Influence Of Psychosocial Factors on Generalized Anxiety Disorder Among Undergraduate Medical Students in Kenya: A Case of Kenya Methodist University, Main Campus, Meru

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DECLARATION AND RECOMMENDATIONS

Declaration

This thesis is my original work and has not been presented at any other university.

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MCP-3-0132-1/2023

Recommendations

We confirm that the candidate carried out the work reported in this thesis under our supervision.

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DEDICATION

This thesis is dedicated to my family, whose unwavering support and encouragement have guided me throughout my educational journey. Their constant presence and belief in me have been a source of strength in every challenge I faced. I am truly grateful to have such a remarkable family.

I also dedicate this work to all medical and health sciences students whose commitment and tireless efforts continue to shape a healthier and better future for our communities.

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ABSTRACT

Medical students are a group of people who are usually inclined to develop anxiety disorders because of the relatively stressful environment and other various psychosocial challenges they encounter. The purpose of this study was to investigate the influence of psychosocial factors on Generalized Anxiety Disorder (GAD) among undergraduate medical students. The following objectives guided the study: to investigate the influence of financial worries, academic pressure, stress coping strategies, and student-staff relationships on GAD among undergraduate medical students at Kenya Methodist University, Main campus, Meru. The Transactional Model of Stress and Coping and Self-Determination Theories informed this study. The researcher adopted a mixed-methods research design. The study targeted 1627 medical students. Stratified and simple random sampling was used to select 163 medical students from the Bachelor of Medicine and Surgery (MBChB), pharmacy, clinical medicine, nursing, and medical laboratory. 10 staff members (chairpersons of the Department, university counselors, and medical lecturers) were chosen using a purposive and census sampling method. The data were gathered from staff members and undergraduate medical students using a semi-structured interview schedule and questionnaires, respectively. Tools were piloted at Mount Kenya University (MKU), Main Campus, Thika, to ascertain their validity and reliability among 17 medical students and staff members. Reliability was confirmed using Cronbach's alpha, with all variables exceeding the acceptable threshold of 0.7: GAD (.873), academic pressure (.784), financial worries (.823), stress-coping mechanisms (.71), and student-staff relationships (.87). The quantitative data were analyzed using IBM Statistical Product and Service Solution (SPSS) Version 30. Descriptive statistics (frequency, percentage, mean, and standard deviation) and inferential statistics (multiple linear regression) were used to analyze and make sense of quantitative data. Thematic analysis was used to analyze qualitative data. The overall response rate was 80.36%. Results showed that academic pressure ($\beta = .265$, $p = .003$) and financial worries ($\beta = .297$, $p = .001$) were significant positive predictors of GAD, indicating that higher stress in these areas increased anxiety levels. Positive stress-coping strategies were a significant negative predictor of GAD ($\beta = –.266$, $p = .005$), suggesting that effective coping reduced anxiety symptoms, while negative stress-coping was not a significant predictor of GAD ($p = > .05$). Student–staff relationships demonstrated a non-significant negative trend ($\beta = –.150$, $p = .057$). Qualitative findings reinforced the statistics, identifying workload, performance pressure, financial strain, and poor coping as key stressors. In contrast, mentorship, supportive staff, and healthy coping strategies were found to foster resilience. The study concludes that academic pressure and financial strain substantially elevate GAD risk among medical students, whereas healthy coping mechanisms serve a protective role. Interventions should prioritize time management training, financial support systems, and the promotion of adaptive coping strategies, alongside fostering positive student–staff relationships to safeguard mental well-being. University counselors will gain insights into psychosocial factors influencing GAD, enabling them to provide more personalized interventions. University management and institutions will acquire knowledge to improve student welfare services and strengthen personnel support. The Ministry of Education and policymakers are expected to use the findings to advocate for resources and funding, including affordable medical education. Medical students will be able to self-assess, seek timely professional help, and support their peers who face challenges. Lecturers and staff will also gain awareness of factors related to GAD, helping them provide practical support and encouragement to students. The findings will enrich the existing literature by serving as a reference point for future studies.

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ABBREVIATION AND ACRONYMS

APA	American Psychiatric Association
BAI	Beck Anxiety Inventory
CODs	Chairpersons of departments
CSs	Coping strategies
DSM V	Diagnostic Statistical Manual, fifth edition
GAD	Generalized anxiety disorder
GBD	Gender-based discrimination
GPA	Grade point average
IBM SPSS	Statistical Product and Service Solutions
ISERC	Institutional Scientific Ethics and Review Committee
KEMU	Kenya Methodist University
MBChB	Medicine and bachelor of surgery
MHDs	Mental health disorders
NACOSTI	National commission for science, technology, and innovation
NVIVO 15	Non-Versioned Information, Versatile Outcomes Version 15
SH	Sexual harassment
WHO	World Health Organization

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Leonard and Abramovitch (2019) define generalized anxiety disorder as an anxiety disorder characterized by excessive tension, worry, and anxiety symptoms that persist for several days. Additionally, the Diagnostic and Statistical Manual for Mental Disorders (DSM-5) states that individuals with GAD usually present with too much fear and anxiety that can last for several days for at least six months (Munir & Takov, 2025). It may be hard for undergraduate medical students to manage their negative feelings and anxiety symptoms, such as getting tired easily, feeling restless, poor concentration, sleep disturbance, irritability, and tension. Therefore, GAD results from the body's response to what is viewed as dangerous due to distorted thoughts, beliefs, or attitudes (American Psychiatric Association [APA], 2022). In this regard, researchers such as Alatawi et al. (2020) stated that not treating GAD symptoms can be harmful to medical students, owing to other mental health challenges that can arise, including depression. In addition, researchers reported that GAD is the most prevalent anxiety disorder in university medical students in Africa and the world in general (Auerbach et al., 2020).

Researchers argued that a more significant number of medical students present general anxiety symptoms, approximately one in every three students in the medical field. This was observed by Quek et al. (2019), who added that GAD affects medical students' performance and learning process, making it a critical problem for them. Moreover, in their cross-sectional study, they found a significant 33.7% prevalence of GAD in medical students from the Middle East and Asia, which was considerably higher than in other students. Furthermore, in Brazil, a study that investigated the prevalence of suicide risk and GAD among undergraduate medical students revealed that

32.7% of 159 students had GAD (Trindade et al., 2021). In addition, a survey of Saudi medical students also stated that undergraduate medical students in Saudi Arabia showed a prevalence of 67.5%, ranging from mild to severe GAD (Alatawi et al., 2020).

In Africa, a study conducted in Nigeria, determining the presence of anxiety disorders in undergraduate medical students in a particular medical school, established that 86 (39.6%) out of 217 presented GAD symptoms (Chinawa et al., 2018). To assert this, Mhata et al. (2023) reported that 30.6% of 229 students who participated in the research on the anxiety prevalence among medical students in Namibia had an anxiety disorder, specifically GAD. Furthermore, many researchers report that GAD is also high among undergraduate medical students in the region of eastern Africa. For example, Rushahu and Mukandala (2023), in their study on the prevalence of mental health issues among undergraduate medical students in a Tanzanian University, demonstrated that 74.7% had moderate to severe GAD (Rushahu & Mukandala, 2023). Another research in Sudan established a GAD occurrence of 33.7% among students in medical courses in a study that sought to know the associated risk factors of GAD among undergraduate medical students at Omdurman Islamic University (Mohamed et al., 2024).

In Kenya, many researchers also observed similar instances. For example, Kimari (2023), in a survey that involved undergraduate medical students at the University of Nairobi in identifying the association between several disorders, including anxiety, showed that out of 335 respondents, 145 (43%) indicated moderate to severe anxiety symptoms. However, another study investigating anxiety and depression in students at Kenya Medical Training College revealed that of the participants in the survey, 22.1% had minimal, 21.7% mild, 23.9% moderate, and 31.7% severe anxiety symptoms (Muriungi & Menecha, 2020). In this regard, medical students may struggle

to meet all their academic expectations due to tight schedules and the enormous amount of content they must cover.

To corroborate this, in Ethiopia, a study at Addis Ababa University found that 52.3% of medical students experienced high test anxiety (Tsegay et al., 2019). Poor academic performance significantly increased the risk, while students with heavy coursework were over six times more likely to report severe anxiety (AOR = 6.13, 95% CI: 2.68–14.04). This highlights academic pressure as a major contributor to anxiety among medical students. Consequently, some medical students may change courses and give up medical education. Moreover, researchers in Egypt revealed that undergraduate medical students with significantly lesser academic accomplishments had higher scores of GAD than other groups (Fawzy & Hamed, 2020). In addition, researchers in Kenya agree that medical students reduce their sleep to cope and adjust to the increasing workload, which ultimately leads to poor mental health, causing GAD (Nyamute et al., 2021).

Medical students face financial problems worldwide due to high medical course fees and high cost of living, which contributes to poor mental health challenges such as GAD (Marshall et al., 2020). Although most governments, including Kenya, support their students in education, many still struggle with basic needs such as food. A Marques et al. (2022) study in Portugal reported that college students are susceptible to food shortages due to increasing housing and food costs and poor financial resources. Worrying about what to eat can devastate a student who spends most of the time reading, which usually involves significant physical, intellectual, and psychological effort. Shawahna et al. (2020) also observed that undergraduate medical students with low income had significantly higher Beck anxiety inventory scores compared to those with higher income in Palestine. Similarly, a study in Morocco by Wagdy (2022) asserted that many medical students struggle to maintain a healthy diet because of financial matters. The findings further noted that

some medical students were obliged to live far from schools due to high rent prices (Wagdy, 2022). In fact, many medical students may delay or miss out on classes entirely due to long journeys, which may increase their worries and eventually lead to GAD.

Therefore, students in the medical field utilize different coping mechanisms to deal with their day-to-day problems. To lend credence to these findings, a cross-sectional study on coping techniques, psychological morbidity, and stress revealed a lower occurrence of GAD in Pakistani medical students (Imran et al., 2019). The study showed that medical students' most common coping mechanisms included distracting themselves, positive reframing, accepting the situation, seeking emotional help, and planning. It is crucial to mention that stress coping strategies might be positive or negative. Harmful coping mechanisms are not uncommon among medical students. For example, Pietrangelo (2020) established that maladaptive coping techniques, including the use of substances and alcohol, might temporarily feel better but prevent medical students from tolerating anxiety. Manana et al. (2023) also reported that nursing students who used proactive substances indicated a higher prevalence of GAD in South Africa.

Besides that, Dunham et al. (2020) also established that doubt and burnout may arise as a result of a learning environment that is not conducive, leading to GAD symptoms. Therefore, a 2020 study indicated that international medical students at Standalone Health Sciences University in Ireland experienced heightened anxiety after encountering negative situations related to seeking help (Byrnes et al., 2020). Nevertheless, researchers in Oman asserted that the environment of caring relationships is usually valued by medical students because it helps alleviate their anxiety (Al Nasseri et al., 2020). Moreover, the lack of a supportive environment alleviated GAD among Gauteng college nursing students in Pretoria, South Africa (Seshabela & Shakwane, 2024). Therefore, Chesire et al. (2018) demonstrated that medical students in Kenya still experience GAD

symptoms despite measures undertaken to eradicate it. This demonstrated that there was a need for a study investigating the influence of psychosocial factors on GAD among undergraduate medical students in Kenya, specifically at Kenya Methodist University.

1.2 Statement of the Problem

Medical students should have access to a learning environment that promotes academic success and personal well-being (Almansour et al., 2024). Their training should provide them with medical knowledge and abilities and promote resilience, self-care, and social support. Ideally, medical schools would inspire a passion for learning and a commitment to mental health by ensuring manageable workloads, providing emotional support, and normalizing help-seeking behaviors. However, evidence indicates that medical students in Saudi Arabia were at a higher risk of developing GAD compared to their peers in other academic disciplines because they experienced low income and used drugs (Alatawi et al., 2020).

In addition, a review in Nigeria indicated high verbal abuse rates from supervisors, which led to emotional distress, anxiety, and academic disillusionment (Essien et al., 2024). Furthermore, it was reported that the sixth year of study and low satisfaction with the academic program pursued were associated with a 43% prevalence of GAD among medical students in Kenya (Kimari, 2023). Unfortunately, anxiety disorders among medical students are usually not paid attention to. This can have diverse effects, such as dropping out of school, substance abuse, poor performance, and even suicide if not adequately dealt with (Liu et al., 2022). The university counselling services actively involve mental health assessments and provide interventions to prevent and possibly manage psychological issues (Cerolini et al., 2023).

Although several studies, including Kebede et al. (2019), Manana et al. (2023) and Quek et al. (2019), have established the occurrences of anxiety among medical students, limited research has

explored the influence of psychosocial factors on GAD, particularly within the context of Kenya Methodist University. Therefore, this study sought to determine the influence of stress coping strategies, financial worries, Student-staff relationships, and academic pressure on GAD among undergraduate medical students to fill the knowledge gap.

1.3 Purpose of Study

The purpose of the study was to determine the influence of psychosocial factors on GAD among undergraduate medical students in Kenya: a case of Kenya Methodist University, Main campus, Meru.

1.4 Objectives

i. To investigate the influence of academic pressure on GAD among undergraduate medical students at Kenya Methodist University, Main Campus, Meru.
ii. To examine the influence of financial worries on GAD among undergraduate medical students at Kenya Methodist University, Main Campus, Meru.
iii. To establish the influence of stress coping strategies on GAD among undergraduate medical students at Kenya Methodist University, Main Campus, Meru.
iv. To investigate the influence of Student-staff relationships on GAD among undergraduate medical students at Kenya Methodist University, Main Campus, Meru.

1.5 Research Questions

i. To what extent does academic pressure influence GAD among undergraduate medical students at Kenya Methodist University, Meru County, Kenya?
ii. How do financial worries influence GAD among undergraduate medical students at Kenya Methodist University, Meru County, Kenya?

iii. In what ways do stress coping strategies influence GAD among undergraduate medical students at Kenya Methodist University, Meru County, Kenya?

iv. How do student-staff relationships influence GAD among undergraduate medical students at Kenya Methodist University?

1.6 Justification of the Study

The interplay of psychosocial factors and their influence on generalized anxiety disorder (GAD) among undergraduate medical students represents a critical yet underexplored area in mental health research. While numerous studies have examined depression and other psychiatric conditions in student populations, anxiety disorders, and GAD in particular, have received comparatively less scholarly attention. This gap is especially evident within the context of medical education, where unique stressors may amplify psychological vulnerability. The present study sought to address this gap by investigating the influence of key psychosocial factors, namely academic pressure, financial concerns, coping strategies, and student–staff relationships, on the prevalence and severity of GAD among undergraduate medical students at KeMU.

1.7 Limitations of the Study

Several limitations were identified. First, some medical students and staff may have withheld or moderated their responses due to the sensitive nature of the topics, which could have resulted in underreporting of psychosocial challenges and anxiety levels. To alleviate this, the researcher assured respondents of confidentiality and anonymity. However, social desirability bias may still have influenced responses. Second, the sample may not fully represent the target population, as the movement of medical students to clinical rotations during the study period limited participation. To mitigate this, the researcher utilised an online questionnaire to reach those off-campus.

1.8 Scope of the Study

Among the DSM-5 anxiety disorders, this study only focused on GAD, which is the most common form of anxiety. Moreover, the study was restricted to Kenya Methodist University at the main campus in Meru County. The respondents included MBChB, clinical medicine, pharmacy, nurses, medical laboratory students, medical lecturers, university counsellors, and CODs. The study focused mainly on the influence of four factors: academic pressure, financial worries, stress-coping strategies, and Student-staff relationships on GAD among undergraduate medical students. Interviews and questionnaires were utilized to collect data in this study from July 1st to 16th.

1.9 Significance of the Study

University counsellors are expected to acquire new information on psychosocial factors influencing GAD to help them develop more effective personalized treatment approaches. The management of universities and other institutions will also acquire new knowledge regarding the influence of psychosocial factors on GAD, helping them improve their services and possibly increase personnel in the student welfare departments. The Ministry of Education and other policymakers are expected to utilize the findings and recommendations to advocate for resources and funding, including access to affordable medical education.

Furthermore, this study will contribute to the body of research on mental health by providing empirical evidence on the prevalence and contributing factors of generalized anxiety disorder (GAD) among medical students. It will enrich existing literature by highlighting the unique challenges faced by students in the medical field, thereby serving as a reference point for future studies and interventions in higher education. The findings of this study and the recommendations are also expected to help medical students assess themselves and seek professional aid in times of crisis during their education. Beyond medical students, the results will benefit other college and

university students by identifying factors that contribute to mental health issues, such as GAD, and by encouraging awareness when they or their peers are struggling, thus promoting help-seeking behavior. Additionally, the study will support lecturers and university staff in understanding the factors associated with GAD among medical students, while the recommendations will provide insights on how they can offer meaningful assistance and encouragement.

1.10 Assumptions of the Study

i. The relevant authorities will fully cooperate to provide the required information.

ii. Medical students face particular psychosocial challenges, causing GAD.

iii. The data collection tools, including interviews and questionnaires, will enable participants to explain their experiences clearly

iv. The respondents will voluntarily take part in the study and give honest answers

1.11 Operational Definition of the Terms

Academic pressure	Stress that arises among undergraduate medical students because of the demanding academic workload, high expectations, and competitive nature of their studies.
Financial worries	A state in which medical students cannot meet their financial obligations due to a lack of financial support or economic crises.
Medical students	These are the school of medicine and health sciences students, including those in a Bachelor of Medicine and Bachelor of Surgery [MBChB], clinical medicine, nursing, pharmacy, and medical laboratory at KeMU.
Psychosocial factors	Refers to psychological and social attributes that influence anxiety disorders among medical students. This study will examine financial worries, academic pressure, Student-staff relationships, and stress-coping strategies.
Stress coping strategies	Are medical students' cognitive and behavioural strategies to reduce, master, or tolerate stressful situations' internal and external demands.
Student-staff relationships	Connections between students and school staff, such as mentorship, role modeling, counseling, open communication, harassment, and empathy, can negatively or positively impact students' educational experience and well-being.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter outlines various findings on the influence of psychosocial factors on GAD among medical students. It discusses the literature associated with this study and identifies the gap that exists. The literature was reviewed based on the independent variables: academic pressure, financial worries, stress coping strategies, and Student-staff relationships. Finally, it explored the theoretical and conceptual approaches of the research.

2.2 Generalized Anxiety Disorder among Medical Students

According to Johns (2024), a psychological illness that causes individuals to experience extreme and uncontrollable worry about everyday events or activities is called GAD. It is increasingly prevalent among undergraduate medical students, a population frequently exposed to high-stress levels because of the demands of medical education (Bugaj et al., 2019). This is emphasized by Alatawi et al. (2020) in Saudi Arabia, who conducted a study investigating the factors connected to GAD and its frequency among undergraduate medical students. The study indicated a 68% occurrence of GAD, which means 156 students, ranging from mild to severe anxiety in students with low income and those who smoked. Similarly, a study in North America examined the possible impact that economic challenges can have on the well-being of college students. Unfortunately, they indicated that there was a link between financial stress and poor mental well-being, leading to GAD symptoms among these students (Moore et al., 2021). Moreover, being concerned with payment of tuition fees, rent money, and affording proper meals usually contributes to existing stress, leading to increased levels of GAD among medical students (Khan et al., 2025).

Researchers in Africa also found a consistency in GAD prevalence in medical students. For instance, a study in Nigeria involving students in clinical medicine demonstrated that 49% of GAD prevalence was attributed to the workload, poor coping mechanisms, and poor attitudes of some lecturers toward students (Precious et al., 2024). A further insight indicated that undergraduate medical students had higher academic pressure, which was associated with GAD prevalent at 33.7% severity, 41.2% mild, and 21.4% anxiety in Sudan (Mohamed et al., 2023). Additionally, a cross-sectional study in South Africa revealed that 63% of undergraduate medical students had GAD symptoms, where the majority experienced financial difficulties (Sahu et al., 2020a).

Unfortunately, medical students in Kenya are not exempt from challenges that affect their mental health, as documented by several studies, including Memiah et al. (2022) and Mutiso et al. (2023). These studies reported a notably high prevalence of health issues, particularly depression and GAD, linked to academic stress. Similarly, Jaguga et al. (2018) examined GAD, trauma, and major depressive disorder among university students in Kenya and found a significant association between financial stress and higher rates of GAD. However, while these findings underscore the mental health burden among Kenyan students, there remains a clear gap in the literature specifically focusing on the prevalence, severity, and academic contributors to GAD among undergraduate medical students in Kenya.

2.3 Academic Pressure and GAD among Undergraduate Medical Students

According to Michael (2023), academic pressure refers to a sense of stress and worry that arises from various factors, including personal expectations, peer influence, heavy workload, and societal expectations during one's studies. In the context of the present study, the term will specifically refer to the stress experienced by undergraduate medical students as a result of academic demands and expectations. Medical education is inherently rigorous, demanding, and complex, and it can

significantly affect students' mental health. Its structure requires students to assimilate an immense volume of information within a short period while also developing clinical skills, critical thinking abilities, and emotional resilience necessary for navigating the challenges of the medical profession (Brodowicz, 2024).

This multifaceted nature makes medical education both rewarding and, at times, overwhelming. As students' progress in their training, they are often confronted with long study hours, high expectations from faculty, and the pressure to master vast amounts of material within limited timeframes (Densen, 2011). While academic pressure is not inherently negative, it can indeed motivate students to meet academic challenges. However, it must be managed effectively because when left unaddressed, academic pressure can compromise the mental well-being of medical students and, in severe cases, lead to GAD, as reported by Linder (2021).

Abebe et al. (2018) established that worldwide, about 79.5 of students in the university experience stress after submitting papers, assignments or examinations. Academic pressure emerged as the highest stressor among medical students because of the high self-expectations and university demands. In a Tian-Ci Quek et al. (2019) meta-analysis of the literature on the prevalence of GAD among medical students, they revealed that 29.2% to 38.7% of the participants had GAD, with the highest prevalence in Asia and the Middle East. In contrast, Nguyen et al. (2024) indicated that Vietnamese medical students presented a higher GAD of 32.75% mild to moderate, 13.25% severe, and 4.5% extreme. Moreover, the researchers determined that the medical education nature and stress associated with academics contributed to a higher frequency of anxiety among these medical students (Nguyen et al., 2024).

Academic pressure impacts medical students in varying ways, depending on numerous personal, academic, and environmental factors. While some students perceive frequent assessments and the

large volume of content as moderately stressful, others find it difficult to cope (Neufeld & Malin, 2021). A mixed-method study conducted in Pakistan identified academic pressure as the primary concern among medical students (Azim & Baig, 2019). Most participants attributed their psychological distress to the overwhelming amount of knowledge they were expected to master and the constant demand to perform at a high level in all subjects. This aligns with the findings of Avila-Carrasco et al. (2023), who reported that 67.9% of medical students in Mexico were severely affected by GAD, with symptoms more pronounced among those burdened with an excessive number of academic papers to read. Similarly, Ruzhenkova et al. (2018), in a survey on the effects of academic pressure on the mental well-being of Russian medical students, found that GAD prevalence was 65% among first-year students and 44% among second-year students. While these studies differ in geographical and population contexts, they collectively underscore the global relevance of academic pressure as a contributor to GAD in medical education. Building on this body of evidence, the present study examined the influence of academic pressure on GAD among undergraduate medical students at KeMU.

Many African countries are concerned about psychological health, with studies showing that issues seem to be increasing among undergraduate medical students (Kihumuro et al., 2022). For instance, Bintabara et al. (2024) and Winter and Sumbane (2024) revealed that there is a rising concern about the increasing frequency of GAD symptoms both in Tanzania (34%) and South Africa (45.9%) students in medical courses. This is because of the medical school curriculum's demands and students' exposure to serious illness. However, this opposes the findings of Nwachukwu et al. (2021), which showed a lower prevalence of GAD at 27% among undergraduate students at a medical university in Nigeria. They further noted that perceived risk factors for anxiety included failure to meet academic expectations and an overwhelming academic workload.

According to Zeijlemaker and Moosa (2019), factors that influenced mental health challenges like GAD included a demanding academic environment, a high workload, and a rigorous curriculum in Witwatersrand University's students in clinical medicine courses in South Africa.

Consequently, researchers observed that academic pressure may increase relatively as students proceed to the next stage of education. In other words, the higher the year of education, the more responsibilities and workload are attributed to it. For instance, Manana et al. (2023) studied the factors that contribute to anxiety and the occurrence of anxiety among South African nursing students. The study demonstrated that being a final-year nursing student was associated with a 74.7% GAD occurrence among this population. In addition, the nursing program consists of hectic schedules that are time-consuming and highly demanding, which could impact students negatively, psychologically, and socially. Manana et al. (2023) further noted that the nature of the medical student's environment can be pretty heavy on nursing students, causing physical inertia and burnout. If they persist, these symptoms can have adverse effects on students, causing feelings of anxiety and lack of concentration. Thus, further research was required to establish the influence of academic pressure on GAD among undergraduate medical students in Kenya, specifically at KeMU, to fill the gaps in the literature.

In this regard, a report by Ragab et al. (2021) also observed higher GAD symptoms in students at an Ethiopian medical school. Most students feared repeating the whole academic year because of many exams but little time to read and interact with all the content, given the rigour and demands of their studies (Ragab et al., 2021). Therefore, these causes students in medical courses to beat themselves up and self-blame for spending some time relaxing. However, this limits their time for leisure and other healthy lifestyles (Bergmann et al., 2019a). Furthermore, Ibrahim et al. (2024) in Sudan were interested in understanding the frequency of GAD and what may be causing it among

students in medicine. Their study found that lower satisfaction with one's performance influenced higher GAD symptoms among this population (Ibrahim et al., 2024). Similarly, Kubwayo (2022) also observed that 20% of higher-diploma students in medicine showed significantly higher GAD symptoms compared to undergraduate medical students, who showed occurrences of 13% in Rwanda. Kubwayo further revealed that being worried about academic performance and regretting attending medical school are predictors associated with anxiety. Consequently, assessing whether this scenario was any different at Kenya Methodist University was necessary.

In Kenya, Kimari (2023) conducted a study focusing on understanding the nature of different psychological disorders, such as anxiety and ADHD, among undergraduate medical students, revealing that GAD was prevalent among 43% of the respondents. The researcher further noted that anxiety disorder was influenced by variables such as high academic workload, exposure to death, financial difficulties, time away from family, and personality traits (Kimari, 2023). However, this study failed to elaborate on how other aspects of academic pressure influenced anxiety. Therefore, the current study investigated the influence of academic pressure on GAD among medical students at KeMU.

2.4 Financial Worries and GAD among Undergraduate Medical Students

Financial worries refer to a state of anxiety or stress related to one’s current or potential future financial situation (De Bruijn & Antonides, 2020). Financial worries, as reported by Asebedo and Wilmarth (2017), can also be explained as emotional responses to or perceptions of economic hardship. These worries can come from various factors, including difficulty managing expenses, lack of income, debt, or uncertainty about future financial stability. Similarly, Nasr et al. (2024) add that financial worries may arise due to medical students’ inability to pay for tuition, housing, food, and necessary supplies, often interfering with academic performance and leading to mental

health issues. Besides academic pressure, Naidoo et al. (2014) stated that undergraduate medical students are regularly challenged by financial stressors throughout their academic journey.

For instance, a survey by Monica et al. (2018) investigated factors eliciting stress for medical students in the millennial generation in the State of Florida, USA. The study targeted 1137 students and utilized self-administering questionnaires to gather information. The findings showed that several stressors impacted medical students, including financial concerns and excessive workload. Additionally, Halperin et al. (2021) in the USA revealed that financial difficulties are strongly associated with GAD among medical students. Moreover, many researchers, including Byrnes et al. (2020), have established that it is difficult to adapt to the environment of medical schools due to several factors, such as financial problems. To assert this, Shao et al. (2020) demonstrated that in China, immense academic stress, significant financial burden, and poor sleep were unveiled among medical students with anxiety symptoms. Medical students in Pakistan also highlighted that finance is a crucial area of concern. Moreover, the study revealed that students with social support in terms of finances had lower GAD compared to those who did not have such support (Azim & Baig, 2019).

Furthermore, a cross-sectional study by AlShamlan et al. (2020) on general anxiety and its association with preparation for future speciality among Saudi Arabian undergraduate students demonstrated a consistent frequency of 31.7% GAD and 14.3% extreme symptoms of GAD. They further noted that financial problems were common among medical students experiencing higher GAD. Similarly, Mirza et al. (2021) also showed that anxiety prevalence was very high among medical students, ranging from 8% to 66% among those with economic conditions in Saudi Arabia. In the same way, Wege et al. (2020) indicated that students with money problems and those with regular use of substances suffered from mental illnesses like anxiety. The study further noted that

4.4% of medical students screened for anxiety as a result of financial difficulties they faced. This study failed to establish the extent to which financial problems influence GAD. Hence, the need for the current study.

In Africa, researchers like Dachew et al. (2020) showed that medical students struggle with finances, which can cause stress and anxiety. This is confirmed by their cross-sectional study in Ethiopia, which examined the factors that influenced the development of psychological distress among students at the University in Gondar. The study found that students without enough pocket money, low social support, and financial distress presented a higher 40.9% prevalence of anxiety disorder (Dachew et al., 2020). Another cross-sectional study by Bantjes et al. (2019) revealed that there was a link between financial pressure and a 31.5% occurrence of general mental disorders in South African students. The researchers showed GAD as the most prevalent general mental disorder identified at 20.8% among new students at the University. Moreover, Jebessa et al. (2019) and Pretorius and Blaauw (2020) noted that almost all new students in South Africa and Addis Ababa University, including those in health sciences, face numerous challenges, including financial dependence due to parents' poor understanding of University expenses, which can impact their health and academic performances.

In Kenya, financial problems are a critical concern among health science students, with studies showing that many students cannot raise enough money for food, rent, and school fees and end up dropping out of their programs (Peter, 2020). These challenges have been proven to significantly impact health science students' mental health (Myers, 2020). Many undergraduate medical students in Kenya are seeking psychological support because of the increase in awareness, demands, and competitiveness of medical education, which may prompt stress and anxiety. Stress is inevitable in academic life because of different emerging issues, including course demands,

financial problems, and being far from parents for a long time. However, according to the American Psychological Association (2019), prolonged stress increases the risk of mental problems such as anxiety. For instance, Mathuva et al. (2024) observed that financial challenges were significantly associated with high-stress levels among students in Christian universities in Kenya. There is limited literature in Kenya that demonstrates the influence of financial worries on GAD. Therefore, this sought to fill this gap.

2.5 Stress - Coping Strategies and GAD among Undergraduate Medical Students

Algorani and Gupta (2024) define coping as behaviors and thoughts used to control and cope with external and internal stressful circumstances. When medical students are subjected to a stressor, the different ways they deal with it are what Sietse et al. (2019) called coping methods or styles. In other words, these are sets of strategies that regulate people's behaviour when stress occurs. However, Lau et al. (2021) argue that these coping mechanisms may be negative or positive. In this regard, medical students may adopt different strategies to deal with or overcome their challenges. Algorani and Gupta (2024) indicated that the use of drugs and alcohol, seeking emotional support, escape avoidance, distancing, and reordering priorities are the most common everyday coping mechanisms among medical students.

Therefore, many studies, including a cross-sectional survey in India by Reddy and Tekulapally (2022), revealed an anxiety prevalence of 59% among new students and 41% among 6th-year medical students. In addition, they noted that the most commonly used coping mechanism was trusting God at 59.7% among first-year students and 63% among students in the final year. Whereas students reported that using substances or alcohol was the last thing they could think about as a coping method. In contrast, a Moore et al. (2022) study among Asian medical students in the US on the connection between GAD and unhealthy coping revealed that GAD scores were

connected with students' trends of adopting negative coping strategies. In fact, the study unveiled that consumption of alcohol, drugs, and cigarettes was usual among those who showed higher GAD scores.

Further, Sattar et al. (2022) reviewed articles from 14 countries, including Europe and America, on coping strategies (CSs) by undergraduate medical students to alleviate psychological conditions during their education journey. This review revealed that psychological conditions such as stress, depression, and anxiety were related to CSs such as support-seeking, substance abuse, avoidance/denial, and faith/religion. Many other researchers, however, disagree with the substance abuse involving what medical students use as their coping methods. For instance, Jahan et al. (2016) investigated the perception of mental conditions and coping strategies in Omani students in medical courses. They found that coping strategies among students mainly were emotional support, good sleep, sharing with friends, and better time management, which helped them to relax and to control anxiety, stress, and depression. The discoveries of these studies fail to elaborate on the influence of coping mechanisms on GAD but instead on various mental health issues, including anxiety. Hence, a need for a study investigating the influence of stress-coping strategies on GAD among undergraduate medical students at KeMU to fill the knowledge gap.

In Africa, Ebrahim et al. (2024) revealed that 92.5% of medicine students showed significant stress scores at Helwan University in Egypt. The findings further indicated that social factors, teachers, and academics were the sources of stress among this population. To help manage this mental issue, medical students employ different strategies to cope with and overcome it. A South African survey, for instance, studied the influence of drugs and alcohol on depression and GAD among undergraduate students (Malebana et al., 2019). They established that the higher GAD symptoms were connected to students who used drugs and alcohol very often. Jain et al. (2018) also revealed

an anxiety prevalence of 35.9% among newcomer cannabis users in the medical course at the University in the Free State of South Africa, which was higher among men than women. This demonstrated that stress-coping mechanisms needed to be studied more, specifically among undergraduate medical students at KeMU.

Many people who use drugs and alcohol may start out having fun, leisure, and to fit in with the societal group. However, medical students may use it to cope with the stressful and demanding aspects of their academic life. In this regard, Chaabane et al. (2021) reviewed studies among nursing students in Africa, reporting that nursing students employed coping mechanisms such as problem-solving, emotion regulation, and venting to alleviate stress. These studies present a gap in the targeted population by focusing solely on nursing students, thereby limiting generalizability. Additionally, there are limited reports on the influence of stress-coping strategies on GAD among undergraduate medical students, which made the current study significant.

Interestingly, Van et al. (2019) investigated substance abuse, depression, and GAD among undergraduate medical students in a fifth-year academic study, observed a frequency of 26.3% GAD symptoms, where the lifetime use of methylphenidate and drug use were more common. This mental health condition is inevitable in medical students' lives, and embracing healthy coping strategies could be practical and significant in dealing with it. Additionally, Ernstmeyer and Christman (2022) posit that the usage of positive coping mechanisms makes it unlikely to develop further challenges like anxiety. In the same manner, Shegute and Wasihun (2021) demonstrated that students with anxiety symptoms had higher odds of lifetime cigarette smoking in their study focusing on substance use among students in the university in Ethiopia.

Consequently, smoking can create a short-term feeling of relaxation. However, prolonged use can expose people to the likelihood of anxiety disorders, such as GAD (Moylan et al., 2022). As

medical students encounter severe illness and death within their practical learning sessions, their emotional balance may be put to the test and reveal their vulnerability to either anxiety or depression. Additionally, a study in Sudan investigating how GAD and perceived stress affect the lives of medical students showed that 3.8% were diagnosed with GAD. The study further notes that participants who used addictive substances displayed higher GAD (Ibrahim et al., 2024). A study was needed to investigate the influence of other stress-coping mechanisms on GAD among medical students.

Moreover, coping is not a new concept in Kenya, as confirmed by several researchers. Muriungi and Menecha (2020) for instance, examined the factors related to depression and GAD among students in Kenya at a college training medical course, revealing a prevalence of 31.7% for anxiety, linked to their lifestyle choices. The survey further noted that 14.3% of participants had sought help, and 43% of student nurses felt they needed help for their symptoms. Additionally, Kianduma (2021) established that healthy coping methods were more frequently used than unhealthy methods among students at the University in Kenya. Therefore, it was revealed that accepting the situation, making plans, and solving problems were usual ways of dealing with stress. Lifestyle plays a significant role in individuals' mental health, explaining how they associate with others and their dieting manner (Murphy, 2023). The limited studies on the influence of stress-coping strategies on GAD among medical students made the current study significant globally and in Kenya.

2.6 Student-Staff Relationships and GAD among Undergraduate Medical Students

Student-staff relationships are connections between students and school staff, such as mentorship, empathy, open communication, counseling, and harassment, that can impact students' educational experience and mental well-being (Strawhun et al., 2023). Researchers assert that secure student-staff relationships are as meaningful as parent-student relationships in predicting students'

academic success and behaviour (Vanner et al., 2022). In fact, researchers in a survey that involved more than ten countries unveiled that a healthy relationship between instructors and medical students improved student psychological wellness, specifically alleviating GAD symptoms. This enforced a supportive environment, which helped students (Salter et al., 2024). However, unwelcoming relationships between academic staff members and students can be significant risk factors for student anxiety (Zee & Roorda, 2018).

Globally, Dunham et al. (2020) surveyed the learning environment observation and how it affected medical students' performance in the US. Medical students' views about their learning environment were not good, especially among those who had begun going for clinical rotations (Dunham et al., 2020). Unfortunately, many students pursuing medical courses rarely have time for outside activities unrelated to their course, which may deny them room to breathe and process their stress, eventually causing GAD symptoms. Therefore, Nazish and Kang (2024) emphasized that emotional support, effective communication, and academic involvement alleviate stress and promote emotional well-being in Pakistani students.

As for the study investigating the influence of relationships between medical students and their lecturers on depression and GAD, the study established that their relationship, whether negative or positive, significantly predicts the degree of students' anxiety (Boyu, 2022). Furthermore, researchers in the UK were interested in how mentor-student relationships help deal with student concerns. The findings demonstrated that a positive, shared relationship between mentor and students promotes open communication, enabling students to raise concerns as issues arise. According to Shah et al. (2021), this fosters an environment in which medical students feel safe expressing their concerns and seeking help, thereby significantly mitigating anxiety and contributing to improved overall well-being. Similarly, numerous studies have demonstrated that

an excellent educational environment, combined with teachers' performance and attitudes, can effectively prevent anxiety among medical students (Yusoff & Arifin, 2015; Novious & Yawe, 2021). However, none of these studies mentioned the influence of student-staff relationships on GAD among medical students. Therefore, it is necessary to regard student-staff relationships in school as a vital factor of medical students' anxiety and to conduct further exploration.

Correspondingly, Seshabela and Shakwane (2024) conducted a study in South Africa among nursing students on the impact of anxiety-related conditions on nursing students' academic excellence. Findings revealed that nurse educators refer anxious nursing students to various resources, including the counseling department, fellow nurse educators, and peer support networks. Furthermore, Tollstern et al. (2020) conducted a study targeting nurses and nursing students in Tanzania. The study revealed that 10.5% of 133 participants had experienced sexual harassment, where nursing students were more exposed to sexual harassment than professional nurses, and 23% of male nursing students stated that they knew a fellow student or colleague who had been sexually harassed. Furthermore, the author reports that physicians were the most common perpetrators (43.1%), followed by student supervisors (Tollstern et al., 2020). Teacher-student relationships can significantly impact a student's mental health, as it is affirmed by Rimm-Kaufman et al. (2024). They stated that a negative relationship between teachers and students can contribute to stress and anxiety among students.

Moreover, Kihumuro et al. (2022) elaborated on the role of counselors as a protective factor from GAD among medical students. In fact, counseling services are crucial resources for managing anxiety and other mental health challenges in high-pressure environments like medical school, which is supported by studies by (De Witt et al., 2019; Jacob et al., 2020). Their findings revealed a significant reduction in mental health issues, including anxiety, among South African final-year

medical students attending counseling services. The mentioned studies in Africa focused on a particular population of medical students. They failed to illustrate the influence of Student-staff relationships on GAD among undergraduate medical students. Therefore, the current study sought to investigate the influence of Student-staff relationships on GAD among medical students at KeMU.

In Kenya, the overall score indicated a poor perception of the learning environment and social support being the most critical areas requiring improvement among medical students at the University of Nairobi (Ojuka et al., 2021). The study further noted that students also perceived their courses as tutor-centered, having an unbalanced curriculum, struggling with teaching timetables, and having teachers who do not appropriately provide feedback. These can significantly impact students' mental health, causing extreme stress and anxiety. Similarly, Mugoh and Kamau (2020) examined the influence of students' perception/staff attitude in the clinical areas on student learning. They demonstrated that mentors are one of the critical factors affecting students' ability to learn and cope with their placements. Moreover, 5.6% of students reported a lack of satisfaction, and 20.4% reported staff as indifferent and unfriendly. These have been proven to significantly contribute to increased levels of anxiety for students as they may feel unsupported (Brynildsen et al., 2024).

2.7 Theoretical Framework

Self-determination theory and the Transactional Model of Stress and Coping informed the current study by explaining the influence of psychosocial factors on GAD among undergraduate medical students.

2.7.1 Transactional Model of Stress and Coping (TMSC)

This theory was postulated originally by two significant people in the field of psychology, namely Susan Folkman and Richard Lazarus, in 1984 (Jackson, 2024). They proposed key concepts crucial in comprehending the effect of academic pressure, stress-coping strategies, and financial worries on GAD. This model defines stress as a transactional process involving an interaction between the individual and their environment. Additionally, the individual assesses and responds to demands based on personal perceptions of their ability to cope with those demands. Primary appraisal is where individuals evaluate their situation to establish whether it is irrelevant, benign-positive, or stressful. Secondary appraisal evaluates available coping resources and determines if one can handle the stressor. After evaluating the available coping resources, individuals adopt them to manage or mitigate the situation (Wolfers & Utz, 2022). However, the model posits that the appraisal of a situation varies from one person to another depending on their past experiences, values, and personal beliefs. Lazarus and Folkman's model focuses on coping and stress and provides a clear picture of the relationship between academic pressure, stress-coping strategies, and GAD. Brose et al. (2021) opine that anxiety arises when medical students observe a disparity between the situations' demands (academic pressure or financial worries) and their ability to cope with them. Moreover, primary and secondary appraisals, along with coping strategies, play key roles in determining the level of anxiety a person experiences (Brose et al., 2021). By recognizing how stress is appraised and managed, individuals can develop more adaptive coping strategies to reduce anxiety and improve emotional well-being. This theory clearly explained how GAD relates to academic pressure, stress-coping strategies, and financial worries. However, it was limited in explaining student-staff relationships. Hence, there was a need for another theory to explain its relationship with GAD.

2.7.2 Self-Determination Theory (SDT)

This theory was established by Richard Ryan and Edward Deci in 1985 on the basis that intrinsic and extrinsic motivation play a role in human behaviour. It focuses on the conditions that foster or hinder human development and well-being. SDT proposes that humans have three innate psychological needs essential for well-being. According to this theory, autonomy is the need for someone to manage his/her every decision and action. Additionally, they defined competence as a desire to have the capacity to master one's challenges, manage activities, and achieve goals adequately. Relatedness refers to the need to feel connected to others, to experience a sense of belonging, and to form meaningful relationships. Moreover, SDT postulated that autonomous motivation happens when the actions of an individual are driven by intrinsic reasons such as one's values, interests, or sense of self. However, controlled motivation happens when the actions are driven by external pressure, such as rewards or obligations.

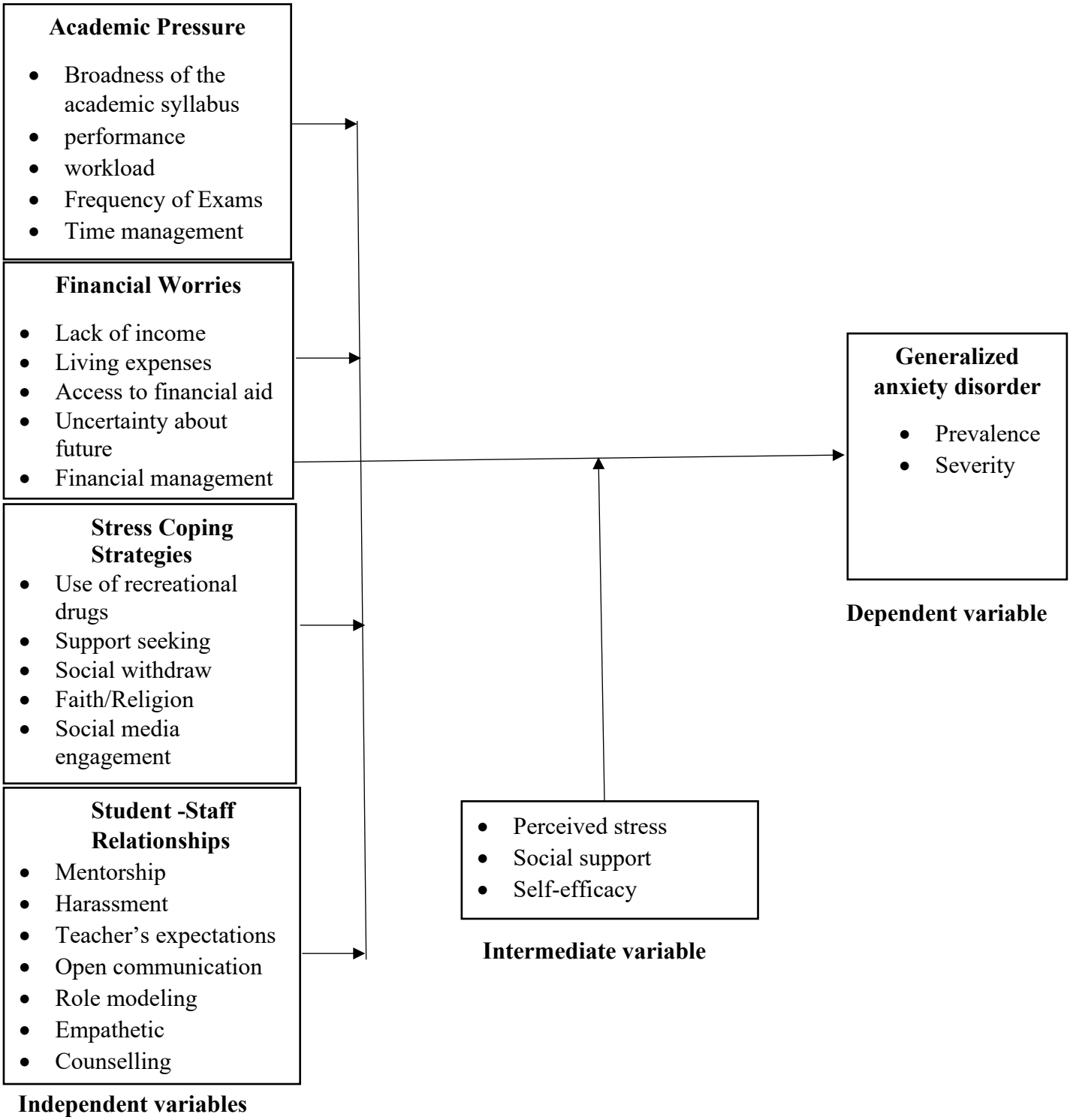
SDT highlights that environments and social contexts that encourage autonomy, foster belonging, and ensure competence among students influence internal motivation and well-being. On the other hand, controlling or coercive environments can undermine motivation and lead to adverse psychological outcomes. In the case of medical students, the quality of the student-staff relationships can encourage a student’s sense of autonomy and competence. If students feel supported by their instructors and have opportunities to develop their skills in a non-judgmental, encouraging environment, it fosters feelings of competence and self-efficacy. This, in turn, can reduce anxiety. However, if students perceive a lack of support or feel that their autonomy is undermined, they may feel incompetent or helpless, contributing to GAD. This theory adequately showed the interaction between staff-student relationships and GAD among medical students;

however, it failed to explain how GAD comes about due to the other three indicated independent variables.

2.8 Conceptual Framework

Figure 2. 1

Conceptual Framework



In this study, the conceptual framework is grounded in the understanding that psychosocial factors are interrelated and collectively influence the risk of developing Generalized Anxiety Disorder (GAD) among medical students. For example, a student under financial strain may experience heightened academic pressure, which, if combined with poor coping skills and unsupportive staff relationships, significantly increases the likelihood of experiencing GAD. Conversely, the presence of strong coping strategies and positive staff support may weaken the impact of financial and academic stressors, thereby lowering anxiety levels. Thus, the conceptual framework illustrates a network of interactions in which psychosocial factors intersect to influence the mental well-being of medical students. The intermediate variables, such as perceived stress, social support, and self-efficacy, also explain how and why independent variables affect dependent variables.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter discusses the study design, research location, target population, sampling methods, and sample size. This study focuses on the instruments used to collect data, piloting methods, analysis techniques, and ethical considerations employed.

3.2 Research Design

The study employed a concurrent mixed research design, which involves the simultaneous collection and analysis of both quantitative and qualitative data, providing a comprehensive understanding of the research problem by integrating statistical trends with participants' perspectives (Bell et al., 2022). This approach was employed to investigate the impact of psychosocial factors on generalized anxiety disorder among undergraduate medical students at KeMU, Meru County, Kenya. In practice, standardized psychological assessments were administered to students to obtain GAD scores alongside measures of academic pressure, financial worries, coping strategies, and student–staff relationships. Concurrently, semi-structured interviews were conducted with medical lecturers, counselors, and Chairs of Department (CODs) to gather professional observations and contextual insights on the same factors. This parallel data collection enabled quantitative results and qualitative findings to complement and validate one another, resulting in a more comprehensive and credible understanding of the psychosocial determinants of GAD.

3.3 Location of Study

The survey was conducted at the main campus of the Kenya Methodist University among students enrolled in medical courses. It is the only campus among the university's three branches that offers

undergraduate medical programs. The KeMU main campus is situated in Kaaga, off the Meru-Maua Highway, in Meru County, Kenya, and is positioned on the northeastern slopes of Mount Kenya. Meru County is bordered by Isiolo County, Laikipia County, Nyeri County, Kirinyaga County, Embu County, and Tharaka-Nithi County.

This site was selected because of documented behavioral indicators suggestive of anxiety among medical students, including incidents of examination malpractice, course switching, and reported suicide attempts. Furthermore, KeMU's medical school encompasses five distinct sub-disciplines, providing a diverse representation of the undergraduate medical student population. These factors made the KeMU main campus a strategically suitable setting for investigating the influence of psychosocial factors on generalized anxiety disorder in this population.

3.4 Target population

According to Barnsbee et al. (2018), these are objects, events, or individuals that the researcher is interested in and intends to generalize the study's results to. Therefore, the population for this study comprised 1627 medical students from the Bachelor of Medicine and Surgery [MBChB], clinical medicine, nursing, pharmacy, and medical laboratory. Data is presented in Table 3.1.

Table 3. 1

Target population

Population description	Target population
MBChB	379
Clinical medicine	171
Nursing	699
Pharmacy	270
Medical laboratory	108
Total	**1627**

Note. MBChB refers to the Bachelor of Medicine and Bachelor of Surgery

Source: Registrar's office at KeMU main campus (2025)

3.5 Sample Size and Sampling Procedures

A sample size represents a smaller, manageable subset of the target population that is systematically selected for study purposes (Will, 2024). In this research, the sample included medical students and staff members, such as lecturers, university counselors, and CODs, to provide professional perspectives on the study variables. According to Bullen (2013), a sample comprising 10% to 30% of the population can be adequate for social science research. Guided by this recommendation, the study utilized a sample of 163 (10%) undergraduate medical students, 8 (30%) lecturers and CODs, and 2 (100%) university counselors, which is in line with what Bhandari (2020) reported that if studying a small group, census might be feasible and provide comprehensive data.

Table 3. 2

Sample size

Population description	Target population	Sample size%	Sample size
MBChB	379	10%	38
Clinical medicine	171	10%	17
Nursing	699	10%	70
Pharmacy	270	10%	27
Medical laboratory	108	10%	11
Student counselors	2	100%	2
Lecturers	20	30%	6
CODs	5	30%	2
Total			**173**

Undergraduate medical students were stratified by academic program to ensure proportional representation, after which simple random sampling was applied to select 163 participants: 38 from Bachelor of Medicine and Bachelor of Surgery (MBChB), 17 from Clinical Medicine, 70 from Nursing, 27 from Pharmacy, and 11 from Medical Laboratory Science. In addition, purposive and census sampling were used to recruit key informants from staff members who interact with students on a daily basis, comprising 6 lecturers, 2 CODs, and 2 student counselors, respectively, to provide in-depth qualitative insights into the study variables.

3.6 Research Instruments

The current research utilized semi-structured interview guides and questionnaires to acquire detailed information from participants.

3.6.1 Questionnaires

A questionnaire is defined as a structured set of written questions designed to collect standardized information from respondents (Kumar, 2019). It was used to gather data from medical students due to its efficiency and ease of administration (Babbie, 2014). Standardized instruments were incorporated to enhance reliability, validity, and comparability. The tool comprised six sections (A–F) with closed, matrix, and open-ended questions: Section A—background information; Section B—GAD-7 scale (Kroenke et al., 2006) for anxiety assessment; Section C—academic pressure using the Student Academic Stress Scale (Verma and Verma, 2001); Section D—financial worries; Section E—stress-coping strategies via the Brief COPE (Carver, 1997); and Section F—student–staff relationships using the Instructor–Student Relationship Questionnaire (Fisher and Marshall, 1993). This structured approach ensured comprehensive measurement of study variables and supported the accuracy and generalizability of results.

3.6.2 Semi-Structured Interview Guide

A semi-structured interview guide is a tool used in qualitative research to guide conversations with participants, ensuring key topics are covered while allowing for flexibility and exploration of unexpected themes (DeJonckheere & Vaughn, 2019). This was employed to gather rich, detailed insights from student counselors, lecturers, and CODs. The flexibility of semi-structured interviews allowed the researcher to probe for clarification and expand on participants' responses,

thereby capturing nuanced perspectives that might not emerge through structured questionnaires alone (Dunwoodie et al., 2023).

3.7 Piloting of Instruments

Pilot testing was conducted with 17 participants, including 14 medical students and 3 staff members from Mount Kenya University (MKU), Main Campus, Thika, representing 10% of the intended study sample, as recommended by Sahu (2013). The aim was to assess the clarity, feasibility, and administration process of the questionnaires and interview guides, in line with Creswell's (2014) view that piloting is essential for refining research instruments. Participants were drawn from a setting similar to the study site but outside the main sample to avoid data contamination. They were asked to complete the GAD-7 scale, together with items measuring academic pressure, financial worries, stress-coping strategies, and student-staff relationships. The exercise was designed to assess whether the instruments were understandable, whether the administration procedure was practical, and whether the tools demonstrated acceptable psychometric properties.

The pilot revealed that all respondents were able to complete the questionnaires within five to ten minutes, which confirmed that the instruments were manageable in terms of time and burden. Feedback from the students suggested that the questions were generally clear, although minor adjustments to question wording, sequencing, and layout were made to enhance the reliability and validity of the tools for the main study. Reliability analysis produced encouraging results. The GAD-7 scale achieved a Cronbach's alpha coefficient of 0.87, indicating strong internal consistency. Similarly, the academic pressure produced an alpha of 0.78, financial worries recorded an alpha of 0.82, and stress-coping strategies subscale yielded an alpha of 0.76, while the student-staff relationships items recorded an alpha of 0.87. All of these values exceeded the

acceptable threshold of 0.70, confirming that the instruments were reliable for use in the main study. Preliminary findings from the pilot also provided useful insights. Approximately forty percent of the participants scored ten or above on the GAD-7, suggesting the presence of moderate to severe GAD symptoms. The most frequently reported stressors were workload, academic pressure, and financial challenges. On the other hand, supportive staff, mentorship, and peer encouragement were identified as protective factors that helped some students cope with these pressures.

3.7.1 Reliability of Research Instrument

Reliability of the instruments is about whether the tool provides the same result if given out multiple times (Babbie, 2014). This study utilized test-retest reliability. With the use of SPSS, Cronbach's alpha was computed to evaluate the internal consistency of data collection items. This ensured that the tests used in this research were measuring the same underlying construct. The results are summarized per the main objective of the study in Table 3.3.

Table 3. 3

Reliability of the Data Based on the Main Variables

Constructs	No. of items	Cronbach's alpha (α)
Generalized anxiety disorder	8	.873
Academic pressure	10	.784
Financial worries	10	.823
Stress-coping strategies	14	.710
Student-staff relationships	10	.870

Table 3.3 indicates that all constructs met the acceptable threshold for internal consistency, with Cronbach's alpha (α) values ranging from .710 to .873. Generalized Anxiety Disorder (α = .873) and Student–Staff Relationships (α = .870) demonstrated high reliability, suggesting strong internal consistency among their respective items. Financial Worries (α = .823) and Academic Pressure (α = .784) exhibited good and acceptable reliability, respectively. Stress-Coping Strategies (α = .710) also met the acceptable standard. Overall, the results confirm that the measurement scales used in this study are internally consistent and suitable for further statistical analysis. This is in line with what Hair et al. (2013) opined that a construct is reliable if the 'α' value is greater than .70.

3.7.2 Validity of Research Instrument

Validity is a critical aspect of research, referring to the extent to which a method accurately measures what it is intended to measure (Middleton, 2019). A research tool is considered valid when its outcomes or questions genuinely reflect the characteristics of the target population. In this study, the research questions were carefully formulated to align with the specific areas outlined in the study objectives. Content validity was established with the assistance of research supervisors at Kenya Methodist University. As Kimberlin and Winterstein (2008) highlight, expert review provides valuable insights that enhance the accuracy and relevance of research instruments. Consequently, supervisors' feedback was incorporated to refine the tools before piloting and data collection. To further strengthen validity, the study incorporated standardized and widely recognized instruments, including the Brief COPE (Carver, 1997) and the GAD-7 (Kroenke et al., 2006). Additional items were adapted from the Instructor–Student Relationship Questionnaire (ISRQ) developed by Fisher and Marshall (1993) and the Student Academic Stress Scale (SASS) by Verma and Verma (2001). The use of these established tools ensured that the research instrument measured the intended constructs with accuracy, reliability, and comparability.

3.8 Data Collection Procedures

The researcher obtained an introduction letter and approval from the KeMU Institutional Scientific Ethics and Review Committee (ISERC), which was used to acquire a research license from the National Commission for Sciences, Technology, and Innovation (NACOSTI). The researcher then presented the official research license and ISERC approval to the university administration for approval to collect data among medical students at KeMU. Questionnaires were administered using both online and face-to-face approaches. The online version was created in Google Forms,

shared through class WhatsApp groups and emails, and included an informed consent section before participation. Reminders were sent to enhance the response rate, and responses were automatically stored securely. For the face-to-face method, printed questionnaires were distributed in lecture halls after briefing participants and obtaining consent, then collected immediately upon completion. Data from both methods were combined into a single dataset, with confidentiality and data security maintained throughout the process.

For interviews, the researcher sought interviewees' consent to participate and audio-record the interview process. 10 to 15 minutes were allocated to each participant during the interview. The interviews were recorded using a smartphone and transcribed by the researcher. For all the respondents in this study, the researcher elaborated on the measures that were taken to address concerns raised by the participants.

3.9 Data Analysis Procedures

Quantitative data were analyzed using descriptive and multiple linear regression. After collecting the quantitative data, the researcher conducted a thorough review to ensure its accuracy, completeness, and consistency. Each questionnaire response was assigned a numerical code to facilitate categorization, after which the data were grouped according to shared characteristics. The coded and organized data were then entered into IBM SPSS Version 30 for analysis. Prior to computing multiple linear regression, the researcher tested for key statistical assumptions, including normality, autocorrelation, linearity, multicollinearity, homoscedasticity, and residual statistics. The results for diagnostic tests are presented on the appendices page (appendix VII). Only after confirming that the data met all required assumptions did the researcher proceed with the analysis, presenting the results using tables and figures.

Qualitative data were thematically analyzed. The process included transcribing audio recordings into text to enhance accessibility and ease of analysis. The prepared transcribed data were then entered into Non-Versioned Information, Versatile Outcomes version 15 (NVivo 15) software. The researcher familiarized himself with the data, identifying patterns, systematically coding content, and deriving themes. These themes were organized and presented in verbatim to extract and present meaningful insights.

3.10 Ethical Considerations

Legal and ethical considerations were integral to the research process, ensuring that no participant was mistreated or suffered harm. To uphold these principles, the researcher obtained an introduction letter from KeMU and ISERC approval, which was used to secure a research license from NACOSTI. All undergraduate medical student participants and staff members were guaranteed confidentiality and anonymity, maintained through a strict policy of not sharing names during interviews or in questionnaires. Participation was entirely voluntary, and all medical student participants provided informed consent before taking part in the study. Depending on the sensitivity of the required data, which could potentially cause distress, participants were informed about the availability of counseling support and were given contact details for both the researcher and the university counselor. Interviewees were invited to sign a consent form authorizing the recording of interviews and the administration of questionnaires. Participants were informed of their right to withdraw from the study at any time without penalty, thereby safeguarding their autonomy. The researcher also acknowledged and cited all information obtained from external sources such as books, previous theses, newspapers, articles, and other publications, listing them in the references.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

This section introduces the chapter, which outlines the findings about the influence of psychosocial factors on generalized anxiety disorder among undergraduate medical students at KeMU, Meru County, Kenya. Data were analyzed and results organized based on the key variables of the study. The main variables of this study were: academic pressure, financial worries, stress coping strategies, student-staff relationships (independent variables), and GAD (dependent variable).

4.2 Response Rate

A total of 163 questionnaires were distributed to undergraduate medical students at KeMU, Meru County. About 131 respondents completed and submitted the questionnaires. The response rates for each category of respondents are presented in Table 4.1.

Table 4. 1

Response Rate of the Study

Courses	**Target population**	**Response (%)**
MBChB	38	38 (100)
Clinical medicine	17	17 (100)
Nursing	70	45 (64)
Pharmacy	27	24 (88)
Medical laboratory	11	7 (63.63)
Total	163	131 (80.36)

Table 4.1 shows that the response rate was 38 (100%) for MBChB, 17 (100%) for clinical medicine, 45 (64%) for nursing, 24 (88%) for pharmacy, and 7 (63.63%) for medical laboratory,

resulting in an overall response rate of 80.36%. The overall results suggest positive participation among respondents pursuing medical courses. Creswell (2014) pointed out that a response rate of 80% onwards is excellent. The adequacy of the obtained response rate is also supported by the recommendation of Mugenda and Mugenda (2013), who reported that a response rate of more than 50 percent is adequate.

4.3 Demographic Characteristics of the Respondents

The demographic variables included in the study were gender, age bracket, course, year of study, and sponsorship type. The results are presented in Table 4.2

Table 4. 2

Demographic Characteristics of the Respondents

Demographic characteristics	**Categories**	**Sample size**	***f***	**%**
Gender	Male		51	38.9
	Female		80	61.1
Age	16-20 years		32	24.4
	21-25 years		91	69.5
	26-30 years		8	6.1
	31 and more		0	0.0
Course	MBChB	38	38	29.0
	Clinical Medicine	17	17	13.0
	Nursing	70	45	34.4
	Pharmacy	27	24	18.3
	Medical Laboratory	11	7	5.3
Year of study	1st year		25	19.1
	2nd year		29	22.1
	3rd year		21	16.0
	4th year		35	26.7
	5th year		14	10.7
	6th year		7	5.3
Type of sponsorship	Self-sponsored		52	39.7
	Government-sponsored		78	59.5
	Others		1	0.8

Table 4.2 presents the demographic characteristics of the 131 medical students who participated in the study. The findings indicated that the sample leaned more toward female participants. Indeed, the majority were female, 80 (61.1%), while males accounted for 51 (38.9%). This aligns with reports that female students are increasingly enrolling in medical and health sciences in Kenyan universities (Mbirianjau et al., 2019). Similar trends have been observed globally, where female representation in medical schools has surpassed males in several regions (Boyle & Dill, 2024). However, some studies, such as Aljumaa et al. (2023) in Saudi Arabia, reported a male-dominated medical student population, showing contextual variation across countries.

With regard to age, the findings showed that most respondents clustered around the younger categories. Specifically, 91 (69.5%) were aged 21–25 years, 32 (24.4%) were 16–20 years, and only 8 (6.1%) were 26–30 years. No respondents were above 30 years. This age distribution reflects the common trend of students enrolling in medical programs immediately after secondary school in Kenya (Nderitu & Ngunju, 2020). Comparable findings were reported in Ethiopia, where Dachew et al. (2020) found that most medical students were in their early twenties.

In terms of the courses pursued, nursing students formed the largest group, 70 (34.4%), followed by Bachelor of Medicine and Bachelor of Surgery (MBChB) students, 38 (29.0%). Pharmacy accounted for 27 (18.3%), Clinical Medicine for 17 (13.0%), and Medical Laboratory Sciences for 11 (5.3%). This reflects the higher intake in nursing compared to other programs at KeMU, consistent with the Commission for University Education (2019) report that nursing has the highest enrolment among health sciences in Kenya. Similarly, Roth et al. (2023) in Germany observed larger cohorts of nursing students compared to other medical programs, highlighting a global trend of growing demand for nursing professionals.

The year of study distribution showed the highest proportion in the 4th year, 35 (26.7%). This was followed by 29 (22.1%) in the 2nd year, 25 (19.1%) in the 1st year, 21 (16.0%) in the 3rd year, 14 (10.7%) in the 5th year, and only 7 (5.3%) in the 6th year. The concentration in middle years of study is expected, as attrition in the senior years reduces numbers—a pattern echoed in a South African study by Bantjes et al. (2019), which noted declining enrolment across the later years of medical training.

Finally, regarding sponsorship, the majority of respondents were government-sponsored, 78 (59.5%), compared to 52 (39.7%) self-sponsored, and only 1 (0.8%) reported other forms of support. This reflects the government's significant role in subsidizing higher education for medical students in Kenya (CHE, 2019). Similar findings have been noted in Ethiopia, where state sponsorship remains the main pathway for students pursuing medical education (Dejene et al., 2025). However, contrasting evidence from countries such as the United States suggests that most medical students are self-financed, often through loans, which contributes to higher financial stress and associated mental health challenges (Moore et al., 2021).

4.4 Results Based on the Main Variables of the Study

A concurrent research method was adopted in the study to present and discuss quantitative and qualitative findings. The information gathered from medical students through questionnaires was significant in forming the basis of the argument in this study. The qualitative responses from the semi-structured interviews are presented and integrated alongside qualitative findings to provide rich and contextualized descriptions of the data. For confidentiality, interviewees were assigned codes instead of their real names. Codes were structured as Staff 1, Staff 2, Staff 3, etc., representing different participants.

4.5 Generalized Anxiety Disorder among Medical Students

This is the outcome of this study, which is attributed to various psychosocial factors among medical students at KeMU. To establish the prevalence of GAD-7 in this study, medical students were asked a series of standardized questions regarding different aspects of anxiety symptoms. The rating scale was as follows: not at all = 0, several days = 1, more than half the days = 2, and nearly every day = 3 for statements measuring GAD symptoms. Functionality rating scale was: not difficult at all = 0, somewhat difficult = 1, very difficult = 2, and extremely difficult = 3.

Having analyzed each item featured in GAD, the study further evaluated the GAD score of each individual's anxiety prevalence and severity as guided by Spitzer et al. (2006). According to a recent meta-analysis, some experts have recommended using a cut-off of 8 to optimize sensitivity without compromising specificity (Dhira et al., 2021). The following cut-offs correlate with the level of anxiety severity: Score 0-4 = Minimal Anxiety, score 5-9 = Mild Anxiety, score 10-14 = Moderate Anxiety, score greater than 15 = Severe Anxiety. Frequency and percentage were computed appropriately, and the results were summarized as shown in Table 4.3.

Table 4. 3

Prevalence of GAD

Level of GAD	Frequency	Per cent (%)
Minimal	47	35.9
Mild	48	36.6
Moderate	20	15.3
Severe	16	12.2

As shown in Table 4.3, out of 131 respondents, about 95 (72.5%) presented minimal to mild levels of GAD, 47 (35.9%), and 48 (36.6%), respectively, which are generally considered clinically insignificant according to conventional cut-off points (Spitzer et al., 2006). However, an interesting finding was that most of these respondents still reported their anxiety symptoms as making their functionality somewhat difficult, 31 (66%) in the minimal group and 37 (77.1%) in the mild group. This aligns with previous literature demonstrating that minimal or mild anxiety is not necessarily benign. For instance, Chiu et al. (2016) and Munir and Takov (2025) found that adolescents and young adults with minimal GAD still experienced meaningful impairment in academic, social, and role functioning. Similarly, Habtu et al. (2024) reported that even mild anxiety was linked with healthcare use and occupational difficulties. These findings support the notion that anxiety-related impairment exists along a continuum, rather than being confined only to those who meet diagnostic thresholds.

Table 4.3 further reveals that 36 (27.5%) of the respondents presented with moderate to severe levels of GAD, 20 (15.3%) moderate, 16 (12.2%) severe, which, according to Spitzer et al. (2006), fall within the range considered clinically significant and alarming. Consistent with these thresholds, the analysis showed that the majority of respondents in these categories experienced notable functional difficulties. Specifically, 16 (80%) of those with moderate GAD and 6 (37.5%) of those with severe GAD reported their anxiety as making life somewhat difficult to very difficult.

These findings are strongly supported by previous research. Spitzer et al. (2006), in the original validation of the GAD-7, demonstrated a clear dose–response relationship between increasing GAD severity and impaired role functioning, quality of life, and disability days. Saddik et al. (2021) similarly reported that individuals with moderate-to-severe anxiety had significantly higher odds of work-related impairment and health service use compared to those with minimal or mild

symptoms. Furthermore, PharmD et al. (2025) highlighted that severe anxiety disorders are associated with major role interference across work, education, and social domains, underscoring the real-world impact of such symptom levels. The current findings resonate with established evidence that moderate and severe anxiety symptoms represent clinically important conditions with tangible functional consequences, warranting timely identification and intervention (Wilmer et al., 2021).

4.6 Academic Pressure and Generalized Anxiety Disorder

This was the first objective of the study, which sought to investigate the influence of academic pressure on GAD among undergraduate medical students at KeMU, Meru County, Kenya. The respondents were asked to indicate the extent to which they agreed with several statements concerning the influence of academic pressure on GAD. The rating scale was: strongly agree (SA) = 5, agree (A) = 4, Neutral (N) = 3, disagree (D) = 2, and strongly disagree (SD) = 1. The results were summarized as shown in Table 4.4.

Table 4. 4

Descriptive Results on Academic Pressure

Items	SD (*f*/%)	D (*f*/%)	N (*f*/%)	A (*f*/%)	SA (*f*/%)	Mean	Std. Dev.
The syllabus is too broad to cover in due time.	5 (3.8)	12 (9.2)	39 (29.8)	41 (31.3)	34 (26.0)	3.66	1.079
The content is very tough to understand.	8 (6.1)	35 (26.7)	59 (45.0)	22 (16.8)	7 (5.3)	2.89	0.942
Worried that I must redo the compulsory courses I failed.	21 (16.0)	25 (19.1)	25 (19.1)	36 (27.5)	24 (18.3)	3.13	1.355
Stressed when I do not live up to my own academic standards	3 (2.3)	7 (5.3)	9 (6.9)	46 (35.1)	66 (50.4)	4.26	0.965
I feel added pressure to take non-medical courses	15 (11.5)	29 (22.1)	37 (28.2)	30 (22.9)	20 (15.3)	3.08	1.234
I have to spend a lot of time gathering information	4 (3.1)	12 (9.2)	12 (9.2)	56 (42.7)	47 (35.9)	3.99	1.049
there are too many tests/assignments/and exams.	9 (6.9)	29 (22.1)	50 (38.2)	29 (22.1)	14 (10.7)	3.08	1.071
Multiple tests in a short period make me feel stressed.	6 (4.6)	13 (9.9)	22 (16.8)	51 (38.9)	39 (29.8)	3.79	1.114
It is challenging to balance academic and social activities.	8 (6.1)	20 (15.3)	35 (26.7)	43 (32.8)	25 (19.1)	3.44	1.144
Poor time management increases my anxiety levels	2 (1.5)	6 (4.6)	20 (15.3)	46 (35.1)	56 (42.7)	4.14	0.946

Table 4.4 reveals that a significant proportion of students, 75 (57.3%), agreed or strongly agreed that the syllabus is too broad to cover in due time (41, 31.3%; 34, 26.0%). This was further reflected in the mean score (M = 3.62, SD = 1.04), suggesting a general tendency toward agreement. These results are consistent with previous studies, which suggest that an overloaded syllabus often contributes to academic stress and reduced learning efficiency among students (Thi & Duong, 2024). Similarly, 88 students (61.8%) were neutral, agreed, or strongly agreed that the content is very tough to understand (59, 45.0%; 22, 16.8%; 7, 5.3%), with a corresponding mean of M = 2.89 (SD = 0.94). This aligns with findings by Bergmann et al. (2019), who found that medical and health sciences students often perceive their curricula as difficult to grasp, which contributes to elevated stress levels and reduced academic performance.

These findings mirror qualitative insights from staff, who consistently highlighted the overwhelming nature of medical curricula: “unlike other disciplines, medical courses come with too much content to read” (Staff 2) and “Because they will be dealing with humans, they are expected to demonstrate high competency through clinical activities and regular assignments and tests” (Staff 5). This convergence reflects the broader concern about curriculum overload in medical training, aligning with the OECD’s (2020) report, which notes that excessively broad syllabi undermine deep learning and amplify student stress.

A large proportion of respondents also indicated that information gathering consumed a significant amount of their time, with 56 (42.7%) agreeing and 47 (35.9%) strongly agreeing (M = 3.99, SD = 1.04). This resonates with Ikonne et al. (2022) who observed that students spend a substantial amount of time searching for academic information, often at the expense of efficient study practices. Similarly, 30 (22.9%) agreed and 20 (15.3%) strongly agreed that there was pressure to

take non-medical courses due to institutional subject combinations (M = 3.08, SD = 1.23). This finding aligns with studies that demonstrate how curricular structures often encourage students to enroll in courses outside their primary field of study, potentially creating additional academic pressure (Alsaqabi, 2023). Staff confirmed that "students are often burdened by rigorous programs and excessive requirements, which divert focus from core medical training" (Staff 7). These results complement Pollock's (2021) observation that students frequently resort to supplementary resources when curricula feel disorganized, thereby increasing workload and reducing efficiency.

Similarly, 29 (32.8%) agreed and 14 (19.1%) strongly agreed that multiple tests/assignments/exams in a short period made them feel overwhelmed, producing a mean of M = 3.08 (SD = 1.07). This concurs with Pérez-Jorge et al. (2025) who reported that continuous examinations and workload congestion are significant predictors of academic stress among university students. Staff confirmed that "medical students, specifically those in medicine, face high-performance expectations from their lecturers" (Staff 3), reflecting the institutional culture of continuous assessment. These findings resonate with Williamson et al. (2024) who reported that frequent deadlines and compressed exam timetables trigger acute stress spikes among medical students.

A striking 112 (85.5%) of students agreed or strongly agreed that they feel stressed/pressured when they do not live up to their own academic standards (M = 4.21, SD = 0.92). This finding resonates with self-imposed academic pressure described by Kristensen et al. (2023) who noted that students with high personal expectations often experience greater stress when their performance falls short, while 60 (45.8%) reported worrying about having to redo failed compulsory courses (M = 3.13, SD = 1.31). This combination of self-imposed standards and extrinsic motivations reflects Eley et

al.'s (2022) findings on perfectionism and performance concern in medical education, which are strongly correlated with higher anxiety and depressive symptoms. Staff members also observed that underperformance is particularly damaging for students who were pressured into medical school without personal conviction: "a grade A student who was pushed to do medical courses once they fail feels disappointed and starts doubting their abilities." (Staff 6). Similarly, Terzi et al. (2022) demonstrated that students motivated by external pressures, such as family expectations, reported significantly higher levels of severe anxiety.

Additionally, 68 (51.9%) of respondents agreed/strongly agreed that they suffer adjustment problems balancing academic and social activities (M = 3.44, SD = 1.14). This was echoed in staff accounts of students' immersion in heavy coursework and clinical placements, leaving little room for social supports and self-care. Such patterns have been documented in the literature, with Picton (2021) noting that poor work–life balance erodes resilience and exacerbates adjustment strain.

Finally, 102 (77.8%) of respondents agreed/strongly agreed that poor time management significantly increases their anxiety. Both staff and students recognized that effective planning, prioritization, and scheduling could help mitigate stress. This aligns with systematic reviews identifying time-management skills as modifiable protective factors against academic stress, with interventions shown to reduce exam anxiety and improve outcomes (Alyami et al., 2021).

Taken together, the convergence of quantitative and qualitative findings paints a clear picture: medical students face a demanding curriculum marked by breadth, intensity, and high expectations from both faculty and themselves. This combination fosters academic stress, adjustment difficulties, and heightened risk of generalized anxiety disorder, especially among students pressured into medicine by external influences.

4.7 Financial Worries and Generalized Anxiety Disorder

This was the second objective of this study. It examined the influence of financial worries on GAD among undergraduate medical students at KeMU, Meru County, Kenya. To establish this, the respondents were asked about the frequency with which they experience different statements regarding financial worries. The rating scale was: always = 5, very often = 4, sometimes = 3, rarely = 2, and never = 1. The summary of results is presented in Table 4.5 below.

Table 4. 5

Descriptive Results on Financial Worries

Items	Always (*f*/%)	very often (*f*/%)	Sometimes (*f*/%)	Rarely (*f*/%)	Never (*f*/%)	Mean	SD
I rely on my family/friends for financial support	99 (75.6)	16 (12.2)	5 (3.8)	5 (3.8)	2 (1.5)	4.61	0.864
I take on additional work (part-time job) for financial reasons.	9 (6.9)	8 (6.1)	22 (16.8)	31 (23.7)	57 (43.5)	2.06	1.233
I access HELB, a scholarship, or a bursary	14 (10.7)	15 (11.5)	36 (27.5)	14 (10.7)	48 (36.6)	2.47	1.385
I have difficulty concentrating on my schoolwork because of my financial situation.	8 (6.1)	10 (7.6)	32 (24.4)	37 (28.2)	40 (30.5)	2.28	1.174
I feel anxious, thinking I might not take the exams due to financial instability.	10 (7.6)	8 (6.1)	25 (19.1)	34 (26.0)	50 (38.2)	2.17	1.239
I struggle to manage my day-to-day living expenses	14 (10.7)	13 (9.9)	38 (29.0)	31 (23.7)	31 (23.7)	2.59	1.268
I feel pressure to maintain a particular lifestyle	11 (8.4)	9 (6.9)	41 (31.3)	20 (15.3)	46 (35.1)	2.36	1.277
Poor financial management influences my anxiety levels	22 (16.8)	21 (16.0)	43 (32.8)	22 (16.8)	19 (14.5)	3.04	1.281
I compare my financial situation to that of my peers in medical school	8 (6.1)	11 (8.4)	26 (19.8)	31 (23.7)	51 (38.9)	2.17	1.226
I experience physical symptoms like headaches, stomachaches, or tightness in my chest due to financial stress	6 (4.6)	13 (9.9)	22 (16.8)	36 (27.5)	51 (38.9)	2.12	1.181

The findings show that most students rely heavily on family and friends for financial support, with 99 (75.6%) reporting that they always do and a mean score of 4.61 (SD = 0.864). This reliance underscores the pivotal role of family networks in supporting medical students, particularly given the substantial costs of medical training. Qualitative data corroborated this, with staff noting that "medical courses are generally not cheap and this is a challenge for many students" (Staff 1), and "I have had cases where some students shared that they lacked food but were unable to ask for parental help". These results align with existing research from Sub-Saharan Africa, which emphasizes family as the primary safety net for students due to limited scholarships and insufficient institutional aid (Zickafoose et al., 2024). However, this reliance may also increase vulnerability, particularly for students from low-income households, who experience heightened anxiety when such support is inconsistent.

Interestingly, very few students reported taking on part-time jobs to meet their financial needs, with 57 (43.5%) stating they never do so, and only a small fraction (6.9%) always. The low mean (M = 2.06, SD = 1.233) suggests that part-time work is not a common coping strategy. Staff members confirmed that "some students are forced to work to afford basic needs, often at the expense of attendance" (Staff 5). This contradicts studies from Western contexts where part-time work is a frequent student strategy but is associated with academic strain (Evans, 2020). The low prevalence in this setting may reflect the intensity of medical curricula, which leaves little time for external employment.

In terms of institutional financial support, responses were mixed. While 14 (10.7%) always and 15 (11.5%) very often accessed scholarships, bursaries, or HELB loans, a large proportion (36.6%) indicated never, yielding a moderate mean (M = 2.47, SD = 1.385). This indicates inconsistent

access to formal financial assistance. Staff confirmed this gap, noting that "although government loans exist, they rarely sustain medical student needs" (Staff 2). This aligns with reports from the African Development Bank (2020), which highlight that higher education financing mechanisms in Africa are inadequate, forcing students to depend on family or informal work.

Financial stress was also reflected in academic concentration and exam-related anxiety. A considerable number of students admitted that financial strain affected their ability to concentrate (M = 2.28, SD = 1.174) and caused worry about missing exams (M = 2.17, SD = 1.239). Though mean scores indicate lower overall endorsement, the qualitative findings support the seriousness of these cases, with staff warning that financial insecurity can affect both attendance and academic persistence. These findings align with Campbell et al. (2022), who found that financial stress among university students strongly predicts poor mental health and reduced academic engagement.

Daily living expenses also posed challenges, with 38 (29%) sometimes and 27 (20.6%) often or always struggling, resulting in a moderate mean of 2.59 (SD = 1.268). Staff linked this directly to nutritional challenges, noting that "the effort required for studying is proportional to consumption, which might not be affordable for all" (Staff 9). Literature has long emphasized the link between food insecurity, concentration, and academic outcomes (Maroto et al., 2015), supporting the link between financial strain and academic effectiveness. Another dimension was peer comparison and lifestyle pressures. Around 41 (31.3%) sometimes and 20 (15.3%) rarely felt pressured to maintain a lifestyle, while 46 (35.1%) reported never experiencing such pressure (M = 2.36, SD = 1.277). Similarly, many students denied frequently comparing their financial situations with peers, with 51 (38.9%) never doing so (M = 2.17, SD = 1.226). These findings contradict some literature, for example, Coughlin et al. (2019), which suggests peer comparisons drive financial anxiety among

students. However, the contradiction may reflect cultural differences, where collectivist norms reduce the salience of individual lifestyle competition in comparison to Western contexts.

A critical theme that emerged was poor financial management, with 22 (16.8%) always and 21 (16.0%) very often acknowledging that it influenced their anxiety (M = 3.04, SD = 1.281). Staff also highlighted that "shockingly, students who are financially advantaged than others are the ones who indulge in drugs and alcohol" (Staff 2), linking mismanagement to psychosocial problems. This aligns with Ahamed et al. (2024), who found that poor financial literacy among young adults worsens stress and long-term insecurity.

Finally, the physical manifestations of financial stress were evident though not strongly endorsed: only 6 (4.6%) always and 13 (9.9%) very often reported experiencing physical symptoms such as headaches, stomachaches, or chest tightness, with most indicating rarely or never (M = 2.12, SD = 1.181). While relatively low in this sample, staff testimonies confirmed that extreme cases exist, underscoring the psychosomatic effects of chronic stress. These findings support Khurshid et al. (2025), who observed that medical students experiencing financial distress were more likely to present with somatic complaints and burnout symptoms.

4.8 Stress-Coping Strategies and Generalized Anxiety Disorder

This was the third objective of the study, which aimed at establishing the influence of stress-coping mechanisms on GAD among undergraduate medical students at KeMU, Meru County, Kenya. The stress-coping strategies were first measured quantitatively by posing several statements to the respondents based on identified indicators, requiring them to rate each statement accordingly. The rating scale was; always = 5, very often = 4, sometimes = 3, rarely = 2, and never = 1. Summarized results are presented in Table 4.6.

Table 4. 6

Descriptive Results on Stress-Coping Strategies

Items	Always (*f*/%)	very often (*f*/%)	Sometimes (*f*/%)	Rarely (*f*/%)	Never (*f*/%)	Mean	SD
Try to distract myself by getting active	0 (0.0)	21 (16.0)	41 (31.3)	27 (20.6)	38 (29.0)	2.35	1.08
Listen to or play music that I find relaxing	0 (0.0)	26 (19.8)	27 (20.6)	12 (9.2)	62 (47.3)	2.13	1.23
Get emotional support from my peers/family members.	0 (0.0)	21 (16.0)	35 (26.7	21 (16.0)	50 (38.2)	2.21	1.138
I seek professional help	0 (0.0)	3 (2.3)	9 (6.9)	33 (25.2)	82 (62.6)	1.47	0.733
I pray about the problem and believe that a miracle will happen	0 (0.0)	19 (14.5)	42 (32.1)	12 (9.2)	54 (41.2)	2.2	1.15
I use alcohol or other drugs to make myself feel better	0 (0.0)	5 (3.8)	14 (10.7)	13 (9.9)	95 (72.5)	1.44	0.842
I give up trying to deal with it	0 (0.0)	10 (7.6)	39 (29.8)	20 (15.3)	58 (44.3)	2.01	1.043
I engage myself in social media to get my mind off problems	0 (0.0)	30 (22.9)	39 (29.8)	13 (9.9)	45 (34.4)	2.43	1.199
I watch movies, parting, or walking	0 (0.0)	30 (22.9)	44 (33.6)	9 (6.9)	44 (33.6)	2.47	1.194
I criticize myself	0 (0.0)	16 (12.2)	40 (30.5)	19 (14.5)	52 (39.7)	2.16	1.101
I make jokes about it	0 (0.0)	15 (11.5)	49 (37.4)	27 (20.6)	35 (26.7)	2.35	1.014
I focus on the positive side of the situation	0 (0.0)	35 (26.7)	44 (33.6)	7 (5.3)	41 (31.3)	2.57	1.205
I express my negative feelings	0 (0.0)	14 (10.7)	48 (36.6)	32 (24.4)	33 (25.2)	2.34	0.986

The findings in Table 4.6 indicate that students most commonly adopted avoidance coping strategies, such as engaging in social media (M = 2.43, SD = 1.199), watching movies or walking (M = 2.47, SD = 1.194), or distracting themselves by getting active (M = 2.35, SD = 1.08). These strategies were frequently endorsed, with around one-third of students reporting they used them sometimes or very often. Similarly, humor (M = 2.35, SD = 1.014) and expressing negative feelings (M = 2.34, SD = 0.986) emerged as moderately used coping mechanisms.

These patterns align with qualitative accounts from staff, who observed that "most medical student use social media and movies primarily to cope with a stressful event" (Staff 4) and often "divert their attention to leisure activities," pointing to avoidance as a central coping theme. This finding is consistent with the literature documenting that medical students often rely on distraction and avoidance behaviors when faced with overwhelming academic demands (Lazarus & Folkman, 1984; Carver, 1997). However, while avoidance may provide temporary relief, evidence suggests it is linked to poorer long-term outcomes, including higher stress and procrastination (Eisenberg et al., 2007).

In contrast, adaptive coping strategies such as focusing on the positive side of situations (M = 2.57, SD = 1.205) and seeking social support from peers or family (M = 2.21, SD = 1.138) were used less frequently. Although the mean scores indicate limited reliance, qualitative findings emphasized that students "reach out for support from their peers, family members, or even lecturers" (Staff 1), and some also relied on intimate partners or roommates for companionship or financial assistance. This suggests that while positive reframing and social support are not dominant strategies, they remain important for a subset of students. Literature supports the value

of such coping, showing that peer and family support mitigate anxiety and improve resilience (Butler et al., 2022).

Alarmingly, professional help-seeking had the lowest mean (M = 1.47, SD = 0.733), with more than 87% of respondents reporting they rarely or never sought counseling. Staff confirmed this trend, noting that "I noticed that only a few students seek professional help and that most avoid counseling due to misinformation or stigma" (Staff 4). This mirrors global findings that medical students underutilize formal psychological services, despite high levels of distress (Sahu et al., 2020). The contradiction here lies in the literature: while studies show counseling interventions improve coping and reduce anxiety (Mathew, 2022), the current results highlight a cultural and institutional gap where students do not perceive counseling as an accessible or useful option.

On maladaptive strategies, a small proportion reported using alcohol or drugs (M = 1.44, SD = 0.842), but staff observed that substance use does exist, often linked to peer pressure or false beliefs about its stress-relieving benefits" (Staff 9). Literature strongly cautions against this, as substance abuse exacerbates anxiety, undermines academic performance, and impairs social functioning (APA, 2013). This indicates that even if the prevalence is low, the consequences for those who engage in such behavior are severe.

Finally, self-critical tendencies were moderately endorsed (M = 2.16, SD = 1.101), with students reporting that they sometimes criticize themselves or give up trying to deal with it (M = 2.01, SD = 1.043). Staff linked such behaviors to procrastination and avoidance, which often lead students to "cheat in exams or struggle to catch up within a short period before exams." (Staff 1) These findings are consistent with the literature showing that self-blame and withdrawal predict higher anxiety and depressive symptoms in medical students (Henning et al., 2018).

4.9 Student-Staff Relationships and Generalized Anxiety Disorder

This was the fourth objective of the study, aiming to assess the influence of the student-staff relationship on GAD among undergraduate medical students at KeMU, Meru County, Kenya. Medical students rated the statements posed to them on the influence of student-staff relationships on GAD. The rating scale was Strongly Agree (SA) = 1, Agree (A) = 2, Neutral (N) = 3, Disagree (D) = 4, Strongly Disagree (SD) = 5. Results are summarized in Table 4.7.

Table 4. 7

Descriptive Results on Student-Staff Relationships

Items	SA (*f*/%)	A (*f*/%)	N (*f*/%)	D (*f*/%)	SD (*f*/%)	Mean	Std.Dev
Lecturers take a personal interest in my academic progress and well-being	19 (14.5)	31 (23.7)	42 (32.1)	23 (17.6)	10 (7.6)	2.79	1.152
Mentorship provided by my lecturers helps me manage academic pressures and reduce anxiety	18 (13.7)	16 (12.2)	45 (34.4)	36 (27.5)	10 (7.6)	3.03	1.15
Staff members respectfully communicate with me, leading to a healthy relationship	10 (7.6)	19 (14.5)	56 (42.7)	31 (23.7)	8 (6.1)	3.06	0.994
Lecturers provide reasonable and clear expectations for academic performance	5 (3.8)	13 (9.9)	37 (28.2)	59 (45.0)	11 (8.4)	3.46	0.938
I feel comfortable asking questions or seeking clarification from lecturers when I do not understand something	13 (9.9)	19 (14.5)	36 (27.5)	36 (27.5)	20 (15.3)	3.25	1.207
Lecturers engage in open discussions or encourage asking questions during class.	5 (3.8)	6 (4.6)	28 (21.4)	54 (41.2)	33 (25.2)	3.83	1.005
I often receive positive feedback or encouragement from lecturers about my academic progress	20 (15.3)	21 (16.0)	52 (39.7)	26 (19.8)	6 (4.6)	2.82	1.088
Lecturers acknowledge student effort through recognition and praise.	15 (11.5)	18 (13.7)	45 (34.4)	38 (29.0)	9 (6.9)	3.06	1.105
I receive adequate guidance related to my academic, social, and psychological well-being.	18 (13.7)	23 (17.6)	47 (35.9)	28 (21.4)	10 (7.6)	2.91	1.139
I feel that staff members care about your well-being, both academically and personally	16 (12.2)	27 (20.6)	54 (41.2)	16 (12.2)	12 (9.2)	2.85	1.108

The findings in Table 4.7 indicate mixed perceptions of student–staff relationships in supporting academic progress and emotional well-being. For instance, only 19 students (14.5%) strongly agreed and 31 (23.7%) agreed that lecturers take a personal interest in their academic progress and well-being, while the majority were either neutral (42, 32.1%) or disagreed/strongly disagreed (33, 25.2%). This produced a relatively low mean of M = 2.79 (SD = 1.15), suggesting that many students feel lecturers remain distant from them. Qualitative findings corroborated this, as staff acknowledged that "while some lecturers are approachable, others display high egos and are unapproachable, creating communication barriers" (Staff 7). This resonates with Anderson et al. (2025), who found that a lack of relational support significantly increases students' vulnerability to anxiety.

Similarly, mentorship appeared inconsistent. Only 34 students (25.9%) agreed/strongly agreed that mentorship from lecturers helps manage academic pressure, whereas 36 (27.5%) disagreed and 10 (7.6%) strongly disagreed, with a sizeable portion remaining neutral (45, 34.4%). The mean (M = 3.03, SD = 1.15) suggests ambivalence. Staff accounts supported this inconsistency: while some departments had formal mentorship programs, staff also admitted that "the quality of mentoring varied, often depending on an individual student's personality. This duality mirrors Wang et al. (2025), who noted that mentorship buffers students from stress when consistently applied but can exacerbate anxiety when lacking.

Respectful communication was another area of concern. Although 29 students (22.1%) agreed/strongly agreed that staff communicate respectfully, the majority were neutral (56, 42.7%), while 39 (29.8%) disagreed/strongly disagreed. The mean score (M = 3.06, SD = 0.99) thus reflects only moderate satisfaction. Staff perspectives further explained this, noting that "while some

relationships were built on mutual respect, others were hindered by staff–student personality differences" (Staff 8). This aligns with Komarraju et al. (2020), who emphasized that respectful lecturer–student interactions foster academic confidence.

By contrast, classroom engagement was a strength. A majority of students, 54 (41.2%), agreed and 33 (25.2%) strongly agreed that lecturers encouraged open discussions, with only 11 (8.4%) disagreeing/strongly disagreeing. The highest mean score (M = 3.83, SD = 1.01) indicates that students valued interactive learning environments. This aligns with Rocca (2010), who argued that classroom dialogue enhances student participation and reduces anxiety through active engagement.

Feedback and recognition, however, were weaker areas. Only 41 students (31.3%) agreed/strongly agreed that they often received positive feedback, while 52 (39.7%) were neutral and 32 (24.4%) disagreed/strongly disagreed, producing a low mean of M = 2.82 (SD = 1.09). Similarly, just 33 students (25.2%) agreed/strongly agreed that lecturers acknowledge their effort, compared to 47 (35.9%) who disagreed/strongly disagreed (M = 3.06, SD = 1.11). This finding partly contradicts staff claims that mentorship and follow-up programs exist, suggesting either that students perceive these as inadequate or that they are unevenly implemented. Literature stresses the importance of recognition: Fisher et al. (2025) found that timely, constructive feedback enhances learning and motivation, underscoring the gap reflected in these results.

Finally, holistic guidance and well-being care were perceived as insufficient. Only 41 students (31.3%) agreed/strongly agreed they received adequate academic, social, and psychological guidance, while 38 (29.0%) disagreed/strongly disagreed and 47 (35.9%) remained neutral (M = 2.91, SD = 1.14). Similarly, only 43 (32.8%) felt staff cared about their well-being, while 28 (21.4%) disagreed, and 54 (41.2%) were neutral (M = 2.85, SD = 1.11). Staff members also

recognized this gap, acknowledging that students unable to approach unwelcoming lecturers in times of crisis experience worsened mental health. This mirrors Williamson et al. (2024), who emphasized that supportive staff relationships can reduce stress, while distant or unapproachable lecturers increase the risk of anxiety and depression.

Overall, triangulation of quantitative and qualitative findings illustrates that student–staff relationships are highly inconsistent. While survey results pointed to high neutrality and disagreement in mentorship, communication, and support, interview data explained this redundancy by showing that these relationships are shaped by both staff behaviors (e.g., approachability, ego, communication style) and student factors (e.g., personality, willingness to engage). This bidirectional dynamic suggests that interventions must address both lecturer practices and student capacities for engagement to foster stronger, more supportive relationships, thereby reducing anxiety and enhancing resilience.

4.10 Inferential Statistical Analysis Findings

The researcher employed multiple linear regression to establish the influence of independent variables (academic pressure, financial worries, stress-coping strategies, and student-staff relationships) and the dependent variable (generalized anxiety disorder). The results are summarized in Table 4.8.

Table 4. 8

Inferential Statistical Analysis Findings on the Study Variables

Variable		B	β	P values
(Constant)		.299		.528
Academic pressure		.278	.265	.003
Financial worries		.271	.297	.001
Stress-coping strategies	Positive coping	-.354	-.266	.005
	Negative coping	.139	.124	.180
Student-staff relationship		-.140	-.150	.057

F (4,121) = 12.096, p<.001, R = .534, R^2 = .286

Table 4.8 indicates the regression model was significant overall, F (4,121) = 12.096, p < .001, with an R = .534 and R^2 = .286, indicating that approximately 28.6% of the variance in GAD scores was explained by academic pressure, financial worries, stress-coping strategies, and student–staff relationships.

Academic pressure had a positive and significant association with GAD (B = 0.278, SEB = 0.090, β = 0.265, t = 3.070, p = .003). For every unit increase in academic pressure, GAD scores increased by .278, confirming that academic stress is a key predictor of anxiety. Qualitative findings supported this by pointing out that students frequently reported that heavy workloads, long study hours, and exam-related stress undermined their concentration and worsened anxiety. One staff member explained: “Exams, assignments, and a heavy workload put students under constant

pressure, which makes them anxious and sometimes even affects their mental stability" (Staff 2), indirectly reinforcing the academic strain. Moreover, some staff noted that the academic system itself contributed to anxiety through its competitive environment, where ranking and performance comparisons intensified stress. As one put it: "The medical program is too demanding and leaves little room for rest; the competition makes it worse" (Staff 6). These insights help explain why the quantitative data reflected such a strong link: students not only face demanding coursework but also internalize the pressure in ways that heighten their anxiety. This was in line with a Study by Shadid et al. (2020) which, found that medical students under academic pressure are more prone to stress and burnout, which contributes to elevated anxiety levels. This aligns with the current results.

Financial worries were also a significant positive predictor of GAD (B = 0.271, SE B = 0.078, β = 0.297, t = 3.479, P = <0.001). Each unit increase in financial strain corresponded to a .271 increase in GAD scores. Qualitative evidence echoed this; students and staff identified delayed fee payments, food insecurity, and inability to afford basic needs as direct stressors. For example, Staff 5 emphasized: "Hunger, lack of basic needs, and fees affect students' concentration, resulting in increased anxiety symptoms." This explains why financial stress was so strongly linked with anxiety levels. Literature reinforces this finding. Richardson et al. (2017) and Van der Berg et al. (2019) demonstrated that financial strain undermines focus and academic performance, while Ahmad et al. (2022) found that food insecurity among students correlated significantly with higher anxiety and depression.

Positive coping was a significant negative predictor of GAD (B = -.354, β = -.266, t = -2.880, p = .005). Students who engaged in adaptive strategies (e.g., seeking professional help, exercising, or

praying) reported lower anxiety scores. Students who relied on social support from peers, family, and lecturers described reduced anxiety levels, while staff noted, "They are students who reach out for support from their peers, family members, or even lecturers." (Staff 1). This shows that interpersonal and positive coping mechanisms mitigate the impact of stress. Literature supports this. Koenig (2018) found religious coping to be protective, while Rahman et al. (2021) showed that structured stress management strategies (counselling, mindfulness, music, etc.) reduce psychological distress in medical students.

Negative coping was not a significant predictor of GAD in the regression model ($p > .05$). While students reported substance use, self-criticism, and avoidance in both surveys and interviews, these did not independently predict GAD when other variables (academic pressure, financial worries, positive coping) were controlled. However, qualitative highlighted that some students resorted to maladaptive methods like drugs and alcohol, especially those financially advantaged: "Some students who are financially advantaged may indulge in drugs and alcohol." (Staff 2). This may explain why negative coping was observed, but it was statistically weaker in the model; it coexists with, but does not outweigh, stronger predictors such as financial and academic pressures. Literature supports this nuance. Park and Iacocca (2014) linked maladaptive coping to poor long-term mental health, but Stevenson et al. (2022) noted that immediate academic pressures often overshadow coping styles in predicting acute anxiety symptoms.

Student–staff relationships showed a negative association with GAD *($B = -.140$, $\beta = -.150$, $t = -1.925$, $p = .057$)* but did not reach statistical significance. This suggests that stronger lecturer support may help reduce anxiety, but the effect was weaker compared to financial and academic factors. Qualitative data provided a richer picture. Some staff attributed student–staff relationships

to student personality, with one saying, “The student-staff relationship depends on the personality of an individual student; when they are respectful, the relationship with that student will be good and will be bad vice versa.” (Staff 3). Others admitted that certain lecturers’ attitudes hindered communication: “There are staff with high egos and are unapproachable, which interferes with open communication with students.” (Staff 2). These insights explain why many students gave neutral responses in surveys, reflecting inconsistency across staff members. Tinto (2017) emphasized that supportive faculty relationships predict student persistence and well-being. However, Tan and Wang (2013) found that student personality traits also affect these dynamics, echoing staff perceptions in the qualitative findings.

CHAPTER FIVE

SUMMARY, CONCLUSION, AND RECOMMENDATIONS

5.1 Introduction

This chapter summarizes the key findings from Chapter Four and suggests areas for further research based on gaps identified in the current study.

5.2 Summary of the Findings

The purpose of this study was to establish the influence of psychosocial factors on GAD among undergraduate medical students at KeMU, Meru County, Kenya. The main objectives were to investigate the influence of academic pressure, financial worries, stress-coping strategies, and student-staff relationships on GAD. Moreover, two theories that guided this study were the transactional model of stress and coping and the self-determination theory. The study involved 131 medical students, 1 counsellor, 4 medical lecturers, and 2 CODs. Data collection utilized structured questionnaires and semi-structured interviews. Quantitative data were analyzed using descriptive and inferential statistics. Content analysis was used to analyze qualitative data. Results of quantitative analysis were presented in the form of tables, while verbatim was utilized to present results of qualitative analysis. Out of 163 medical students who were sampled, 131 filled out the questionnaires as requested, representing an 80.36% response rate. Of the total respondents, 47 (35.9%) had minimal anxiety, 48 (36.6%) had mild anxiety, 20 (15.3%) had moderate anxiety, and 16 (12.2%) had severe anxiety.

5.2.1 Academic Pressure and GAD

The first objective of the study examined the influence of academic pressure on generalized anxiety disorder (GAD) among undergraduate medical students at KeMU, Main Campus. The findings

reveal that lecturers are effective in providing clear expectations (M = 3.46, SD = 0.94) and encouraging class discussions (M = 3.83, SD = 1.01), which staff linked to mutual respect and open communication. These findings align with those of Amerstorfer and Münster-Kistner (2021), who emphasize that clarity and interactive dialogue enhance academic performance. However, weaker areas were noted in mentorship (M = 3.03, SD = 1.15), personalized interest (M = 2.79, SD = 1.15), feedback (M = 2.82, SD = 1.09), and holistic well-being support (M = 2.85, SD = 1.11). Multiple linear regression confirmed academic pressure emerged as a significant positive predictor (B = .278, β = .265, p = .003), meaning that for every one-unit increase in academic pressure, GAD scores increased by 0.278 units, holding other variables constant. Qualitative data highlighted barriers such as lecturer unapproachability and student personality differences, though structured mentorship programs were mentioned as positive practices. These results support literature stressing mentorship and feedback as buffers against stress Johnson-Esparza et al. (2021), while also echoing Racine et al. (2019) that limited relational support exacerbates anxiety.

5.2.2 Financial Worries and GAD

The second objective sought to examine the influence of financial worries on GAD among undergraduate medical students at KeMU, Main Campus. The study found that most medical students rely heavily on family and friends for financial support (75.6%), with staff confirming that medical courses are "generally not cheap." Additionally, students sometimes lack food but are unable to seek parental help. Institutional aid, such as scholarships and loans, was inconsistently accessed and described by staff as rarely sufficient, while part-time work was uncommon due to the intensity of the curriculum. Financial strain was linked to reduced concentration, exam anxiety, and food insecurity, with staff noting its impact on attendance and persistence. Poor financial

management also heightened stress and risky behaviors. Although physical symptoms were less common, testimonies revealed severe cases, underscoring the need for stronger financial support, literacy training, and mental health interventions. Multiple linear regression confirmed that financial worries significantly predicted GAD ($B = 0.271$, $\beta = 0.297$, $p = .001$).

5.2.3 Stress-Coping Strategies and GAD

The Multiple Linear Regression provided further nuance by differentiating between positive and negative coping. Positive coping strategies emerged as a significant negative predictor of GAD (B = -0.354, β = -0.266, t = -2.880, p = .005), indicating that students who adopted healthy strategies reported lower anxiety symptoms. Negative coping, while not statistically significant in the regression model (B = .139, β = .124, t = 1.347, p = .180), still showed a positive direction, suggesting that maladaptive behaviors tend to worsen anxiety levels, even if the effect was weaker in this sample. The study revealed that medical students mainly relied on avoidance strategies such as social media (M = 2.43, SD = 1.199), movies or walking (M = 2.47, SD = 1.194), and getting active (M = 2.35, SD = 1.08), with staff confirming that leisure activities were the most common way students coped with stress. Humor (M = 2.35, SD = 1.014) and expressing negative emotions (M = 2.34, SD = 0.986) were moderately used. Positive reframing (M = 2.57, SD = 1.205) and social support (M = 2.21, SD = 1.138) were less frequent, though staff noted some students reached out to peers, partners, or lecturers. Professional help-seeking was rare (M = 1.47, SD = 0.733; 87% rarely/never), with stigma and misinformation cited. Self-criticism (M = 2.16, SD = 1.101) was moderately present, often linked by staff to procrastination and exam struggles.

5.2.4 Student-Staff Relationships and GAD

The study explored the influence of student-staff relationships on GAD among undergraduate medical students at Kenya Methodist University using descriptive, inferential, and qualitative approaches. The findings revealed mixed perceptions of student–staff relationships. Few students strongly agreed that lecturers took a personal interest in their progress (14.5%), yielding a low mean ($M = 2.79$, $SD = 1.15$), with staff acknowledging that some lecturers were unapproachable. Mentorship was inconsistent ($M = 3.03$, $SD = 1.15$), often depending on personality or departmental culture. Respectful communication was moderate ($M = 3.06$, $SD = 0.99$), with personality differences creating barriers. Classroom engagement scored highest ($M = 3.83$, $SD = 1.01$), reflecting value in interactive teaching. Feedback, recognition, and holistic guidance were weaker areas, with staff admitting gaps that heightened student stress and anxiety. Multiple linear regression revealed that the student–staff relationship variable approached but did not reach statistical significance ($B = -0.140$, $\beta = -0.150$, $t = -1.925$, $p = .057$).

5.3 Conclusions

This study underscores the multifaceted nature of Generalized Anxiety Disorder (GAD) among undergraduate medical students, highlighting the significant influence of academic pressure, financial worries, stress-coping strategies, and student-staff relationships.

5.3.1 Academic Pressure and GAD

Academic pressure emerged as one of the strongest predictors of GAD. Quantitative findings confirmed that higher academic demands were significantly associated with increased anxiety levels, while qualitative data revealed that students often felt overwhelmed by heavy workloads,

frequent examinations, and unclear performance expectations. These findings echo existing literature that identifies the highly demanding environment of medical education as a major driver of psychological distress.

5.3.2 Financial Worries and GAD

Financial worries were also found to be a significant predictor of GAD, demonstrating that economic instability compounds the stressors already present in medical training. Students reported constant worries about meeting tuition obligations, accommodation, and other basic needs. This aligns with prior research indicating that financial strain not only limits academic focus but also heightens vulnerability to mental health difficulties.

5.3.3 Stress-Coping Strategies and GAD

Stress-coping strategies provided a nuanced picture. Positive coping mechanisms, such as seeking professional help, peer support, sports, and creative outlets, were negatively associated with GAD, demonstrating a protective role. Conversely, maladaptive strategies, including substance use, avoidance, and self-criticism, were linked to worsening anxiety, although negative coping did not reach statistical significance in regression. Qualitative accounts reinforced these patterns, with staff observing that resilient students actively sought mentorship and healthy outlets, while those who isolated themselves or used drugs often deteriorated. These findings emphasize the dual role of coping behaviors in either buffering or exacerbating stress outcomes.

5.3.4 Student-Staff Relationships and GAD

Student–staff relationships showed a weaker but noteworthy association with GAD. While not statistically significant at the regression level, both survey data and interviews revealed gaps in mentorship, inconsistent communication, and limited demonstration of care. The high neutrality in responses suggests variability in lecturer practices, pointing to inconsistency rather than uniform neglect. Staff perspectives further revealed a bidirectional dynamic, where student personality traits and lecturer attitudes both shaped the quality of interaction. Literature supports that faculty support and mentorship foster resilience, while poor or inconsistent engagement contributes to alienation and stress.

Overall, the findings paint a picture of a learning environment where academic and financial stressors are the most powerful drivers of anxiety, compounded by the moderating effects of coping strategies and student-staff relationship dynamics. While some students demonstrate resilience through positive coping and supportive staff relationships, many remain vulnerable due to high academic demands, financial constraints, reliance on maladaptive coping, and inconsistent faculty engagement.

This study, therefore, emphasizes the need for a holistic institutional response, one that addresses structural academic and financial pressures, promotes adaptive coping, and strengthens the quality of student–staff interactions. Such measures are critical not only for reducing GAD but also for enhancing student well-being, persistence, and professional preparedness in the demanding field of medicine.

5.4 Recommendations

i. The administrations of the universities should introduce mandatory workshops on time management and academic planning, and expand mentorship programs to monitor both academic progress and emotional well-being.

ii. Universities and the Ministry of Education should provide transparent and accessible financial aid systems and strengthen counselling services to support students experiencing financial stress.

iii. Lecturers and counselors should educate students on adaptive coping methods such as mindfulness and peer support while dispelling myths around substance use. Counselling services should also offer resilience-building interventions.

iv. University counselors should train faculty in empathy and communication to foster approachable, student-centred teaching and promote a culture of supportive academic relationships.

5.5 Suggestions for Further Research

i. Future studies should track students across their academic journey to assess how anxiety evolves and what interventions are most effective over time.

ii. Conduct research across multiple universities to determine whether these findings hold across different academic environments and cultural contexts.

iii. Investigate how psychosocial factors and GAD vary across academic year levels to tailor interventions more precisely.

iv. A study is needed to focus on other variables that could be influencing generalized anxiety disorder

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APPENDICES

Appendix III: Student Questionnaire

Section A: Background Information

Read each item and select an answer by placing a tick (✓) or explanation in the spaces provided

1. What is your gender?
Male [ ]
Female [ ]

2. What is your age bracket?

16-20 years [ ]

21-25 years [ ]

26-30 years [ ]

31 and above [ ]

3. Please indicate your course

MBChB [ ]

Clinical medicine [ ]

Nursing [ ]

Pharmacy [ ]

Medical Laboratory [ ]

4. Please indicate your year of study
1st year [ ]
2nd year [ ]
3rd year [ ]
4th year [ ]
5th year [ ]
6th year [ ]

5. Please indicate your sponsorship type
Self-sponsored [ ]
Government-sponsored [ ]
Others [ ]

Section B: Assessment of Generalized Anxiety Disorder

6. Over the last two weeks, how often have you been bothered by the following problems?

	Statements	**Not at all**	**Several days**	**More than half the days**	**Nearly everyday**
R1	Feeling nervous, anxious, or on edge.				
R2	Not being able to stop or control worrying.				
R3	Worrying too much about different things.				
R4	Trouble relaxing.				
R5	Being so restless that it is hard to sit still.				
R6	Becoming easily annoyed or irritable.				
R7	Feeling afraid, as if something awful might happen.				

7. If you checked any problems, how difficult have they made it for you to do your work, take care of things at home, or get along with other people?

Not difficult at all [ ] Somewhat difficult [ ] Very difficult [ ] Extremely difficult [ ]

Section C: Academic Pressure and Generalized Anxiety Disorder

8. Please indicate the extent to which you agree with the following statement using a tick. The response format is on a 5-point Likert scale: **SA** strongly agrees, **A** agrees, **UD** is undecided, **D** disagrees, and **SD** strongly disagrees.

	Statements	SA	A	UN	D	SD
R1	The syllabus is too broad to cover in due time.					
R2	The content is very tough to understand.					
R3	I am worried that I must redo the compulsory courses I failed.					
R4	I feel stressed/pressured when I do not live up to my own academic standards.					
R5	I feel added pressure to take non-medical courses due to the subject combination framed by the institution.					
R6	In some of the subjects, I have to spend a lot of time gathering information.					
R7	I feel that there are too many tests/assignments/exams.					
R8	Having multiple tests/assignments/exams in a short period makes me feel overwhelmed and stressed.					
R9	I suffer from adjustment problems as it is challenging to balance between academic and social activities.					
R10	Poor time management significantly increases my anxiety levels.					

Section D: Financial Worries and Generalized Anxiety Disorder

9. Please read the questions below and indicate the frequency to which you feel in a certain way regarding financial situations, guided by the following scale: (1=always, 2=very often, 3=sometimes, 4=rarely, 5=never)

	Statements	1	2	3	4	5
R1	I rely on my family/friends for financial support.					
R2	I take on additional work (part-time job) for financial reasons.					
R3	I can access HELB, a scholarship, or a bursary that helps cover tuition fees and other financial needs.					
R4	I have difficulty concentrating on my school because of my financial situation.					
R5	I feel anxious, thinking I might not take the exams due to financial instability.					
R6	I struggle to manage my day-to-day living expenses.					
R7	I feel pressure to maintain a particular lifestyle (e.g., socializing and buying certain products) due to my peers' financial choices.					
R8	Poor financial management influences my anxiety levels.					
R9	I compare my financial situation to that of my peers in medical school.					

R10	I experience physical symptoms like (headaches, stomachaches, or tightness in my chest) due to financial stress.					

Section D: Stress-Coping Strategies and Generalized Anxiety Disorder

10. The following statement indicates how you seek to cope with stress. Read the statements and tick ✓ where appropriate, guided by the following scale: (1=always, 2=very often, 3=sometimes, 4=rarely, 5=never)

	Statements	1	2	3	4	5
R1	I try to distract myself by getting active (gym or sports).					
R2	I listen to or play music that I find relaxing.					
R3	I get emotional support from my peers/family members.					
R4	I seek professional help (counseling, lecturer)					
R5	I pray about the problem and believe that a miracle will happen.					
R6	I use alcohol or other drugs to make myself feel better.					
R7	I give up trying to deal with it.					

R7	I engage myself in social media to get my mind off problems.					
R8	I do something to feel different emotions, like watching movies, parting, or walking.					
R10	I criticize myself.					
R11	I make jokes about it.					
R12	I focus on the positive side of the situation.					
R13	I express my negative feelings.					

11. How do you feel your coping strategies impact your mental health, specifically anxiety?

Very negative [ ] Somewhat negative [ ] No impact [ ] Somewhat positive [ ] Very positive [ ]

Section E: Student-Staff Relationships and Generalised Anxiety Disorder

12. Please indicate the extent to which you agree with the following statement using a tick. The response format is on a 5-point Likert scale: **SA** strongly agrees, **A** agrees, **UD** is undecided, **D** disagrees, and **SD** strongly disagrees. Please note that **staff members** refer to counsellors, lecturers, and chairpersons of the department (COD)

	Parameters	SA	A	UN	D	SD
R1	Lecturers take a personal interest in my academic progress and well-being.					
R2	Mentorship provided by my lecturers helps me manage academic pressures and reduce anxiety.					

R3	Staff members respectfully communicate with me, leading to a healthy relationship.					
R4	Lecturers provide reasonable and clear expectations for academic performance.					
R5	I feel comfortable asking questions or seeking clarification from lecturers when I do not understand something.					
R6	Lecturers engage in open discussions or encourage asking questions during class.					
R7	I often receive positive feedback or encouragement from lecturers about my academic progress.					
R8	Lecturers acknowledge student effort through recognition and praise.					
R9	I receive adequate guidance related to my academic, social, and psychological well-being.					
R10	I feel that staff members care about your well-being, both academically and personally					

Appendix IV: Interview Guide for Department Chairpersons

1. In your opinion, what academic challenges do medical students face?
2. How does the department manage the academic workload of medical students in a way that considers their well-being?
3. How do you perceive the role of financial challenges in contributing to anxiety among medical students on campus?
2. Does the department or university offer financial support or resources to help students manage these stresses? If so, how effective are they?
3. In your experience, how do medical students typically cope with stress and challenges from their academic and social lives?
4. How does the department promote the importance of mental health and stress management to students?
5. How does the department encourage open communication between students and faculty members, especially regarding mental health challenges?
6. In your experience, do students feel comfortable discussing issues like anxiety with faculty members? What role does the administration play in fostering this environment?

Appendix V: Interview Guide for Lecturers

1. In your opinion, what academic challenges do medical students face in class?
2. How do these academic challenges affect their anxiety?
3. Elaborate on the financial challenges that medical students face.
4. Explain how these financial challenges affect their anxiety.
5. How do medical students cope with stress brought about by their academic and social life?
6. Explain how these coping strategies affect their mental health, specifically generalized anxiety disorder.
7. How do you encourage students to use healthier or more adaptive coping strategies when they express stress?
8. How would you describe student-lecturer relationships?
7. Elaborate on how these relationships affect medical students' mental health, especially generalized anxiety disorder.

Appendix VI: Interview Guide for University Counselors

1. Please share with me some of the academic challenges that medical students express during counseling.
2. In your opinion, do these academic pressures contribute to GAD among medical students?
3. What is your observation on financial challenges among medical students?
4. In your experience, how does the pressure of managing tuition or living expenses affect students' mental health, particularly in terms of anxiety?
5. How often do students with academic and emotional issues counseling services?
6. In your opinion, what coping mechanisms do medical students adopt to deal with stress brought about by their academic and social life?
7. Explain how these coping strategies affect their mental health, specifically generalized anxiety disorder.
8. How would you describe student-staff relationships?
9. What role does the counselor-student relationship play in helping students manage academic, financial, and emotional issues?
8. In your opinion, do these relationships affect medical students' mental health, especially generalized anxiety disorder?

Appendix VII: Diagnostic Test Results

Results on Diagnostic Tests of The Study Data

The study assessed assumptions regarding the main variables, including academic pressure, financial worries, stress-coping strategies, student-staff relationships, and GAD, to check whether they satisfy conditions for further statistical analysis (parametric or non-parametric) in this study. The tested assumptions involved normality, which was evaluated through the use of P-values, histograms, and QQ-plots. The researcher further tested the remaining assumptions using multiple linear regression through direct data inspection, autocorrelation, linearity, homoscedasticity, multicollinearity, and residual statistics. The diagnostic tests were significant in the conclusion of utilizing parametric statistical analysis.

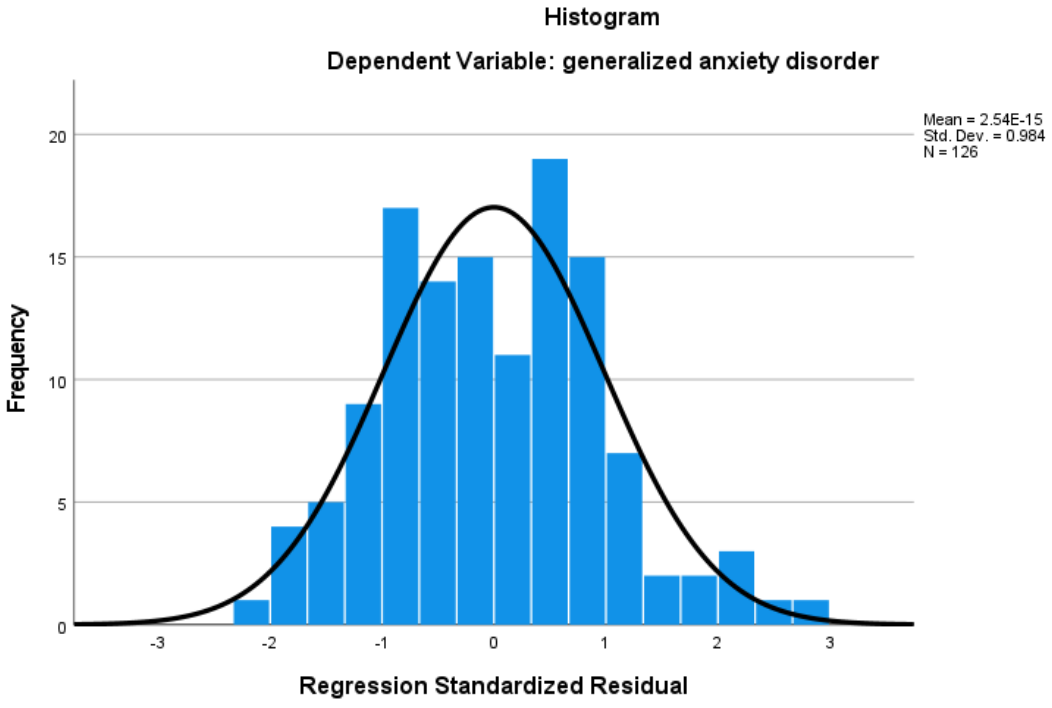
	Kolmogorov-Smirnov[a]			**Shapiro-Wilk**		
	Statistic	**df**	**Sig.**	**Statistic**	**df**	**Sig.**
Academic pressure	.047	126	.200*	.993	126	.824
Financial worries	.062	126	.200*	.994	126	.874
Stress-coping strategies	.044	126	.200*	.995	126	.940
Student-staff relationship	.042	126	.200*	.994	126	.890
Generalized anxiety disorder	.055	126	.200*	.992	126	.709

*. This is a lower bound of the true significance.

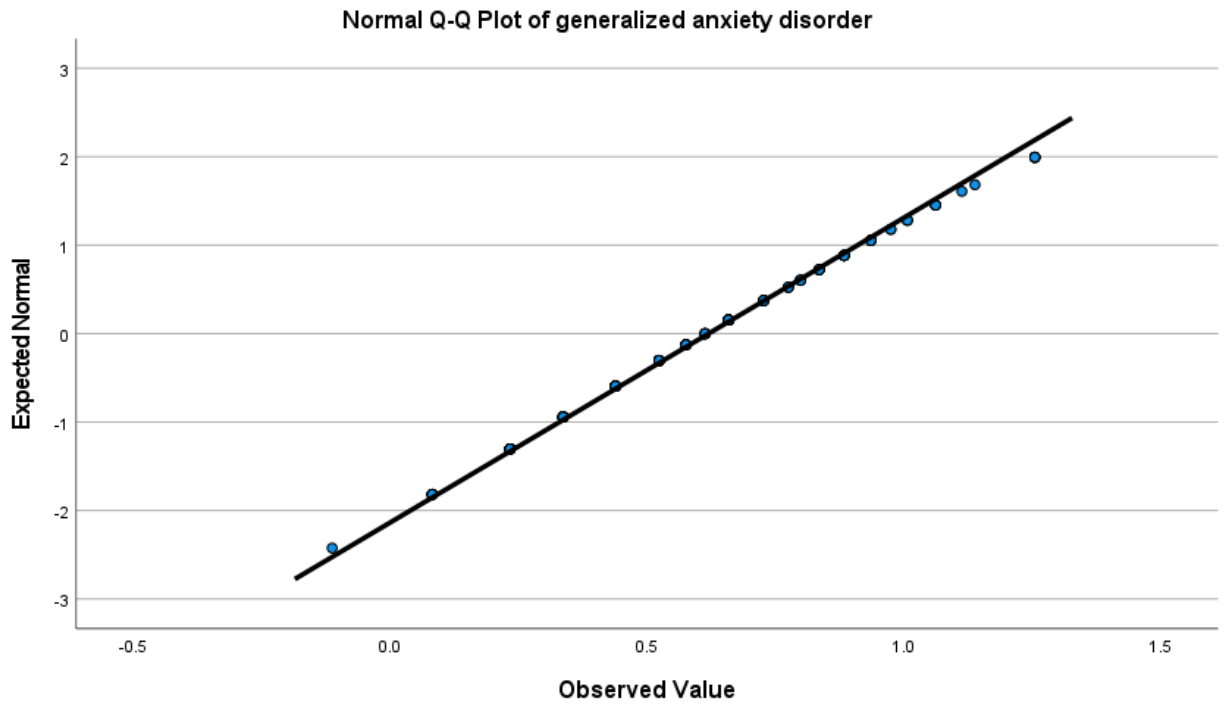
a. Lilliefors Significance Correction

The Kolmogorov-Smirnov and Shapiro-Wilk P-values, which from table 4.9 are noted as Sig., are reported as follows: (academic pressure) = (0.200 and 0.824), financial worries = (0.200 and 0.874), stress-coping strategies = (0.200 and 0.940), student-staff relationships = (0.200 and 0.890), and GAD = (0.200 and 0.709) respectively.

All these P-values are considered insignificant, suggesting that the data do not significantly deviate from normality. This conformity with normality conditions is crucial for statistical analysis assuming normal distribution. The findings indicate that the data were sourced from a normally distributed target population. According to Waithima's 2020 study, the data adheres to the normality condition if the P-value is greater than 0.05 level of significance. Additionally, confirmation of normality was obtained by inspecting histograms and QQ-plots related to GAD shown in the figures below:



This figure demonstrates a reasonable, approximate normal distribution as shown by minimal skewness and a flattened curve. As a result, the status of normal distribution is observed.



This figure illustrates that most of the points fall on the straight line, meaning that both the data set and the normal distribution have comparable quantiles. Consequently, the approximately normal distribution of the set of observations is observed.

Auto-correlation Test

To examine the independence of observation, the researcher employed SPSS to compute the Durbin-Watson statistics. The outcomes are detailed in the table below.

Model	R	R Square	Adjusted R Square	Durbin-Watson
1	.534[a]	.286	.262	1.704

a. Predictors: (Constant), student-staff relationship, academic pressure, financial worries, financial worries

b. Dependent Variable: generalized anxiety disorder

This table indicates the autocorrelation status (Durbin-Watson value of 2.105) derived from all the independent variables and the dependent variable. Turner (2019) observed that a good range for the Durbin-Watson value is typically between 1.5 and 2.5. Values within this range indicate that there is no autocorrelation in the residuals of a regression model.

Linearity Test

To assess the linear relationship between the dependent variable (GAD) and each of the independent variables (academic pressure, financial worries, stress-coping strategies, and student-staff relationships), the researcher used Pearson correlation to determine the linearity, as shown in the table below

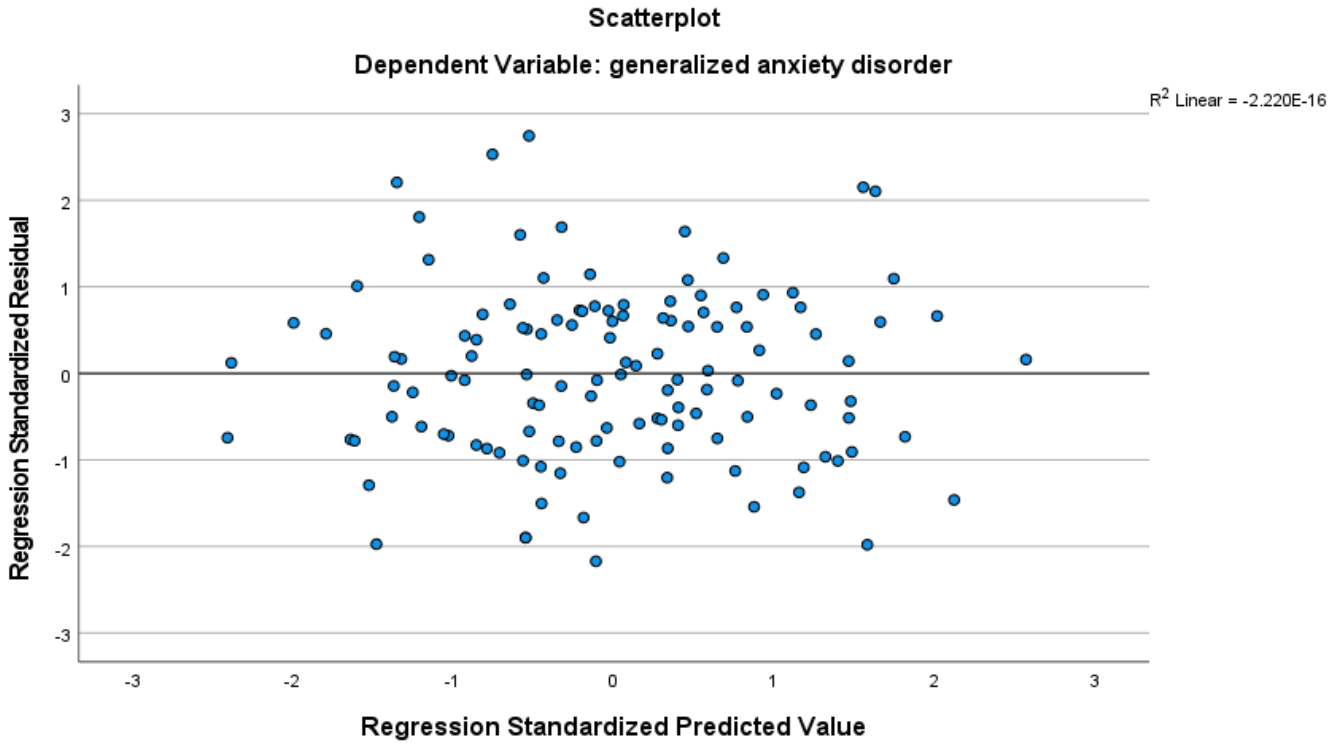
Variables	**Generalized anxiety disorder**
Academic pressure	.417
Financial worries	.396
Stress-coping strategies	-.230
Student-staff relationship	-.144

This table indicates the Pearson correlation of academic pressure (r = 0.417), financial worries (r = 0.396), stress-coping strategies (r = -0.23), and student-staff relationships (r = -0.144) with GAD among medical students. It is elaborated that academic and financial worries are the strongest correlates of GAD due to their positive association, meaning that the increase in pressure or worry leads to a higher GAD score. On the contrary, coping strategies and the student-staff relationship showed a negative correlation with GAD. This may mean that they are protective factors against

GAD, in that the increase in better coping or staff support leads to a decrease in GAD scores. Therefore, the researcher concluded that there is no evidence of linearity violation in this study.

Homoscedasticity Test

To examine the heteroscedastic issues in the data, a scatterplot was utilised using standardised residuals and standardised predicted values to test whether the data exhibited homoscedasticity. Results are shown in the figure below.



This scatterplot reveals a zero pattern of relationship, indicating that the size of the residual and the variances along the regression line are constant across all levels of the independent variable, and the dots remain within the x and y axes, respectively. Therefore, it is established that the data exhibit homoscedasticity, hence not violating the multi-linear regression's assumption.

Multicollinearity Test

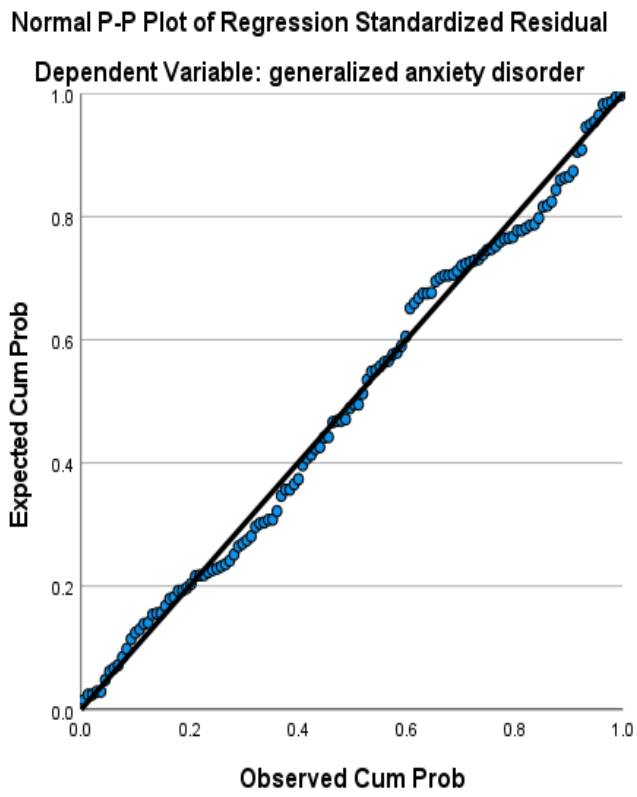
This is one of the tests to establish whether the data satisfy all the assumptions before proceeding with parametric statistics. It checks whether there is no correlation between the study's independent variable in a regression model. The results are shown in the table below.

Model	Collinearity Statistics	
	Tolerance	VIF
(Constant)		
Academic pressure	.795	1.257
Financial worries	.811	1.233
Stress-coping strategies	.948	1.054
Student-staff relationship	.968	1.033

The results presented in the above table indicate that the tolerance and Variance Inflation Factor (VIF) fall within the acceptable range. According to Frost (2017), a VIF value between 1 and 5, not exceeding 10, is usually not problematic. Nakarmi (2024) also established that a tolerance of 0.3 and above suggests that there is no collinearity. Consequently, these findings indicate an absence of a multicollinearity problem in the data.

Residual Test

The issue of approximately normally distributed residuals was tested using the Normal Probability Plot (Normal p-p plot). The results are shown in the figure below.



This figure indicates that the dots are closely distributed along the 45-degree fitted line, but not exactly along the straight line, meaning that the residual is approximately normally distributed.

The above diagnostic test results demonstrate the adherence to all seven assumptions, including normality, direct inspection for non-continuous or categorical data, linearity, autocorrelation, homoscedasticity, multicollinearity, and residual of the regression line. Therefore, the study opted for multiple linear regression analysis to examine the influence of psychosocial factors on GAD among medical students at KeMU in Meru, Kenya.