodology, ensuring that all interpretations are objective and unbiased.

In ensuring confidentiality of the respondents, identities of participants and the data collected were carefully coded and kept separate from their responses. Only authorized researchers, notably the researcher's supervisors had access to the data, and

all information was securely stored and encrypted. Additionally, in the reporting of findings, pseudonyms were used to further safeguard participants' anonymity.

In ensuring dependability of the research findings, detailed notes were taken during interviews, capturing the context, nuances, and any changes or modifications made during data collection. Multiple researchers were involved in the analysis process, engaging in regular discussions and employing a systematic approach to coding and theme development. By maintaining consistency in data analysis procedures and involving the respective supervisors, the study ensured dependability and the potential for replication or confirmation of findings.

Trustworthiness was a central focus in this study. Member checking was conducted, involving participants in reviewing and confirming the accuracy of the interpretations made. Throughout the research process, transparency was maintained by clearly documenting the researchers' preconceptions, biases, and any potential influence on the findings. These measures aimed to establish trustworthiness and ensure the truthfulness and meaningfulness of the research outcomes.

While recognizing the uniqueness of the study context, efforts were made to enhance transferability by providing rich descriptions of the research setting, participants, and research methods. The researcher provided a comprehensive and well-rounded portrayal of the participants' experiences, ensuring that the findings could be considered in broader contexts beyond the study site. By presenting the research process and the characteristics of the participants in a transparent manner, readers can make informed judgments regarding the transferability of the findings to other college settings or populations.

3.9 Pretesting of research instrument

There was an initial stage of pretesting of the research instruments. This was done to ascertain the reliability of the instruments for data collection. Creswell (2012) recommends that for many research studies, it is very important to pre-test the research instruments in order to detect ambiguities that might exist in the research instrument(s). As a result, the researcher involved two students with orthopaedic impairments at Agogo Presbyterian College of Education in the pre-test when they were encouraged to comment frankly on clarity of the interview questions.

After the pre-test, the various suggestions and comments were considered in restructuring the interview guide. It was at this stage that the items were increased from eighteen to twenty three interview questions. Furthermore, there was a typographical error in the wording of question 2 which gave a different meaning to the item. This was also duly corrected.

3.10 Ethical considerations

Ethics are broadly the set of rules, written and unwritten that govern our expectations of our own and others' behaviour. Effectively, they set out how we expect others to behave and why (Resnick, 2015).

To ensure that the study was conducted as ethically as possible, the respondents' interviewed for the study were made aware that their identities and responses would remain confidential. As a result, pseudonyms were used to replace their real names. Additionally, participants were duly informed of their right to voluntarily withdraw from the study according to their own discretion.

3.11 Procedure for data collection

Data collection for this study occurred through the use of interview guide that was designed to explore the experiences of College students with Orthopedic Impairments who are experiencing the Colleges of Education environment as students. The semi-structured interviews were used as the primary data collection method. An interview session was schedule with the interviewees and it was agreed that interviews would be held at comfortable and private setting of their choice.

The purpose of the study was discussed with the respondents to ensure that their consents are obtained, allowing participants to share their experiences and perspectives freely. The participants encouraged to provide specific examples and elaborate on their responses as much as practicable. Field notes were taken during the interview when concerted efforts were made to record non-verbal cues, observations, and contextual information.

In ensuring effective data management, transcripts were generated whiles verbatim quotes were noted. Further, transcripts were anonymised by removing all possible identifying information to maintain confidentiality. Additionally, transcripts and field notes where arranged systematically for easy retrieval and analysis.

3.12 Data analysis procedures

Manual coding was used to analyse the data. Thematic analysis was employed to identify patterns, themes, and categories in the participants' responses. This type of analysis helped the researcher to generate initial codes, compare and contrast them, and refine the codes repeatedly. The codes were grouped into broader themes, supported by verbatim quotes from participants, while analysing the data until saturation was achieved, with new data no longer providing new insights.

To ensure rigor, an audit trial was maintained by documenting all decision-making processes and steps in data analysis. Preliminary findings were shared with participants to validate the interpretations, and a peer debriefing and feedback from some colleagues who are experienced in qualitative research to ensure credibility and reliability.

A comprehensive research report was compiled on the methodology, findings, discussion, and conclusions. Verbatim quotes from participants were included intermittently to support the identified themes, while providing rich descriptions and ensuring the report follows the guidelines of the Graduate School of University of Education, Winneba.

CHAPTER FOUR

DATA ANALYSIS

4.0 Introduction

This chapter focuses on the presentation and analysis of data collected for the study. Themes were drawn from the codes based on the data gathered from the research.

4.1 Research Question One: What kinds of stress do student-teachers with orthopaedic impairments encounter in Ghana?

The first question posed was; in what ways do financial constrains affect your life in the college?

The first respondent indicated the following;

> *"I am being taken care of by someone who has his own children. So I manage to use the little funds he gives me. At times, purchasing of books and other resources become difficult. Although, school fees is always intact, all others are problematic"* (Student A).

The next student also revealed;

> *"I become stressed and depressed when the home refuses to give me money to take care of my health. eg. recently I became very stressful when I was refused money to go for review on my leg at Koforidua and for the purchase of some books"* (Student B).

Another student also pointed out the following;

> *"Sometimes I get worried because my abled peers can struggle during the holidays for money to pay for their bills but that is difficult in my case. I always need to get support from my colleagues who get personal supports*" (Student C).

The next student also indicated the following;

> *"I feel embarrassed during the purchasing of handouts, typesetting of project works, etc. in most cases, the tutors call out names of debtors and I happen to be part of the list in most cases".* (Student D).

Variety of reasons led to financial constraints among students with orthopaedic impairments in colleges of education. Most of the students indicated that they have financial challenges which to some extend affect their academic lives on campus. Typically, students need some amounts of monies for the purchase of books and other reading materials of which some are to be printed electronically. Although, the government provides some funds for the feeding of the students, they may need some more funds to supplement these foods since they may not be adequately rich in nutrients and quantity wise.

The researcher was also interested in tutor-related challenges. The following responses were gathered.

The first respondents stated;

> *"All is good. There is no absolute issues".* (Student A)

The second respondent also declared that

> *They don't pose any challenge, although, sometimes when I go wrong by say talking in class, submitting assignments late, etc they give the same punishment just as they give the regular peers.* (Student B).

A second student also mentioned that:

> *They treat me nicely at all times but I can recount a situation when a tutor shouted at me for not going to the science laboratory on time. Meanwhile, the said lab is quite far from the dormitory and the building was tall. The magnitude of the tutor's wrath made me weep on that faithful day.* (Student C).

The third student also professed similarly as follows;

> *Tutors insisting that I should come to the dining hall to eat instead of my servants collecting the food for me in the dining hall is a major headache since I get so stressed during the day, therefore, it becomes challenging for me to walk back to the dining hall for supper.* (Student D).

Inferring from the above responses, it can be understood that except in only one instance where a tutor incurred some wrath on a student with disability which made it look as if he did not show much mercy per the unfriendly nature of the environment, all the students have indicated that all is well when it comes to their tutors' relationship with them.

Another area of interest to the researcher was that of the stress that comes with quizzes and examinations. As a result the researcher inquired the kinds of academic stressors they encounter as student-teachers with orthopedic impairments.

The first respondent indicated that;

> *This is an issue. Is only last semester that I had one referral in the examinations. Except that all has been good. The only problems is that I can't sit for too long due to spinal cord problems. This makes me feel bad during our busy days* (Student A).

The next participant also responded similarly as;

> *During the quizzes I find it challenging to write the two-papers daily as has been the norm in out college. I am a slow learner so it is stressful to write the two papers a day. Again, it becomes very stressful when exam results are about to be released and also when I am not able to answer the required number of questions during the Cape Coast examinations. Furthermore, exam in mathematics also stresses me sometimes*. (Respondent B)

In a similar view, the second respondent also narrated his story about whether or not quizzes and examinations in the College stresses him. This is what he said;

> *The way I study. I feel sad when the results come. Although I don't get referrals I don't normally get what I expect*. (Student C).

The third respondent indicated that;

> *The quiz stresses me especially when it comes right after the Easter break. This is because I need to work for some frees anytime I go home. Some poor performances in the quiz leads to poor continuous assessment. It stresses me since I have to do all that is possible to pass the quizzes and exams*. (Student D).

Inferring from the various responses, it is glaring that quizzes and assessment are among the major challenges of persons with Orthopaedic impairments in the Colleges of Education in the Eastern Region of Ghana. Unlike the usual challenges emanating from fear of failing with most humans, students with Orthopaedic impairments have an added disadvantage of the several health-related conditions that affect them, particularly persistent or severe back pain that could significantly affect their assessment scores.

4.2 Research Question two: What are the sources of stress among student-teachers with orthopaedic impairments?

In attempts to answer the second research question, three questions were asked. Considering the several mobility challenges experienced by students with orthopedic impairments, that could exert substantial influence on their academic achievements, the researcher ascertained the subjective experiences of these individuals when confronted with instances of absences from lectures and other educational activities attributed to their comparatively reduced mobility pace.

These were the responses thereof;

> *Yes, I occasionally miss lectures, particularly during periods when I don't have access to data for joining group chats on our class WhatsApp platforms. Consequently, I often find myself unable to attend certain lectures and other significant college programmes due to the lack of advance notice, especially considering that some of the lecture halls are quite distant from the dormitory (Respondent A).*

The second respondent also pointed out;

> *I have not faced many challenges in this regard as I make a concerted effort to attend all lectures punctually. Our tutors can be quite strict when it comes to students arriving late or being absent from lectures, and they often express their dissatisfaction. (Respondent B).*

The third respondent also posited;

> *I rarely miss lectures, but when it comes to co-curricular activities, I often feel that my presence is unnecessary, so I choose not to attend them. Instead, I prefer to stay indoors during such events. Although I occasionally feel a twinge of regret for not being able to participate, I try to console myself and understand that it is a personal choice. (Respondent C)*

The last respondent also said;

> *Yes, on average, we are required to take eight courses within a four-month period, which can be quite dounting for me. Meanwhile, I find that some of these courses are not particularly relevant to the level at which we are being trained to teach. One such example is Further Algebra. Additionally, I strongly believe that the emphasis on methodology should surpass the theoretical aspect in our curriculum. This shift would help us avoid excessive reliance on rote learning methods that are prevalent in our current educational system* (Respondent D).

As a tutor in the College of Education, the researcher had first-hand experience with the workload of students. Recognizing the importance of understanding its impact on individuals with orthopaedic impairments, the researcher asked a questions to find out the specific effects of workload on this particular group. The question asked in this respect was; to what extent do high course loads in the colleges affects you in the college?

Respondent A said;

> *The course load becomes increasingly demanding, particularly towards the end of the semester, as tutors schedule sessions at unconventional hours to accommodate our learning needs. Certain subjects, such as Research and Abstract Algebra, also pose additional stress for me on occasions.*

Respondent B also answered;

> *The workload often makes me resort to rote learning, leaving little time to thoroughly grasp and comprehend concepts. Consequently, I find myself struggling to retain the material in subsequent semesters, which leads to self-doubt and a perception of being academically inadequate.* (Respondent B).

The third respondent expressed;

> *I believe it is necessary to reevaluate the importance of certain subjects. In an educational institution, the focus should primarily be on English, Maths, and Science courses as they form the core of education. While other subjects have their merits, I perceive them as additional responsibilities or burdens* (Respondent C).

The last person to answer;

> *Since the methodology is taken only once, it makes the practical aspect of our studies quite challenging.* (Respondent D)

In most cases, persons with Orthopaedic impairments largely have mobility challenges in environments that are not disability-friendly attributable to reasons for declining admissions to students in this category in some colleges, notably Mount Mary College of Education refused admissions students with mobility challenges given the undulating nature of the college physical environment. Taking this into consideration, the researcher posed the following question to the respondent; "how does the physical makeup of the college stress you?

The following were the responses provided by the respondents:

> *Regarding the environment, it is not something worth praising. It causes considerable stress as it consumes a significant amount of my time when traveling between the dormitory, classroom, and other areas of the school. On occasions, it becomes even more distressing when I stumble and have to return to change my attire before returning to the classroom* (Respondent A).

The next respondent also opined as follows;

> *From the dormitory to the classroom is too far. The science laboratory is also too high for me to climb. I find it tedious and painful to walk long distances especially when the weather is cold.* (Respondent B).

The third respondent also indicated the following;

> *Is good because I don't require much help to walk around. I only have a few challenges with the few high buildings around, other than that, I can say the environment is OK for me.* (Respondent C).

The fourth respondent also had this to say:

> *Certain school structures present accessibility challenges, such as the administration block housing the principal's office. Additionally, while the second-year block has a ramp, it is still too steep to be effectively utilized for accessibility purposes* (Respondent D).

Based on the feedback, it is evident that the respondents express their dissatisfaction with the current state of the physical environments found on the campuses of the Colleges of Education. Some individuals raised concerns about the long distances between lecture halls, while others mentioned the undulating terrain of the school environment. Additionally, there is a group of respondents who expressed their grievances regarding the heights of certain buildings within their colleges.

4.3 Research Question Three: How do stress influence the academic performances of student-teachers with orthopaedic impairments?

A total of three questions were also asked under research question three. The first question the researcher asked was; how do your mobility challenges affect your academic performance?

The first respondent indicated;

> *In terms of academics, it has no impact on me personally. When I experience stress, I typically take some time to relax, and then I resume my daily tasks and academic responsibilities. (*Respondent A).

The second respondent also said;

> *For me, it makes it difficult to study. It therefore affects me academically. Whenever I am stressed, I find it very difficult to learn anything since it makes me sweat a lot and as a result feels uneasy. (*Respondent B).

The last respondent said;

> *In such times I have to spend almost the whole day sleeping which eats into my study time (*Respondent D).

The researcher was also interested in finding out the extent to which the mobility challenges of students with orthopaedic impairments affect their mind, body and behaviour?

According to the first respondent;

> *He experiences significant challenges due to his condition. For instance, during the last semester's exams, there was a sudden change in the exam room locations, which were situated far away. Unfortunately, he discovered that upon arrival at the examination center he had forgotten his ID card and had to go back for it. The physical exertion left him exhausted, resulting in severe trembling throughout his body and impacting his ability to perform well in that exam* (Respondent A).

The next respondent also said;

> *I can't say much about my mind but my behavior changes towards my friends whenever I am tired. Stress gives me mood swings and causes me to overeat in such situations.* (Respondent B).

The next respondent also said;

> *It makes me worried. I sometimes lament that I should have not come to college at all. It would have been better if I had done some petty businesses where I would be quite stationery.* (Respondent C).

The other respondent also stated;

> *I always have a problem with my ribs. When it does occur I need to stop all academic activities and take a rest.* (Respondent D).

From the responses, the challenges experience by the students with orthopaedic impairments affect them in various ways which directly or indirectly affect their academic work. Their challenges put a lot of stress on these students and affect them. Whiles some of the respondents complain about missing out of examinations, others are complained about health issues that affect their performances in quizzes and examinations.

Knowing also that most challenges of students with orthopaedic impairments are related to stress, the researcher asked the respondents to tell how stress affect their sleep and eating habits?

The first respondent was of the view that:

> *Severe stress causes headaches and pains in my spinal cord. Walking from class to the dormitory makes me excessively tired and usually change my walking posture.* (Respondent A).

The next respondent stated;

> *"Stress affects my health negatively. Any time I am stressed up, I experience lots of bodily pains that make me feel uneasy during sleep periods.* (Respondent B).

Another student also pointed out:

> *"When I experience stress, headaches become a significant challenge for me. Migraines, in particular, often afflict me, sometimes incapacitating me for nearly three days, preventing me from attending classes. This issue greatly impacts my well-being and academic pursuits".* (Respondent C).

The fourth respondent also said;

> *My primary concern revolves around the issue with my ribs. During highly stressful days, I experience excruciating pain in that area, which becomes unbearable. To manage this situation, I rely on painkillers before I can engage in any productive activities. I only report to the over-the-counter chemical store for medication, and Brufen seems to be the most effective one* (Respondent D).

The next question of interest to the researcher was; what abnormal behavior do you normally exhibit when you are stressed? Below are the responses;

The first respondent indicated;

> "*I have no such challenge. The only problem he has during stressful periods was pains in the rib cage as indicated earlier*.

The second person also said;

> *"In times of stress, I tend to overeat as a coping mechanism. Consequently, I end up wasting significant amount of food stored in my locker. Additionally, stress keeps me awake for up to two hours, affecting my sleep patterns."* (Respondent B).

The third respondent said;

> *"Stress significantly disrupts my eating habits, often leading to feelings of indigestion. During stressful periods, I frequently experience a loss of appetite and find it difficult to have the desire to eat".* (Respondent C).

The last respondent also indicated;

> *Stress affects my eating habit so much. I feel some sort of indigestion when I am stressed. At certain times I don't have appetite for food when I am stressed.* (Respondent D).

The next question asked was; what abnormal behaviors do you put up when you are stressed? The first respondent said the following:

> *"When I am under a lot of stress, I notice changes in my behavior. I become more withdrawn and reclusive. I tend to spend extended periods of time relaxing in bed. As a result, some people perceive my behavior and attitude towards them as abnormal or distant."* (Respondent A).

Respondent B indicated;

> *When I am depressed, I resort to remaining too quite. During such times, I usually wouldn't want to respond to any person.*

Respondent C also said;

> *Stress often triggers a heightened sense of irritability within me, leading to easily getting provoked. Unfortunately, this has resulted in me loosing valuable friendships and important aspects of my life. Despite recognizing the issue, It is challenging to find a solution and effectively address this pattern.*

The next respondent was not left out of the interview. He also responded passionately as:

> *I am aware of the negative impact stress can have on relationships, so I make a conscious effort to overcome it. While it can be challenging to control one's temper during stressful times, I have been working diligently to manage it. One strategy I employ is*

minimizing my interactions with others when I am stressed, in order to prevent any potential conflicts or issues from arising." (Respondent D).

The researcher also asked the question; how do your challenges affect your level of socialization?

In response, the first respondent indicated:

" I generally don't encounter difficulties with socializing. In most cases, I make an effort to mask my true feelings and present myself as if everything is fine to my friends, in order to minimize their concerns and labelling.". (Respondent A).

The second respondent was also said;

"During periods of stress, my ability to connect with friends is impeded. I often find myself disregarding people who approach me. I recall an incident when my close friend, Annett, became upset with me when I declined to answer her phone call. She later discovered l was lying in close proximity to the phone, which almost escalated into an argument. Consequently, she was unenthusiastic about assisting me in carrying my books to the classroom during our study session that day." (Respondent B).

The next respondent also postulated as follows;

"There are times when I prefer to have some privacy and, as a result, I may choose to ignore certain friends. However, they often struggle to comprehend this and I find it challenging to explain my feelings or situation to them. Unfortunately, except for one true friend, others tend to retaliate by withholding their assistance in various instances. This leaves me feeling deeply saddened by the consequences of my disability". (Respondent C).

Respondent D also indicated;

"When I experience stress, I often struggle to respond to my friends' conversations. Unfortunately, some of these friends, respond with hostility instead of asking if something is wrong with me. This dynamic leaves me with negative emotions and a sense of unease".

The next question asked was; how do strategies such as drug use and alcoholism assist you in coping with stress

Respondent A said:

> *I used to take alcohol and other drugs just to calm down when I am stressed but I stopped since I became Vice President of Pentecost Students Association. The responder further indicated that he feels it will be disgraceful when such a behavior comes to the limelight.* (Respondent A).

This is what the second respondent also said;

> *Sometimes I take sleeping peels such as Diazepam or Gyprone to induce sleep. I have been on these drugs since I was introduced to them by my friend in 2012. I know they have side effects but I don't have any option (*Respondent B).

The next respondent also said this;

> *I have no issues in this respect. I have never tried to use any form of legal or illegal of illicit drugs to stress down. I think that can be very dangerous to my health.* (Respondent C).

The last respondent also responded;

> *Only sleeping is the most effective antidote I have to curb stress as advice by Dr. Anane, my medical Doctor at St. Dominic hospital, Akwatia*. (Respondent D).

The researcher asked; to what extent do you use physical activities to reduce stress?

The first respondent mentioned;

> *"I often yearn for the opportunity to engage in physical exercise, but unfortunately, our college lacks the necessary resources for such activities. However, when I am at home, I find solace in riding a particular small-sized bicycle to release the tension that arises from emotional stress".* (Respondent A).

The second respondent said:

> *"I currently do not have the means to engage in any form of exercise, although I genuinely desire to do so. Some time ago, my doctor advised me to incorporate minor exercises into my routine as a way to improve my well-being."* (Respondent B).

Respondent C indicated;

> *"Singing is the primary physical activity I engage in. Given my peculiar circumstances, it is evident that there are limited options for me to participate in other physical activities."*

Based on the above response, the researcher gave a probed as; please do you have any idea about adapted physical education?

The respondent said

*"I have heard about it but I don't know what it means". (*Respondent C).

The fourth respondent also pointed out;

I just take a walk around. But no other physical exercises. (Respondent D).

4.4 Research Question Four: what stress management strategies are adopted by student-teachers with orthopaedic impairments?

On the variable of coping strategies, the researcher asked two questions. The questions hovered around how respondents use of relaxation, and time management technique to muddle through with stress. The question asked was; how do you employ relaxation technique in solving stressful challenges?

The first respondent specified;

> *When faced with stress, I resort to excessive sleeping. I have found it to be an effective approach for finding relief and relaxation. However, one drawback I have encountered is that occasionally it causes me to miss significant events, such as evening preparations. Despite its effectiveness, the challenge lies in striking a balance between utilising sleep as a coping mechanism and ensuring that I don't miss important activities.* (Respondent A).

The next respondent pointed out;

> *One method I frequently rely on is listening to music. By dedicating just 30 minutes to this mode of relaxation, I can notice a positive shift in my well-being. Music serves a powerful tool in helping me unwind and find a sense of calm during challenging times.* (Respondent B)

The third respondent said;

> *I do use relaxation a lot. Eg, I lie down quietly with my hands-free earpiece on just listening to music and it is effective*. (Respondent C).

Finally, the last respondent indicated;

> *I do relax a lot when I am stressed up. I normally get the best of it when I take enough water before I relax.* (Respondent D).

In finding out the relevance of time management to stress management among student-teachers with orthopedic impairments, the researcher asked the respondents; how do you employ time management strategies to reduce stress in your college?

Respondent A stated;

> *Yes, I have a well-structured schedule. I adhere to a routine that begins with morning devotion and continues until the end of regular classes.*

Respondent B said:

> *"I implement a structured time table that includes designated study and rest periods. It is important to diligently adhere to this schedule".* (Respondent B).

The next respondent said;

> *In order to accommodate my own study preferences, I have developed a routine where I take a short nap and wake up to study in the dormitory. This allows me to tailor my study habits to my own needs, as I don't participate in the communal evening preparation sessions with others.* (Respondent C).

The researcher asked why the respondent doesn't go to preps, she indicated;

> *I find it challenging to attend preps because of the dark patches on our campus during the evening, which significantly disrupt mobility and make it difficult to navigate safely.* (Respondent C).

The fourth respondent said:

> *By preparing a personal timetable for duties and other academic works.* (Respondent D).

At this point, the researcher asked respondents to specify any other strategies they use to cope with stress.

Respondent A said;

> *When faced with a stressful day, I find relief by adjusting my sleeping position and choosing to sleep sideways instead of lying prostrate. This alternative sleeping position helps alleviate any pain or discomfort that may have accumulated throughout the day.*

Respondent B second respondent:

> *Going out with a few friends, particularly Matilda. I do use music at other times too.* (Respondent B).

Below is the response from the third respondent:

> *As for me I don't have any strategy aside relaxation*. (Respondent C).

The fourth respondent did not respond.

4.5 Thematic Analysis

This section presents the findings of thematic analysis conducted on interviews with individuals with orthopedic impairments regarding their stress management in Colleges of Education in the Eastern Region of Ghana. The research aimed to identify key themes that emerge from the kinds of stress, ramifications, and management strategies adopted by the responses.

Research Question One

Below are the themes that emerged from questions posed under research question one.

Theme 1: Financial Stress Challenges

Participants highlighted how inadequate finances affect them as college students with orthopaedic impairments.

Quotes:

- *"I am being taken care of by someone who has his own children. So I manage to use the little funds he gives me. At times, purchasing of books and other resources become difficult. Although, school fees is always intact, all others are problematic".*

- *"I become stressed and depressed when the home refuses to give me money to take care of my health. Eg. Recently I became very stressful when I was refused money to go for review on my leg at Koforidua and for the purchase of some books".*

- *"Sometimes I get worried because my abled peers can struggle during the holidays for money to pay for their bills but that is difficult in my case. I always need to get support from my colleagues who get personal supports*"

- *"I feel embarrassed during the purchasing of handouts, typesetting of project works, etc. in most cases, the tutors call out names of debtors and I happen to be part of the list in most cases".* (Student D).

Theme 2: Teacher-imposed challenges.

Participants expressed difficulties related to teachers in the colleges of education.

- *"All is good. There is no absolute issues".*

- *They don't pose any challenge, although, sometimes when I go wrong by say talking in class, submitting assignments late, etc they give the same punishment just as they give the regular peers.*

- *They treat me nicely at all times but I can recount a situation when a tutor shouted at me for not going to the science laboratory on time. Meanwhile, the said lab is quite far from the dormitory and the building was tall. The magnitude of the tutor's wrath made me weep on that faithful day.*

- *Tutors insisting that I should come to the dining hall to eat instead of my servants collecting the food for me in the dining hall is a major headache since I get so stressed during the day, therefore, it becomes challenging for me to walk back to the dining hall for supper.*

Research Question Two

One theme emerged under research question tow. The themes as concerned with academic stress.

Theme 3: Academic stressors encounter as student-teachers with orthopaedic impairments.

Participants indicate ways by which academic activities stress them down.

Quotes

- *Academic activities are not an issue. Is only last semester that I had one referral in the examinations. Except that all has been good. The only problems is that I can't sit for too long due to spinal cord problems. This makes me feel bad during our busy days.*

- *During the quizzes I find it challenging to write the two-papers daily as has been the norm in out college. I am a slow learner so it is stressful to write the two papers a day. Again, it becomes very stressful when exam results are about to be released and also when I am not able to answer the required number of questions during the Cape Coast examinations. Furthermore, exam in mathematics also stresses me sometimes.*

- *The way I study. I feel sad when the results come. Although I don't get referrals I don't normally get what I expect.*

- *The quiz stresses me especially when it comes right after the Easter break. This is because I need to work for some fees anytime I go home. Some poor performances in the quiz leads to poor continuous assessment. It stresses me since I have to do all that is possible to pass the quizzes and exams.*

- *The course load becomes increasingly demanding, particularly towards the end of the semester, as tutors schedule sessions at unconventional hours to accommodate our learning needs. Certain subjects, such as Research and Abstract Algebra, also pose additional stress for me on occasions.*

- *The workload often makes me resort to rote learning, leaving little time to thoroughly grasp and comprehend concepts. Consequently, I find myself struggling to retain the material in subsequent semesters, which leads to self-doubt and a perception of being academically inadequate.*

- *I believe it is necessary to re-evaluate the importance of certain subjects. In an educational institution, the focus should primarily be on English, Maths, and Science courses as they form the core of education. While other subjects have their merits, I perceive them as additional responsibilities or burdens.*

- *Since the methodology is taken only once, it makes the practical aspect of our studies quite challenging*

- *In terms of academics, it has no impact on me personally. When I experience stress, I typically take some time to relax, and then I resume my daily tasks and academic responsibilities.*

- *For me, it makes it difficult to study. It therefore affects me academically. Whenever I am stressed, I find it very difficult to learn anything since it makes me sweat a lot and as a result feels uneasy.*
- *In such times I have to spend almost the whole day sleeping which eats into my study time.*

Research Question Three (3)

Three (3) themes, including mobility challenges, psychological impacts, and health implications of student teachers with orthopaedic impairments emerged under research question three.

Theme 3: mobility challenges in stress management

Participants express how the non-disability friendliness of the college environment impact negatively on them.

Quotes

- *Yes, I occasionally miss lectures, particularly during periods when I don't have access to data for joining group chats on our class WhatsApp platforms. Consequently, I often find myself unable to attend certain lectures and other significant college programmes due to the lack of advance notice, especially considering that some of the lecture halls are quite distant from the dormitory.*

- *I have not faced many challenges in this regard as I make a concerted effort to attend all lectures punctually. Our tutors can be quite strict when it comes to students arriving late or being absent from lectures, and they often express their dissatisfaction. (Respondent B).*

- *I rarely miss lectures, but when it comes to co-curricular activities, I often feel that my presence is unnecessary, so I choose not to attend them. Instead, I prefer to stay indoors during such events. Although I occasionally feel a twinge of regret for not being able to participate, I try to console myself and understand that it is a personal choice.*

- *Yes, on average, we are required to take eight courses within a four-month period, which can be quite dounting for me. Meanwhile, I find that some of these courses are not particularly relevant to the level at which we are being trained to teach. One such example is Further Algebra. Additionally, I strongly believe*

that the emphasis on methodology should surpass the theoretical aspect in our curriculum. This shift would help us avoid excessive reliance on rote learning methods that are prevalent in our current educational system.

- *Regarding the environment, it is not something worth praising. It causes considerable stress as it consumes a significant amount of my time when traveling between the dormitory, classroom, and other areas of the school. On occasions, it becomes even more distressing when I stumble and have to return to change my attire before returning to the classroom*.

- *From the dormitory to the classroom is too far. The science laboratory is also too high for me to climb. I find it tedious and painful to walk long distances especially when the weather is cold.*

- *Is good because I don't require much help to walk around. I only have a few challenges with the few high buildings around, other than that, I can say the environment is OK for me.*

- *Certain school structures present accessibility challenges, such as the administration block housing the principal's office. Additionally, while the second-year block has a ramp, it is still too steep to be effectively utilized for accessibility purposes* (Respondent D).

Theme 4: Psychosocial impact of stress on student teachers with orthopaedic impairments.

Research participants express the ramifications of stress on their emotional and psychological wellbeing.

Quotes

- *He experiences significant challenges due to his condition. For instance, during the last semester's exams, there was a sudden change in the exam room locations, which were situated far away. Unfortunately, he discovered that upon arrival at the examination center he had forgotten his ID card and had to go back for it. The physical exertion left him exhausted, resulting in severe trembling throughout his body and impacting his ability to perform well in that exam*.

- *I can't say much about my mind but my behavior changes towards my friends whenever I am tired. Stress gives me mood swings and causes me to overeat in such situations.*

- *It makes me worried. I sometimes lament that I should have not come to college at all. It would have been better if I had done some petty businesses where I would be quite stationery.*

- *I always have a problem with my ribs. When it does occur I need to stop all academic activities and take a rest.*

- *I have no such challenge. The only problem he has during stressful periods was pains in the rib cage as indicated earlier.*

- *"In times of stress, I tend to overeat as a coping mechanism. Consequently, I end up wasting significant amount of food stored in my locker. Additionally, stress keeps me awake for up to two hours, affecting my sleep patterns".*

- *"Stress significantly disrupts my eating habits, often leading to feelings of indigestion. During stressful periods, I frequently experience a loss of appetite and find it difficult to have the desire to eat".*

- *Stress affects my eating habit so much. I feel some sort of indigestion when I am stressed. At certain times I don't have appetite for food when I am stressed.*

- *"When I am under a lot of stress, I notice changes in my behavior. I become more withdrawn and reclusive. I tend to spend extended periods of time relaxing in bed. As a result, some people perceive my behavior and attitude towards them as abnormal or distant".*

- *When I am depressed, I resort to remaining too quiet. During such times, I usually wouldn't want to respond to any person.*

- *Stress often triggers a heightened sense of irritability within me, leading to easily getting provoked. Unfortunately, this has resulted in me losing valuable friendships and important aspects of my life. Despite recognizing the issue, It is challenging to find a solution and effectively address this pattern.*

- *I am aware of the negative impact stress can have on relationships, so I make a conscious effort to overcome it. While it can be challenging to control one's temper during stressful times, I have been working diligently to manage it. One strategy I employ is minimizing my interactions with others when I am stressed, in order to prevent any potential conflicts or issues from arising."* (Respondent D).

- *" I generally don't encounter difficulties with socializing. In most cases, I make an effort to mask my true feelings and present myself as if everything is fine to my friends, in order to minimize their concerns and labelling".*

- *"During periods of stress, my ability to connect with friends is impeded. I often find myself disregarding people who approach me. I recall an incident when my close friend, Annett, became upset with me when I declined to answer her phone call. She later discovered l was lying in close proximity to the phone, which almost escalated into an argument. Consequently, she was unenthusiastic about assisting me in carrying my books to the classroom during our study session that day".*

- *"There are times when I prefer to have some privacy and, as a result, I may choose to ignore certain friends. However, they often struggle to comprehend this and I find it challenging to explain my feelings or situation to them. Unfortunately, except for one true friend, others tend to retaliate by withholding their assistance in various instances. This leaves me feeling deeply saddened by the consequences of my disability".*

- *"When I experience stress, I often struggle to respond to my friends' conversations. Unfortunately, some of these friends, respond with hostility instead of asking if something is wrong with me. This dynamic leaves me with negative emotions and a sense of unease".*

- *I used to take alcohol and other drugs just to calm down when I am stressed but I stopped since I became Vice President of Pentecost Students Association. The responder further indicated that he feels it will be disgraceful when such a behaviour comes to the limelight".*

- *Sometimes I take sleeping peels such as Diazepam or Gyprone to induce sleep. I have been on these drugs since I was introduced to them by my friend in 2012. I know they have side effects but I don't have any option".*

- *I have no issues in this respect. I have never tried to use any form of legal or illegal of illicit drugs to stress down. I think that can be very dangerous to my health.* (Respondent C).

- *Only sleeping is the most effective antidote I have to curb stress as advice by Dr. Anane, my medical Doctor at St. Dominic hospital, Akwatia*".

Theme 5: Health implications of stress on student teachers with orthopaedic impairments.

Respondents pointed out the various ways stress affects their physical health.

Quotes

- *Severe stress causes headaches and pains in my spinal cord. Walking from class to the dormitory makes me excessively tired and usually change my walking posture.*

- *"Stress affects my health negatively. Any time I am stressed up, I experience lots of bodily pains that make me feel uneasy during sleep periods.*

- *"When I experience stress, headaches become a significant challenge for me. Migraines, in particular, often afflict me, sometimes incapacitating me for nearly three days, preventing me from attending classes. This issue greatly impacts my well-being and academic pursuits".*

- *My primary concern revolves around the issue with my ribs. During highly stressful days, I experience excruciating pain in that area, which becomes unbearable. To manage this situation, I rely on painkillers before I can engage in any productive activities. I only report to the over-the-counter chemical store for medication, and Brufen seems to be the most effective one.*

Research Question 4

One theme (theme six) emerged under research question four (4).

Theme 6: Stress management techniques among student teachers with orthopaedic impairments.

Interviewees indicate various ways they manage stress.

Quotes

- *"I often yearn for the opportunity to engage in physical exercise, but unfortunately, our college lacks the necessary resources for such activities. However, when I am at home, I find solace in riding a particular small-sized bicycle to release the tension that arises from emotional stress".*

- *"I currently do not have the means to engage in any form of exercise, although I genuinely desire to do so. Some time ago, my doctor advised me to incorporate minor exercises into my routine as a way to improve my well-being".*

- *"Singing is the primary physical activity I engage in. Given my peculiar circumstances, it is evident that there are limited options for me to participate in other physical activities."*

- *"I have heard about it but I don't know what it means".*

- "*I just take a walk around. But no other physical exercises".*

- *"When faced with stress, I resort to excessive sleeping. I have found it to be an effective approach for finding relief and relaxation. However, one drawback I have encountered is that occasionally it causes me to miss significant events, such as evening preparations. Despite its effectiveness, the challenge lies in striking a balance between utilising sleep as a coping mechanism and ensuring that I don't miss important activities".*

- *"One method I frequently rely on is listening to music. By dedicating just 30 minutes to this mode of relaxation, I can notice a positive shift in my well-being. Music serves a powerful tool in helping me unwind and find a sense of calm during challenging times"*

- *"I do use relaxation a lot. Eg, I lie down quietly with my hands-free earpiece on just listening to music and it is effective*".

- *"I do relax a lot when I am stressed up. I normally get the best of it when I take enough water before I relax".*

- *Yes, I have a well-structured schedule. I adhere to a routine that begins with morning devotion and continues until the end of regular classes.*

- *"I implement a structured time table that includes designated study and rest periods. It is important to diligently adhere to this schedule".*

- "*In order to accommodate my own study preferences, I have developed a routine where I take a short nap and wake up to study in the dormitory. This allows me to tailor my study habits to my own needs, as I don't participate in the communal evening preparation sessions with others".*

- "*I find it challenging to attend preps because of the dark patches on our campus during the evening, which significantly disrupt mobility and make it difficult to navigate safely".*

- "*By preparing a personal timetable for duties and other academic works".*

- "*When faced with a stressful day, I find relief by adjusting my sleeping position and choosing to sleep sideways instead of lying prostrate. This alternative sleeping position helps alleviate any pain or discomfort that may have accumulated throughout the day".*

- *"Going out with a few friends, particularly Matilda. I do use music at other times too".*

- "*As for me I don't have any strategy aside relaxation".*

CHAPTER FIVE

DISCUSSION OF RESULTS AND FINDINGS

5.0 Overview

The chapter presents discussion of results from the study conducted on causes of stress and coping mechanisms among persons with orthopaedic impairments in selected Colleges of Education in Ghana. The discussions were done along six themes as financial stress challenges, teacher-imposed challenges, academic stressors, mobility-related stress, Psychosocial impact of stress, health implications, and stress management techniques among student-teachers with orthopaedic impairments.

5.1 Financial Stress

According to the findings, there are several ways that the respondents get stressed in the selected Colleges of Education in Ghana. Some ways of stress that were indicated by the students include situations where some of them take care of themselves with little or no support from the home. Some students with orthopaedic impairments go the extra mile by raising funds to pay their fees and other related fees in the colleges. Some of these students need to raise money to take care of their health needs. Some other students with orthopaedic impairments also have stresses that are connected with the kinds of persons they rely on to assist them in some basic chores in the colleges. This finding has a correlation with the Transactional Model of Stress and Coping which emphasises that individuals engage in a cognitive appraisal process to evaluate the significance and meaning of these stressors. In this context, the students may appraise the lack of support and financial challenges they face as threats or challenges to their well-being and academic success. Furthermore, the model suggests that individuals also assess their coping resources and strategies to deal with the stressors. The respondents indicated active coping efforts, such as raising funds to pay fees and taking care of their

health needs. They are using their personal resources and taking initiative to manage the stressors they encounter. The transactional model of stress and coping provides a framework to understand how these students in Colleges of Education appraise and cope with the stressors they encounter and emphasizes the importance of individual perceptions, appraisal processes, and coping strategies in shaping their stress experiences and responses.

All those challenges go a long way to affect their lives in the colleges as students. These situations outlined can be likened to the assertions of Trockel, et al (2010) that students who make too little money to pay for their tuition, book costs and other living expenses, or those who make just enough, suffer from stress due to the financial problems they face. The scholars further observed that many students have to work while they are attending college. The numerous stress sources indicated by the students can be likened to an aspect of the research theory underpinning this study. According to Lazarus's (1991) version of the theory, stress is regarded as a relational concept, i.e., stress is not defined as a specific kind of external stimulation nor a specific pattern of physiological, behavioral, or subjective reactions. Instead, stress is viewed as a relationship (`transaction') between individuals and their environment. This theory holds truth per the responses indicated by the respondents where they pointed out more than only one source of stress under the question asked.

It is not a conducive experience when a student has to handle of academics and financial constraints. Life becomes very challenging when a student is behind on bills payment; for when deadlines are not met and bills stare at you, it is enough to get a student tensed and depressed. The case of the Colleges of Education is not different where students who owe fees are usually expelled before and during examinations. Most of the time there may be students with genuine financial concerns that had

prevented them from effecting payments but per the nature of the system of college education in Ghana, these students are usually threatened and expelled during examination periods. This kind of tension can affect the examination's validity and general performance of students since some of these culprits who take the examination may not overcome the fear of being sacked from the examination halls which in turn can affect their performances.

The predicaments of other respondents struggling to raise money for fees and other charges is in line with Seyedfatemi (2007) conviction that combining work with studies in the quest to raise money have also been noticed by educationists the world over**.** Many students take a part-time job or short term job during their period of studies. Some of them do this to gain experience for the future and also others to support their studies and themselves financially. Although working while in school is very beneficial to a student, the case of persons with orthopaedic impairments is different given that the practice, it causes lots of stress for them since that might be too difficult to handle. Seyedfatemi feels that students will not have much time to study for their quizzes or exams and some even miss a lot of classes because they will be worn out or tired by the time they come back from their workplace.

Furthermore, the findings on the students' financial stress are in line with findings of (Andrews & Wilding, 2004; Kariv & Heiman, 2005; Misra & Castillo, 2004; Mori, 2000; Omigbodun et al., 2004; Seyedfatemi, 2007; Smith & Renk, 2007) suggesting that financial burdens could be a potential stress factor for college students which contribute to low academic performance. Interestingly, the responses are further in line with the highlights of Pfeiffer (2011) suggesting that many students have to work while they are attending college to pay for their fees and there are many times when students have to work late at night and then do not have the time to study. This can be

hazardous for students as worrying about their financial issues and grades can be an immense challenges in their academic lives.

Although the College of Education system is such that students are 'boardenized', one may seem to think that the arguments of Pfeiffer do not hold any water. However, some students engage in several forms of business ventures back in their homes and as a result, want to rush home every other weekend to attend to these businesses.

5.2 Mobility-Related Stress

Another very concern to the researcher was about the likelihood of some of the persons with orthopaedic impairments missing lectures and other important school functions due to their mobility challenges. From every indication, it was construed that while some students with orthopaedic impairments miss lectures due to their mobility challenges, significant others miss lectures given their lack of funds to buy android phones or better still buy internet data for their phones. For instance, one person indicated that she missed some lectures due to her inability to raise enough funds to procure data to assess a group WhatsApp page where information is posted for the class. This situation is in line with the assertion of Bodenmann (2015) that financial or work-related problems can make family obligations difficult. Not making enough money or living in poverty, for example, creates economic strain in the household and can increase stress levels. According to this author, this can result in constantly worrying about money and not being able to meet the needs of one's family.

One other finding was the failure of various colleges to embark on adapted physical education for their students. One of the respondents mentioned that there is no arrangement for them to take part in co-curricular activities, notably sporting activities.

This situation, to some extent, is contrary to the remarks by Greenberg (1996) that exercising can help to release the stress that is built up in the body. The body is prepared to do something physical, and exercise will afford it a healthy way to make use of this preparation. According to Greenberg, participating in intramural sports can be a way to release stress and have fun at the same time. If the comments by Greenberg are anything to go by, then, the Colleges of Education in Ghana are not up to standard since the researcher never chanced on any facility that depicted signs of adaptations being done to ensure effective participation of persons with disabilities including those with orthopaedic impairments in exercising their bodies in co-curricular activities.

Students with physical impairments not having easy access to the physical environment like their regular peers, including adapted physical education, can be understood within the framework of the Transactional Model of Stress and Coping. In this context, students appraise the lack of access as a stressor, further perceiving it as a challenge or threat to their full participation in physical activities. They evaluate their personal and social resources, including physical abilities, assistive devices, and support from family, peers, and teachers. Coping strategies are employed, such as advocating for accommodations, collaborating with educators, seeking support from disability services, and utilizing assistive technologies. Social support plays a vital role, as students rely on relationships with peers, teachers, and disability services to navigate the challenges. By applying the transactional model, we can gain insights into how these students appraise the stressor, evaluate resources, and employ coping strategies to address the lack of access and strive for inclusivity in their educational environments.

Academic stress featured in the findings. The respondents pointed out the huge number of lectures they attend between 7:00 am and 3:00 pm on daily basis affect them significantly. For instance, one respondent indicated that the long hours of sitting has

given him spinal pains persistently. These challenges are in agreement with the observations of Harikiran (2012) and Sansfiry and Sail (2006) who contended that most frequently reported factors contributing to stress and anxiety around examination periods were extensive course loads, lack of physical exercise, and long duration of exams, reported by the students.

These findings by Sansfiry and Sail (2006) supports the responses of the respondents when they answered the question "to what extent do high course loads in the school affects your stress levels?" The students contended that the heavy course load stresses them so much. Some of the students also felt that the situation leads to rote learning among the students. They indicated that the situation makes them forget about the stuff they learn in their classrooms. Some other students with Orthopedic impairments also wish some of the subjects must be quashed since they are not relevant to the teacher education course.

The above responses are indications pointing to the fact that students get stressed largely due to the number of academic exercises that go on in their various Colleges of Education which is not different from the findings from Suldo (2009) that environmental constraints and psychological adjustment of 162 exclusively academically advanced (IB – International Baccalaureate) students in the USA and a comparison sample of 157 students in general education. Seven primary categories of challenges related to academic stress were identified including academic requirement, parent-child relations, stressful events, peer relations, extra-curricular activities, and academic struggles.

According to Suldo, the most frequent source of stress experienced by IB students was related to academic requirements. In contrast, for students in the general

education program, challenges were parent-child relations, academic struggles, conflict within the family, and peer relations, as well as role transitions and societal problems. The findings also imply that students in college preparatory programmes were more likely to experience elevated stress levels related to academic demands as opposed to more typical adolescent concerns, and manifest worse outcomes in the face of stress.

The findings among the College of Education students with orthopaedic impairments in the Eastern Region of Ghana is not different from what was said by Sun (2012) and Thai (2010) that, researchers in China and Vietnam using the Educational Stress Scale for Adolescents (ESSA) revealed that academic stress was found to be related to five factors: pressure from the study, workload, worry about grades, self-expectation, and despondency.

To conclude, Burnett and Fanshawe (1997) have reported that nine factors, including teaching methods, Pre-service teacher relationships, school workload, school environment, feeling vulnerable, personal organisation, achieving independence, anxiety about the future, and relationship with parents were related to academic stress.

There is a myriad of ramifications with stress among some students with orthopaedic impairments in Colleges of Education. Several questions were designed and administered to the respondents of the study. Several common, as well as differentiated responses, were presented by the respondents as far as the numerous questions were concerned. For instance, the researcher asked the respondents a question that would lead them to know the extent to which stress affects their minds, bodies and behaviour.

Several responses were given by the respondent but generally, they feel tired when they move longer distances to lecture halls and other program sites. Some of them

also complained about their change in behaviour which leads to an overreaction in petty issues. Some others also feel worried and get fed up with schooling. Others too are affected health-wise since stress aggravates some health challenges that battle them. There is the need for others to stop all activities so as to make time for relaxation. Additionally, the transactional model plays out here, given that individuals engage in a cognitive appraisal process to evaluate the significance and meaning of stressors.

In this case, the respondents' experiences of feeling tired, changes in behaviour, overreactions to petty issues, worry, and being fed up with schooling can be seen as stress responses resulting from the demands placed on them, particularly the physical and psychological challenges associated with longer distances to lecture halls and program sites. The imbalance between the demands and their personal and social resources contributes to the experience of stress. Furthermore, the statement highlights the impact of stress on their health, aggravating existing health challenges. The suggestion for others to stop activities for relaxation aligns with the coping strategies proposed by the transactional model, emphasizing the importance of taking breaks and engaging in relaxation techniques to manage and alleviate stress.

The above responses go hand-in-hand with the observation of Lo (2002) that biochemical changes take place in the body in response to stress; changes like adrenal enlargement, gastrointestinal ulcers and thymicolymphatic shrinkage. He reported these signs in people who had high levels of stress for a long duration of time. These changes in the body were recognized as objective indices of stress.

The report of Cox (2010) cannot be left out in this discussion. According to Cox, excessive stress, and physiological and mechanical responses of the body are similar among individuals. In the view of Cox what is different is the intensity and length of

the response changes, and again, excessive intensity or a lengthy period engaging the stress response is what people generally refer to as stress.

5.3 Psychosocial Impact of Stress

Considering the data presented for the second question under research question one, it can be deduced that the respondents have some levels of difficulties socializing with their abled peers. One of the respondents feels emotional when he looks back at how abled he was before his current circumstances. Most of them also was sad when it comes to water crisis when the services of their colleagues are required most before they can survive in the Colleges of Education. The experiences of the respondents are in line with what Wang and Ko (2009) observed that relationships with friends, lovers, family and significant others can be stressful, either because they're inherently unhealthy or because they're threatened by external sources of stress.

From the point of view of Wang and Ko, teenagers and young adults are still developing emotionally, and maintaining or dissolving a relationship can be especially taxing. From the above comments of the respondents, it can be deduced that most of the students with orthopaedic impairments are affected by the behaviour of their peers which is in line with what Alfaro and Umaña-Taylor (2010) said that relationship or relations on its own are a broad topic that can be discussed and it has had a lot of effects on most aspects of the life of individuals. The term relationship talks about how people are connected through blood, marriage, adoption and other legal ways like naturalization for a country and registration.

It is important to emphasise that stress has antisocial leanings on the respondents because according to the proposition of the theoretical framework one is deemed stressed when demands exceed the personal and social resources the individual is able

to mobilise. In this vain, until such a time that these students adopt strategies to overcome their stresses, they would not be in the right frame of mind to socialize with colleagues. These discussions reflect the interaction between stress, appraisal, coping, and socialization, which is central to the transactional model of stress and coping. It highlights how the experience of stress can have implications for the social functioning and interactions of the respondents in this context.

Per the effect of homesickness as articulated by Fisher (2017, p. 9) that "homesickness is affecting the learning of the students to a large extent and if care is not taken their academic pursuits would be affected" just as Kathryn Laura and Michelle (2009) mentioned that homesickness can affect a student, making it difficult for them to study or cope effectively with academic life. Fisher added that academic work could affect students, particularly absent-mindedness, non-attentive, or avoiding lectures.

The observation of Thurber and Walton (2012) cannot be left out of this discussion especially with close consideration to their second and fifth risk factors associated homesickness classified under experience factors where the authors believe that younger age, little previous experience away from home (for which age can be a proxy), and little or no previous experience in the novel environment as well as little or no previous experience venturing out without primary caregivers. The authors made mention of the second classification as environmental factors where high cultural contrast (e.g., different language, customs, food); threats to physical and emotional safety; dramatic alternations in daily schedule; lack of information about the new place; perceived discrimination are considered.

Additionally, what Garrett (2011) said also supports the experiences of the students that have been discussed above. Garrett said that college students have been shown to possess a unique set of stressors that can affect their daily experiences. Garrett added that some familiar reactions to demands made on the body include increased heart rate, respiratory rate, blood pressure and blood glucose level. According to Nathan (2012), all these compensatory reactions occur to ensure the muscles and vital organs have an ample supply of oxygen, energy and nutrients to handle the challenging situation. It is therefore clear that in any case if the students of the colleges are stressed, it would lead to many health and physiological challenges that would likely affect their health and academic wellbeing in general.

The respondents indicated that they become abnormally quiet, attracting the attention of other people. Some of them mentioned that they easily throw tantrums or quarrel with their schoolmates over trivial issues. Additionally, there are others who resort to avoiding contact with friends and acquaintances.

Per some of the responses, it is clear that Luthans' (2008) views on stress hold some amount of water. According to some of the respondents, whenever they are stressed they found it challenging to associate well with their colleagues. The same observation has been made by Luthans when he found out that stress involves the interaction of the person and environment and that stress is an adaptive response to an external situation that results in physical, psychological and/or behavioral deviations for organizational participants (p. 95).

Some of the respondents indicated that stress has some ramifications on their behaviours towards their colleagues', whiles others deduce strategies to cope with their stresses. These characteristics of the respondents are similar to the viewpoint advanced

by Pearlin when she indicated that behavioural reactions to stress vary greatly. According to Parlin, some people may turn more towards the 'fight' others towards the 'flight' response. A third group may find it very hard to act at all. Normal tasks frequently seem impossible, and when this happens a typical fighter may persist in doing more and more, becoming progressively overloaded and inefficient.

Further to the already discussed literature, it can be said that Mazumdar's (2012) understanding of stress is greatly appreciated here. According to the scholar responses to stress affects the mind, body, and behaviour along those we live, work and cooperate, a situation that can be traced in the response of one of the respondents when he indicated that in times of stress he finds it challenging to interact with friends. According to Mazumdar, it is vital to learn how to recognize when our stress is not controllable. He expressed that, the most dangerous thing about this phenomenon is how easily it can move in on us.

5.4 Tutor-Related Stress

Student-tutor relationships were another variable of concern. The interviewees indicated that they enjoy a good relationship with their tutors. All of them indicated that their tutors treat them nicely except for only one instance where a tutor was not considerate of a student with orthopaedic impairments who was late to class. This student had wanted the tutor to pardon her for being slightly late to the lecture but instead treated her just like the other 'abled' students.

Overall, the niceties of the teacher-student relationship would yield a great result as West (2012) has indicated that relationships with teachers played an enormous role in students' academic performance. Teachers have been shown to exert pressure upon students and influence parents to control their children's academic activities. The

positive attitude of the college tutors and its intended goodies can be traced in Murray-Harvey and Slee's 2007 study of 888 students aged 10 to 16 years in Australia where they found out that students were less likely to report experiencing somatic and depressive symptoms when they saw their relationship with teachers as supportive. The authors found out that conversely, a higher level of depressive symptoms was reported when this relationship was perceived as stressful.

5.5 Academic Stress

The researcher was interested in stresses that could arise from examinations, quizzes and other academic exercises. Surmising the various responses, it is clear that the nature of these academic exercises affects some of the students with orthopaedic impairments in the colleges. It came out that students may have to write quizzes on two courses or even more daily which tend to pile a lot of stress on the students who in some cases cannot sit for too long under such tense conditions. The situation makes them underperform since it mounts a lot of stress on these students. Again, ad discussed earlier in connection with the Transactional Model of stress and Coping theory adopted for the study, once students have not overcome their stresses it would be quite challenging for them gather the require strength and motivation to study academic materials necessary for successful examinations.

The respondents indicated that they have difficulties coping with academic activities in the college. This development endorses the perspective of Felsten and Wilcox (1992) that academic problems have been reported to be the most common source of stress for students which has been buttressed by Schafer (2006) who asked college students about their most stressful daily hassles and observed that the most irritating daily hassles were usually school-related challenges such as constant pressure of studying, too little time, writing term papers, taking tests, plans, and boring

classroom instructors. Furthermore, Fisher (2014) noted that among the challenges, test or examination anxiety is one of the main causes of academic stress and most students seem to be more emotionally vulnerable to examination. It is not surprising therefore when the majority of the respondents cited examination-related activities as a challenge.

Further to the stress associated with quizzes and examinations as reported by the respondents, Ratana (2013) cannot be left out in the discussions when he stated that another frequently reported source of stress that most college students experience is receiving a lower grade than they expected. He posited that students have a fear of failure concerning their grades and academic work. Students' fear for exam can be linked to the Transactional Model of Stress and Coping given that the model provides a framework to understand students' fear of failure regarding their grades and academic work. It highlights the role of cognitive appraisal, the imbalance between demands and personal resources, and the importance of coping strategies in shaping their stress experiences. By recognizing the fear of failure as a stressor and adopting effective coping strategies, students can better manage their stress and enhance their academic performance.

5.6 Health Implications of Stress

Another important revelation by the respondents that was assessed was the ramifications of stress for the health of students with orthopaedic impairments in colleges of education. For instance, a respondent mentioned that long hours of sitting affects his spline which is in line with what Lesko and Summerfield (2009) cited Aldwin and Greenberger (2007) and Linn and Zeppa (2009) that stress associated with academic activities has been linked to various negative outcomes such as poor health, depression and therefore poor academic performance.

It came out that some respondents experience headaches and other health challenges, including pain in their spinal cords largely resulting from the long distances they walked from dormitories to the classrooms. This is consistent with findings of Ross et al. (2009) that a different set of challenges are common among all college students. According to Ross et al, stress-related experiences include a change in eating and sleeping habits, new responsibilities, heavier workloads and breaks. The findings of Ross et al and that of the study highlights the importance of considering the health status of students with orthopaedic impairments. It reveals that these students experience headaches, pain in their spinal cords, and other health challenges due to the long distances they have to walk from dormitories to classrooms. This aligns with previous findings by Ross et al. (2009), which indicate that college students, in general, face various stress-related experiences such as changes in eating and sleeping habits, new responsibilities, heavier workloads, and breaks.

Similarly, Phinney and Haas (2013) reported a unique set of stressful experiences among the ethnic minority in First-Generation College freshmen. More specifically, sources of stress included difficult financial challenges, domestic responsibilities, responsibilities related to holding a job while in school, and a heavy academic load. Also, the ethnic minority college freshmen experienced challenges such as conflicts in time management, the pressure associated with their academic workload and problems within their family (Phinney & Haas, 2013).

5.7 Coping Mechanisms

Although moderate amount of stress, it could be deadly when experienced in excess. It can harm our emotional and physical health, and limit our ability to function well. The good news is that, since we are responsible for bringing about much of our stress, we can also do much to manage stress. The researcher was interested in finding

out best practices students use in coping with stress in the colleges with special reference to persons with orthopaedic impairments.

The researcher was interested in how stressing students with orthopaedic impairments resort to self-medication, using non-prescription drugs as a coping strategy for stress. From the responses, it could be deduced that some of them use medication such as Diazepam and Gyprone to induce sleep. Even though, not all the students with Orthopaedic impairments use drugs to overcome their stresses, it is important to address it even though it may be a calmer of nerves as mentioned by Mills, Reiss and Dombeck (2008) that Benzodiazepines, barbiturates and alcohol produce their calming effects by activating (or 'agonizing') a naturally occurring neurotransmitter substance commonly found in the brain called gamma-aminobutyric acid (GABA), an inhibitory neurotransmitter whose function is to slow down brain activity. By activating GABA, benzodiazepines, barbiturates and alcohol all function to inhibit brain activity and thus slow and calm down the body.

Similarly, some findings of Mills, Reiss and Dombeck (2008) counter the use of over-the –counter drugs to overcome stress. According to the scholars, users of such substances could experience withdrawal symptoms, including potentially severe restlessness and insomnia and even death if they do not continue to take their medication. Combining multiple sedatives (or taking sedatives together with alcohol) can lead to coma or death. There is a relationship between this finding and the

Transactional Model of Stress and Coping. It is observed that the model emphasises the role of coping strategies in managing stress. In the context of the statement, the use of over-the-counter drugs is considered as a coping strategy to overcome stress. However, the findings of Mills, Reiss, and Dombeck counter the

effectiveness and safety of this coping strategy. They highlight that users of these kinds of drugs may experience withdrawal symptoms and potentially severe side effects, notably restlessness, insomnia, and even death if they abruptly discontinue their medication. Additionally, combining multiple sedatives or using them in conjunction with alcohol can have grave consequences, including coma or death.

This relationship highlights the importance of understanding and utilizing effective coping strategies, as recommended by the transactional model, while also considering the potential risks and drawbacks of certain coping mechanisms, such as the use of over-the-counter drugs. It underscores the need for individuals to seek healthier and safer coping strategies to manage stress rather than relying on potentially harmful substances.

Physical activity has been considered a good stress reliever. From the responses, it came out that there are no sources of physical exercises for the students with Orthopaedic impairments in the Colleges of Education in the Eastern Region of Ghana. This response is contrary to the observation of Miller (1982) that exercises are important in managing stress since they support relaxation and breathing. According to Miller, exercises further improve assertiveness, time management, and maintaining good nutrition.

The relaxation technique has been used by several people and is accepted as one of the very effective strategies in coping with stress. The generality of the responses put out that all the students with orthopaedic impairments in the Colleges of Education in the Eastern Region of Ghana do use the relaxation technique extensively to cope with their stresses.

Even though respondents were not asked to mention the actual type of relaxation they undertake, at least, they enjoy one or two forms of relaxation per the responses gathered. The only challenge impeding this type of coping mechanism is the inability of the colleges to institute measures, including physical exercises, and relaxation techniques to relieve these students of their challenges.

Time management is a major procedure that can be used to relieve stress among students with orthopaedic impairments in Colleges of Education. The responses point out that some students employ time management strategies ranging from the design of personal timetables, not oversleeping and the likes. Indications are that there are some amounts of facts by Husam and Adnan (2011) that 57% of students with orthopaedic impairments employ effective time management when they pay absolute attention to their priorities.

Additionally, Misra and Mckean's (2000) observation is correct when they indicated that time management has a greater buffering effect on academic stress and poor time management is a predictor of academic stress. Similarly, Janata's (2008) submission that students that use effective time management have enhanced sense of control.

The researcher felt that it was likely some students might be more conversant with certain strategies they use to manage stress among themselves that might be relevant for the colleges' guidance and counselling sessions as far as stress management is concerned. Some of the methods and strategies outlined by the respondents include the use of specific sleeping postures, picking of strolls with friends, and making formal complaints about some untold behaviours of colleagues to appropriate quarters for redress.

Unfortunately, none of the literature reviewed captured sleeping posture. Most authors only discuss sleeping as a good coping strategy but no specific mention was made of the posture. One set of scholars who mentioned sleeping as a coping strategy were Essel and Owusu (2017). These scholars pointed out that change in sleeping habits is of grave concern. They speculated that the somewhat burdensome nature of student life causes a drastic change in sleep pattern. Moreover, newly adopted sleep pattern is unstable, as it is often tied to academic workloads and/or tasks at hand.

It is important to indicate that the Transactional Model of Stress and Coping provides a framework to understand how individuals appraise and cope with stressors. The model recognizes that individuals may employ various coping strategies to manage their stress. Unconventional modes of stress management refer to non-traditional or alternative approaches that individuals may adopt to alleviate stress, such as mindfulness practices, relaxation techniques, creative outlets, or holistic therapies. The model emphasizes the subjective appraisal of stress and the evaluation of coping resources, including these unconventional methods. It acknowledges that individuals have unique preferences and needs when it comes to stress management and encourages the exploration and utilization of diverse coping strategies that may effectively reduce stress and promote well-being. Therefore, the transactional model supports the integration of unconventional modes of stress management into an individual's coping repertoire, acknowledging their potential value in promoting resilience and coping with stressors in a personalised and holistic manner.

CHAPTER SIX

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

6.0 Introduction

This chapter dealt with the summary of the study, conclusion based on the findings, recommendations and suggestions.

6.1 Summary

The study aimed to investigate stress levels and coping strategies among individuals with orthopaedic impairments in Colleges of Education in the Eastern Region of Ghana. The research objectives revolved around identifying the types and nature of stress faced by students with orthopaedic impairments, determining the sources of stress, exploring the impact of stress on, and examining the coping mechanisms adopted by the students.

The qualitative research approach was adopted for the study, as it focused on gaining insights into the phenomenon rather than relying on statistical analysis. The target population consisted of all individuals with orthopaedic impairments in four of the five Colleges of Education in the Eastern Region of Ghana. Mount Mary College of Education was excluded from the study due to its infrastructure constraints that do not allow authorities to admit students with orthopaedic impairments. A purposive sampling approach was employed to select participants, resulting in a sample size of four individuals. Data collection primarily involved the use of interview schedules.

Data collected were analysed through transcriptions and descriptive statements and the findings revealed several causes of stress among students with orthopaedic impairments in Colleges of Education in the Eastern Region of Ghana that warrant attention. Notable findings included financial burdens, heavy academic workloads,

inconvenient assessment timing, lack of physical adaptations, and inaccessible buildings. Various effects of stress on these students were also identified, such as behavioural changes, abnormal and antisocial lifestyles, health-related issues, poor concentration, and illicit drug use. Several coping strategies are employed by the students, notably the use of pain relievers, time management techniques, adopting comfortable sleeping positions, socializing with friends, and seeking assistance from authorities.

The challenges identified in the study had various negative ramifications on the students. Stress affects their behaviour, leading to untoward actions for their friends. Abnormal and antisocial lifestyles, mood swings, regrets about attending college, and health issues, including pains in rib cage result in students requiring excessive time off for rest and stress relief. Concentration during studies is also significantly impacted, with bodily pains, and severe headaches largely hindering academic performance. Moreover, the challenges contributed to excessive and illicit drug use, and disrupted eating patterns.

In terms of coping strategies, individuals with orthopaedic impairments in the colleges employed various techniques to manage their stress levels. Some resort to the use pain relievers to alleviate physical discomfort. Sleep and relaxation techniques were mentioned, although limited access to adapted physical exercise facilities made these less feasible. Time management was highlighted as a crucial strategy utilized by nearly all respondents, involving the use of schedules, adherence to college routines, and allocating dedicated study time after formal classes. Additionally, some students resort to sleeping in specific positions, socializing with a select group of friends, and approaching authorities to address challenges, among others to stress down.

6.2 Conclusions

The study conducted on student-teachers with orthopaedic impairments in Colleges of Education in the Eastern Region of Ghana revealed significant conclusions. It came out that the students face numerous financial challenges, including healthcare expenses, fees, and the purchase of academic materials. Unlike universities, the government has not provided scholarship schemes for these students, exacerbating their financial burdens.

The study also highlighted various issues affecting the well-being of the students. Sleep disturbances caused by noisy fellow students can lead to fatigue and hinder academic performance. Additionally, strict social gatherings, such as mandatory morning devotions and dining hall attendance, create discomfort for students. Heavy course loads and courses with insignificant relevance, including Ghanaian Language contribute to student stresses.

Continuous assessments scheduled immediately after college breaks and inadequate access to water further stress the students. Borehole systems often fail, compelling students to travel long distances to fetch water. Further, co-curricular activities and sports facilities are not adapted to accommodate students with orthopaedic impairments, limiting their participation.

The study revealed the negative effects of stress on students' academic performance and well-being. Stress-induced behaviours and mood swings strain relationships, while physical pain and health issues disrupt learning. Drug abuse, including substances like Bruffen, Diazepam, and Gyprone, poses a significant concern, potentially leading to resistance to medication.

Students employ coping strategies such as alcohol consumption, use of pain relievers, and relaxation techniques. However, the lack of adapted physical facilities and environments hinders their effectiveness. Effective time management strategies, including use of timetables, helps students to maximize productivity.

To improve the situation, financial support programmes, reforms in program content, and adaptation of facilities would be necessary. Addressing sleep disturbances, water access, physical accessibility, and drug abuse issues will contribute to a more inclusive and least restrictive and supportive educational environment. Implementing these measures would enhance the academic performance and overall well-being of students with orthopaedic impairments in Colleges of Education in the Eastern Region.

6.3 Recommendations

Based on the findings and conclusions of the study the researcher makes the following recommendations:

1. Principals of the selected Colleges in collaboration with Special Education Division of the Ministry of Education may set up Disability Desks to ensure effective provision of inclusive education and support services for students with disabilities.

2. Principals of the selected Colleges may collaborate with Ghana National Petroleum Corporation, the Scholarship Secretariat, Metropolitan, Municipal and District Assemblies, and Ghana Education Trust Fund to arrange for financial assistance for needy students with orthopaedic impairments in the Colleges of Education.

3. The Principals of the aforementioned Colleges may enhance orientation programmes for students with orthopaedic impairments to help them adjust better with College procedures and activities.

4. The Principals of selected Colleges may revise examination policies ensure assessment procedures are beneficial to students with orthopaedic impairments. Extra time may be provided to students with fine motor abilities to encourage them finish tests.

5. Principals of the sampled Colleges may collaborate with curriculum planners at mentoring universities to inculcate adapted physical education in the colleges to encourage students with orthopaedic impairments to partake in games and other sports.

6. Principals of the selected Colleges in collaboration with Ministry of Works and Housing may take steps to adhere to the Ghana Building Codes and other environmentally friendly provisions in the Persons With Disability Act, 2006 Act 715 to improve mobility for students with orthopaedic impairments on campuses.

7. Principals of the selected Colleges may enhance Guidance and Counselling activities for students with orthopaedic impairments in the colleges.

6.4 Future Implications for the Study

Per the researcher's observation and findings reached, it is very imperative that this study is replicated in other College of Education settings across Ghana. The findings call for proactive measures and policy changes to create a more inclusive,

supportive, and accessible educational environment for students with orthopaedic impairments.

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APPENDIX

Interview Questions

1. In what ways do financial constrains affect your life in the college?
2. How do the behaviour of your tutors and other college staff affect your life in the college?
3. How do your quiz and examination grades affect you in the college?
4. How does the physical makeup of the college stress you?
5. How do your challenges affect your academic performance?
6. To what extent do your challenges affect your psychosocial makeup, body and behavior?
7. In which ways do your challenges affect your sleep and eating habits?
8. What abnormal behavior do you normally put up when you are stressed?
9. How do your challenges affect your level of socialization?
10. To what extent do you use physical activities to reduce stress?
11. How do you employ relaxation technique in solving stressful challenges?
12. How do you employ time management strategies to reduce stress in your college?