RELATIONSHIP BETWEEN STRESS LEVEL ACADEMIC PERFORMANCE AND PSYCHOSOCIAL ADJUSTMENT AMONG UNIVERSITY OF NAIROBI STUDENTS

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DECLARATION

This thesis is my original work and has not been presented for the award of a degree in any other university

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DEDICATION

I dedicate this academic work to all those people who inspired me especially members of my family who endured my absence from them whenever I was busy with this work.

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ABSTRACT

University students are young people who experience challenges during their stay in the university (Frank and Karyn (2005).The implications of the challenges have attracted alot of interest from stress researchers because of their possible link to stress (Annett, 2010). Stress theorists such as Selye (1976) and Lazarus & Folkman (1984) state that stress undermines people's cognitive, physical and emotional states. This has the potential to affect academic performance and psychosocial well-being of students.Most of the researchers are however biased towards medical and science disciplines.Comparisons between different courses and levels of study are also limited. Kenyan public universities have experienced rapid expansion with limited resources. Stress-related symptoms have been reported but no research has attempted to study stress among the students. The current study was done in the University of Nairobi which is made up of colleges located within and outside the city centre. Stress related symptoms such as drug and alcohol abuse have been reported among these students (Njare, 2013). Depressive symptoms have also been reported (Othieno et al, 2014). An elaborate study to investigate the stress experience among these students is lacking. This study therefore addressed three objectives: 1.The relationship between stress level and academic performance. 2. The relationship between stress and pychosocial adjustmen. 3. The relationship between academic performance and psychosocial adjustment. The study also examined how these relationships were confounded by age, gender, locus of control, level and course of study. Descriptive cross-sectional survey research design was used. Data was collected using both quantitative and qualitative methods that included questionnaires, interview schedules and focus group discussions. The sample consisted of 319 male and 265 female students selected using stratified random sampling techniques from the six colleges of the University of Nairobi. Qualitative data was collected from key informants such as university counsellors, medical staff from the students' health services, and deans and directors of faculties and schools respectively. Descriptive and inferential statistics were used for data analyses. Chi-square analysis was done using the Statistical Package for Social Sciences (SPSS) programme. Regression analysis was done using STATA Version 14.o to test the contribution of intrinsic and extrinsic factors in the relationship between independent and dependent variables. Most of the students (64.4%) reported that they experienced between moderate to high levels of stress. The relationship between stress and academic performance was statistically significant **(**χ^2=9.49, p=0.048 Φ_C=0.228, *p*=0.048**).** Stress also had statistically significant relationship with psychosocial adjustment (χ^2=13.51, p=0.001 Φ_C=0.25, *p*=0.001).Similarly, the relationship between psychosocial adjustment and academic performance was statistically significant (χ^2=10.65 n=583 df=2, p=0.001 Φ_C=0.35, *p*=0.001). Chi-square and regression analyses revealed that the relationship between stress level and both academic performance and psychosocial adjustment was influenced by age, gender, locus of control, level of study and course of study.Male and female students used mainly emotion focused rather than problem focused coping strategies. The findings of the study indicate the need for relevant authorities to institute programmes that will

lower the experience and effects of stress among university students. Further research is recommended to investigate the areas that the current study did not address appropriately.

CHAPTER ONE

INTRODUCTION

This chapter outlines the background to the study, statement of the problem, the purpose and objectives of the study. Research questions and the hypotheses are stated. The chapter also presents the justification and significance of the study. The assumptions, scope and limitations of the study are also described. Finally, the operational definitions of the relevant terms used in the study are presented.

1.1 Background to the Study

University education in Kenya has expanded significantly during the last decade. For instance data from the Kenya Bureau of Statistics show that enrolment shot up from about 98299 students in 2008 to about 355026 students in 2015 (Nganga, 2016; Njoroge, Wangeri & Gichuri, 2016). The increase in student enrolment, poor economic performance and introduction of cost-sharing policies supported by the International Monetary fund (IMF) and the World Bank may have created difficult learning environment in Kenyan Public Universities (Ngolovoi, 2008).This position was supported in a study by Gudo, Olel & Oanda (2011). They used ex post facto and survey designs to study 127 lecturers and 502 students from public (University of Nairobi and Masinde Muliro University of Science and Technology) and private (University of Eastern Africa, Baraton and United States International University) universities.The results of the study revealed that satisfaction level with teaching and learning facilities was higher in the private universities (79.16%) than in public universities (34.70%). The researchers did not link the dissatisfaction to stress.The difficult situation that students in Kenyan public universities find themselves in was also illustrated in a study of 366 students from the University of Nairobi and Moi Universities by Mwinzi (2006). According to the findings most students had financial

difficulties which forced them to engage in income- generating activities. For instance, 70% of the students worked or engaged in business to meet their financial needs. About 87% of the students indicated that they spent between four to nine hours daily on their business or work. The students reported that their academic work suffered because they were not able to attend lectures or if they did they could not concentrate due to fatigue. The findings of the study showed that students may experience difficulties that are likely to predispose them to activities that could be detrimental to their academic achievements.

Furthermore, it has been observed that suicidal tendencies have increased among university students mainly due to academic and psychosocial pressures of life on campus (Wanyoike, 2015; Nyamori, 2015). There is no actual data because most cases of suicide may go unreported. Alcohol and drug abuse is a serious issue among university students worldwide. From the global perspective it has been observed that alcohol and drug abuse is more prevalent among university students than the general population (Tse, 2011; Karama, Kypri & Salamoune, 2007). A significant level of alcohol and drug abuse has also been reported among students in Kenyan universities. For instance Njare (2013) reported a prevalent rate of 63.2% of alcohol abuse among a sample of 446 from all the colleges of the University of Nairobi. The students in Kenyan universities state that they take alcohol and other drugs due to pressures of university life (Njare, 2013; Ndegwa, Munene & Oladipo, 2017).

The prevalence of stress-related behaviours among university students may indicate that conditions in the universities present students with stressors which can not be ignored. As Melgosa (2004) notes, stress is a common feature of modern living and it has the potential to affect human experiences in almost all situations. Stress may constitute a drive that enables people to engage in positive and exciting activities, such as paricipating in competitive sports,

but many researchers study it mostly with emphasis on its negative aspects (Krohne, 2002). When used from a negative perspective, stress is usually treated as a concept that may have adverse effects on a person's physical, mental and psychosocial well-being (Lazarus, 2000).

Stress has, however, been studied by researchers from different theoretical perspectives. For instance, it is conceptualized either as a causal factor when it affects physical and psychosocial state of the individual (Selye, 1956; 1976) or as an effect, when it results due to internal or cognitive and external or environmental factors (Lazarus, 1978; Lazarus, 2000). Furthermore, stress has been studied as a process that addresses its cause and effect relationship (Ursin & Eriksen, 2004).

Several definitions of stress, which vary depending on the theoretical perspectives, have been proposed by stress researchers. For instance, Selye (1956, 1976) used the term stress in a biological context and defined it as a physiological response of the body to any demand placed upon it. Consequently, he proposed a response theory of stress known as the General Adaptation Syndrome (GAS) which outlines physiological reactions through the autonomic nervous system. Factors that cause stress may be physical and psychosocial and are now known in the stress literature as stressors (Ginsberg, 2006; McMahon, 2010).

From a neuroscience theoretical perspective, however, it is proposed that stress arises in conditions where environmental demands exceed the natural regulatory capacity of the organism (McEwen & Koolhas, 2011). The authors propose further that the environmental demands may be physical, psychosocial, socio-cultural and socioeconomic.

Lazarus & Folkman (1984) have incorporated the role of cognition in the stress experience. Consequently, they stated that stress is a condition or feeling experienced when people perceive that physical and psychosocial demands on them exceed the physical and psychosocial resources

available to manage the stressors. Stress was therefore seen by the theorists as a cognitive process that involved the perception of stressors in relationship to the coping resources available for the individual to use in the management of their effects. Unlike in the case of Selye's (1976) response theory, Lazarus & Folkman (1984) explain stress as a stimulus rather than as a response.

Other researchers have defined stress from both the stimulus and response theoretical perspectives. Melgosa (2004), for instance, proposed that stress is a physiological and psychosocial response by individuals to stressors that tax their coping abilities. Melgosa's (2004) view of stress therefore takes into account both Selye's (1956, 1976) and Lazarus' (1984) theoretical explanations of stress. This position has also been taken by Thawabieh & Qaisy (2012). They propose three main approaches in the study of stress. The first approach considers stress as stimulus from the external environment that threatens the individual's physical and mental well being. In the second approach, stress is treated as a response to the external environment as shown through a person's physiological, physical, emotional and cognitive reactions to the stress. The third approach which combines the first two approaches looks at stress not only as the result of stressors but also as the cause of both mental and physical changes in a person.

The cognitive theory of stress tends to make stress research a continuous process where each research situation has the potential to result in its own unique outcomes. This is because the experience of stress in any situation will depend on the individual's perception of the situation as a stressor (Lazarus & Folkman, 1984). This position is reflected in stress research among university students who not only come from a diverse population but are also exposed to dynamic rather than static situations (Ezeh, Ezeh & Okey, 2016). This means that students from

different studies or even within the same studies are not likely to report similar stress experiences because of the differences in their cognitive appraisal of stressors.

Most university students are likely to join the university when they are not yet mature enough to manage the challenges they may meet during their sojourn on campus. This position is taken by Frank & Karyn (2005) who argue that university undergraduate students are young, relatively immature and dependent in the way they relate with other people. Frank & Karyn (2005) state further that the activities of university students during their pre-university days are mainly under the supervision of other people who include their parents, guardians and teachers. This means that university students have to learn how to live away from their parents and guardians and other significant persons in their lives in order to manage their time and other resources properly while they attend to the rigorous demands of academic and social life.

Moreover, university students have to operate in a complex mix of physical, psychosocial and sociocultural environments with different degrees of challenges (Bressler & Bressler, 2007; Khan, Saleem & Shahid, 2012). For many university students, therefore, university education represents a time of change and new experiences that could lead to serious cognitive and psychosocial challenges (Kagan & Baird, 2004). According to Annett (2010), these challenges may be perceived by the students as stressors. As stressors, the challenges have the potential to cause stress resulting in negative physical, cognitive and psychosocial outcomes (Calderon, Hey & Seabert, 2001; Rafidah, Azizah, Norzaid, Chang, Salwani & Noraini, 2009). This position is supported by Smith & Renk (2007) who argue that university students may find their experiences and challenges stressful enough to affect their academic performance and psychosocial adjustment.

Research on university students' stress experience has, however, revealed inconsistent findings (Thawabieh & Qaisy, 2012). This is in line with the cognitive theory proposed by Lazarus (2000) which states that differences in the experience of stress given similar stressors may depend on the individuals' perception of the stressors. Different research settings are therefore likely to report different stress experiences depending on the differences in the students' cognitions of the stressors.

Apart from the cognitive or stimulus theory, research on university students' stress experiences has also been approached from the response theory of Selye (1976) and Melgosa (2004). The researchers who follow this theoretical perspective suggest that the student stress experience may result in negative physical, mental and psychological states (Eisenberg, Hunt and Spear, 2013; Adams, Meyers, & Beidas, 2016; Thawabieh & Qaisy, 2012). Negative effects of stress have been linked to the students' poor cognitive and psychosocial functioning (Ogundipe, 2005; Turner, Bartlett, Andiappan & Cabot, 2015).

The negative consequences of stress experiences may, however, be mediated by other factors. These factors may be both intrinsic and extrinsic (Bressler & Bressler, 2007). They constitute both internal and external characteristics of the students and may act as confounding variables in the stress experience (Bong, 2001; Khan, Saleem & Shahid, 2012). This position is in congruence with Thawabieh & Qaisy (2012) stress model which proposes that the relationship between the stimulus and response aspects of stress may be mediated by the internal and external characteristics of the individuals. These characteristics may also act as stress risk factors thereby predisposing the students to stress and its effects.

The external factors such as level of study and type of course in which the student is registered may constitute stress risk factors because they are characterized by stressors such as academic

workload, course assignments and examinations, crowded lecture halls and student hostels, inadequate learning facilities and preparing for examinations (Sohail, 2013; Awofode & Emi, 2012). The internal factors such as age (Monteiro, Balogun & Oratile, 2014), gender (Shultz & Shultz, 2005) and personality (Sarrasin, Mayor& Faniko, 2014) may also act as stress risk factors in the students' stress experience.

Both the internal and external stress factors discussed in this section are not only stress- risk factors but may act as confounding or intervening variables in the relationship between stress, academic performance and psychosocial adjustment. This may arise because these variables are related to stress experience (Heinman, 2004), academic performance (Scott, 2009; Zotovic, 2004) and psychosocial adjustment (Sohail, 2013; Nasiri & Shockrpour, 2012). The confounding effect of both internal and external stress risk factors on the relationship between stress, academic performance and psychosocial adjustment has largely been ignored by researchers interested in university student stress experience and this research has tried to address it.

1.2 Statement of the problem

Rapid increase in student enrolment in Kenyan public universities in addition to cost-sharing economic programs, have created alot of challenges for students (Johnston, 2007; Ngolovoi, 2008, Mwinzi, 2006). Consequently stress-related symptoms such as alcohol and drug abuse (Njare, 2013; Magu, Mutugi, Ndahi & Wanzala, 2013; Ndegwa, Munene & Oladipo, 2017), loneliness and depression (Kasomo, 2013), suicides (Wanyoike, 2015; Nyamori, 2015) and student dropout (Njoroge, Wangeri & Gichure, 2016) have been reported among the students. Although this situation appears to indicate the existence of stress it has received limited attention among stress researchers.

Studies that have focused on stress among university students in Kenya are few and limited in scope. Most of these studies, like the ones done outside Kenya, have focused mainly on science and medical disciplines (Mwinzi, 2006; Limo, Dimba et al, 2008; Misigo, 2015).

Moreover these studies do not include all levels and courses of study and this has undermined the comparison of the effects of courses and levels of study on stress. It should be noted that course levels may be influenced by course load (Awofode & Emi, 2012) and age (Nauert, 2010). Furthermore, researchers have studied student stress from different theoretical perspectives, usng samples from a variety of different backgrounds (Banu, Deb, Vardhan & Rao, 2015). The study settings are therefore diverse with their own unique and socio-cultural characteristics (Ibrahim, Kelly, Adams & Glazebrook, 2013).

According to research findings, peoples' sociocultural backgrounds tend to influence their cognitions (Sheppard, 2014; Thomson, Kirby & Smith, 2016); Posner & Rothbart, 2017). From the cognitive theoretical perspective therefore the sociocultural diversity which characterizes past studies implies that findings from those studies may not be representative of university students in Kenya who comprise populations with different socio-cultural backgrounds (Jan & Popescu, 2014).

Selye's (1976) response theory and Lazarus & Folkman's (1984) cognitive tthery state that stress undermines people's cognitive processes, such as memory, attention, perception and ability to solve problems, which are important in learning abilities. The theories also state that stress may undermine people's physiological health through its actions on the autonomic nervous system. It is on the basis of these theoertical premises that the current study investigated the relationship between stress, academic performance and psychosocial adjustment among University of Nairobi students. Past studies have associated age, gender, locus of control, year of study and course of

study with stress, academic performance and psychosocial adjustment (Heinman, 2004; Scott, 2009; Zotovic, 2004; Sohail, 2013; Nasiri & Shockrpour, 2012). Their confounding effects have, however, not been studied.This study will therefore investigate the mediating roles of age, gender, locus of control, level and course of study in the relationship between stress, academic performance and psychosocial adjustment respectively.

1.3 Purpose of the Study

The purpose of this study was to investigate the relationship between the students' stress level, academic performance and psychosoial adjustment while considering the confounding effects of age, gender, locus of control, course and level of study.

1.4 Objectives of the Study

The objectives of the study were to:

(i) Determine the extent to which students' stress levels relate to their academic performance

(ii) Investigate the association between students' stress levels and their psychosocial adjustment.

(iii) Establish the relationship between academic performance and psychosocial adjustment

1.5 Research Questions

The study was guided by the following research questions:

(i) To what extent does students' stress levels relate to their academic performance?

(ii) In what way is stress level associated with the psychosocial adjustment?

(iii) What is the relationship between the students' academic performance and their psychosocial adjustment?

1.6 Research Hypotheses

The following hypotheses were tested:

(i) The Students' stress levels are related with their academic performance.

(ii) The students' stress levels are related with their psychosocial adjustment.

(iii) The students' academic performance is related with their psychosocial adjustment within different stress levels

1.7 Justification of the Study

The University of Nairobi has the largest student enrolment among the 31 public universities in Kenya (Kenya National Bureau of Statistics, 2018). Moreover almost all the students are registered in the six colleges located in the Central Businesss District, suburbs and the peri-urban parts of the city. The complex and sophiscated urban environment has the potential to create more challenges for the students than the more rural sttings where most of the other public universities are located. Some studies indicate that the University of Nairobi students may be reacting to these challenges through negative stress related behaviors For instance Njare (2013) reported high prevalence of drug and alcohol use among students from all the six colleges of the university. The students have also reported experiencing several depressive symptoms due to challennes they face while on campus (Othieno, Okoth, Peltzer, Pengpid and Malla(2014)

Athough the Unuversity of Nairobi students engage in stress-related behaviours, no study that covers all the colleges of the university has been done to examine their stress experiences and how this affects their academic and psychosocil life. According to research findings, however, people tend to respond to stressors in different ways depending on a variety of personal and environmental factors (Salzano, 2003). This means that from the cognitive theoretical

perspective even if the students may be exposed to the same stressors they may undergo different stress experiences depending on their cognitions of the stressors.

There was therefore justification to investigate how students in the various academic programmes and living environments of the University of Nairobi respond to stressors and how the experience of stress is associated with their academic performance and psychosocial adjustment. This is in line with the cognitive theory of stress which proposes that stress research is a continuous process with each situation capable of having its unique outcomes (Adams, Myers & Beidas, 2016)

1.8 Significance of the Study

The findings of this study may assist the relevant Republic of Kenya Government officials in initiating and implementing policies on university education that can ease the challenges faced by university students. The findings may also be helpful to the university administration in understanding the causes and extent of stress and its effects among university students. This may enable them make appropriate decisions to enable the students lead a less stressful life. The findings of this study could also help various university organs, such as the university health services, the counsellors in the Dean of Students Office, and the Students Welfare Authority(SWA), that deal with the students' welfare, to help the students manage the challenges they face while in the university. Deans of faculties and Directors of schools will benefit from the findings of this study because they will be able to understand factors that cause stress and how stress affects students' academic performance and psychosocial wellbeing. Moreover, the parents and guardians of the students can benefit from this study because they may be able to understand the difficulties faced by the students while on campus and as a result be able to provide the necessary help to the students. Finally, the students may become aware

of the nature, causes and effects of stress during their stay in the university and hence engage in appropriate coping mechanisms that will be beneficial to them.

1.9 Scope of the Study

This study was undertaken to establish the relationship between stress level, academic performance and psychosocial adjustment among the University of Nairobi undergraduate students. Stress level was assessed using stress and coping questionnaire and ranged from low to high level. Academic performance was measured by the aggregate grades achieved during the two semesters prior to the research. Psychosocial adjustment was measured using Psychosocial Adjustment Scale and ranged from poor to good. The study also focused on how the relationship between stress level, academic performance and psychosocial adjustment was influenced by age, gender, locus of control of the students, the course undertaken by the students and the level of study. In addition, the coping mechanisms that are used by the students to manage stress are assessed. The study was conducted among 584 students aged between 19 and 27 years from the six colleges of the university. These students were admitted by the Joint Admissions Board (JAB) and, therefore, sponsored mainly by the Government of Kenya, with their parents and guardians also covering some of the costs. Almost all the students were young from high school and living in university hostels, although a few of them lived outside campus, in rented accommodation. Other participants in the study were selected key informants such as counsellors from the Dean of Students office, medical personnel and counsellors from the Student Health Services, Deans and Directors of faculties and schools respectively.

1.10 Limitations of the Study

This study faced the following limitations:

(i) The cross – sectional research design did not allow the researcher to study stress and its effect over a long period of time which is usually better achieved through a longitudinal study design. This weakness was addressed by conducting background search of instruments.

(ii) Since self report methods such as questionnaires, interviews and focus group discussions were used in the study, it is possible that some degree of insincerity could have been displayed by the respondents, thereby undermining objectivity and generalizability of the findings. The respondents were, however, assured of confidentiality and research assistants were trained before they embarked on data collection. The use of multiple research tools was useful for corroboration of responses.

(iii) Data was gathered from only 584 students from one public university in the country making generalizability to other universities in Kenya difficult. The sampling procedures used would help eliminate or reduce extraneous variables among the students and enable generalizability

(iv) There was no guarantee that some respondents were not influenced by other people since they filled the questionnaires away from the researcher and his research assistants. However, multiple instruments were used to collect data so as to corroborate the findings.

1.11 Assumptions of the Study

The following assumptions were made in this study:

(i) The students were studying and living in a university environment that was full of stressors and that they were experiencing different levels of stress. This position has also been taken by Thawabieh & Qaisy (2012) who propose that stress is a response to the external environment as shown through a person's physiological, physical, emotional and cognitive reactions to the stress. The external environment is the source of stressors

(ii) Different levels of stress influenced both academic performance and psychosocial adjustment of the students. Both Selye (1976) and Lazarus & Folkman (1984) propose that stress may cause poor cognitive and physical health of the individual. This has the potential to undermine students' academic performance and psychosocial due to emotional distress and the inability to concentrate in their academic work.

(iii) The relationship between stress, academic performance and psychosocial adjustment was influenced by age, gender, locus of control, level of study and type of course. The negative consequences of stress experiences may be mediated by both intrinsic and extrinsic factors (Bressler & Bressler, 2007). These factors constitute both internal and external characteristics of the students and may act as confounding variables in the stress experience (Khan, Saleem & Shahid, 2012).

1.12 Operational Definitions of Terms used in the Study.

The Following terms featured prominently in the study and therefore it is important to define them.

Academic Performance: Level of academic achievement reflected in grades such as 40% obtained in examination (Shipton, 2002).

Acute Stress: Stress due to short term challenging situations such as sitting for an examination or crossing a busy highway (Freidman &Silver, 2007).

Chronic Stress: Stress due to persisting and inescapable stressful conditions such as academic load or financial difficulties in a semester (Scott, 2012). This type of stress depends on the length of time a person has been exposed to stressors and how serious the stressors are.

Coping: Physical, psychosocial and cognitive management of stress (Lazarus, 2000).

Eustress: Positive stress that makes the person feels good and excited about engaging in certain activities like sitting for an examination when an individual is confident that he is well prepared for it (Mills, Reis & Dumbeck, 2008).

Immune System: The biochemical system that enables the body to defend itself against infections or illnesses (Jones, 2003).

Locus of Control: The tendency to be influenced by internal or external factors in managing ones' challenges (Rotter, 1975)

Psychosocial Adjustment: State of living well emotionally, socially, psychologically and cognitively (Neil & Mak, 2007).

Self Efficacy: Self – evaluation of one's competence to successfully execute a course of actions necessary to reach desired outcomes (Bandura, 1993).

Social Support: Physical and emotional comfort given to an individual by the family, friends and other people in his or her social network (Teoh & Rose, 2001).

Stress: Physiological and psychological responses by people to events, objects and circumstances that threaten them or tax their coping abilities (Lazarus & Folkman, 1984).

Stressors: These are events, objects and circumstances that cause stress i.e. preparing and sitting for examinations (Melgosa, 2004)

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents a review of the literature related to the study. The review discusses studies on the relationship between university students' stress experience and their academic performance as well as psychosocial adjustment. Studies that investigated the confounding effect of age, gender personality (locus of control), level of study and course being studied in the relationship between stress, students' academic performance and psychosocial adjstment are also discussed.This is because the current study is also investigating how these variables play mediating roles in the relationship between stress, academic performance and psychosocial adjustment.

Coping processes play important role in the management of stress and consequently the influence of stress on academic performance and psychosocial adjustment.Therefore studies that addressed the coping strategies employed by the students to manage their stress were also reviewed.

Stress has been studied from a variety of different theoretial perspectives. Three theories of stress were identified as the most relevant to this study and are therefore discussed in the theoretical framework. Finally, a conceptual framework showing the relationships between stress level as independent variable, academic performance and psychosocial adjustment as dependent variables is described. The conceptual framework also presents the intervening or confounding variables between the independent variable (stress) and dependent variables (academic performance and psychosocial adjustment).

2.2 The Relationship betweeen Stress Level and Academic Performance

A considerable number of studies have investigated the relationship between stress and academic performance among university students (Kelly, Kelly & Clanton, 2001; Trockel, Barnes & Eggert, 2000; Watering & Rijt, 2006). The findings of these studies are, however, not consistent. Some of the studies associate high levels of stress with poor academic performance (Ogundipe, 2005; Agolla & Ongori, 2009; Turner, Bartlett, Andiappan & Cabot, 2015). For instance, a study by Solail (2013) using 120 students from Allama Iqbal Medical College reported a negative relationship between stress and academic performance. The study instrument was a self- report stress questionnaire. The sample was selected using non-probability purposive sampling process and consisted of first year students only. The study should have used more academic disciplines and more levels of study to justify adequate validity of the results and generalization to other student populations.

Another study that reported negative relationship between stress and academic performance was conducted by Klomegan (2007). The study added another dimension by looking at a personality variable as the intervening factor between stress and academic performance. The researcher used 103 students from a North Carolina University and found that stress undermined the students' academic performance. The study revealed that the students' self-efficacy was a significant predictor of academic performance. The researcher did not, however, test the relationship between stress and self-efficacy. The negative link between stress and academic performance cannot, therefore, be easily attributed to stress.

Although students may report experiencing stress, it is not necessarily true that it always affects their academic performance negatively. In this context, there are studies which have failed to confirm the negative relationship between stress and academic performance (Deana, 2003;

Feldman & Charion-Riignau, 2008; Awofodu & Emi, 2012). This was illustrated in a study by Rahim, Saat, Aishah, Arshad, Aziz, Zakariah, Kaur, Kamaruddin and Suhaimi (2016). The researchers investigated the relationship between academic workload and stress level among biomedical science students in Kuala Lumpur University. The samples consisted of 14 male and 90 female undergraduate students. GHQ-30 questionnaire was used to determine the level of stress. A weak and statistically insignificant correlation was observed between stress level and credit hours (r=0.165), study hours (r=0.062) and number of assignments (r=0.158). The relationship between stress and academic performance was tested using a chi-square but it was not statistically significant.The researchers concluded that the students' stress level could be due to other factors such as personal problems, financial difficulties and heavy academic workload. Since the researchers carried out a statistical analysis which failed to confirm their hypothesis, the study findings seem to indicate that the effect of stress on academic performance may be due to a complex set of stressors which may have individual effects. The study also suffers from sampling inadequacy because female students were heavily represented compared to male students.

Furthermore, a study by Siraj, Salan, Roslan, Hasan, Jin & Othman (2014) found that the presence of stressors does not necessarily lead to poor academic performance. The researchers investigated the association between stress and academic performance of undergraduate medical students at Universiti Kabangsaan, Malaysia. The sample consisted of 50 male and 129 female medical students in their fourth year of study. Stress level was measured using validated Medical Students Stress Questionnaire (MSSQ) while academic performance was derived from the students' cumulative Grade Point Average (GPA). The results of the study showed that 84% of the respondents had severe stress while 49% had high stress. The researchers observed that the

students' stress experience did not have significant effect on their academic performance. It seems that there may be underlying factors that mediate the relationship between stress and academic performance which the researchers did not investigate.

Most stress studies have used cross-sectional research designs which may not adequately address the long time effect of stress. Elani, Allison, Kumar, Mancini, Lambrau and Bedos (2014) have proposed that longitudinal studies should be undertaken to follow students throughout their curriculum. Indeed, a study by Jacob & Einstein (2016) used a longitudinal study to investigate the association between stress and academic achievement among 14 male and 37 female undergraduate physical therapy students from Ariel University in Israel. The Perceived Stress Scale-10 (PSS-10) was used to evaluate perceived stress level while the students Grade Point Average (GPA) for the first three years of study was used to measure academic performance. The results of the study revealed that although the students reported high levels of stress, there was no significant relationship between perceived stress and students' academic achievement. Moreover the data collection used an on-line questionnaire which meant that the researchers had no control over whoever filled the questionnaires.

The inconsistency in the relationship between stress and academic performance seems to indicate that the relationship may be mediated by intervening or confounding variables that most researchers have not included in their study designs. Further review of the literature on the relationship between stress and academic performance is therefore presented within the intervening or confounding variables in the following sections:

2.2.1 Age

Researchers interested in stress experience among university students have given limited attention to the influence of the students' age on their stress experience. This is probably because university students tend to be more homogeneous in their age ranges. Howver, studies which have investigated the relationship between age and stress have presented inconsistent findings. Some studies suggest that people experience more stress as they get older (Nauert, 2010) while others indicate that perceived stress decreased with age (Hamarat, Thompson, Zabrucky, Steele, Mathany & Aysan, 2001).

This inconsistency in the relationship between age and stress could be due to other underlying factors. For instance some researchers attribute the influence of age in students' stress experience to their coping abilities. A study by Monteiro, Balogun & Oratile (2014) found that the effect of age on stress is due to the coping strategies used. Their study, which used Coping Strategies Scale, involved sixty-four male and sixty-four female students aged between 18 and 19 years from the University of Botswana. The results of the study revealed that stress decreased with age and was related to the students' coping abilities. The older students used more problem-focused and cognitive-restructuring strategies to manage their stress than younger students. Moreover, the older students reported that they experienced less stress than their younger colleagues who did not use problem- focused coping strategies. A larger percentage of older students than younger students, however, reported that their stress experience had negative effect on their academic performance. This finding contradicts the results of a study by Heinman (2004) which revealed that younger students experienced more stress and had poorer academic performance than their older colleagues. The younger students appear to have been disadvantaged because they used more emotion- focused and negative coping strategies which are not as effective as

problem- focused coping strategies preferred by older students. The inconsistency may imply that the relationship between stress and academic performance could be influenced by other factors which appear not to have been addressed by the researchers.

In another study, Ebenuwa-Okoh (2010) investigated the relationship between age, financial stress and academic performance among 175 randomly- selected fourth- year students from the Department of Psychology, Faculty of Education, Delta State University, Abraka, Nigeria. Financial stress was measured by a 4-point likert scale while academic performance was measured using cumulative Grade Point Average (GPA). Multiple regression analysis was used to test the relationship between age, financial stress and academic performance. The findings revealed that there was a positive but not statistically significant relationship between age, financial stress and academic performance. The researchers concluded that age was not a good predictor of the relationship between stress and academic performance because most students in the sample came from similar age brackets since they were selected from only one level of study. The study was limited by not using a wider range of stress factors instead of using only financial stress. There is need for studies to include a wider variety of stress factors to have adequate assessment of the students overall stress experience.

2.2.2 Gender

Several researchers have observed gender differences in the experience of stress (Scott, 2009; Taylor, 2003). These differences, however, seem to result due to the influence of other gender-related factors such as hormones. Research findings suggest that women tend to be more relaxed than men when faced with stressors because they produce oxytocin, a stress hormone that moderates the experience of stress (Taylor, 2003; Nazario, 2000). Gender differences in stress experience may also be due to the personality differences attributed to the release of cortisol,

another stress hormone (Oswald, Zaudi, Nestadt, Potash, Kalaydjian & Wand, 2006). Consequently women may display neurotic tendencies while men become extraverted due to reduced cortisol production when faced with stress. This means that women would benefit more than men from their personality dispositions even if they were to be exposed to similar stressful experiences.

The influence of cortisol in stress was demonstrated in a study by Daughters, Gorka, Matuslewicz & Anderson (2013). The purpose of their study was to find out gender differences in the release of cortisol in response to stress and whether this can cause gender differences in risky behaviours. The sample which consisted of 59 boys and 73 girls completed a laboratory-based risk task prior to and immediately after a computerized psychological stress task. Salivary cortisol was collected from pre-stress to 60 minutes following initial stress exposure. According to the results, there was increased risk taking behaviours among boys than girls following exposure to stress. The researchers concluded that this difference could be because boys produced less cortisol than the girls in response to stress. The study confirms that unlike men, women benefit more from the release of cortisol when exposed to stress.

The personality of women is beneficial in the stress management in another way. It enables women more than men to benefit from the buffer effect of social support (Scott, 2009). This is because women unlike their male counterparts tend to deal with stress more often by forming supportive networks and sharing their feelings than their male counterparts (Shultz & Shultz, 2005). Consequently, women are less likely than men to experience stress when they are in similar stress-related circumstances because of the buffering effect of social support.

A study by Chen, Wong, Ran & Gilson (2009), using Shanghai University Students, found that male students experienced more stress than their female counterparts. The researchers attributed

this finding to a report in the same study which revealed that male students, unlike their female counterparts, rarely talked about their problems with other people. They concluded that since women were more self-disclosing than men, they benefitted more from social support than their male counterparts. The researchers did not, however, investigate the gender effect in the relationship between stress and academic performance.

Other studies have findings which contradict the female advantage in the management of stress. For instance, Limo, Chindia, Masakhawi, Dimba, Gichana, Wakholi & Awange (2008) used a cross-sectional descriptive survey to study stress among 27 male and 33 female students selected, using stratified random sampling, from the Dental School, University of Nairobi. The research instrument was the modified Dental Environmental Stress Questionnaire (DESQ). A t-test analysis for independent samples revealed that female students experienced more stress than their male colleagues. The researchers did not investigate the reasons for this difference. Furthermore, the researchers did not test the relationship between stress and academic performance.

According to Cavanagh, Caputi, Wilson & Kavanagh (2016) male and female university students have different perceptions of psychological distress. They studied 1401 first year students from an Australian regional university. The results of the investigation revealed that men reported mixed patterns of depression, anxiety and stress that were clustered by behavioural and physiological functions. This was different from women who reported distinct patterns of depression, anxiety and stress. The study did not, however, address the role of these gender differences in the relationship between stress and academic performances.

A study by Kania (2014) tested the hypothesis that gender differences have significant effect on stress experience. The researcher investigated this hypothesis using a sample of 10 male and 10

female students aged between16 to 56 years from Western University. Maths and Spelling tasks were used to create stress which was measured by a 10-point stress scale. The methodology involved a within- subjects experimental design. The results revealed no difference in the stress levels of male and female students on both mathematics and spelling tasks. The sample used in the study was too small and academic tasks used to assess academic performance were limited only to mathematics and spelling.

Another study which seems to suggest that the link between stress and academic performance could be mediated by other factors was done by Talib & Zia-ur-Rehman (2012). They studied the relationship between stress and academic performance using123 male and 74 female students from universities of Rawalpindi and Islamabad in Pakistan. There was a significant negative correlation between perceived stress and academic performance implying that academic performance tended to get lower with increased stress. No difference in stress between male and female students was reported. There was, however, a significant difference between male and female students with regards to their academic performance. This finding showed that stress may not be the only operating factor to affect the academic performance of both male and female students.

The research findings regarding gender differences with respect to stress experiences and academic performance are inconsistent.It seems that the role of gender on stress and how this is related to gender differences in academic performance is not conclusive and may depend on a variety of other factors which need further investigation.

2.2.3 Locus of Control

Locus of control is a personality variable that was proposed by Rotter (1975, 1990) as generalized expectancies which develop as a result of people's experiences and it influences how people

understand, deal with and predict the world. It ranges from internal to external depending on how individuals perceive the factors that determine the outcomes of their behaviours. Boone, Van Olffen & Witeloostjun (2005) argued that people with internal locus of control believe that what they do affects what happens to them while those with external locus of control believe that outcomes of their experiences are beyond their personal control. They are due to external factors such as luck, fate or powerful others. Locus of control, therefore, determines the extent of control individuals have over the outcome of their experiences. Moreover, people with internal locus of control describe themselves as more active, striving, achieving, powerful, independent and effective than those with external locus of control (Shiraev& Levy, 2004). The implication is that people with internal locus of control tend to manage the effect of stressors better than those with external locus of control because they take charge by using problem- focused rather than emotion-focused coping.

Locus of control of people is influenced by the kind of environment in which they are brought up. Hans (2000) states that a warm, proactive socially stable, nurturing environment tends to make people develop internal rather than external locus of control. It is therefore possible that studies which have focussed on locus of control in other socio-cultural settings may not be representative of the Kenyan population from where the current study drew its sample. According to Lefcourt (2013), a review of the literature reveals that studies of locus of control have been explored as interactive or moderator variable in the prediction of complex behaviours including stress experience. Similarly, Lecic-Tosevski, Vukovic & Stepanovic (2011) have argued that locus of control is a significant mediating factor in the stress experience.

The mediating role of locus of control was investigated in a study by Sarrasin, Mayor & Faniko (2014). They tested the hypothesis that the relationship between gender roles and the way

individuals appraise events in their environment as challenges and threats was mediated by their locus of control. The sample consisted of 123 male and 504 female students from the French-speaking part of Switzerland selected using stratified random samping procedures. Regression analysis showed that locus of control was a significant factor in the students' cognitive appraisal of events as threats and challenges. Locus of control may, therefore, influence stress experience because of its role in peoples' cognitions. This is consistent with the cognitive model of stress that was discussed earlier.

Furthermore, locus of control seems to play a mediating role in the experience of stress because of its influence on peoples' coping process. In a study by Khan, Saleem,& Shahid(2012) where the researchers used 79 participants, it was found that the participants who rated high on internal locus of control had better coping abilities and less stress than their colleagues who rated low on this scale. For people who rated high on internal locus of control, there was a feeling of being in control that made potentially stressful situations less stressful. People with internal locus of control tend to take charge of their situations which is characteristic of people who use problem-focused coping strategies.

In a more elaborate study, Gan, Shang & Zhang (2007) investigated the predictive value of locus of control, stress and coping among 129 male and 137 female Chinese students in the Faculties of Arts and Science from Beijing University. The students were registered in levels 1 to 4 of their academic programmes. The researchers used the Coping Flexibility Inventory (CFI) to measure stress and coping ability and Rotter's (1966) Internal-External Locus of Control Scale to measure the students' locus of control. External locus of control failed to correlate significantly with the students stress level probably because of role of coping processes.

The predicting effect of locus of control was, however, significant when stress was analyzed without considering coping processes. There was an insignificant effect when the influence of coping was considered. The results of the study suggested that the coping process acted as a mediator in the relationship between locus of control and stress. The main limitation of the study was the students' inability to decide whether their coping were problem-focused or emotion-focused. The researchers did not therefore indicate the type of coping strategies which the students engaged in. Furthermore, the researchers noted that many items were left bank and this could have reduced the predictive validity of the study. The study also lacked appropriate scientific sampling procedure because any student who volunteered to participate was allowed to do so.

The interaction between culture and locus of control in causing stress among university students was investigated in a study by Stocks, Kurt & Lynton (2012). They conducted a cross-cultural study of the relationship between locus of control and subjective well-being among 97 Chinese and 72 South African Students. The students were selected from China European International Business School and the University of Cape Town Business School. The measures included Rotter's (1966) original internal-external locus of control scale and the Satisfaction with Life scale by Diener, Emmons, Larsen & Griffin (1985). Results of the study showed that the South African students had internal locus of control while the Chinese students displayed external locus of control. It was also found that the relationship between locus of control and subjective well-being was weak and negative in both samples. The difference between internal and external locus of control in influencing stress experience was not significant probably because of the on-line nature of the study. The data was collected on-line and racial identity of the participants could not be determined since they were not asked to identify themselves by race.

Locus of control has also been found to be associated with academic performance. For instance a study by Sagone & De Caroli(2014) investigated the relationship between locus of control, self-concept and self-esteem among psychology, medical and law students. The researchers used Locus of Control Behaviour Scale and Osgood Semantic Differential Scale to measure locus of control and self-concept respectively.The results showed that the students who had strong personal control of circumstances in their everyday life, and therefore internal in their locus of control, perceived themselves as more efficient in their academic performance. The study did not investigate whether positive link between internal locus of control and academic performance was due to reduced stress.

Furthermore, a study by Klomegan (2007) looked at personality variable as the intervening variable between stress and academic performance. The researcher studied 103 students from a North Carolina University and found that stress undermined the students' academic performance. He found that the students' self-efficacy was a significant predictor of academic performance. The researcher did not, however, test the relationship between stress and self –efficacy. The negative link between stress and academic performance cannot therefore be easily attributed to self-efficacy which is associated with locus of control.

A study by Hosseini, Alavijeh, Matin, Hamzeh, Ashtarian & Jalilian (2016) investigated the relationship between locus of control and academic performance. The participants in the study consisted of 300 students from Kermaishah University of Medical Sciences. Locus of control was measured using Rotter Internal-External Locus of Control Scale while academic performance was estimated from the students' end of semester examination grades. Pearson product moment correlation confirmed the significant relationship between locus of control and academic performance. Students who measured highly in internal locus of control performed

better in their examinations than their colleagues who had low scores in internal locus of control. The study did not investigate the link between locus of ontrol, stress and academic performance. It is therefore not possible to determine whether the students with internal locus of control had better academic performance due to the mediating role of internal locus of control on stress. The current study therefore investigated the relationship between stress and academic performance within both internal and external locus of control individuals.

2.2.4 Level of Study

University academic programmes tend to reflect different challenges during the different levels of study. It is expected that this should present the students with different levels of challenges which could result in different stress experiences at these levels of study. A number of studies have investigated the relationship between level of study and stress among university students. The studies have, however, not been consistent in the the sampling of levels of study.

Some of these studies have been done using only one academic level (Britz & Pappas, 2012; Sohail, 2013). For instance, Friedlander, Shupak & Cribbie (2007) investigated the relationship between stress and academic performance among 115 undergraduate students selected randomly from first year of their academic programme. The research tools included self-report questionnaire and academic scores from first and second semeseters during the academic year. A correlational analysis showed that academic performance improved with reduced levels of stress. The study did not investigate the strategies used by the students to enable them experience reduced stress. Moreover, the study had a narrow scope since it was limited to only first year students whose university experiences do not reflect those of students of other levels Furthermore, the validity of the findings in this study could have been improved if the scope of the study was broadened by including several academic disciplines.

A study by Sohail (2013) using 120 students from Allama Iqbal Medical College reported a negative relationship between stress and academic performance. The study instrument was self report survey questionnaire. The sample was, however, selected using non-probability purposive sampling and consisted of first year students only. The study should have used more academic disciplines and more levels of study to justify adequate validity of the results and consequently better generalization to student populations in other levels of study.

Other studies have used two or more levels of study but have not indicated the differences in the stress experience among these levels. For example, Thawabieh & Qaisy (2012) investigated stress level among 475 students from Tafila Technical University, Jordan. The sample was selected randomly from first, second, third and fourth years of their study. The stress questionnaire consisted of three domains, namely, the physical, social and academic factors. The findings revealed that the students experienced moderate stress attributed mainly to social factors and academic problems.The stress experience was positively related to the academic performance of the students. The study did not, however, investigate the stress levels according to the year of study and consequently the mediating effect of level of study was not determined.

There are a number of studies which have indicated that students' experience of stress is related to their level of study. The findings are, however, not consistent with respect to the levels of study. In a study of 264 medical students by Sheikh, Kahloon, Kazmi, Khalid, Nawaz et al(2004), fourth and fifth year students reported higher levels of stress than students from other levels of study. This is different from a study by Limo, Dimba, Chindia, Masakhawi, Gichana, Wakholi & Awange (2008) which found that among University of Nairobi students doing dental sciences, second year students experienced the highest level of stress (mean=106) with third year students recording the lowest stress (mean=88.35.The researchers did not, however, include

students in other levels of the dental science academic programme and this undermined the generalization of the study.

A study which that considered all the levels of an academic programme was conducted by Alzahem, Van der Molen & De Boer (2013). The researchers investigated the effect of year of study on the level of stress in 214 male undergraduate dental students from King Saud University in Riyadh City. The research design was a cross-sectional survey while the research instrument was the modified version of the self-report Dental Environment Stress (DES). The results of the study revealed that of all the five levels of study, third year students had the highest level of stress. The first year students reported the lowest level of stress. The study seems to suggest that stress levels increased as the students progressed from year one probably because of increased and more complex workload. There was no explanation why second, fourth and fifth year students had less stress than their third year colleagues. The study was narrow in scope because it used only male students who were registered in only one academic discipline. Consequently, generalization of the study findings to other student populations may not be possible.

Abdulghani, Alkanhai, Mahmoud et al (2011) investigated, using a cross-sectional design, stress among students in all the five levels of their medical programme from the College of Medicine, King Saud University. Stress levels were higher among female students (75.7%) than among their male counterparts (57%). The magnitude of stress decreased with increasing levels of study. First year students had the highest stress level (78.7%) followed by second year (70.8%), third (68%), fourth year (48.3%) and lastly fifth year students(43.2%).The researchers did not offer an explanation of this finding.

The level of study appears to interact with other factors to influence the students stress experience. This was revealed in a study by Kai-Wen (2011) which used a sample of 82 male

and 119 female students selected, from four universities in Taiwan. The researcher used a self report likert type 5- point questionnaire that covered the following five dimensions: mental/physical factor, school factor, family factor, relationship factor, and social factor. The results showed that third year students reported more stress experiences in physical and mental factors than their first and second year colleagues. The cause of stress was reported to result from problems associated with relationships. The sampling procedure was not scientific because the questionnaires were distributed to the participants as they passed through the gates of the colleges. The sample was small in view of the fact that participants were selected from four universities. Another weakness of the study is that it did not indicate the number of subjects selected from each level.

Stress may also be influenced by the point in time during the semester. A study by Raffidah, Azizah, Norzaidi, Chang, Salwani & Noraini (2009) focused on the time of the semester while investigating the relationship between stress and academic performance among154 Malaysian university students. Stress was measured using the Perceived Stress Scale (PSS) while academic performance was measured using the students' Grade Point Average (GPA). GPA scores were used because they represent a better measure of students' academic performance than self reports on their academic performance. Pearson product- moment correlation revealed a significant negative correlation between the level of perceived stress and the students' end of semester academic performance but no significant correlation between the level of perceived stress and academic performance at the beginning and at the middle of the semester. The results of the study also indicated that the effect of stress on academic performance becomes more serious towards the end of the semester when pressure of examinations and assignments is more evident.The researchers, however, attributed the low level of stress to low enrolment and

possible close contact between students and their teachers, which could have provided the students with better learning environment and opportunities to find solutions to their problems. This notion appears to be speculative as there is no indication that the researchers addressed them in the study. The finding is, however, not consistent with other studies which suggest that the students' stress levels increase from the beginning of the semester and are highest towards the end of the semester mainly due to the demands which are caused by assignments and examinations (Lawrence, Williams & Eiland, 2009). The effect of level of study on stress experience may be due to other factors that need to be investigated. Different academic programmes from different universities may determine how level of study mediates the students stress experience. The mediating factors between stress and academic performance should be investigated further.

2.2.5 The Course in which the Students are registered

University students tend to undertake studies in a variety of disciplines which have different levels of demand and expectations. Stress researchers have largely ignored comparative studies on how stress is affected by the type of courses in which the students are enrolled. Many of these studies have selected their sample of students from only one academic discipline such as education (Britz & Pappas, 2012), business (Agolla & Ongori, 2009). Moreover, most of these studies used students doing science and medical courses such as engineering (Lin, Lin, Wang & Chen (2009), medicine (Siraj, Salan, Roslan, Hasan, Jin & Othman, 2014), nursing (Jan & Popescu, 2014), architecture (Bagutayan & Mai, 2011), biology (Awofode & Emi, 2012; dentistry (Alzahem, Van der Molen & De Boer, 2013). Furthermore, the researchers who focus in medical, engineering and science disciplines start with the assumption that unlike the Social Sciences and Humanties, these disciplines have more stressors (Gade, Chan & Gupta, 2014;

Heckman, Lim & Montalto, 2014) Since these studies have not used a wider variety of academic disciplines their narrow scope makes it difficult to generalize the findings to students in other academic disciplines. The current study has tried to address this shortcoming.

The type of course and its effect on student stress and consequently the students' academic performance may, however, be due to a wide range of factors. For instance university students may experience stress in a course due to the amount of workload in the course (Britz & Pappas, 2012), the number of courses registered for in a semester (Nasiri & Shokrpour, 2012) and the size of registration in a particular course (Agolla & Ongori, 2009).. These factors would imply that the relationship between stress and students' academic performance may be mediated by the type of course which the students are doing. The results are, however, not consistent as the researchers tended to use different samples and research methodologies.

The mediating role of coping strategies has been identified in the differences in stress experience among students who were doing different courses. For instance, Harris, Millichamp & Thomson (2015) investigated levels and sources of stress among dental and medical students usung online modified General Health Questionnaire-12 (GHQ-12). The samples consisted of 86 fourth-year dental students and 80 fourth-year medical students. The results shoewed that just over a half of the students (58.6%) were feeling stressed. Although more dental students than medical students felt stressed, a greater proportion of medical students compared to dental students had difficulties coping well with stress. This is not surprising because most dental students in this study engaged in more destructive coping although both groups used some positive coping. The researchers did not investigate the mediating role of the type of course on the effect of stress on academic performance.

Talib & Zia-ur-Rehman (2012) studied the effect of academic programmes on the students' experience of stress. The sample consisted of 123 male and 74 female students doing management and engineering courses from the Universities of Rawalpindi and Islamabad in Pakistan. The researchers used a 14-item questionnaire to investigate the effect of academic programmes on student stress experience. According to their findings, management students were less stressed compared to their engineering counterparts. This difference could be attributed to the difference in course demands, where the engineering syllabus requires more time concentration and hard work than the management syllabus. This finding calls for more studies that focus on multidisciplinary sampling to facilitate the understanding of how different disciplines influence the students stress experience. The study would have added more knowledge to this effect if the researchers had used students from more than the two academic disciplines.

According to Gokul & Jayalakshmi (2016) university students experience of stress is influenced by the courses that they do. They investigated stress level among 300 students registered in medicine, dentistry, law, engineering and business management from the University of Chennai. Stratified random sampling was used to select 60 students in each course. A self-administered mental stress questionnaire was used to collect data. Medical and dental students had very high levels of stress while business and law students had the lowest stress levels. Students from all the programmes reported academic factors and peer pressure as their main stressors. The researchers did not however, investigate the effect of stress on the students' academic performance. It was therefore not possible to state the mediating role of type of course in the relationship between stress and academic performance.

It was, however, found in a study by Nakalema & Senyonga (2013) that the relationship between stress and academic performance was influenced by the course that the students are registered in. The sample in the study consisted of 113 male and 83 female students from the Faculties of Science and Development Studies, the Institute of Computer Science and the Schools of Medicine and Education from Mbarara University, Uganda. The study used a 6-point likert scale of academic stress in a cross-sectional survey. Grade Point Average (GPA) was used to measure academic performance while data analyses were done using Mann-Whitney –U test and Pearson correlation. The results revealed that students from Development Studies had less academic stress and better academic performance than students from other academic programmes. The researchers attributed this difference to differences in study habits rather than academic load. The study was however limited only to academic stressors and did not include other forms of stressors.

2.3 Relationship between Stress Level and Psychosocial Adjustment

Psychosocial adjustment refers to the emotional, mental and social well being of the individual (Carver, Smith, Antoni & Weiss, 2005). According to Brown & Halloway (2008), psychosocial adjustment can be divided into psychological and socio-cultural adjustment. Psychological adjustment is assoiated with the individual's emotional and psychological well-being (Neil & Mak, 2007). However, Tseng (2002) states that socio-cultural adjustment reflects the adaptation of the individual to cultural demands such as customs, norms and roles as expected by the community.

Stress may affect the university students' psychosocial adjustment due to a variety of factors. Some of the factors include academic problems, personal problems, social and financial problems (Dyson & Renk, 2006; Smith & Renk, 2007; Strauss & Volkwein, 2004). Stress may

also affect students' psychosocial adjustment through its negative effect on their physical and mental health (Jones, 2003; Chakruburty, 2005; Gupchup, Borego & Konduri, 2004; Kemmeny, 2007).

Furthermore, stress can reduce the likelihood of people to engage in positive healthy habits (Ginsberg, 2006; Cohen, Doyle & Alper, 2009; Coren, 2005; Agollah & Ongori, 2009). The negative effect of health in the relationship between stress and psyhosocial adjustment was illustrated in a study by Britz & Pappas (2012). They found that, in a sample of 124 undergraduate students from James Madison University, the two most significant unhealthy behaviours associated with stressed participants were sleeping and eating patterns. The researchers concluded that sleep deprivation and other student behaviours that correlate with high levels of stress may have serious implications on health, psychosocial adjustment and academic performance of the students..

The role of mediating factors in the relationship between stress and psychosocial adjustment was also investigated in a study by Burns & Machin (2013) using 364 undergraduate students from an Australian University. Data was collected using self report questionnaire on life events and interpersonal relationships. Results of the study showed that perceived impact of life events rather than the number of life events affected the respondents' psychosocial well being. The implication is that cognition of the stressors is an important factor in stress. The effect of stress on psychosocial well being was, however, mediated by the nature of students' interpersonal relationship. The students who engaged in positive interpersonal relationship had reduced stress compared to those who engaged in negative interpersonal relationships. Positive interpersonal relationship may lead to positive coping due to the role of social support. The researchers did not

investigate the effect of gender, level of study and the course of study on the link between stress and psychosocial well being of the participants.

Stress caused by poor psychological state of the individual such as perceived discrimination, feeling of depression and anxiety have harmful effects which may lead to poor psychosocial adjustment(Schmitt, Branscombe, Postmes & Garcia, 2014). There appears to be mediating factors in the relationship between stress and psychosocial adjustment (Hamdan-Mansour, 2007).

The students' experience of stress and its effect on their psychosocial status may be mediated by the students' intrinsic and extrinsic characteristics. These variables are confounding and include age, gender and personality of the students. Other confounding variables include level of study and the course being studied. Studies that have studied the mediating effect of the confounding variables in the relationship between stress and psychosocial adjustment are discussed in the following sections:

2.3.1 Age

The intervening role of age in the relationship between stress and psychosocial adjustment has been investigated by several researchers. For instance a study by Archer, Lim, Teh, Chang & Chen (2015) investigated how age influenced the relationship between stress and the students' psychosoial wellbeing among a sample of 200 undergraduate students and 84 older adults. The results of the study revealed that age was a significant factor in the relationship between stress and psychosocial well- being. The link between stress and psychosocial well- being was, however, weaker among older participants than their younger counterparts. The implications of the study findings are that, unlike younger people, older people are able to use positive adjustment processes to mitigate the negative effects of stress. This position was confirmed in a study by Beiter, Nash, McCrady, Rhoades, Linscomb, Clarahan & Sammut (2015). They studied

the relationship between stress, depression and anxiety among 374 college undergraduate students, aged between 18 and 24 years, from Franciscan University, Steubenville, Ohio, United States of America. Data on stress, depression and anxiety was collected using the 21-item Depression, Anxiety and Stress Scale (DASS-21). A correlational analysis found that there is a relationship between stress and the psychological states of depression and anxiety. The older students had better cognitive functioning, experienced less stress and displayed less psychological states of depression and anxiety than their younger colleagues. The researchers did not investigate the difference between male and female students. The researchers did not indicate the courses and levels of study which some researchers have identified as factors in the stress experience.

The positive effect of age on the relationship between stress and psychosocial adjustment is not consistent. This was revealed in a study by Chen, Wang, Hui et al (2013) who investigated the prevalence of stress and its effect on the depressive states of university students. The study covered 5245 students aged between16 and35 years in their first, second, third, fourth years. The sample also included postgraduate students. The students were selected using stratified random sampling from six universities in Harbin City, capital of Heilongjiang Province, North East China. The resarchers used self report questionnaires to measure stress level and Beck Depression Inventory (BDI) to measure depression. Multivariate analyses showed that age but not year of study was significantly associated with depression. Students who were 25 years and older experienced more stress and were more susceptible to depression than their younger counterparts. The finding seems to indicate that cognitive maturity of the students is a more relevant mediating stress experience than academic demands associated with level of study. The present study decided to investigate the influence of age on the students stress and psychosoial

adjustment because most students go through at least a four- year transition period which could influence how they adapt to the university environment as they get older.

2.3.2 Gender

Several researchers have investigated the mediating role of gender in the relationship between stress and psychosocial adjustment (Enochs & Roland, 2006; Winter & Yaffe (2000). The findings are, however, not consitent. Chen, Wong, Ran & Gilson (2009) investigated the relationship between stress, coping strategies and psychological adjustment among 342 students in six Shanghai universities. The study used quantitative research design and self –report stress questionnaire. The researchers found that male students were significantly more stressed and had worse psychosocial adjustment than their female counterparts.

A more elaborate study linking gender, stress and psychosocial adjustment was conducted by Abdullah, Elias, Mahyuddin & Uli (2009). They investigated psychosocial adjustment processes among 179 female and 71 male students selected, using a multistage cluster sampling technique from six faculties in Putra University, Malaysia. A 9-point self –rating Student Adjustment Scale was used to measure adjustment while academic performance was assessed using the students' Grade Point Average (GPA). The adjustment scale consisted of the following adjustment dimensions: academic adjustment dimension which measured the students' success in coping with various academic demands they faced; social adjustment dimension which measured the students' ability to cope with interpersonal-social demands; personal-emotional adjustment dimension which measured general psychological distress and somatic symptoms of distress; finally the institutional attachment dimension which assessed the students' degree of commitment to educational-institutional goals. The results showed that the highest level of

adjustment was in institutional attachment followed by social adjustment, academic adjustment and lastly, personal-emotional adjustment.

A t-test analysis revealed that male students had less stress and were slightly better adjusted than their female counterparts. It should be noted, however, that the sample is seriously skewed towards female respondents and this could have had a bearing on the reported difference. A Pearson product- moment correlation showed a positive and significant relationship between student adjustment and academic performance. This indicated that students' academic performance improved when they were better adjusted academically and psychologically.

The researchers did not investigate whether the students' adjustment was related to reduction in their stress experiences. Moreover the findings were for first year students only though more knowledge would have been gained if the researhers considered adjustment differences among the six different faculties used in the study. Although the researchers used participants from six faculties, they did not look at whether being in a particular faculty caused adjustment issues to the students. This would have been particularly significant since academic programmes in different faculties may have different levels of demand on the students' adjustment process.

Another study which investigated health-related risk factors as predictors of the students' well-being was conducted by Ridner, Newton, Staten, Crawford and Hall (2016). The study used a cross sectional design and data collection was done using National College Health Assessment-2 Quetionnaires which were distributed through the participants' email addresses. The sample consisted of 568 students at a metropolitan university in Southeast United States of America. According to the findings predictors of well being were involvement in physical activities, not using tobacco, and having quality sleep.The study found that although male students showed better adjustment than the female counterparts, the difference was not statistically significant..

Moreover, data was colleted through e- mail which undermines the authenticity of the source of data.

Other studies have not confirmed the gender factor in the relationship between stress and the students' psychosocial well-being. For example, a study conducted by Vankim & Nelson (2013) examined the relationship between perceived stress and mental health. The sample consisted of 18804 undergraduate students undertaking four-year studies from 94 universities in the United States of America. Data was collected using Cohen Perceived Stress Scale, SF-36 questionnaire to measure mental health and self-report number of hours spent socializing to assess the level of socializing with other students. A regression analysis revealed that gender of the students was not a significant mediator in the relationship between stress and mental health. Socialization did, however, have positive effect in the relationship between stress and mental health. The finding suggests that gender in itself is not a factor in the mediation of stress effects. Socialization may have contributed to psychosocial adjustment through the effect of social support.

A longitudinal study by Haldorsen, Bak and Dissing (2014) also investigated the relationship between perceived stress and psychosocial adjustment as measured by depressive symptoms among 6876 Danish medical students. A questionnaire measuring stress and depression on a 6-point scale was used to collect data. A multivariate analysis showed that stress experience resulted in depression among the participants suggesting poor psychosocial adjustment. Although female students experienced higher levels of stress and depression than their male counterparts the difference was not statistically significant. The study, however, showed that for both male and female students depression was higher for the students who coped alone than in the case of those who coped with other people. The study findings appear to suggest that

regardless of the gender of the students, the most important factor in the relationship between stress and psychosocial adjustment is the students' coping abilities.

Furthermore, a study by Tovalesci, Ladner, Richard, Villet & Dechelotte (2013) investigated the relationship between perceived stress, substance use and behavioural addictions. The study used a cross-sectional survey of 1876 students from Upper Normandy, France. The participants filled an on-line questionnaire which consisted of perceived stress scale, substance use and hazardous behaviour. The hazardous behaviours constituted alcohol abuse, smoking, taking cannabis and eating disorders. The results showed that perceived stress was significantly associated with hazardous behaviours, an indication of poor adjustment. This relationship was, however, more significant among female students than the male students. The inconsistency in the findings of studies about the role of gender of the students in the relationship between stress and psychosocial adjustment needs to be addressed further since it appears that other confounding variables may be involved.

2.3.3 Locus of Control

Locus of control may provide the individual with learned resourcefulness which can result in internal control essential in decreasing stress and consequently promoting psychosocial adjustment. Astudy by Pu, Hou & Ma (2017) investigated the relationship between locus of control and subjective well-being which was assessed by the students' levels of self esteem and anxiety. The participants consisted of 214 male and 186 female students selected using stratified random sampling from four universities in China. Adult Norwicki-Strickland Internal-External Locus of Control Scale and Trait Anxiety Scale and Subjective Well-being Scales were used to measure locus of control, anxiety states, self-esteem and subjective well-being respectively. The findings revealed that there is a significant relationship between locus of control and subjective

well-being. Structural equation modelling confirmed the mediating role of trait anxiety and self-esteem in the relationship between locus of control, stress and subjective well-being.

The time of the semester may be assoiated with academic workload that may cause academic stress and consequently academic satisfaction. A study by Au (2015) investigated the relationship between locus of control and academic life satisfaction among 225 undergraduate students. The study was done during two surveys divided into Time 1-just before the midterm examinations and Time 2-just before the final examinations during the semester. Results of the study showed that locus of control predicted life satisfaction at the two periods of examinations. Students with external locus of control were consistently less satisfied academically than their colleagues displaying internal locus of control. The study did not, however, assess the level of stress during the two time frames making it difficult to assess the role of locus of control in the relationship between stress and academic well-being.

Locus of control may enable individuals to overcome performance-impairing characteristics as indicated in a study by Stewart & De George-Walker (2014). The researchers investigated the relationship between locus of control and self-handicapping. They defined self –handicapping as "performance –debilitating characteristics or stressors associated with negative outcomes such as negative academic achievement and poor psychological adjustment." The participants consisted of 79 students who completed an on-line questionnaire which measured locus of control and self-handicapping.The results of the study showed that locus of control of the students was a significant factor in the experience of self-handicapping. Students with internal locus of control displayed fewer performance-debilitating characteristics than their collegues with external locus of control. The on-line method of data collection seems to be a source of weakness due to the inability to confirm the identity of the people who filled the questionnaires.

Contradictory findings were reported in a study by Ye & Lin (2015) who investigated the relationship between locus of ontrol, loneliness and subjective well- being. The study was carried out among 84 male and 176 female Chinese undergraduate students. The findings revealed that although locus of control was related positively to loneliness, it had negative relationship with subjective well-being. The researchers concluded that if the students are externally controlled, lonely and unhappy, they are more likely to engage in on-line interaction therefore predisposing them to negative subjective well-being. It is difficult to support this conclusion since the researchers did not assess the level of on-line interaction among the students.

Locus of control may determine the capacity of the individual to handle stressors responsible for depressive symptoms. This position was supported in a study by Seixas, James, Jean-Louis, Bentley, Zizi & Gardner (2015). They investigated the mediating role of locus of control in the relationship between post-traumatic stress and depressive symptoms. Participants in the study were 701 Jamaican undergraduate students aged 18-30 years using a cross-sectional survey. The study instruments consisted of CES-D-10 sense of control (Internal and External locus of control) and a short Screening Scale for DSM-IV post -traumatic disorders. The students who were highly traumatized recorded higher levels of external locus of control and lower levels of internal locus of control than their less traumatized colleagues.The findings imply that locus of control is a significant mediating factor in the experience of depressive symptoms among post-traumatic patients. The contradictory findings suggest that locus of control may interact with other factors to influence the relationship between stress and psychosoial adjustment.

2.3.4 Level of Study

The mediating role of levels of study in the relationship between stress and psychosocial adjustment among university students has not received significant attention among stress

researchers. However, Hudd, Dumlao, Erdman – Sager, Murray, Phan & Soukas (2000) reported poor adjustment shown by an increase in poor a in unprotected sexual behaviours, increased consumption of alcohol and junk food and a decrease in exercise and fitness with increased levels of stress in the students they studied. Students who were more stressed were also found to have lower self esteem and less awareness of their health. This study was, however, limited by the nature of sample coverage, because only first year students participated in the study. The mediating effect of level of study could not therefore be assessed in this study.

In a cross sectional survey of pharmacy students in the first three years of their programme, it was found that as the types and reactions to stressors increased, the mental health of the students deteriorated (Gupchup, Borego & Konduri, 2004). Although the study used participants from three levels of the study, the researchers did not investigate the mediating role of level of study in the relationship between stress and psychosocial well-being. The role of level of study in the link between stress and psychosocial well -being was however investigated in a study by Sheikh, Kahloon, Kazmi, Khan & Khan (2004). Their study was conducted among 204 Palestinian medical students. The study was carried out over four weeks during which the students filled a self-report stress and coping questionnaire. The sample was selected using stratified random sampling from all the five classes of the medical school. About 94% of the students reported having experienced stress during their academic programmes. Students from the senior classes of fourth and final year reported more stress and stress symptoms than their colleagues from the lower classes. The implication of the findings is that the higher levels of study created more demands and consequently poor psychological state among the students

Similarly, the role of higher levels of study in stress and poor psychosocial adjustment was reported in a study by Wilson, Rayner, Gordon, Shaikh, Crombie & Yasin-Hamekar(2015). They

investigated the relationship between perceived stress and burnout among 204 male and 207 female students from the University of Western Cape Dental School in South Africa. The research instruments were self-administerd Dental Environmental Stress Questionnaire (DESQ) and the Maslash Burnout Inventory (MBI) to measure stress and burnout respectively. According to the findings fourth year students had the highest level of stress on the DESQ and MBI scales than their colleagues at lower levels of study. The above two studies suggest that students at he higher levels of their study experienced more stress and poor adjustment compared to those at the lower levels of stress.

The study findings on the role of level of study on stress and psychosocial adjustment are not consistent. This was found in a study by Bayran & Bigel (2008) who investigated the prevalence of depression, anxiety and stress among 1617 Turkish University students. The study instruments consisted of Depression Anxiety and Stress Scale (DASS-42)+ which was completed anonymously by the students in their classrooms. According to the results, the students tended to experience less depression, anxiety and stress levela if they felt happy with their academic life. First and second year students reported higher depression, anxiety and stress levels than their colleagues in other levels of study. The reaearch did not examine why students in the lower levels study were more stressed than their colleagues in higher levels.

2.3.5 The Course in which the Students are registered

Researchers have largely ignored to investigate the role of academic disciplines in the relationship between stress and psychosocial adjustment among university students. Most studies have used samples from only single discipline such as medicine (Saravanan & Wilks, 2014; Siraj, Salan, Roslan, Hasan,Jin & Othman, 2014), nursing Al- Kandari & Vidal, 2007) and dentistry(Elani, Allison, Kumar, Mancini, Lambrou & Bedos, 2014).

Studies which have used samples from more than one discipline have, however, reported contradictory findings. For instance, Deasy, Coughlan, Pironom, Jourdan & McNamara (2014) investigated the relationship between students' lifestyle and psychological distress among undergraduate nursing/midwifery and teacher education students. The students were categorized as low risk behaviour (n=733) and positive health behaviour (n=379). The researchers used Lifestyle Behaviour Questionnaire to measure lifestyle behaviour, General Health Questionnaire to assess self report psychological distress and Ways of Coping Questionnaire to measure coping processes. According to the results, students who engaged in risky behaviours had high psychological distress compared to the students who engaged in positive health behaviours. Moreover, they used mainly passive coping strategies such as asescape avoidance. The study suggests that although unhealthy behaviours may undermine people's psychosocial adjustment the negative effect may be moderated if appropriate coping is undertaken. Although the sample was drawn from two different academic disciplines, the researchers did not investigate the influence of academic programme in the link between stress and psychosocial well-being.

The role of course of study on the relationship between stress and psychosoial well-being was, however, confirmed in a study by Harris, Millichamp & Thomson (2015). The researchers investigated stress and coping among fourth year medical and dental students from the University of Otago in Dunedin, New Zealand. The sample consisted of 86 fourth year dental students and 80 fourth year medical students. The research tools consisted of a stress questionnaire that covered items about sourses and levels of stress, anxiety, anger and sadness. The questionnaire also measured coping strategies. Another research tool used was the Modified General Health Questionnaire to measure the mental state of the participants with a view to determining the presence or absence of psychological distress.Most of the students (58.6%)

reported being stressed. Dental students were more stressed than medical students. However, a greater proportion of medical students than dental students reported not coping well and consequently suffering from psychological distress as shown by feelings of anxiety, anger and sadness. The researchers could not explain why medical students who reported not coping well were less stressed than dental students who reported coping well.

Furthermore, a study by Gokul & Jayalakshmi (2016) revealed that students from different academic disciplines experienced different levels of stress and psychological distress. The sample consisted of 300 students from engineering, medicine, dentistry, law and commerce courses selected through stratified random sampling. The researchers used self-report stress and coping questionnaire. The results showed that medicine and dentistry students were more stressed and less adjusted compared to law and commerce students. Dentistry and engineering students were the most depressed. This finding is consistent with the view that medical and engineering courses are more demanding than the Humanities and Social Sciences.

A study by Banu, Deb, Vardhan & Rao (2015) investigated how university students adjusted to academic stress. They used multi-stage cluster sampling to select 699 students taking Humanities, Social Sciences, Sciences and Management courses. The research tools consisted of structured stress questionnaire and a standardized psychological scale to measure stress and psychological well-being respectively. The results of the study revealed that students from humanities and social sciences were more stressed and with poor psychological state compared to their colleagues in Management and Science courses. This finding is, however, not consistent with the belief that Medical and Science disciplines are more stressful than Social Sciences and humanities (Awofode & Emi, 2012).

According to Lin, Lin, Wang & Chen (2009) when students face academic, social and financial difficulties, they may fail to adjust leading to unhappy or problematic experiences in the body and mind. The researchers reached this conclusion from results of an evaluative research that involved in-depth interview of 10 students selected using stratified random sampling from 10 universities in Taiwan. The validity and generalization of the findings seem to be undermined by the limited sample given the large number of universities used in the study. The main shortcoming in this study is that it used very few students and did not investigate the role of type of course in stress experience and psychosocial adjustment.

2.4 The Relationship between Academic Performance and Psychosocial Adjustment

Research findings on the relationship between academic performance and psychosocial adjustmen are not consistent. Some research findings suggest that psychosocial adjustment is associated with academic performance (McKenzie & Schweitzer, 2001; Krisher & Shechtman, 2016). However, a study by Petersen, Louw & Dumont (2009) had contradicting finding. They found, in their study of 194 first year students from a South African University, that psychosocial adjustment was not positively related to academic performance which was assessed from their first year examination results.

The relationship between academic performance and psychosocial adjustment may, however, be mediated by the students' coping outcomes.For instance, Abdullah, Elias, Elli & Mahyuddin (2010) studied 250 first year students from the Universi Putra in Malaysia. They found a significant positive relationship between the students' psychosoial adjustment and academic performance. This positive relationship appears to be due to the type of coping used. The students who used problem- focused coping strategies displayed better psychosocial adjustment than the ones who used emotion-focused coping strategies.

Stress researchers state that how people cope with stress is crucial in determining the nature of their psychosocial adjustment (Jones, 2003; Myers, 2002; Arossi, Zengerini, Roth & Perkins, 2007). According to Lazarus (2000, 2003) coping involves people's effort to manage demands that tax or exceed their resources to control stress effects. Salami (2011) studied the psychological predictors of adjustment using 250 first year students from Colleges of Education in Kwara State, Nigeria. He found that psychosocial adjustment is a result of the mediating effect of self esteem and social support on stress. These factors may be important coping variables during stress experience.

People tend to employ different forms of coping when they face challenges or stressors (Piercell & Klein, 2007; Palmer & Roger, 2009). The coping strategies are generally categorized as problem-focused and emotion-focused. In problem-focused coping strategies, the individual engages in actions that alter the source of stress by assessing the problems accurately or by understanding the causes of stress (Kasayira, Chipandambira & Hugwe, 2007). People who engage in emotion-focused coping strategies aim at distorting the nature of the stressors and appraise them as harmless, non-threatening events (Lazarus, 1993; Harari & Legge, 2001).

Problem –focused coping strategies appear to work better than emotion-foused coping in influencing psychosocial adjustment.

Kasayira, Chipandambira & Hungwe (2007) studied coping process among 281 students from Midland State University in Zimbabwe. The students reported using both positive problem - focused and negative emotion- focused coping strategies .This study considered a number of variables. For instance, the study revealed that whereas non- resident students used relatively more confrontational positive coping strategies and palliative strategies, their resident counterparts used relatively more confrontational negative coping strategies as well as

negative compromise coping strategies. Moreover the students who used positive coping strategies were less stressed and had better psychosocial adjustment than those whose coping processes were negative

Brougham, Zail, Mendoza & Miller (2009) studied 166 college students using both Stress Assessment Inventory and Stress Coping Inventory. The study's focus was mainly on gender differences in coping strategies. The researchers found that female students reported a higher overall level of stress and a greater use of emotion- focused coping strategies than the male students. Female and male students reported using different coping strategies for different stressors. The use of emotion-focused coping strategies, however, dominated over problem - focused strategies for both male and female students. The study confirmed that regardless of the gender of the students the use of emotion-focused coping resulted in higher stress levels and poorer psychosocial adjustment. The researchers did not look at whether students from different courses and levels of study applied different coping strategies.

Overall, ineffective coping styles and the experience of stress appear to render students more vulnerable to experiencing poor psychosocial adjustment (Julal, 2013).

Julal (2013) investigated the relationship between problem-focused support seeking and problem-coping styles among 103 female and 28 male first year undergraduate psychology students from the School of Human Sciences, Southampton Solent University, in the United Kingdom. The research instrument used was a 5-point Likert-type problem-focused coping styles that consisted of three dimensions: reactive, reflective, and suppressive scales made up of five, seven, and six items respectively. The results showed that students with poor problem-focused coping styles reported more psychological stress than those with good problem-focused coping styles. There were no gender differences in the effect of the coping styles and could be because

the sample was skewed towards female subjects. The study was also undermined by the low reliability of .67 calculated using test-retest reliability methods. Moreover, the sample was limited to only psychology students and this limits the generalization of the findings to other students in other disciplines.

The type of coping strategy may depend on other factors. For instance, Williams, Arnold & Mills (2005) reported, in a study of 50 university students from Murdoch University, Australia, that adaptive coping strategies were used more frequently than non- adaptive ones. The adaptive strategies were cognitive and problem- focused, while the non- adaptive strategies were spiritual and emotion – focused. Age of the students was not related to the type of coping strategies the students reported using, probably because the students were nearly homogenous in their age levels. Year of study was, however, associated with the use of cognitive and emotional coping strategies. Fifth year students reported using more cognitive and emotional, adaptive and non adaptive coping strategies than fourth year students did. This is probably because university students show more cognitive maturity as they progress in their studies but the researchers did not address the reasons for this difference. The most commonly used coping strategies were emotionally- based and intended to improve the mind or mood of the students , while the most frequently used cognitive strategies involved using a systematic approach to problem-solving. The study revealed that the students who used cognitive and problem-focused coping strategies showed better psychosocial adjustment than their counterparts who engaged in spiritual and emotion-focused strategies. The sample in the study was, however, small and the study never focused on the gender differences in the use of different coping strategies.

2.5 Summary and Conclusion from the Review

Review of the literature has revealed that university students are not a homogeneous population since they come from different geographical, sociocultural and socioeconomic backgrounds which may have implications on their stress experiences (Ongori, 2007; Chang & Lee, 2007). They undertake studies in a variety of courses which have different levels of demand. For example, several studies have investigated student stress using mostly medical and science disciplines (Bagutayan & Mai, 2011; Awofode & Emi, 2012; Harris, Millichump & Thomson, 2015; Saravanan & Wilks, 2014). Moreover most of the studies are also narrow in scope because there is a tendency to select the samples from only one academic discipline (Britz & Pappas, 2012; Talib & Zia-ur-Rehman, 2012; Heckman, Lim & Montalto, 2014). Furthermore, few studies have attempted to include all levels of study (Kahloon, Kazmi, Khalid, Nawaz et al 2004; Alzahem, Van der Molen, De Boer, 2013). The narrow scope of the studies, inspite of the diversity of the population from which the samples are drawn, makes it difficult to generalize the findings from these studies to other university settings (Lo, 2002; Magnussen & Amunson, 2003; Gipchup et al, 2004).

It has also been observed that stress researchers have used numerous instruments with various scales that measure different types of stressors and yet reliability and validity of these instruments are rarely reported making it difficult to generalize the findings to other university student populations. Furthermore, stress experiences are subjective and yet most studies have employed quantitative research methodology using self report questionnaires. Qualitative research methodology which could have enabled in-depth analysis of the stress experiences has been largely ignored.

Since the researchers have used different methodologies with respect to sampling and research instruments, they have not been consistent in the stress factors reported in the studies. Moreover, new stressors continue to emerge due to changes in the university students' sociocultural and academic environments as a result of decrease in adequate learning and accommodation resources, increase in class sizes, and inadequate teaching staff (Gigliotti, 2004; Robbotham & Archer, 2006).

Diverse stress factors have therefore been reported in the literature from studies of university students' stress experience. The factors that have been reported as causes of the student stress are grouped in the following categories:

(1) Academic stress factors which constitute academic workload (Bagutayan & Mai, 2011; Awofode and Emi, 2012, Talib and Zia-ur-Rehman, 2012), preparing and sitting for examinations (Lawrence, Williams & Eiland, 2009; Lin, Lin. Wang & Chen, 2009), doing assignments (Thawabieh & Qaisy, 2012), inadequate teaching and accommodation facilities (Ongori, 2007; Awofode & Emi, 2012).

(2) Financial stressors (Fairbrother & Warn, 2007; Khurshid, Tasswar, & Nasqasmi, 2012; Heckman, Lim, & Motalto, 2014)

(3) Social and heath-related stressors (Agolla & Ongori, 2009; Thawabieh & Qaisy, 2012; Britz & Pappas, 2012).

Several researchers have investigated the effect of stress on the students' academic performance. The results are however not consistent. Most studies have reported that there is a negative relationship between stress and academic performance of university students (Ogundipe, 2005; Turner, Bartlett, Andianapolis & Cabot, 2015; Sohail, 2013). Others studies have, however,

failed to find a relationship between stress and academic performance (Kyalo & Chumba, 2011). The inconsistency in these finding imply the need for further research to address the gaps.

There are factors which are not considered as stressors but they act as stress risk factors because they predispose the individual to the stress experience. They are therefore confounding factors or variables in the relationship between stress experience and not only academic performance but psychosocial adjustment as well.Studies which have investigated the stress risk factors among university students have recorded conflicting results. These factors include:

(1) Age.

Studies that have tried to investigate the role of age on stress among university students are few.This is probably because the age range among university students is usually very small. Some studies have, however, reported inconsistent results. Whereas there are studies which have found that people exprience more stress as they get older (Nauert, 2010), others studies have revealed that stress decreased as people get older (Hamarat, Thompson, Zabrucky, Steele, Matheny & Aysan, 2001).

(2) Gender.

Gender differences in stress experience have been attributed to both personality (Shultz & Shultz, 2005) and the release of stress hormones (Daughters, Gorka, Matuslewiz & Anderson, 2013). Results of studies on the relationship between gender and stress are not, however, consistent. There are studies which have revealed that women tend to be less stressed than men (Chen, Wong, Ran & Gilson, 2009). Other studies have reported that men are less stressed than women (Limo, Chindia, Masakhawi, Dimba, Gichana, Wakholi & Awange, 2008). However, no difference in stress between male and female students was found by Kania (2014).

(3) Locus of control.

Locus of control is a significant mediating factor in stress (Lecic-Toseveski, Vukovic & Stepanovic, 2011). The mediating effect of locus of control has been attributed to its effect on coping strategies (Khan, Slem & Shahid, 2012).The inconsistencies in the findings of these studies necessitates further studies in this area.

(4) Level of Study

Several studies have investigated the mediating role of level of study in students' stress experience. Some of these studies have been conducted using only one academic level of study (Britz & Pappas, 2012; Sohail, 2013). The studies which have included students from more than one level of study have had inconsistent findings (Kahloon, Kazmi, Khalid, Nawaz et al, 2004; Kai-Wen, 2011; Lawrence, Williams & Eiland, 2009).

(5) Course being studied.

Most researchers have selected samples from only one discipline (Agolla & Ongori, 2009, Heckman, Lim & Montalto, 2014). Moreover, most of these studies have used students registered in mainly science and medical sciences (Nasiri & Shokrpour, 2012; Nakalema & Senyoga, 2013; Gokul & Jayalakshmi, 2016).

Whereas stress researchers have investigated the effect of age, gender, locus of control, level of study and course of study on stress, they have largely ignored how these intervening variables mediate or influene the relationship between stress and both academic performance and psychosocial adjustment. The present study has therefore found it justifiable to investigate the mediating roles of these factors in the effect of stress on academic performance and psychosocial adjustment

The review of the litererature also revealed that findings on the relationship between stress and psychosocial adjustment among university students are not consistent (Dyson & Renk, 2006; Smith & Renk, 2007; Abdullah, Elias & Mahyuddin, 2009). The relationship between stress and psychosocial adjustment appears to be influenced by the mediating roles of:

(1) Health state of the students (Deasy, Coughlan, Pironom, Jourdan & McNamara, 2014; Shmitt, Branscombe, Postmes & Garcia, 2014), and

(2) The kind of coping strategies used (Redhoran, Samin, Karim, Chan & Zaleha,2009; Kasayira, Chipandambira & Hungwe, 2007). The effectiveness of coping proesses are in turn due to the kind of social support available to the students(Julal, 2013; Crockett, Iturbide, Stone, MGinley & Raffaelli, 2007).

2.6 Theoretical Framework

Stress is a multifactor concept that has been explained using several interrelated theoretical perspectives. In this section analyses of theories of stress that have guided this study is presented. This study, therefore, focused on two theories of stress that have direct relevance to the study. These theories deal with the specific relationship between environmental demands known as stressors and physical, psychological, emotional and cognitive reactions referred to as stress. Each theory spells out specific intervening or mediating variables that may determine the relationship between the cause and effect of stress. The relevance of each theory to the current study is explained. The following theories were considered the most applicable for this study are:

2.6.1 Hans Selye's General Adaptation Syndrome (GAS)

Hans Selye (1976) developed his theory of stress following a series of studies with animals. He observed that a variety of environmental stimuli such as heat cold can result in bodily tension in animalsand. According to Selye, these responses or bodily changes constitute a response pattern

of systematic stress. Selye (1976), therefore, defined stress as "a state manifested by a syndrome which consists of all the non-specifically only induced changes in a biologic system". He referred to the response pattern as General Adaptation Syndrome (GAS).This response pattern is also known as the response model or systematic stress theory (Krohne, 2002). General Adaptation Syndrome explains the physiological and psychological reactions that an organism goes through when exposed to stressors.

The theory involves a process that may go through the following three stages:

(i) The Alarm Reaction Stage

The alarm reaction stage is the initial shock experienced after the onset of acute short term stressors. The stressors may activate the autonomic nervous system characterized by increased release of adrenaline and gastro intestinal ulcerations. This enables the individual's biological system to initiate defensive measures as an adaptation process. This means that in the alarm reaction stage, environmental demands such as pressure of examinations, course work assignments, or financial difficulties that a student faces may trigger the hypothalamus in the brain to activate the autonomic nervous system. The autonomic nervous system reactivity may cause the generation of stress hormones such as adrenaline and noradrenaline. These hormones tend to circulate in the blood system and activate various organs such as the liver, kidney, heart and lungs to respond to the stress. The result is increased blood pressure, enhanced muscle tension, increased blood sugar level and other physical changes needed to cope with stress. If the student manages to overcome these challenges, stress may diminish. It is, therefore, possible that a student may overcome the stress experience at this stage if appropriate coping strategies are used. If appropriate coping mechanisms are lacking the student's stress experience may move to the next stage.

(ii)The Resistance Stage

Selye (1976) argued that a person may enter the resistance stage if the external stressors persist. As a result the body will try to resist the stressor on a long term basis (Kiecolt – Glasser, McGuire & Robbies, 2002). The continued presence of stressors may slowly exhaust the individuals biological adaptation to the stressors.. If the stressors persist the student may find the effects of stress beginning to show. For example, continued financial, academic and social difficulties that last for days or even weeks will begin to have effects on the student. Although the student may continue to use adaptive resources during this stage they may not work appropriately enough in coping with stress. The student's stress experience may enter the next stage, with more stress outcomes.

(iii) The Exhaustion Stage

If the stressors experienced in the resistance stage continue, resistance will give way to the stage of exhaustion. The capability of the organism to adapt to the stressors is exhausted and the resistance is no longer possible. Irreversible tissue damage appears.The heart, the immune system, the blood vessels are now completely impaired thereby causing various health problems (Melgosa, 2004). Selye (1976) also says that the individual's cognitive functions such as attention, memory, perception, thinking and reasoning may be irreversibly impaired. The irreversible tissue damage and cognitive impairment may lead to death. This is therefore the stage where the individual may experience severe physical, emotional, social and cognitive difficulties that may undermine his or her ability to function well. This is likely to happen when the student has long term experience of stress during a semester or even longer.

As a response theory, Selyes theory focuses mainly on the individual's adjustment to stressors after sustained exposure to stressors. The way the body reacts to stress through health outcomes

and cognitive dysfunction may influence the individual's adjustment status (Jones, 2003) and academic performance (Awofodu & Emi, 2011)

Although Selye's work influenced many stress researchers, there were marked weaknesses. A major weakness in the theory is that it was developed using animal studies in laboratories and it ignored the role of human cognition in the perception of stressors. Furthermore, the theory ignores the fact that, unlike the physiological stress investigated by Selye (1976), stress experienced by human beings is almost always influenced by the cognitive processes of the stressors by people who are exposed to the them (Lazarus, 1974). Selye (1976) does not identify mechanisms that may explain the cognitive transformations of objective noxious events into subjective experience of being distressed. Selye's theory does not take into consideration the significance of coping mechanisms as important mediators of the stress response.

The theory is relevant to this study because it explains how stress may undermine the physiological and psychological function of the student, especially if the stressors are persistent and long-lasting. Consequently, it is possible that the student who experiences stress may end up with poor physical, emotional and psychosocial difficulties which may interfere with his or her academic performance and psychosocial adjustment. This theory may therefore explain the long term effects of chronic stress that a student could face in a given period of time such as a semester, an academic year or even longer. The theory does not, however, provide adequate explanation as to why a stressor may not have similar effects on different students exposed to the same stress environment.

2.6.2 Lazarus' Cognitive Theory of Stress

The weaknesses in Selye's theory were the main focus of the cognitive theory by Lazarus (1978, 2000). Two key concepts central to the cognitive explanation of stress are:

(i) Primary Appraisal:

This is the individuals' evaluation of how serious, harmful or challenging the stressors are. This is a cognitive proess reflected in the perception of stressors (Melgosa, 2004; Rees & Redforn, 2000)

(ii) Coping:

This is the individual's cognitive analysis of the availability of coping resources necessary to manage the effects of the stressors. It is referred to as secondary appraisal and may involve problem- focused and emotion-focused coping strategies.

From the time the theory was proposed, it has been revised several times (Lazarus, 1991; Lazarus & Folkman, 1984; Lazarus & Launier, 1978). In the latest version Lazarus (2000) proposes that stress is a relationship of transaction between people and their environment. Stress is, therefore, defined as a psychological state arising from the relationship with the environment that the person appraises as significant for his or her well-being and in which the demands tax or exceed available coping resources (Lazarus & Folkman, 1984)

The definition of stress in this theory points to cognitive appraisal and coping processes as significant mediators in the person – environment relationship. Lazarus' stress theory distinguishes between primary and secondary appraisal. The two types of appraisal rely on different sources of information. For instance, primary appraisal is concerned with the nature of stressors being experienced while secondary appraisal refers to the coping options available to the individual.

Lazarus (1993) says that coping is a function of the relationship between primary and secondary appraisals. Folkman & Lazarus (1986) define coping as the "cognitive and behavioural efforts

mode to master, tolerate or reduce external and internal demands and conflicts among them" The coping process involve, behavioural, cognitive physical and emotional efforts to handle stress.

Individuals may engage in problem-focused coping where they try to change the person-environment realities behind their stress (Lazarus, 2000). In other words, they identify the causes of their stress and try to solve them (Palmer and Roger,2009) Individuals may also engage in emotion- focused coping where they relate to internal elements and try to reduce negative, emotional state or change the appraisal of the demanding situation (Harari, & Legge, 2001). Most research findings suggest that problem-foused coping is better than emotion-focused coping tress (Piercell & Klein, 2007; Kasayira, Chipandambira & Hugwe, 2007).

The cognitive theory of stress is relevant in this study because it explains the role of the students' cognition in their experience of stress. This means that if different students are exposed to similar stressors such as impending examinations or living conditions in the hostel their stress experience are likely to be influenced by how each of them appraises the stressors and their abilities to manage the stressors. A major weakness in the cognitive theory is that it ignores the role of feedback on the individuals coping ability on stress. Feedback enables the individual to evaluate the results of his or her coping processes. If the feedback is positive the student may benefit from the coping processes. If the appraisal is negative it might undermine the student's coping outcomes. This shortcoming is addressed by the interaction theory discussed below. The theory also implies that this study could find that students may try to use both problem-focused and emotion- focused coping strategies in managing their stress.

2.7 Conceptual Framework

The conceptual analysis of the research was based on the theories of stress as described above. It describes the relationship between the independent and dependent variables used in this study.

The framework is illustrated in **Fig.1** below and has the following variables:

1. Stress Level as Independent Variable: From the cognitve theory by Lazarus and Folkman (1984), it is conceptualized that the students' stress level will result from stressors in the students environment. The stress level will then act as an independent variable to influence both academic performance and psychosocial adjustment.
2. Academic performance and Psychosocial adjustment as Dependent Variables: It is conceptualized using the response theory by Hans Selye(1976) and cognitive theory of Lazarus and Folkman (1984) that stress experience may result in negative physical, emotional and cognitive states in the students thereby affecting their academic performance and psychosocial adjustment.

   It is conceptualized that the relationship between stress and both academic performance and psychosocial adjustment will be mediated by the following confounding variables:

   (i) Course of study: The course that the student is registered in may present challenges that may act as an extrinsic stress- risk factor whch can have a mediating role in stress effects

   (ii) Level of study: Level of study may also present challenges that may act as a stress-risk factor which can mediate the effect of stress experience.

   (iii) Locus of control: Locus of control is a personality variable that is seen as an intrinsic stress-risk factor with a mediating role in the stress effect.

   (iv) Gender of the student: The gender of the students is an intrinsic stress-risk factor which tends to influene the mediating effect of the stress effects.

   (v) Age of the students: The age of the students is also an intrinsic stress-risk factor with mediating role in the effects of stress.

According to the framework students may be exposed to environmental stressors such as insufficient living and learning facilities, high cost of meals, poor interpersonal relationships. These stressors may, depending on the students cognitive appraisal cause stress. The stress may result in emotional reactions (e.g. anxiety), psychological response (e.g. poor memory and poor attention span), and physiological responses (e.g. sleeplessness, heart problems, infectious diseases such as flu and cold). Emotional, psychological and physiological responses to stress will cause poor academic performance and poor psychosocial adjustment of the students. The framework further indicates that students will not experience stress if they don't consider the factors as stressors. Those students who experience stress may overcome it through appropriate coping or stress management. Students who do not experience stress or who cope well may have better academic performance and psychosocial adjustment. Gender of the students will influence the cognitive appraisal of stressors to determine their stress experience.

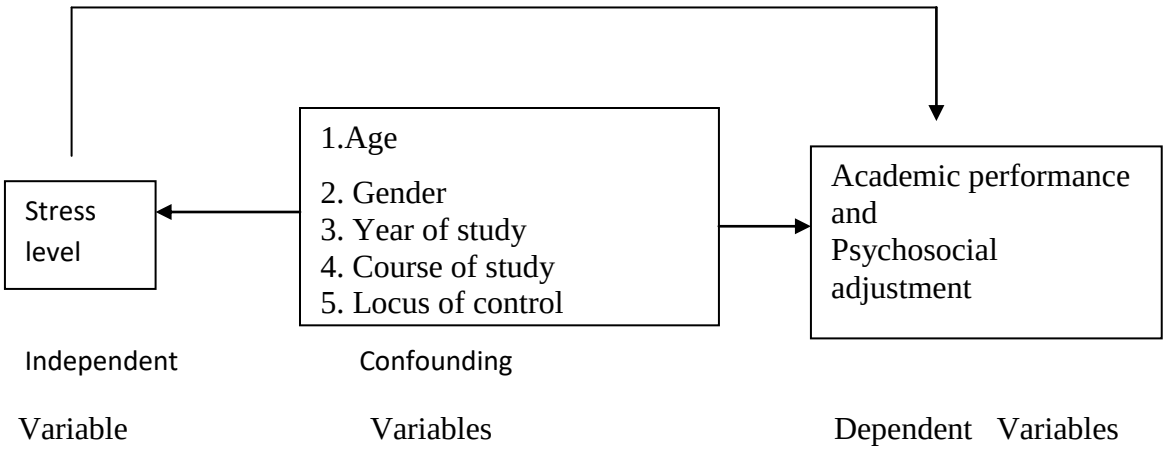

Figure 1: Conceptual Framework: A model showing factors that influence the relationship between stress, academic performance and psychosocial adjustment

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter outlines the research methodology which has been used in this study. The research design, population of the study, sampling procedures and sample size are described. Different research tools and data collection procedures are also explained. Procedures used in the development and piloting of the research instruments are discussed. Furthermore, data analysis procedures and how they were used to test the various research hypotheses are presented. The methodology outlined below consists of both quantitative and qualitative research instruments used to collect data from different categories of the respondents. The objective was to meet the requirement of triangulation necessary in attaining more detailed and rich data.

3.2 Research Design

This research used a cross-sectional survey method. This design, therefore, enabled the researcher to collect information from different years of the student enrolment at a single point in time. The research design treated stress as independent variable with academic performance and psychosocial adjustment as dependent variables. Age, gender, locus of control, the courses in which the students were registered and levels of study were treated as confounding variables in the relationship between stress, academic performance and psychosocial adjustment. The study was both quantitative and qualitative. The qualitative approach enabled the study to go beyond quantitative data by getting more detailed, in-depth information that could not have been captured through quantitative data.

3.3 Population and Location of the Study

The target population in this study constituted government- sponsored undergraduate students registered in different academic programmes in the the six colleges of the University of Nairobi. The courses were grouped as follows: Humanities and social sciences (CHSS), Education (CEES), Biological and physical sciences (CBPS), Medical/Health sciences (CHS), Agriculture and veterinary sciences (CAVS), Architecture and engineering (CAE).The students were registered in a variety of degree programmes that may have different levels of demand.. For example, medical and science courses were assumed to be more demanding in terms of academic load and required resources compared to courses in the humanities and social sciences. The number of students registered according to their courses and years of study are shown in Table 1 and Table .2, respectively.

Table 1: Number of Students per Course

Course (College)	Males	Female	Total
Humanities and Social Sciences	5650	4560	10210
Education	2200	1850	4050
Biolgical and Physical Sciences	1410	1012	2422
Health Sciences	1600	1100	2700
Agriculture and Veterinary Sciences	901	716	1617
Architecture and Engineering	940	411	1351

Source: University of Nairobi

Table 2: Number of Students per Year of StudyYear

Year	Males	Females	Total
I	2950	2370	5320
II	2921	2275	5196
III	2969	2260	5209
IV	2946	2130	5076
V	915	634	1549

Source: University of Nairobi

The students were chosen because they were young and directly from secondary school undertaking new experiences. Moreover the majority of the students were residents in the students' halls of residence, sharing university facilities for the time they were in session. Due to large enrolment in these programmes, the demand on the shared resources such as rooms in the halls of residence, the libraries, lecture rooms, laboratories, and computer facilities may be overstretched to the point when conflicts may arise.

Furthermore, the students managed their financial and social life as they responded to the demands of their academic programmes and social relationships in the absence of the supervisory and supporting roles of their immediate families and guardians or teachers as it was the case during their secondary school years. Most of these students' financial support came from the government, in addition to loans provided by the Higher Education Loans Board (HELB). However, the students' parents and guardians also supplemented their financial needs for both tuition and accommodation.

3.4 Sampling Procedure and Sample Size

According to Gay and Airasian (2003) if the population size is about 1500 people then the sample should be 20 percent. If the population is 5000 people or more, a sample size of 400 may

be adequate.. With a population of over 30,000 students, the researcher selected 700 students as the appropriate sample. Both stratified and random sampling procedures were used to select the sample.

Stratified random sampling procedure was used because the population constituted different subgroups or strata that the study focused on.These subgroups included the courses that the students were registered in, the level or year of study and the gender of the participants. The courses that the students were registered in constituted aggregates of other strata which the researcher felt would be too heavy to consider them separately.The strata, in addition to age and personality, were the sample characteristics on which some of the research questions were based. The sample was chosen on a random basis within each stratum to ensure that each subject had equal chance of being selected from the population subgroup. The student registration list in each course was used as the source of the sample. The following formula by Krejcie and Morgan (1970) was used to determine the sample size for the whole study and in each stratum.

$S= X^2 NP(1-P)/d^2(N-1)+X^2P(1-P)$

Where

S = Required sample size

N = Given population size

P = Population proportion that for table construction is assumed to be 0.50 as this magnitude yields the maximum possible sample size required

X^2 = chi-square taken as 3.841.

d= degree of accuracy expressed as a proportion (0.05)

The formula gives a sample that is in line with Gay and Airasian (2003) proposal. The proposed sample size is as follows:

The sample also included key informants such as Assistant Deans of Students, the Chief Medical Officer, Deans of Faculties, Directors of Schools and the Director of the Student's Welfare Authority (SWA). Key informants, who were selected using non-probability purposive sampling process, were interviewed in their offices. The key informants were selected because of the direct role they have in the students' academic and psychosocial well-being. A random sample of 3 male and 3 female students from each of the six colleges was selected for Focus Group Discussions.

Table 3: Humanities and Social Sciences

Year	Males	Females	Total
I	30	20	50
II	30	20	50
III	30	20	50
IV	30	20	50
Total	120	80	200

Table 4: Education

Year	Males	Females	Total
I	15	10	25
II	15	10	25
III	15	10	25
IV	15	10	25
Total	60	40	100

Table 5: Biological and Physical Sciences

Year	Males	Females	Total
I	15	10	25
II	15	10	25
III	15	10	25
IV	15	10	25
Total	60	40	100

Table 6: Medical/ Health Sciences

Year	Males	Females	Total
I	10	5	15
II	10	5	15
III	10	5	15
IV	10	5	15
V	10	5	15
Total	50	25	75

Table 7: Architecture and Engineering

Year	Males	Females	Total
I	10	5	15
II	10	5	15
III	10	5	15
IV	10	5	15
V	10	5	15
Total	50	2 5	75

Table 8: Agriculture and Veterinary Sciences

Year	Males	Females	Total
I	10	5	15
II	10	5	15
III	10	5	15
IV	10	5	15
Total	40	20	60

3.5 Research Instruments

The researcher collected data using four quantitative and two qualitative research instruments. The instruments were developed using relevant information on stress from the literature. The instruments were aimed at addressing the research objectives, questions and hypotheses. The four quantitative data collection tools included the students' Stress and Coping Strategies

Questionnaire (Appendix 1), the Psychosocial Adjustment Questionnaire (Appendix 2), the Rotter Scale to measure locus of control (Appendix 3) and the Academic Measurement Request Sheet for the respondents to attach a copy of their transcripts (Appendix 4). The two qualitative data collection instruments were the Interview Schedule for the Key Informants (Appendix 5) and the Thematic Areas for Focus Group Discussions (Appendix 6). The research instruments are described in the following sections: The research Instruments consisted of both biographic information and items on the main variables being measured.

3.5.1 Quantitative Data

Quantitative data was collected using the following questionnaires:

(1) Students' Stress and Coping Strategies Questionnaire

This questionnaire was developed by the researcher. The choice of the items was based on information in the stress literature about student stress and coping strategies. The questionnaire has 50 structured items on a five-point Likert-type scale that measured the students' level of stress and two unstructured items. The respondents were asked to describe the causes and effects of their stress experience in one of the unstructured items. In the other unstructured item, the respondents were requested to describe the strategies they used to cope with stress. The open-ended items did not restrict the respondents on the details of their responses. Therefore, as much information as possible was collected using this section of the questionnaire. The openness of the unstructured questionnaire therefore helped overcome the restricted nature of the structured likert-type questionnaire.

(2) Psychosocial Adjustment Questionnaire

This questionnaire was developed by the researcher and consisted of twenty structured 5-point Likert- type items that aimed at establishing the respondent's level of psychosocial adjustment.

The questionnaire was multidimensional made up of psychological, social, emotional and cognitive reactions that reflected the level of adjustment to stressful situations. For each dimension there were five (5) words that described the level of psychosocial adjustment. This was based on words that have been reported in the stress literature that people use to describe the degree of psychosocial adjustment when they experience stress. The questionnaire had one unstructured item which enabled the students to express their psychosocial feelings freely.

(3) Locus of Control Questionnaire

Personality was measured by the Locus of Control Questionnaire adapted from Rotter's (1990) Locus of Control Scale which measures the degree of internality (The extent to which an individual depends on his or her own abilities) or externality (The extent to which an individual depends on luck or fate) when dealing with issues in his or her environment. It consists of 23 pairs of items measuring either internal or external locus of control. In addition, it has six pairs of items that do not measure locus of control but act as fillers to help disguise the dimensions of the personality being measured. Although this research tool is standardized it was piloted to customize it to the Kenyan population.

(4)Academic Performance Scale

Academic performance is a dependent variable in this study. It was assessed using the grades achieved by the students during university examinations in a given semester. The academic performance was derived from the students' academic transcripts from the two semesters preceding data collection. The performance levels were graded as follows:

A = 70% to 100%

B = 60% to 69%

C= 50% to 59%

D = 40% to 49%

E= 39% and below

It was assumed that the performance in the two semesters may have been influenced by the conditions that the students experienced at the time which included the time when data was collected.The students were requested to provide copies of their academic transcripts for the two semesters. They were assured of confidentiality in handling their academic documents to encourage them cooperate in the release of the documents.

3.5.2 Qualitative Data

Qualitative data was collected using interview schedules for key informants (Appendix 5) and Focus Group Discussions using students (Appendix 6). The focus group discussions covered the following thematic areas: causes of stress, levels of stress, effects of stress on academic performance and psychosocial adjustment, and coping strategies. Items in the interview schedules were chosen on the basis of information in the literature about causes, effects and management of stress with a focus to provide answers to the research questions of the study. Qualitative methods were aimed at enabling the researcher to get in-depth information on stress, its effects, and management from students and selected key informants.

3.6 Piloting of data collection instruments

A pilot study was carried out before the final study to ensure that adequate validity and reliability of the research instruments are achieved

3.6.1 Validity of the Research Instruments

Validity refers to the extent the research instrument measures what it is designed to measure (Frankfort-Nachmias & Nachmias, 2006). There are many criteria of the validity of research instrument but the current study focused on face and content validities. Face validity is a

minimum assessment when experts are asked to go through the items and see their adequacy in measuring what they are supposed to measure. Content validity is a non-statistic assessment of the extent to which the research tools adequately represent all aspects of the concepts and is best assessed by the experts in the field (Sauro, 2014). The concepts in this study consisted of, stress, personality (locus of control), stress, psychosocial adjustment and academic performance. The researcher ensured content validity of the research instruments by including relevant items for each of the instruments used in the study. The instruments (questionnaires, interview schedules for key informants and focus group discussion for selected students) were reviewed by the researcher's supervisors and two other members of the department who teach courses in stress management to establish their face and content validity.

3.6.2 Reliability of the Research Instruments

Reliability refers to a condition where a measurement instrument gives consistent results each time it is used. The researcher computed reliability of the research instruments using data collected from the pilot study. Cronbach's coefficient alpha was calculated to determine internal consistency of the items. Reliability coefficient of 0.70 and above is usually considered a good measurement of the internal consistency of the items (Fraenkel & Wallen, 2005). The Cronbach's coefficient alpha for the questionnaires in this study was 0.920 for the Students Stress and Coping Questionnaire, 0.79 for the Psychosocial Adjustment Questionnaire, 0.841 for Locus of Control Questionnaire and 0.719 for the key informants' Interview Schedule.

3.7 Data Collection Procedures

Two research assistants were selected from each of the six colleges. The choice of research assistants from the college where data were collected was to facilitate rapport with the respondents from their respective colleges. Although the research assistants had taken a course in

research methodology, they had to undergo further training by the researcher to enable them undertake data collection more confidently and appropriately. Each research assistant distributed questionnaires to the respondents in the colleges where they were studying.

The research assistants introduced themselves to the respondents and explained the nature of the study and why it was important for the respondents to participate by filling the questionnaires.

They then requested the respondents to fill and return the questionnaires to them within two days. The filled questionnaires were then returned to the researcher as soon as they received them from the respondents. The researcher scrutinized all the questionnaires when returned by the research assistants to ensure that proper data collection took place. Questionnaires that were not filled properly were not included in the data analysis.

During qualitative data collection, the researcher was assisted to facilitate Focus Group Discussions in each college by one male and one female research assistant who had collected data earlier. The reason for having both male and female research assistants was to facilitate getting gender sensitive information. Male respondents were separated from their female counterparts to enable free discussions on gender sensitive issues. There was, however, a plenary session where both male and female respondents participated in the discussions.

The students were selected randomly but there was an effort to have all the groups of interest in the study such as gender, level of study and course being studied represented. There was only one session of two hours involving the six students in each of the six colleges for Focus Group Discussions. The two hours consisted of one hour where male and female students were separated and one hour of plenary discussions. The discussions were recorded using a tape recorder. The researcher supplemented information gathered through focus group discussion by observing the physical and psychosocial appearance of the respondents.

Since the key informants were not many, the researcher collected data from the group himself using face to face interview. The researcher booked appointments with key informants to interview them in their offices. He introduced himself to the key informants and explained to them the objectives of the study and why it was important for them to participate in it. Although an interview schedule was prepared for this purpose, the researcher took the opportunity to get any other information that had not been captured in the interview schedule through probing for the information.

3.8 Data Analysis Procedures

The researcher analyzed the data using both quantitative and qualitative data analysis procedures. The quantitative analysis involved transforming the data into numerical values and then carrying out descriptive analysis. Data from unstructured items in the students stress and coping questionnaire, psychosocial adjustment questionnaire and interview schedule for key informants were analyzed using descriptive statistics such as frequencies and percentages. This is because the researcher wanted to identify factors which the students considered to be causes of their stress. The researcher was also interested in identifying the various coping strategies that were used by the students to manage their stress. Inferential statistics were used to test the research hypotheses. Qualitative analysis interpretive approach as pointed out by Johnson & Christensen, 2009).

3.8.1 Quantitative Data Analysis

In quantitative analysis, data was collected, scored and analyzed using relevant statistical methods in the SPSS programme. Scores for the variables were obtained. The questionnaires were scored before the analyses were done. The scoring format of different research instruments are described in the following sections:

(i) Stress Level and Coping Strategies Questionnaire

Structured items from the Student Stress and Coping Questionnaires were scored on a 5-point scale as follows:

Not stressful at all	1
Slightly stressful	2
Stressful	3
Very stressful	4
Extremely stressful	5

Since there were 50 items in the unstructured part of the questionnaire the score for each student ranged from a minimum of 50 (not stressful at all) to 250 (extremely stressful). That meant that a student could get a score between 50 and 250 depending on his or her stress level.The stress levels were divided into three categories as follows: low stress (50-116), moderate stress (117-183), high stress (184-250).Unstructured items in the questionnaire were scored using frequencies and percentages to find out how students responded to each item. This was done after the responses had been coded and summarized according to specific themes derived from the research questions.

(ii) 0pPsychosocial Adjustment

Items in the Psychosocial Adjustment Questionnaire were scored as follows:

Table 9: Likert Scoring Format

	Negative Items	Positive Items
Never	5	1
Rarely	4	2
Often	3	3
Quite often	2	4
All the time	1	5

Source: Author

Positive items reflected the respondents' positive psychosocial adjustment such as feeling relaxed or happy. Negative items on the other hand showed the respondents' negative psychosocial adjustment such as feeling lonely or depressed. For positive items the scores ranged from 1 when the response was "never" to 5 when the response was "all the time". The scoring format was, however, reversed for negative items so that a response of "never" was scored as 5 while a response of "all the time" was scored as 1. The scoring format was intended to enable students with relatively poor psychosocial adjustment to obtain low scores while those with relatively good psychosocial adjustment to obtain high scores. Since there were twenty items in the psychosocial adjustment scale the score for each respondent ranged from a minimum of 20 reflecting very poor psychosocial adjustment to a maximum of 100 reflecting very good psychosocial adjustment. Psychosocial adjustment was divided into poor adjustment (20-60) and good adjustment (61-100).The unstructured item in this questionnaire was analyzed using frequencies and percentages of the responses of the student based on thematic categories.

(iii)Academic Performance

Letter grades in the transcripts were translated into numerical values as follows:

A = 5

B = 4

C = 3

D = 2

E = 1

This was done for each course unit in each of the two semesters. The average score was determined by dividing the total scores for all the course units by the number of course units in the two semesters to get the final score for each student. The final score measured the level of academic performance for each student during the two semesters prior to the study. A student could score between E(1 point) and A(5 points) grades. Academic performance was divided into three categories A (5 points), B (2-4 points) and C (1-2 points).The analysis used both descriptive and inferential statistics.

(iv)**Locus of Control**.

The twenty three pairs of items that measure locus of control were scored. Items which measure internal locus of control were scored 1 while items which measure external locus of control were scored 2.A respondent's score therefore ranged from 23(extreme internality) to 46(extreme externality). However, locus of control was divided into internal locus of control (23-34 points) and external locus of control (35-46 points)

3.8.2 3.8.2 Hypotheses Testing

The way different tests of significance were done is described in this section of the analysis. Hypothesis testing therefore involved the following statistical analyses:

Hypothesis One

The relationship between the students' stress level and their academic performance was tested using two- way chi-square for independent variables. The chi-square test was the most appropriate because the data was non- parametric in nature since both stress and academic performance were grouped into three categories.

The relationship between stress and academic performance was considered within the categories of age, gender, locus of control, level of study and course in which the students are registered. A three-way chi-square for three categorical variables was used to test the relationship between stress and academic performance within age, gender, locus of control, level of study and course in which the students are registerd. Regression analysis to test the effect of confounding variables was done using STATA Version 14.0.

Hypothesis Two

The relationship between the students' stress level and their psychosocial adjustment was tested using two- way chi-square for independent variables. In this case, the data was non-parametric since both stress and psychosocial adjustment were grouped into three categories.

The relationship between stress and psychosocial adjustment was considered within the categories of age, gender, locus of control, level of study and the course in which the students are registered. A three-way chi-square for three categorical variables was used to test the relationship between stress and psychosocial adjustment within age, gender, locus of control, level of study and the course in which the students were registered. Regression analysis analysis to test the effect of the confounding variables was done using STATA Version 14.0

Hypothesis Three

The relationship between the students' academic performance and their psychosocial adjustment was tested using two- way chi-square for independent variables. In this case, the data was non-parametric since both academic performance and psychosocial adjustment were grouped into categories.

The relationship between academic performance and psychosocial adjustment was considered within stress levels. A three-way chi-square for three categorical variables was used to test the relationship between academic performance and psychosocial adjustment within stress levels.

3.9 Qualitative Data Analysis

In qualitative analysis detailed information about phenomena of interest to the researcher are obtained and patterns and trends from the information gathered are established (Frankfort-Nachmias & Nachmias, 2006). One of the most significant aspects of qualitative data analysis is through coding. Coding is an interpretive technique that can be used to organize the data into categories and themes. Each category may be labelled with a code. The data in this study therefore involved coding and categorizing information from the interviews and focus group discussions. The categories were based on the themes derived from the research questions. Open-ended questions in the questionnaire were also organized into thematic categories pertinent to the study

CHAPTER FOUR

RESULTS

4.1 Introduction

The results of the data analysis on stress and its relationship to academic performance and psychosocial adjustment are presented in this chapter.. Data on how the relationship between stress and both academic performance and psychosocial adjustment is influenced by age, gender, level of study, course being studied, and locus of control has been analyzed and the results of the analyses are presented in this chapter. The research findings are presented using both descriptive and inferential statistics.

Furthermore, qualitative analysis of data gathered during focus group discussions with students and interviews with key informants are also presented. The qualitative data is accompanied by brief narratives from some selected students who participated in the focus group discussions. Similarly, narratives from the key informants are included.The statistical procedures used to test the hypotheses of the study included Chi-square for 2x2 cross tabulations and three-way chi-square for three categorical groups.

The results aimed at addressing the following research questions.

1. To what extent do students' stress levels relate to their academic performance?
2. In what way is stress level associated with the psychosocial adjustment among students?
3. What is the relationship between the students' academic performance and their psychosocial adjustment among students experiencing different levels of stress?

In order to provide answers to the above research questions, the following hypotheses were tested using three-way chi-square.

Hypothesis One

H_1 **:** The students' stress levels are related to their academic performance. .In this hypothesis, stress level of the student is the independent variable while the student's academic performance is the dependent variable. Since the data is categorical, a two-way chi-square for independent samples was used to test the significance of the relationship between the two variables. Age, gender and locus of ontrol of the students, level of study and course of study are confounding or intervening variables. .A three-way chi-square for categorical variables was used to test the significance of the confounding effects on the relationship between stress and academic performance.

Hypothesis Two

H_2: The students' stress levels are related to their psychosocial adjustment. In this hypothesis, students' stress level was the independent variable while the students' psychosocial adjustment was the dependent variable. Since the variables are categorical, a two-way chi-square for independent samples was used to test significance of the the hypothesis. Age, gender and locus of ontrol of the students, level of study and course of study are confounding or intervening variables.A three-way chi-square for categorical variables was used to test the significance of the confounding effects on the relationship between stress and psychosoial adjustment.

Hypothesis Three

$H_{3:}$ The students' academic performance is related to their psychosocial adjustment within stress levels. In this hypothesis psychosocial adjustment is the independent variable while academic performance is the dependent variable. A three-way chi-square was used to test the

significant of the effects of stress levels on the relationship between the students' academic performance and their psychosocial adjustment.

4.2 Demographic Charateristics of the Students

The questionnaires contained information on the students' demographic characteristics that the researcher considered significant in the current study. This is because the characteristics have received significant attention in the stress literature yet the findings in several cases have been inconclusive. The number of the students in the sample was 584. The distribution of the sample (frequencies and percentages) according to gender, age, level of study, course being studied and locus of control are presented in this section.

4.2.1 Gender of the Students

The distribution of the respondents according to their gender is presented in Table10 and illustrated further in Figure 2. From the distribution it can be seen that there were more male students (54.6%) compared to female students (45.4%). This trend is generally common in public universities in Kenya which is characterized by wide gender disparities which appear to favour male students (Government of Kenya, 2007). The gender disparity may be attributed to the African cultural perception in which education of boys is considered more important compared to that of girls. Female students continue to drop out of school until by the time they reach university level they are much fewer than their male colleagues. Almost all the students are not married consequently creating complex dynamics of interpersonal relationships which have the potential to result in stressful experiences.

Table 10: Distribution of the Students by Gender

Gender	Frequeny	Percentage
Male	319	54.6
Female	265	45.4
Total	584	100.0

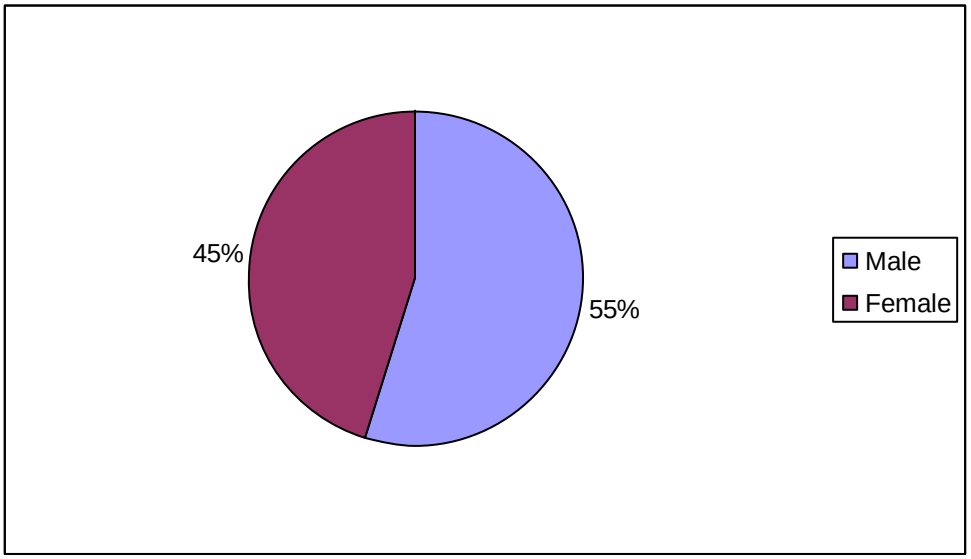

Figure 2: Distribution of the Students by Gender

4.2.2 Age of the Students

The distribution of the sample by age is presented in Table 11 and Figure 3

Table 11: Distribution of the Students by Age

Age	Frequency	Percentage
19-22 years	308	52.7
23-26 years	250	42.8
27+ years	26	4.5
Total	584	100.0

The analysis of the age distribution shows that a large proportion (52.7%) of the students were aged between 19-22 years followed by 250 (42.8) students aged between 23-26 years. Only 26 (4.4) students were aged 27 years and above. The data therefore shows that almost all the students (95.6%) were young people aged between 19 and 26 years. This not surprising, since the sample consisted of young students who had been admitted by the Joint Admissions Board (JAB) after finishing their secondary school education.

The students are not only young but most of them are accommodated in the university's Halls of Residences, and therefore away from their parents and guardians. The university does not have enough accommodation for all the students who qualify for them. A few of the students who fail to get accommodation on campus are therefore forced to rent rooms in residential estates within the city while others stay with parents or relatives. Such circumstances are likely result in stressors for these students as they go about their education.

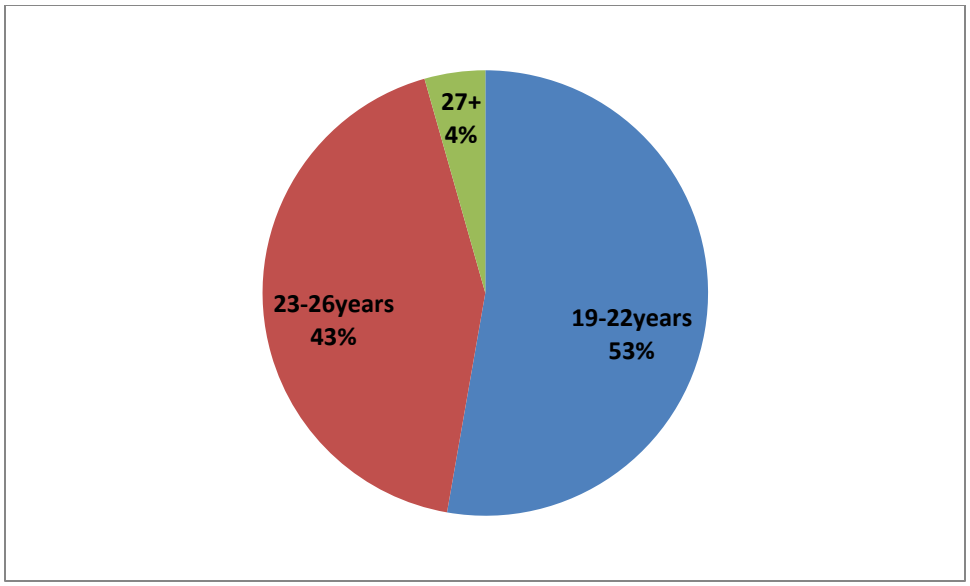

Figure 3: Distribution of the Students by Age

4.2.3 4.2.3 Students' Year of Study

Students in the University of Nairobi do courses that differ in their duration. They range from courses that take four years such as humanities, social sciences and education to those that take five years such as agriculture, medical sciences and engineering. The analysis of how the students are distributed according to the year of study is presented in Table 12 and Figure 4 below

Table 12: Distribution of Students by Year of Study

Year of Study	Frequency	Percentage
First Year	80	13.7
Second Year	212	36.3
Third Year	191	32.7
Fourth Year	83	14.2
Fifth Year	18	3.1
Total	584	100.0

The distribution according to the year of study shows that just over a third (36.3%) of the students were in their 2nd year of study, 32.7% were in 3rd year, 14.2% in 4th year, 13.7% in 1st year while only3.1% of the students stated that they were in 5th year of study. The difference in the number of students by year of study is attributed to the stratified sampling procedure used to select the sample for the study.

Furthermore, the focus was on the students who were available at the time of data collection since the study used a cross sectional research design which meant that all the data was collected within a short span of time. Since several academic programmes of the university differ in their semester schedules, data was collected when students in some levels of study were out on holidays. Many first year students had not received all their grades and yet the study required them to produce results for at least two semesters. This resulted in fewer first year students because only the students who had received examination results for at least two semesters were included in data analysis. Finally, there were fewer students registered in programmes that take five years and yet some of these students were also on vacation. The number of students included from level five of the university's academic programmes was therefore very small.

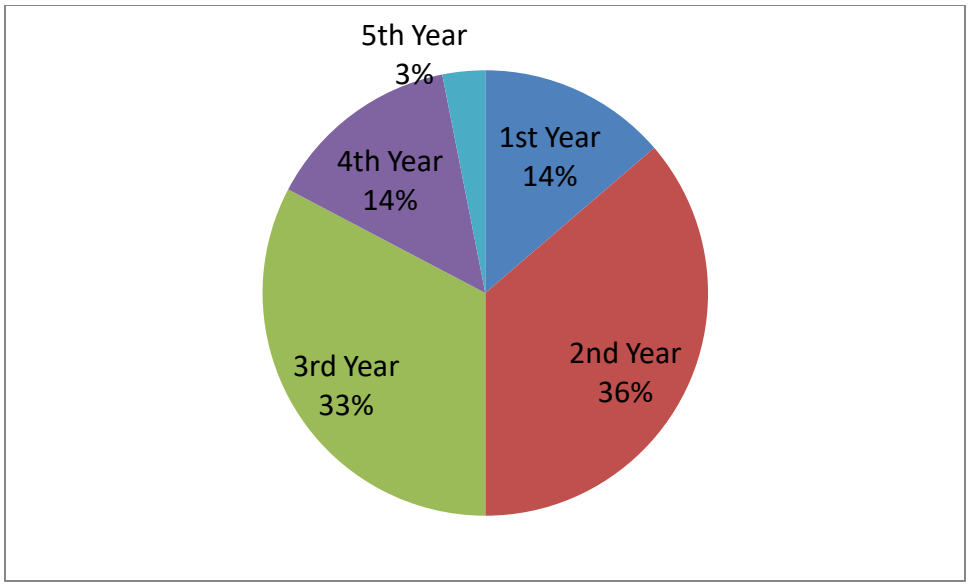

Figure 3: Distribution of the Students by Year of Study

4.2.4 The Students' Course of Study

The University of Nairobi academic programmes are grouped according to thematic disciplines which are then offered from units referred to as colleges. These colleges are College of Health Sciences located at Kenyatta National Hospital seven kilometres out of town(medical/health science courses), College of Humanities and Social Sciences located in the city centre and nearby suburbs(humanities and social science courses), College of Biological and Physical Sciences located in Chiromo a kilometre from the city centre(biological and physical science courses), College of Education and External Studies located in Kikuyu town twenty one kilometres from the city centre(education courses), College of Architecture and Engineering located in the city centre(architecture and engineering courses) and College of Agriculture and Veterinary Sciences located in Kabete fourteen kilometres away from the city centre(agriculture and veterinary science courses).

The students were selected from many academic programmes of the University of Nairobi. It was not possible to analyze the data while considering each of the courses individually. The courses were therefore grouped according to the disciplines as offered in the respective colleges. The analysis of the distribution is presented in Table 13 and Figure 5

Table 13: Distribution of the Students by Course of Study

Course (College)	Frequency	Percentage
Health Sciences	74	12.7
Humanities and Social Sciences	187	32.0
Architecture and Engineering	71	12.2
Biological and Physical Sciences	100	17.1
Agriculture and Veterinary Sciences	58	9.9
Education	94	16.1
Total	584	100.0

The distribution of the students according to their courses indicate that 187(32%) students were registered in humanities and social science courses from the College of Humanities and Social Sciences, 100(17.1%) were registered in biological and physical science courses from the College of Biological and Physical Sciences, 94(16.1%) were registered in education and social science courses from the College of Education and External Studies, 74(12.7%) were registered in medical/health science courses from the College of Health Sciences,71(12.2%) were registered in architecture and engineering courses from the College of Architecture and Engineering while 58(9.9%) were studying agriculture and veterinary science courses from the College of Agriculture and Veterinary Sciences.

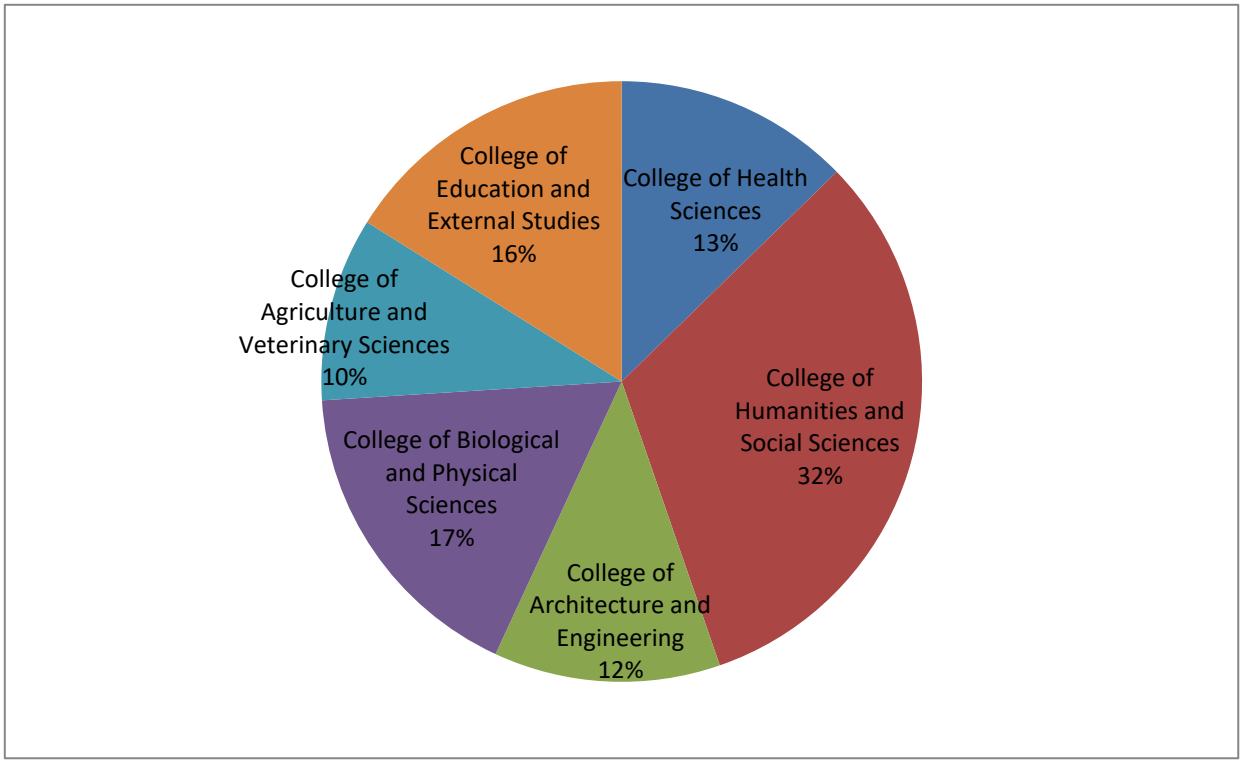

Figure 4: Distribution of the Students by Course of Study

4.2.5 The Students' Locus of Control

The researcher also looked at the influence of locus of control, a personality attribute, on the students' stress experience. The students answered the Rotter Locus of Control scale which the researcher used to identify participants with internal and external locus of control. Table 14 and Figure 6 below show the distribution of the students according to their locus of control. 326(56.6%) students were found to have external locus of control while 256 (43.6%) had internal locus of control. Locus of control is a personality trait that develops as the individual interacts with people from childhood. It is therefore due to the influence of the sociocultural environment of the individual. It determines the way people handle the challenges that they face. The interest in this study was to investigate its influence on the students' stress experience.

Table 14:Distribution of the Sudents by Locus of Control

Locus of Control	Frequency	Percentage
Internal	256	43.8
External	328	56.2
Total	584	100.0

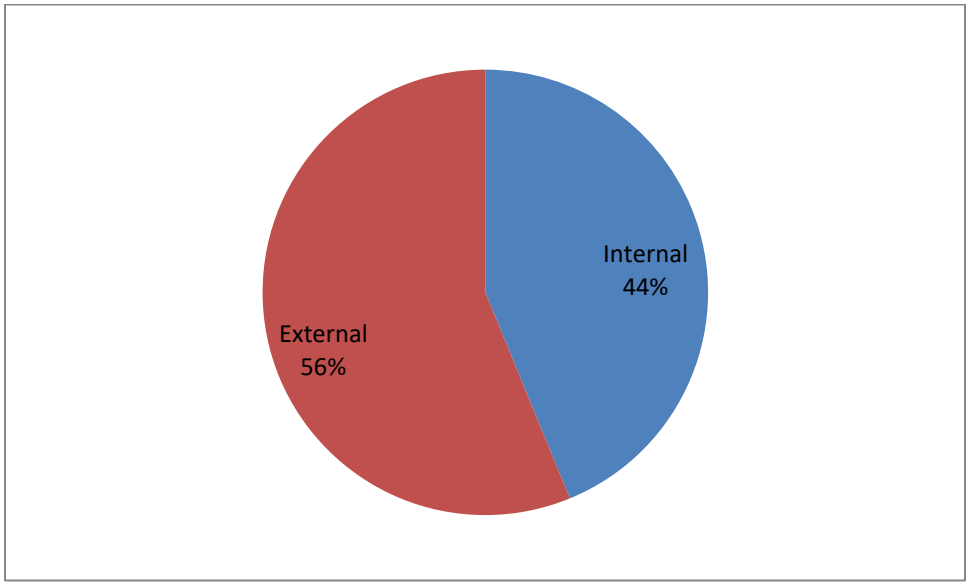

Figure 5: Distribution of Students by Locus Control.

4.3Levels of Stress among Students

The results show that 208(35.6%) students had low stress levels, 160(27.6%) students had moderate stress levels, and 216(37.0%) students had high stress levels. Among male students, 100(31.3%) students had low stress levels, 95(29.8%) students had moderate stress levels while 124(38.9%) students reported high stress levels. Among female students 108(40.8%)

experienced low stress levels, 65(24.5%) students had moderate stress level while 92(34,7%) reported high stress level.

4.4 Stress Factors Reported by Students

Since different factors may determine the stress experience, the researcher was interested **in** identifying the kind of stress factors the students in the current study were experiencing. The respondents were therefore asked to state the causes of their stress in an open-ended question which was part of the students' stress and strategies questionnaire. Since it was an open ended questionnaire it provided the respondents to give as many causes of stress as it applied to them. The causes of stress factors that the students identified are given in the summary of the stress factors presented in Table 15. It is illustrated further in Figure 7 Figure 8 and Figure 9

Table 15: Causes of Stress Reported by the Students.

Causes of Stress	Male (%)	Female (%)	Total (%)
High cost of living	280 (87.8)	160 (60.4)	440 (75.3)
Issues with room mates	245 (76.8)	200 (75.5)	445 (76.2)
Cost of tuition	241 (75.5)	190 (71.7)	431 (73.8)
Dirty halls of residence	236 (74.0)	210 (79.3)	446 (76.4)
Fear of failing	224 (70.2)	110 (41.5)	334 (57.2)
Course is demanding	211 (66.1)	206 (77.7)	417 (71.4)
No job prospects	150 (47.0)	200 (75.5)	350 (59.9)
Relationship issues	111 (34.8)	180 (67.9)	291 (49.8)
Ethnic conflicts	106 (33.2)	51 (19.3)	157 (26.9)
Uncooperative lecturers	105 (32.9)	100 (37.7)	205 (35.1)
Finding accommodation	101 (31.7)	60 (22.6)	161 (27.6)
Lack of reading materials	76(23.8)	60 (22.6)	136 23.3)
Security	73 (22.9)	41 (15.5)	114 (19.5)
Poor facilities	70 (21.9)	21(7.9)	91 (15.6)
Poor health services	60 (18.8)	60 (22.6)	120 (20.6)

Fear of STI	40 (12.6)	41 (15.5)	81 (13.9)
Demand for sex by lecturers	20 (6.3)	150 (56.6)	170 (29.1)
Drugs	20 (6.3)	6 (2.3)	26 (4.5)
Peer pressure	19 (6.0)	50 (18.9)	69 (11.8)
Noise in hostels	10 (3.1)	21 (7.9)	31 (5.3)

The most reported causes of stress for all students are dirty halls of residence (76.4%), issues with roommates (76.2%), high cost of living (75.3%), cost of tuition (73.8%), the course is too demanding (71.2%), no job prospects (59.9%), fear of failing (57.2%), relationship issues (49.8%), uncooperative lecturers (35.1%), demand for sex from lecturers (29.1%), finding accommodation (27.6%), ethnic conflicts (26.9%), lack of reading materials (23.3%), poor health services (20.6%) and security (19.5%). socioeconomic and socio-cultural environments in which these students live and study.

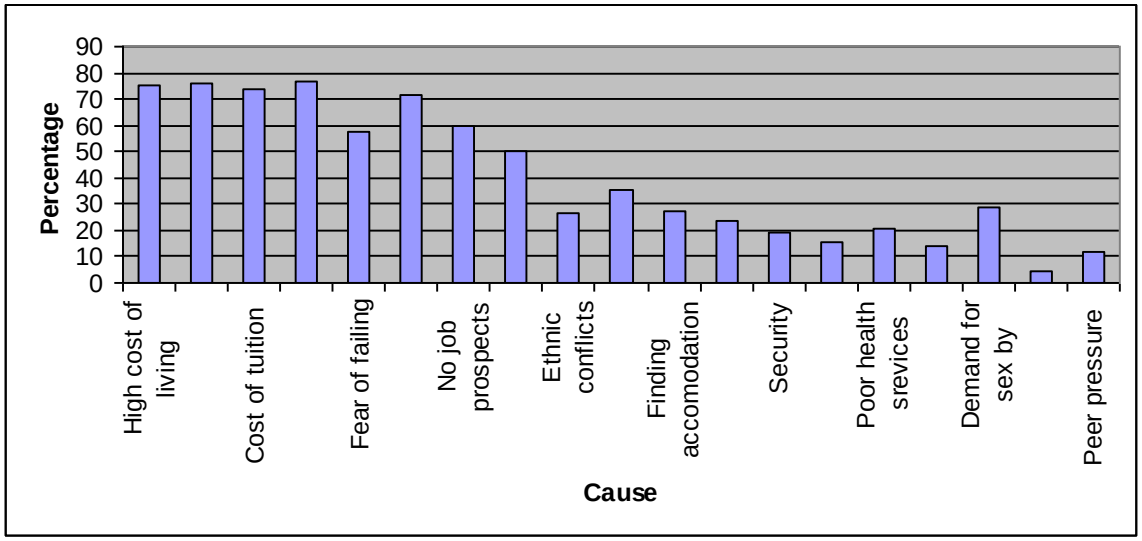

Figure 6: Causes of Stress Reported by all the Students

The pattern, however, changes when male and female students are treated separately. Figure 3 presents causes of stress reported by male students. The most common sources of stress are high cost of living (87.8%), issues with roommates (76.8%), cost of tuition (75.5%), dirty halls of

residence (74.0%), fear of failing (70.2%), course is too demanding (66.1%), no job prospects (47.0%), relationship issues (34.8(%), ethnic conflicts (33.2%), uncooperative lecturers (32.9%), finding accommodation (31.7%), lack of reading materials (23.8%), security (22.9%) and poor facilities (21.9%).

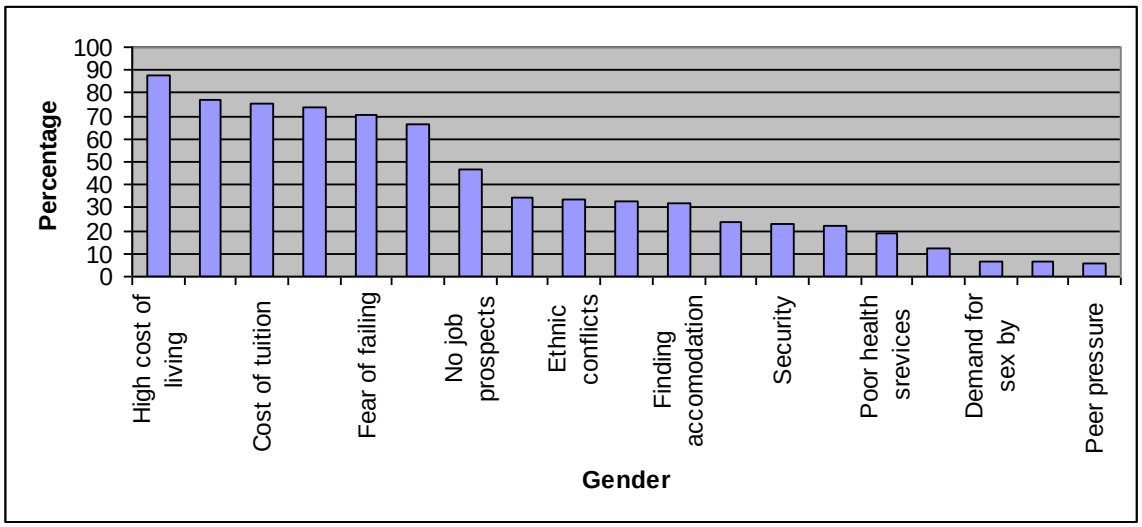

Figure 7: Causes of Stress Reported by Male Students

Among female students, the main causes of stress were dirty halls of residence (79.3%), course is too demanding (77.7%), issues with roommates (75.5%), no job prospects (75.5%), cost of tuition (71.7%), relationship issues (67.9%), high cost of living (60.4%), demand for sex by lecturers (50.6%), fear of failing (41.5%), uncooperative lecturers (37.7%), finding accommodation (22.6%), lack of reading materials (22.6%), poor health services and ethnic conflicts (19.3%).

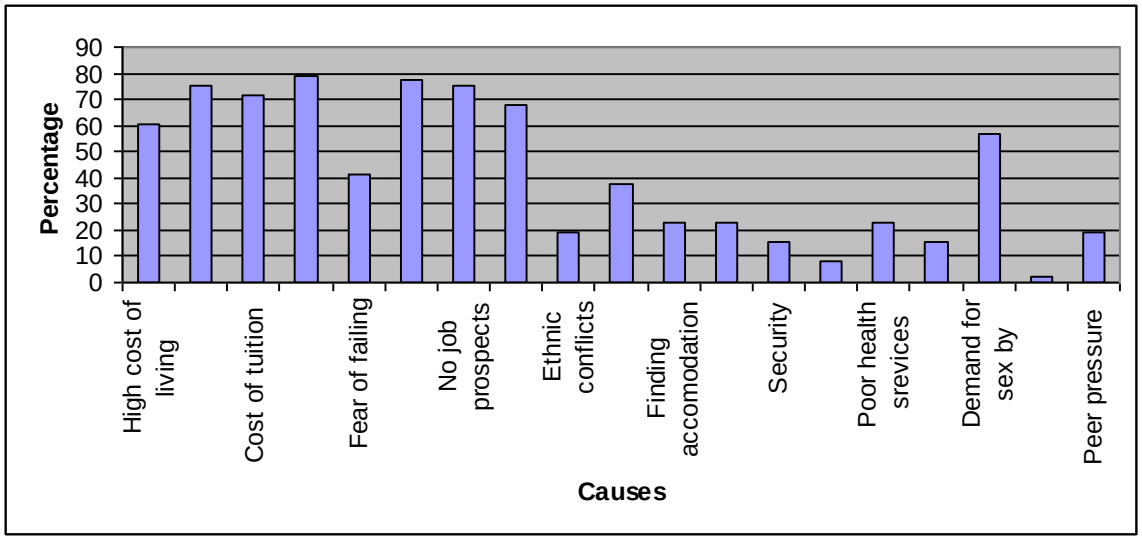

Figure 8: Causes of Stress Reported by Female Students

4.5 Relationship between Stress Level and Academic Performance

Table 16 presents the distribution of the relationship between stress level and academic performance. Among students who experienced low stress levels, 52 (25%) had grade C, 113 (54.33%) had grade B while 43 (20.67%) had grade A. 49(30.6%) of the students who experienced moderate stress levels had grade C, 83(51.9%) had grade B and 28 (17.5%) had grade A. 81 (37.5%) of the students who experienced high stress levels had grade C, 105(48.6%) had grade B while 30 (13.9%) had grade A. Results from the Pearson chi-square show that stress has a statistically significant relationship with academic performance (χ^2=9.49, n=584, df=4 p=0.048). The relationship between stress and academic performance was tested further using Cramer's V(Φ_C). Cramer's V adjusts the χ^2 significance to factor out sample size because χ^2 coefficient depends on the strength of the relationship and the sample size. Cramer's V analysis was done and the results (Φ_C=0.228, p=0.048) indicate that stress has a moderate but significant association with academic performance. The results show that higher levels of stress were associated with poor academic performance.

Table 16: Relationship between Stress and Academic Performance

	Academic Performance			
Stress Level	**A**	**B**	**C**	**Total**
Low Stress	43(20.67%)	113(54.33%)	52(25.0%)	208 (100%)
Moderate Stress	28(17.5%)	83(51.9%)	49(30.6%)	160(100%)
High Stress	30(13.89%)	105(48.61%)	81(37.5%)	216(100%
Significance:			**χ^2=9.49, p=0.048 Φ_C=0.228, *p*=0.048**	

4.5.1 4.5.1 Effect of Age in the Relationship between Stress and Academic Performance

Table 17 presents a chi-square analysis of the role of age in the relationship between stress and academic performance. Within 19-22 years, 42 (35.9%) students who experienced low stress levels had grade C, 60 (51.3%) had grade B while 15(12.8%) had grade A. 21(29.2%) of the students who experienced moderate stress levels had grade C, 41(56.9%) had -grade B, while 10(13.9%) had grade A. Among the students who experienced high stress levels, 38(31.9%) had grade C, 56 (47.1%) had grade B and 25 (21.0%) had grade A. The results indicate that stress and academic performance are significantly related within 19-22 years (χ^2=8.34, n= 308, df=4, p=0.049; ΦC=0.216, p=0.049).

When considered within 23-26 years, 19(24.4%) students who experienced low stress levels had grade C, 47(60.3%) had grade B while 12 (15.4%) had grade A. Among students who experienced moderate stress levels, 27(33.75%) had grade C, 39 (48.75%) had B and 14(17.5%) had grade A. 33(35.87%) students who experienced high stress levels had grade C, 45 (48.91%) had grade B while 14(15.22%) had grade A. Results suggest that the relationship between stress

and academic performance is statistically significant within this age group ($\chi 2$=9.72, n=250, df=4, p=0.041; ΦC=0.319, p=0.041). The results for both age groups indicate that age mediates the relationship between stress and academic performance. Older students appear to be better at dealing with their problems and consequently minimize the effects of stress on their academic work.The relationship between stress and academic performance was not statistically significant for students aged 27 years and above.

Table 17: Effect of Age on the Relationship between the Stress and Academic Performance

Age	Stress Level	Academic Performance A	B	C	Total
19-22yrs					
	Low Stress	15(12.8%)	60(51.3%)	42(35.9%)	117(100%)
	Moderate Stress	10(13.9%)	41(56.9%)	21(29.2%)	72(100%)
	High Stress	25(21.0%)	56(47.1%)	38(31.9%)	119(100%)
	Significance:		**χ^2=8.34, p=0.049 Φ_C=0.216, *p*=0.049**		
23-26 yrs					
	Low Stress	12(15.4%)	47(60.3%)	19(24.3%)	78 (100%)
	Moderate Stress	14(17.5%)	39(48.75%)	27 (33.75%)	80(100%)
	High Stress	14(15.22%)	45(48.91%)	33(35.87%)	92(100%)
	Significance:			**χ^2=9.72, p=0.041 Φ_C=0.319, *p*=0.04**	
27+ Years					
	Low Stress	6(50%)	6(50%)	0(0%)	12(100%)
	Moderat Stress	3(42.86%)	3(42.86%)	1(14.28%)	7(100%)
	High Stress	1(20.0%)	4(80.0%)	0(0%)	5(100%)

Significance:		**χ^2=4.014, p=0.41 Φ_C=0.289, *p*=0.41**

4.5.2 Effect of Gender on the Relationship between Stress and Academic Performance

Table 18 shows a chi-square analysis of the role of gender in the relationship between stress and academic performance. 26 (26%) of the male students who experienced low stress levels had grade C compared to 59(59%) who had grade B and 15(15%) who had grade A. 27 (28.42%) of the male students who reported moderate stress levels had grade C compared to 51(53.68%) who had grade B and 17(17.89%) who had grade A. 38(30.65%) of the male students who experienced high stress levels had grade C while 67 (54.03%) had grade B and 19 (15.32%) had grade A.Among the female students, 36 (33.33%) who experienced low stress levels had grade C while 54 (50%) had grade B and 18 (16.67%) had grade A. 22(33.84%) female students who had moderate stress levels had grade C while 32(49.23%) had grade B and 11 (16.92%) had grade A. 33 (35.87%) female students who experienced high stress levels had grade C while 38 (41.30%) had grade B and 21 (22.82%) had grade A.

Table 18: Effect of Gender on the Relationship between Stress and Academic Performance

Gender	**Stress Level**	**Academic Performance**			
		A	**B**	**C**	**Total**
Male	Low Stress	15(15.0%)	59(59.0%)	26(26.0%)	100(100%)
	Moderate Stress	17(17.89%)	51(53.68%)	27(28.42%)	95(100%)
	High Stress	19(15.32%)	67(54.03%)	38(30.65%)	124(100%)
	Significance:			**χ^2=12.18, p=0.025 Φ_C=0.066, *p*=0.025**	

Female	Low Stress	18(1.67%)	54(50.0%)	36(33.33%)	108(100%)
	Moderate Stress	11(16.92%)	32(49.23%)	22(33.84%)	65(100%)
	High Stress	21(22.82%)	38(41.3%)	33(35.87%)	92(100%)
	Significance:			**χ^2=9.74, p=0.049 Φ_C=0.096, *p*=0.049**	

Across the categories, the relationship between stress and academic performance are statistically significant among both male students (χ^2 =12.18, n= 319, df=4, *p* =0.025) and female students (χ^2 =9.74, n=265, df=4, *p* =0.049). Cramer's V among both males (Φ_C=0.066, *p*=0.025) and female (Φ_C=0.096, *p*=0.049) students show that the relationship between stress and academic performance have statistically significant moderate and strong association respectively.

4.5.3 Effect of Course on the Relationship between Stress and Academic Performance

Table 19 shows chi-square analysis of course factor in the relationship between stress and academic performance. Among students from College of Health Sciences who reported experiencing low stress levels 10 (45.46%) had grade C, 11(50.0%) had grade B while only 1 (4.54%) had A grade. 8 (55.33%) of the students who experienced moderate stress levels had grade C and 7 (46.67%) had grade B. 2O (50.05%) of the students who experienced high stress levels had grade C and 17 (45.95%) had grade B grade. The relationship between stress and academic performance within this course category is, however, not statistically significant (χ^2=6.59, n=74, df=4, *p*=0.247; Φ_C=0.211, *p*=0.247).

Within College of Humanities and Social Sciences, 25 (33.33%) students who experienced low stress levels had grade C, 31 (41.33%) had grade B while 19 (25.33%) had grade A. 11 (18.97%)

students who experienced moderate stress levels had grade C, 34 (58.62%) had grade B while 13 (22.41%) had grade A. Among the students who experienced high stress levels 23 (42.59%) had grade C, 18 (33.33%) had grade B while 13 (24.07%) had grade A. The relationship between stress and academic performance is significant (χ^2=10.97, n=187, df=4, p=0.046; Φ_C=0.271, p=0.046)

Within the College of Architecture and Engineering, 4 (20.0%) students who experienced low stress levels had grade C, 13(65.0%) had grade B while 3 (15.0%) had grade A. 10(41.67%) students who experienced moderate stress levels had grade C, 9 (37.5%) had grade B while 5 (20.83%) had grade A. Among the students who experienced high stress levels 11 (40.74%) had grade C, 10 (37.04%) had grade B while 6 (22.22%) had grade A. The relationship between stress and academic performance is not significant (χ^2=6.061, n=71, df=4, p=0.216; Φ_C=0.207, p=0.216)

Within the College of Biological and Physical Sciences, 5 (21.74%) students who experienced low stress levels had grade C, 14 (60.87%) had grade B while 4 (17.39%) had A. Among the students who experienced moderate stress levels, 7 (33.33%) had grade C, 8 (38.09%) had grade B while 6 (28.57%) had grade A. 12(21.43%) students who experienced high stress levels had grade C, 28(50.0%) had grade B while 16(28.57%) had grade A The relationship between stress level and academic performance is not significant (χ^2=3.818, n=100, df=4, p=0.701; Φ_C=0.0.138, p=0.701).

Within the College of Agriculture and Veterinary Sciences, 3(14.29%) students who experienced low stress levels had grade C and 18 (85.71%) had grade B. 9 (42.86%) students who experienced moderate stress levels had grade C, 10 (47.62%) had grade B while 2 (9.52%) had grade A. Among the students who experienced high stress levels, 1 (6.25%) student had grade A,

12 (75.0%) had grade B while 3(18.75%) had grade A. The relationship between stress level and academic performance is highly significant (χ^2=12.46, n=58, df=4, *p*=0.014; Φ_C=0.328, *p*=0.014)

Within the College of Education and External Studies, 15 (31.91%) students who experienced low stress levels had grade C, 26 (532%) had grade B while 6 (12.77%) had grade A. 4 (19.05%) students who experienced moderate stress levels had grade C, 15 (71.43%) had grade B while 2 (9.52%) had grade A. Among the students who experienced high stress levels, 4 (15.38%) had grade C, 20(76.92%) had grade B while 2 (7.69%) had grade A influence of type of course on the relationship between stress and academic performance. The results of the chi-square analysis show that the relationship between stress and academic performance is not statistically significant among students taking among education students (χ^2=8.21, n=94 df=4, *p*=8.21; Φ_C=0.209, *p*=0.223).

Table 19: Effect of Course on the Relationship between Stress and Academic Performance

Course	**Stress Level**	**Academic Performance**			
		A	**B**	**C**	**Total**
College of Health Sciences	Low Stress	1(4.54%)	11(50.0%)	10(45.46%)	22(100%)
	Moderate Stress	0(0%)	7(46.67%)	8(53.33%)	15(100%)
	High Stress	0 (0%)	17(45.95%)	20(50.05%)	37(100%)
	Significance:			**χ^2=6.59, p=0.247 Φ_C=0.211, *p*=0.247**	
College of Humanities and Social Sciences	Low Stress	19(25.33%)	31(41.33%)	25(33.33%)	75(100%)
	Moderate Stress	13(22.41%)	34(58.62%)	11(18.97%)	58(100%)
	High Stress	13 (24.07%)	18(33.33%)	23(42.59%)	54(100%)

	Significance:		**χ^2=10.968, p=0.246 Φ_C=0.127, *p*=0.046**		
College of Architecture	Low Stress	3(15.0%)	13(65.0%)	4(20.0%)	20(100%)
and Engineering	Moderate Stress	5(20.83%)	9(37.5%)	10(41.67%)	24(100%)
	High Stress	6(22.22%)	10(37.04%)	11(40.74%)	27(100%)
	Significance:		**χ^2=6.06, p=0.216 Φ_C=0.207, *p*=0.216**		
College of Biological	Low Stress	4(17.39%)	14(60.87%)	5(21.74%)	23(100%)
and Physical Sciences	Moderate Stress	6(28.57%)	8(38.09%)	7(33.33%)	21(100%)
	High Stress	16 (28.57%)	28(50.0%)	12(21.43%)	56(100%)
	Significance:		**χ^2=3.81, p=0.701 Φ_C=0.138, *p*=0.701**		
College of Agriculture	Low Stress	0(0%)	18(85.71%)	3(14.29%)	21(100%)
And Veterinary	Moderate Stress	2(9.52%)	10(47.62%)	9(48.86%)	21(100%)
Sciences	High Stress	3(18.75%)	12(75%)	1(6.25%)	16(100%)
	Significance:		**χ^2=12.46, p=0.014 Φ_C=0.328, *p*=0.014**		
College of Education	Low Stress	6(12.77%)	26(55.32%)	15(31.91%)	47(100%)
And External Studies	Moderate Stress	2(9.52%)	15(71.43%)	4(19.05%)	21(100%)
	High Stress	2 (7.69%)	20(76.92%)	4(15.38%)	26(100%)
	Significance:		**χ^2=8.21, p=0.223 Φ_C=0.209, *p*=0.223_**		

The results of the chi-square analysis show that the relationship between stress and academic performance is not statistically significant among students taking among education students (χ^2=8.21, n=94 df=4, *p*=8.21; Φ_C=0.209, *p*=0.223).

4.5.4 Effect of Year of Study on the Relationship between Stress and Academic Performance

Table 20 shows a chi-square analysis of the role of level of study in the relationship between stress and academic performance. In level 1, 6(31.58%) students who experienced low stress levels had grade C, 8 (42.11%) had grade B while 5 (26.32%) had grade A. Among the students who experienced moderate stress levels, 5(16.13%) had grade C, 18 (58.06%) had grade B while 8 (25.81%) got grade A. 13 (43.33%) students who experienced high stress level had grade C, 8(26.67%) had grade B while 9 (30.0%) had grade A. The relationship between stress and academic performance is significant (χ^2=9.56, n=80, df=4, *p*=0.048; Φ_C=0.224, *p*=0.048)

Within level 2, 29(30.21%) students who experienced low stress levels had grade C, 53 (55.21%) had grade B while 14 (14.58%) had grade A. Among the students who experienced moderate stress levels, 9(21.43%) had grade C, 27 (64.29%) had grade B while 6(14.29%) had grade A.21 (28.39%) students who experienced high stress levels had grade C, 41 (55.41%) students had grade B while 12(16.22%) had grade A. The relationship between stress and academic performance was not significant (χ^2=5.78, n=212, df=4, *p*=0.27; Φ_C=0.177, *p*=0.27).

Within level 3, 17 (26.15%) students who experienced low stress levels had grade C, 39 (60.0%) had grade B while 9 (13.85%) had grade A. 22 (39.93%) students who experienced moderate stress levels had grade C, 26(44.83%) students had grade B while 10(17.24%) had grade A. Among the students who experienced high stress levels, 25 (36.76%) had grade C, 31 (45.59%) students had grade B while 12 (17.65%) had grade A. The relationship between stress and academic performance is not significant (χ^2=3.944, n=191, df=4, *p*=0.48; Φ_C=O.102, *p*=0.48).

Within level 4 8(40.0%) students who experienced low stress levels had grade C, 7 (35.0%) had grade B while 5 (25.0%) had grade A. Among the students who experienced moderate stress

levels, 12 (44.44%) had grade C, 11(40.74%) had grade B while 4(14.81%) had grade A. 12 (33.33%) students who experienced high stress levels had grade C, 17(47.22%) had grade B while 7(19.44%) had grade A. The relationship between stress and academic performance is highly significant (χ^2=13.44, n=83, df=4, *p*= 0.015; Φ_C=0.244. *p*=0.015).

Within level 5, 2 (25.0%) students who experienced low stress levels had grade C, 6(75.0%) had grade B. Among students who experienced moderate stress levels, 1 (50.0%) student had grade C while another 1 (50.0%) had grade B. All the 8 students who experienced high stress level got grade B. The relationship between stress and academic performance is not significant (χ^2=3.6, n=18,df=2, *p*=0.46; Φ_C=0.447, *p*=0.46).

Table 20: Effect of Year of Study on the Relationship between the Stress and Academic Performance

Year	Stress Level	Academic Performance			
		A	**B**	**C**	**Total**
I	Low Stress	5(26.32%)	8(42.11%)	6(31.58%)	19(100%)
	Moderate Stress	8(25.81%)	18(58.08%)	5(16.13%)	31(100%)
	High Stress	9 (30.0%)	8(26.67%)	13(43.33%)	30(100%)
	Significance:			**χ^2=9.56, p=0.048 Φ_C=0.224, *p*=0.048**	
II	Low Stress	14(14.58%)	53(55.21%)	29(30.21%)	96(100%)
	Moderate Stress	6(14.229%)	27(64.29%)	9(21.42%)	42(100%)
	High Stress	12(16.42%)	41(55.41%)	21(28.39%)	74(100%)
	Significance:			**χ^2=5.78, p=0.27 Φ_C=0.177, *p*=0.27**	
III	Low Stress	9(13.85%)	39(60.0%)	17(26.15%)	65(100%)
	Moderate Stress	10(17.24%)	26(44.83%)	22(39.93%)	58(100%)
	High Stress	12(17.65%)	31(45.59%)	25(36.76%)	68(100%)

	Significance:			**χ^2=3.944, p=0.48 Φ_C=0.102, *p*=0.48**	
IV	Low Stress	5(25.0%)	7(35.0%)	8(40.0%)	20(100%)
	Moderate Stress	4(14.81%)	11(40.74%)	12(44.44%)	27 (100%)
	High Stress	7 (19.44%)	17(47.22%)	12(33.33%)	36(100%)
	Significance:			**χ^2=13.44, p=0.015 Φ_C=0.244, *p*=0.015**	
V	Low Stress	0(0%)	6(25.0%)	2(75.0%)	8(100%)
	Moderate Stress	0 (0%)	1(50.0%)	1(50.0%)	2(100%)
	High Stress	0(0%)	8(100%)	0(0%)	0(100%)
	Significance:			**χ^2=3.6, p=0.46 Φ_C=0.447, *p*=0.46**	

4.5.5 Effect of Locus of Control in the Relationship between Stress and Academic Performance

Table 21 presents chi-square analysis of the role of locus of control in the relationship between stress and academic performance. Among students with internal locus of control, 21(23.08%) students who experienced low stress levels had grade C, 44(48.35%) had grade B while 26(28.57%) had grade A. 15 (22.06%) students who experienced moderate stress levels had grade C, 43 (67.65%) had grade B while 10 (14.71%) had grade A. Among students who experienced high stress level, 40(41.24%) had grade C, 49(50.52%) had grade B while 8(8.25%) had grade A. The relationship between stress and academic performance is highly significant within internal locus of control (χ^2 =21.74, n= 256, df=4, p =0.001; Φ_C= 0.329, p=0.001)

Within external locus of control, 51(43.59%) students who experienced low stress got grade C, 49(41.88%) got grade B while 17(14.53%) got grade A. Among students who experienced moderate stress 24(26.09%) got grade C, 50(54.35%) got grade B while 18 (19.57%) students got grade A. 51 (39.53%) students who experienced high stress levels got grade C, 56(43.41%)

got grade B while 22(17.05%) got grade A. The relationship between stress and academic performance is significant (χ^2 =10.57, n= 328, df=4, p =0.047; Φ_C= 0.372, p=0.047).

Table 21: Effect of Locus of Control on the Relatioship between Stress and Academic Performance

Locus of Control		**Academic Performance**			
Locus of Control	**Stress Level**	**A**	**B**	**C**	**Total**
Internal Locus	Low Stress	26(28.57%)	44(48.35%)	21(23.08%)	91(100%)
Of Control	Moderate Stress	10(14.71%)	43(67.65%)	15(22.06%)	68(100%)
	High Stress	8 (8.25%)	49(50.52%)	40(21.24%)	97(100%)
	Significance:			**χ^2=21.74, p=0.001 Φ_C=0.329*p*=0.001**	
External Locus	Low Stress	17(14.53%)	49(41.88%)	51(43.59%)	117(100%)
of Control	Moderate Stress	18(19.57%)	50(54.35%)	24(26.09%)	92(100%)
	High Stress	22 (18.49%)	56(47.06%)	41(34.45%)	119(100%)
	Significance:			**χ^2=10.566, p=0.047 Φ_C=0.372, *p*=0.047**	

4.6 Regression Analysis

In order to carry out a regression analysis, academic performance was measured as a dummy variable with 1 standing for excellent and 0 standing for poor academic performance. Stress level was measured as a categorical variable with 1, 2, and 3 representing "*Low", "Moderate",* and *"High"* stress levels respectively. The *"Low"* stress level was used as the reference point. The level of study was measured in years with, 1, 2, 3, 4, and 5 representing the *"First", "Second", "*Third*", "Fourth"* and *"Fifth"* year respectively. Gender was measured as a dummy with 1

standing for males and 0 standing for females. College was measured as a categorical variable with 1, 2, 3, 4, 5, and 6 representing *"CHSS", "CBPS", "CEES", "CHS", "CAE",* and *"CAVs"* respectively.

Table 22: Regression results for the effect of stress level on academic performance

Academic performance	*β*	*SE β*	*t-statistic*	*P-Value*	*95% CI*
Constant	.2104	.1099	1.91	.0560	[-.00511, .42596]
Stress level					
Moderate	-.2037	.1435	-1.42	.1560	[-.4849,.0775]
High	-.2285**	.1332	-1.72	.0860	[-.4895,.0326]
R^2.0038					
No. of observations	584				

Note: **means statistically significant at the 10% level of significance

Table 22 shows the regression results for the effect of stress level on academic performance. The estimated model had a small R^2=.0038. Since the data has cross-sectional properties, small R^2 is not a major concern as it could have been if the data was time series. The small R^2 means that there are very many other variables that influence academic performance that were not included in the simple regression model that was estimated. Identifying and including those variables could increase the size of the R^2 reported.

The results indicate that the students experiencing the *"Moderate"* and *"High"* stress levels are less likely to have excellent academic performance compared to students with *"Low"* stress level as indicated by the negative signs respectively. The negative effect of the *"Moderate"* stress level on academic performance was, however, not statistically significant (t=-1.42, p=.1560). The negative effect of the "*High"* stress level on academic performance was statistically significant at the 10% level of significance (t=-1.72, p=0.0860). The inference that can be drawn

from this observation is that the higher the stress level, the poorer is the academic performance. Stress can thus be said to influence academic performance.

Table 23: Marginal effects of stress level on academic performance

Academic performance	*β*	*SE β*	*t-statistic*	*P-Value*	*95% CI*
Stress level					
Moderate	-.0806	.0565	-1.43	.1540	[-.1914, .0301]
High	-.0905**	.0523	-1.73	.0840	[-.1931, .0121]

Notes: ** means statistically significant at the 10% level of significance

Table 23 presents the marginal effects of stress level on academic performance. Specifically, students experiencing the *"Moderate"* stress level are 8.06% less likely to attain excellent academic performance compared to those experiencing the *"Low"* stress level. The marginal effect is however, not statistically significant (t=-1.43, p=.1540). Students experiencing the *"High"* stress level, on the other hand, are 9.05% less likely to attain excellent academic performance compared to those experiencing the *"Low"* stress level.

Table 24: Pearson correlation

Variable	Academic performance
Stress level	-0.0650

Table 24 presents the Pearson correlation coefficient. It measures the linear relationship between two variables by looking at the sign and strength of the coefficient. The correlation coefficient between academic performance and stress level was -0.0650. It implies negative and weak linear relationship between the two variables. This is the case because the variables are not linear. Academic performance is binary while stress level is categorical.

Table 25: Effect of the confounding variables on the interaction between academic performance and stress level

Interaction	*β*	*SE β*	*t-statistic*	*P-Value*	*95% CI*
Constant	.5612	.2177	2.58	.0100	[.1335, .9889]
Gender	.1154	.1002	1.15	.2500	[-.0815, .3122]
Level of study					
Second year	.0885	.1592	0. 56	0.578	[-.2243, .4013]
Third year	-.1211	.1603	-0.76	0.450	[-.4359, .1938]
Fourth year	.1027	.1882	0.55	0.585	[-.2669, .4723]
Fifth year	.3181	.3191	1.00	0.319	[-.3086, .9448]
Locus of control	.0013	.0099	0.14	0.892	[-.0182, .0209]
College					
CBPS	.0309*	.1482	6.96	0.000	[.7398,1.3219]
CEES	.7385*	.1550	4.76	0.000	[.4339, 1.0429]
CHS	.3041**	.1688	1.80	0.072	[-.0275, .6357]
CAE	.6961*	.1453	4.79	0.000	[.4108, .9815]
CAVs	-.5689	1.1875	-0.48	0.632	[-2.9015, 1.7635]
R^2.1136					
No. of observations	584				

Note: * and ** mean significant at the 5% and 10* level of significant respectively

In Table 25, the influence of gender, level of study, locus of control, and college on the relationship between academic performance and stress level was determined. Some categories of college were found to have statistically significant influence on the interaction between academic performance and stress level. Specifically, the results indicate that students in the *"CBPS", "CEES", "CHS"*, and *"CAE"* had statistically significant influence on the relationship between academic performance and stress level at the 5% and 10% levels of significance (t=6.96, p=0.000), (t=4.76, p=0.0000), (t=1.80, p=0.072), and (t=4.79, p=0.0000) respectively. Gender, level of study, and locus of control had no statistically significant influence on the interaction between academic performance and stress level (t=1.15, p=0.2500), (t=0.56, p=0.5780), (t=-0.76,

p=0.4500), (t=0.55, p=0.585), (t=1.00, 0.319) for level of study, and (t=0.14, p=0.892) respectively.

Table 26: Marginal contribution of each confounding variable on the relationship between academic performance and stress

Interaction	*β*	*SE β*	*t-statistic*	*P-Value*	*95% CI*
Gender	.1154	.1002	1.15	0.250	[-.0815, .3122]
Level of study					
Second year	.0885	.1592	0.56	0.578	[-.2243, .4013]
Third year	-.1211	.1603	-0.76	0.450	[-.4359, .1938]
Fourth year	.1027	.1882	0.55	0.585	[-.2669, .4723]
Fifth year	.3181	.3191	1.00	0.319	[-.3086, .9448]
Locus of control	.0013	.0099	0.14	0.892	[-.01818, .02087]
College					
CBPS	.0309*	.1482	6.96	0.000	[.7398,1.3219]
CEES	.7385*	.1550	4.76	0.000	[.4339, 1.0429]
CHS	.3041**	.1688	1.80	0.072	[-.0275, .6357]
CAE	.6961*	.1454	4.79	0.000	[.4108, .9815]
CAVs	-.56891	.1875	-0.48	0.632	[-2.9015, 1.7635]

Note: * and ** mean significant at the 5% and 10% level of significance

Table 26 shows the marginal contributions of each confounding variable on relationship between academic performance and stress level. Regarding gender, the relationship between academic performance and stress level was found to be 11.54% more for males compared to females. The effect was however, not significant (t=1.15, p=0.250). On the level of study, the relationship between stress level and academic performance of students in second, fourth, and fifth years of study were 8.85%, 10.27%, and 31.81% more compared to those in first year. However, the effect was not statistically significant (t=0.56,p=0.578), (t=0.55, p=0.585), and (t=1.00, 0.319) respectively. The relationship between academic performance and stress level of students in third year was found to be 12.11% less compared to students in first year. The effect was not

statistically significant (t=-0.76, p=0.450). Locus of control had the least marginal contribution to the relationship between stress level and academic performance at 0.13% and it was statistically insignificant (t=0.14, p=0.892).

The relationship between stress level and academic performance of students in the College of Biological and Physical Sciences (CBPS), College of Education and External Studies (CEES), College of Health Sciences (CHS), and College of Architecture and Engineering (CAE) were found to be 3.1%, 73.85%, 30.41%, and 69.61% higher compared to that of students in the College of Humanities and Social Sciences (CHSS). The marginal contribution was statistically significant at the 5% level of significance for CBPS, CEES, and CAE (t=6.96, p=0.0000), (t=4.75, *p*=0.0000), and (t=4.79, p=0.0000) respectively. The marginal contribution for CHS was statistically significant at the 10% level of significance t=1.80, p=0.072. The relationship between stress level and academic performance of students in the College of Agriculture and and Veterinary Sciences (CAVS) was found to be 56.89 less than that of students in CHSS. It was not statistically significant (t=0.48, p=0.632)

4.7 Qualitative Description of Stressors

In this study qualitative data was collected to complement quantitative findings. Johnstone & Christensen (2008) notes that unlike quantitative research method, qualitative research method examines the breadth and depth of the phenomena being studied. To achieve this goal in the current study, interviews were conducted among key informants (Assistant Deans of Students, Faculty Deans, Medical and counselling staff from Student Health Services and staff from Students Welfare Authority) while focus group discussions were undertaken among students.. In the analysis, the real names of the key informants and the students in the focus group discussions were replaced to conceal their identity and ensure confidentiality. The results of the analysis

focus on the following thematic areas for key informants and focus group discussions: causes of stress, effects of stress and the coping strategies used by the students. The results for both key informants and focus group discussions are presented in the following sections:

4.7.1 Stress factors reported to Key Informants

The key informants were interviewed in their places of work. All the key informants agreed that students do come to their offices to report about stress experiences. However, most of the complaints are addressed to the counsellors and medical staff at the Students' Health Services and Deans of students at the respective colleges. The researcher summarized the results from the interview with key informants in the following

"*The students reported that they are affected by academic, psychosocial, physical and medical stress factors.These factors include heavy course load, fear of failing, too many assignments, poor grades, difficult course, uncooperative lecturers, missing marks, inadequate learning facilities, congested libraries and lecture rooms, tuition fees, high cost of living, no job prospects, problems with roommates, and relationship issues, lecturers asking for sex, ethnic conflicts, poor socioeconomic status, poor motivation, peer pressure, fear of getting sexually transmitted infections, drug addiction, constant flu and cough, frequent headache, drug addiction and body pains"*

During the interview the researcher requested the key informants to identity at least three typical cases or problems that the students complained about.The following cases were reported by the Faculty Deans /Chairmen of Departments. Since these officers' main functions were academic most of the cases that the students presented to them were mainly academic issues. The identities of the individuals have been concealed for confidentiality purposes

Case One: Jane

"Jane was a student who had a problem with a lecturer regarding her results. She complained that the lecturer had failed to forward her Coursework Assessment Test (CAT) mark to the Dean's office. She said that the lecturer wanted her to do another CAT because he claimed that she had not done the CAT. According to the student she had done the CAT and there was no way she would do another. The student was frustrated because she was a final year student who was expecting to graduate that year. She also claimed that the teacher was arrogant and not willing to listen to her case. I asked the teacher to solve the students' problem as soon as possible. The teacher was able to produce the mark claiming that he had misplaced it among other papers in his office".

Case Two: Josephine

"Josephine was another student who also had a problem with a lecturer. She had not done a Coursework Assessment Test (CAT) because she was sick. When she requested the teacher to give her a make- up CAT she claims the teacher appeared to be asking for sex before she could be given the CAT. She was not willing to accept the proposal from the teacher and hence she felt quite frustrated. She talked to her colleagues who advised her to get help from the Chairman of the Department. The Chairman said that the student did not any concrete evidence to support her claims. However since the issue was sensitive I advised the teacher to solve the issue to avoid embarrassment, She did the CAT and the problem was solved".

Case Three: Peter

> *"Peter was a male student who had performed poorly in an examination and believed that the teacher had marked his script poorly. He wanted the department to look at his script and ensure that the grade given to him was correct and whether the script had been marked properly. He came to the Deans' office for help because he believed the Chairman of the Department was not willing to help him. Peter was convinced to accept the grade because the exam had been moderated by the external examiner*".

4.7.2 Stress factors reported during Focus Group Discussions

The researcher wanted to find out more information on students stress experiences through focus group discussions. The participants in this study discussed their stress experience under the guidance of the researcher. They were able to openly share their experiences with the researcher and with each other. Data from focus group discussions were transcribed from the electronic recordings made during the discussions. In addition hand written notes taken during the discussions were also processed. The results of the analysis are presented in the following three thematic areas

> *"During the focus group discussions the students talked about problems that are stressing to them. The results show that most common causes of stress for the students were high cost of living, too many assignments, limited learning facilities,examinations poor job prospects, problems with roommates, dirty and noisy hostels, uncooperative lecturers, fear of failing, relationship issues, difficult course, fear of getting sexually transmitted infections, constant sickness"*

The following excerpts are from a sapmple of four students who talked about causes of their stress. The real names of the students have been withheld to conceal their identities.

Case One: Jane

"I am a medical student and i reside in the university hostel. I find that the course am doing is too difficult. It requires a lot of time and effort. There are too many assignments and the concepts are difficult to understand. I regret registering for it. I am unable to pull out of the course because my parents would be unhappy with me. This situation has made me quite stressed"

Case Two: Joy

"I am in the College of Humanities and Social Sciences. I live in the hostel. My problem is the cost of living. It is too expensive and I cannot afford most the basic necessities of life such as food and clothing. I cannot afford food from the cafeteria so I try to cook for myself. I do not have relatives who can help me out of my dilemma and am therefore stressed".

Case Three: Tom

"I am doing sciences from the College of Biological and Physical Sciences. I am concerned about one of my lecturers who seem not to be competent in the subject he teaches. I do not understand his lectures and he is not willing to explain the concepts. This has left me very frustrated and stressed. I do not know what to do".

Case Four: Joseph

"I am in the School of Education and I live in the university hostel but there are issues in my family which are stressing me. My problem is that it seems my parents are in serious conflict. They are not talking to each other. My mother has left the house because she thinks my father is involved in extra marital affair. They are not able to provide for financial needs on campus."

4.7.3 Stress Levels reported during focus group discussions

Many students expressed the level of their stress as either serious or very serious. A few students said that although they experienced stress, it was not serious. Excerpts of four of the cases are presented below. The real names have been replaced to conceal their identities.

Case One: Jack

"I am going through some stress but i don't think it is serious. I believe I can deal with it."

Case Two: Margaret

"*My stress level is very serious. My boyfriend has left me for my friend. There are times when I wish I was dead".*

Case Three: George

"*I am not doing well in my academic work. I might even fail to graduate. This has stressed alot"*

Case Four: Anne

"*My roommate is really frustrating me. Her lifestyle is very annoying and it is making me very stressed. I have to change the roommate if I have to survive in this university".*

4.7.4 Effects of Stress on academic performance as reported during focus group discussion

The students shared how stress is affecting them academically and the summary is presented in the following excerpt.

"*The students said that stress affected them academically since they are getting poor grades which they attributed to memory lapses, lack of concentration and attention in class, inability to attend lectures regularlly due to poor heath and transport problems for the students who have missed rooms in the hostels"*

The following are excerpts about the effects of stress mentioned by some of the participants in the focus group discussions. The real names of the participants have been replaced to conceal their identities.

Case One: Robina

"There are issues stressing me. Iam extremely depressed and am unable to concentrate during lectures. My class work has deteriorated and i might fail."

Case Two: Tom

"I do not have money to meet my needs on campus. My clothes and shoes are old. I feel depressed with low self esteem. I am feeling lonely and unable to do focus on my studies."

Case Three: William

'I am so stressed that I spend most of my time in my room. I rarely go to class. I believe I might fail my examinations".

Case Four: Ida

"I am feeling overwhelmed by studies and it is stressful. I cannot sleep properly and I am feeling weak and sickly. May be stress is causing all this health problems. I have been told that stress reduces immunity and this makes a person prone to sickness".

4.8 The Relationship between the Respondents' Stress Level and Psychosocial Adjustment

This study was intended to identify if there exists any relationship between stress and psychosocial adjustment among the University of Nairobi students. The respondents filled a psychosocial adjustment questionnaire. Levels of psychosocial adjustment were categorized from the score as follows: poor adjustment (20-55) and good adjustment (56-100). A chi-square analysis was done to test the null hypothesis that there is no relationship between stress and psychosocial adjustment. The results of the analysis are presented in Table 27 .

Within low stress level, 35 (16.83%) students experienced poor adjustment while 173 (83.17%) had good adjustment. Among students who experienced moderate stress level, 36 (22.64%) had poor adjustment while 123 (77.36%) had good adjustment. 69 (31.94%) students who experienced high stress level had poor adjustment while 147 (68.06%) students adjusted well. Chi-square results indicate that stress has a highly significant relationship with psychosocial adjustment (χ^2 =13.514, df=2, p =0.001). Cramer's V (Φc =0.252, p=0.001), shows that stress level has a moderate but statistically significant association with psychosocial adjustment.

Table 27: The Relationship between Stress and Psychosocial Adjustment

Stress Level	Low Adjustment	High Adjustment	Total
Low Stress	35(16.85%)	173(83.17%)	208(100%)
Moderate Stress	36(22.64%)	123(77.36%)	159(100%)
High Stress	69(31.94%)	147(68.06%)	216(100%)
Significance		χ^2 **=13.514,** p **=0.001** Φ_C**=0.252p=0.001**	

The researcher wanted to find out the effect of the mediating or confounding factors in the relationship between the students' stress level and their psychosocial adjustment. The relationship between stress and psychosocial adjustment was therefore considered within age and gender of the respondents, level and course of study, and locus of control of the students. A three-way chi-square for three categorical variables was used to test the relationship between stress and psychosocial adjustment with age and gender of the students, year and course of study, locus of control in as intervening variables. The results of the analysis are presented in the following sections:

4.8.1 Effect of Age on the Relationship between Stress and Psychosocial Adjustment

Table 28 presents chi-analysis of the age factor. Within 19-22 years, 15 (15.82%) students who experienced low stress levels had poor adjustment compared to 102 (87.18%) students who experienced good adjustment. 12 (16.67%) students who experienced moderate stress level had poor adjustment compared to 60 (83.33%) students who had good adjustment. Among the students who experienced high stress level, 36 (30.25%), while 83 (69.75%) experienced good adjustment. Chi-square analysis within age categories shows that the relationship between stress

and psychosocial adjustment is statistically significant within age group 19-22 years only (χ^2 =11.50, df=2, *p* =0.003). The Cramer's V (Φ_C=0.29, p=0.003) reveals that there is a strong and statistically significant association between stress psychosocial adjustment within this age group.

Within 23-26 years, 16 (20.51%) students who experienced low stress level had poor psychosocial adjustment while 62 (79.49%) students had good psychosocial adjustment. 22 (27.85%) students who had moderate stress level had poor adjustment while 57 (72.15%) had good psychosocial adjustment. Among the students who had high stress level, 31 (33.7%) had poor adjustment while 57 (66.3%) had good adjustment. The relationship between stress and psychosocial adjustment was however not significant within this age category (χ^2 =3.66, df=2, *p*=0.16; Φ_C =0.121, *p*=0.16).

Table 28: Effect of Age on Relationship between Stress and Psychosocial Adjustment

Age Level	Stress Level	Poor Adjustment	Good Adjustment	Total
19-22 Years	**Low Stress**	15(12.82%)	102(87.18%)	117(100%)
	Moderate Stress	12(16.67%)	60(83.33%)	72(100%)
	High Stress	36(30.25%)	83(69.75%)	119(100%)
	Significance	**χ^2 =11.85, *p* =0.003**	**Φ_C=0.29p=0.003**	
23-26 Years	**Low Stress**	16(20.51%)	62(79.49%)	78(100%)
	Moderate Stress	22(27.85%)	57(72.15%)	79(100%)
	High Stress	31(33.7%)	61(66.3%)	92(100%)
	Significance:		**χ^2 =3.66, *p* =0.16 Φ_C=0.121p=0.16**	
27+ Years	**Low Stress**	4(33.33%)	8(66.67%)	12(100%)

Moderate Stress	2(28.57%)	5(71.43%)	5(100%)
High Stress	2(40%)	3(60%)	5(100%)
Significance:		**χ^2 =0.171, *p* =0.918 ΦC=0.085 p=0.918**	

4.8.2 Effect of Gender on the Relationship between Stress and Psychosocial Adjustment

Table 29 presents chi.square analysis of the gender factor. When gender factor is considered, 20 (20.0%) male students who experienced low stress level had poor psychosocial adjustment while 80 (80.0%) students had good psychosocial adjustment. 23 (24.47%) male students who had moderate stress levels experienced poor psychosocial adjustment while 71 (75.53%) students experienced good psychosocial adjustment. Among the male students who experienced high stress level 45 (36.29%) had poor psychosocial adjustment while 79 (63.71%) students had good psychosocial adjustment. the male students A chi-square analysis was done to test the significance of the relationship between stress and psychosocial adjustment within male and female participants. According to the results of the chi-square analysis, stress and psychosocial adjustment are significantly related among male respondents (χ2 =8.02, df=2, p =0.018). Results of the Cramer's V (ΦC =0.159, p=0.018) show also show significant association between stress and psychosocial adjustment among male students.

Among female students 15 (13.89%) students who experienced low stress levels had poor psychosocial adjustment while 93 (86.11%) students had good psychosocial adjustment. 13 (20.0%) who experienced moderate stress level had poor psychosocial adjustment while 52 (80.0%) students had good psychosocial adjustment. 24 (26.09%) female students who experienced high stress level had poor psychosocial adjustment while 68 (73.91%) students had good psychosocial adjustments. A chi-square analysis was done to test the relationship between

stress and psychosocial adjustment within among female students. The relationship between stress and psychosocial adjustment was significant but weak (χ^2 =4.69, df=2, p=0.096; Φ_C=0.133, *p*=0.096).

Table 29: Effect of Gender on the Relationship between Stress and Psychosocial Adjustment

Sex	Stress Level	Poor Adjustment	Good Adjustment	Total
Male	**Low Stress**	20(80.0%)	80(80.0%)	100(100%)
	Moderate Stress	23(24.46%)	71(75.54%)	94(100%)
	High Stress	45(36.29%)	79(63.71%)	124(100%)
	Significance:		**χ^2 =8. 02 *p* =0.018 Φ_C=0.159 p=0.018**	
Female	**Low Stress**	15(13.89%)	93(86.11%)	108(100%)
	Moderate Stress	13(20%)	52(80%)	65(100%)
	High Stress	24(26.09%)	68(73.91%)	100(100%)
	Significance:		**χ^2 =4.69 *p* =0.096 Φ_C=0.133 p=0.096**	

4.8.3 Effect of Level of Study on the Relationship between Stress and Psychosocial Adjustment

A chi-square analysis of the effect of level of study is presented in table 30. Within level one, 3(15.79%) students who experienced low stress level had poor psychosocial adjustment while 16

(84.21%) students had good psychosocial adjustment. Among the students who experienced moderate stress level, 8 (25.81%) of them had poor psychosocial adjustment while 23 (74.19%) students had good psychosocial adjustment. 5 (16.67%) students who experienced high stress level had poor psychosocial adjustment while 25(83.33%) students experienced good psychosocial adjustment. The relationship between stress and psychosocial adjustment was not significant within level one (χ^2=1.072, df=2, *p*= 0.585; Φ_C=0.116, *p*=0.585).

As for level two, 14(14.58%) students who experienced low stress had poor psychosocial adjustment while 82 (85.42%) students had good psychosocial adjustment. 6(14.29%) students who experienced moderate stress had poor psychosocial adjustment compared to 36 (85.71%) students who had good psychosocial adjustment. Among the students who experienced high stress, 24(32.43%) had poor psychosocial adjustment while 50 (67.57%) had good psychosocial adjustment.

The results of the chi-square analysis reveal that the relationship between stress and psychosocial adjustments is statistically significant in year two only (χ^2 =9.427, df=2, *p* =0.009). Cramer's V results (Φ_C=0.211, *p*=009) indicate moderate but significant association between stress and psychosocial adjustment.

At level three, 13 (20.0%) students who experienced low stress had poor psychosocial adjustment compared to 52 (80.0%) who experienced good psychosocial adjustment. 11(19.3%) students who experienced moderate stress had poor psychosocial adjustment while 46(80.7%) had good psychosocial adjustment. 21(30.88%) students who experienced high stress had poor psychosocial adjustment while 47 (69.12%) had good psychosocial adjustment. The relationship

between stress level and psychosocial adjustment is not significant (χ^2 =3.044, df=2, p=0.218; Φ_C=0.127, p=0.218).

In level four, 11(20.0%) students who experienced low stress had poor psychosocial adjustment while 16 (80.0%) had good psychosocial adjustment. 11 (40.74%) students who experienced moderate stress had poor psychosocial adjustment while 16 %(.26%) students had good psychosocial adjustment.18 (50.0%) who experienced high stress had poor psychosocial adjustment with similar number of students(50%) had good psychosocial adjustment. The relationship between stress level and psychosocial adjustment was significant but weak (χ^2 =4.847, df=2, p=0.089; Φ_C=0.242, p=0.089).

Within level five, 1(12.5%) student who experienced low stress level had poor psychosocial adjustment while 7 (87.5%) students had poor psychosocial adjustment. All the 2 (100%) students who experienced moderate stress had good psychosocial adjustment. 1 (12.5%) student who experienced high stress level had poor psychosocial adjustment while 7 (87.5%) had good psychosocial adjustment. The relationship between stress level and psychosocial adjustment within this level is not statistically significant (χ^2 =0.281, df=2, p=0. 869; Φ_C=0.125, p=0.869)

Table 30: Effect of Year of Study on the Relationship between Stress and Psychosocial Adjustment

Year of Study	Stress Level	Poor Adjustment	Good Adjustment	Total
I	**Low Stress**	3(15.79%)	16(84.21%)	19(100%)
	Moderate Stress	8(25.81%)	23(74.19%)	31(100%)
	High Stress	5(16.67%)	25(83.33%)	30(100%)
	Significance		**χ^2 =1.02 p =0.585 Φ_C=0.116 p=0.585**	
II	**Low Stress**	14(14.58%)	82(85.42%)	96(100%)

	Moderate Stress	6(14.29%)	36(85.71%)	42(100%)
	High Stress	24(32.43%)	50(67.57%)	74(100%)
	Significance:		**χ^2 =9.427*p* =0.009 Φ_C=0.211 p=0.009**	
III	**Low Stress**	13(20.0%)	52(80.0%)	65(100%)
	Moderate Stress	11(19.3%)	46(80.7%)	57(100%)
	High Stress	21(30.88%)	47(69.12%)	68(100%)
	Significance:		**χ^2 =3.044 *p* =0.218 Φ_C=0.127 p=0.218**	
IV	**Low Stress**	4(20%)	16(80%)	20(100%)
	Moderate Stress	11(40.74%)	16(59.26%)	27(100%)
	High Stress	18(50.0%)	18(50.0%)	36(100%)
	Significance:		**χ^2 =4.847 *p* =0.089 Φc=0.242 p=0.089**	
V	**Low Stress**	1(12.5%)	**7**(87.5%)	8(100%)
	Moderate Stress	0(0%)	2(100%)	2(100%)
	High Stress	1(12.5%)	7(87.5%)	8(100%)
	Significance:		**χ^2 =0.281 *p* =0.869 Φc=0.125 p=0.869**	

4.8.4 Effect of Course on the Relationship between Stress and Psychosocial Adjustment

Table 31 presents chi-square distribution of the effect of course of study.Within College of Health Sciences, 6 (22.27%) students who had low stress had poor psychosocial adjustment compared to 16 (72.73%) students who had good psychosocial adjustment. Among the students who had moderate stress, 2 (15.38%) students had poor psychosocial adjustment while 13 (84.62%) had good psychosocial adjustment. 7 (23.33%) students who experienced high stress level had poor psychosocial adjustment compared to 13 (86.67%) students who had good

psychosocial adjustment. The relationship between stress and psychosocial adjustment was not significant (χ^2 =1.16, df= 2, p=0.561; Φ_C=0.125, p=0.561).

Within the College of Humanities and Social Sciences, 12 (16.0%) students who experienced low stress level had poor psychosocial adjustment compared to 63(84.0%) students who had good psychosocial adjustment. 13 (22.81%) students who experienced moderate stress level had poor psychosocial adjustment while 44 (77.19%) had good stress. Among the students who experienced high stress level, 13 (24.07%) students had poor psychosocial adjustment compared to 41 (75.93%) students had good psychosocial adjustment. The relationship between stress and psychosocial adjustment was not significant (χ^2=1.545 df=2, p=0.462; Φ_C =0.091, p=0.462).

In the College of Architecture and Engineering, 6 (30.0%) students who experienced low stress had poor psychosocial adjustment while 14 (70.0%) students had good psychosocial adjustment. 6 (25.0%) students who experienced moderate stress level had poor psychosocial adjustment compared to 18 (75.0%) students who had good adjustment. Among students who experienced high stress level 9 (33.33%) had poor psychosocial adjustment while 18 (66.67%) had good psychosocial adjustment. The relationship between stress and psychosocial adjustment is not significant (χ^2 =0.426, df=2, p=0.808; Φ_C =0.077, p=0.088).

As for the College of Biological and Physical Sciences, 6 (26.09%) students who experienced low stress had poor psychosocial adjustment compared to 17 (73.91%) who had good psychosocial adjustment. 8 (38.10%) students who experienced moderate stress level had poor stress while 13 (61.90%) students had good psychosocial adjustment.34 (60.71%) who experienced high stress level had poor psychosocial adjustment compared to 22 (39.29%) students who had good psychosocial adjustment. The results of the chi-square analysis show that

biological and physical science course only (χ^2=8.877, df=2, p=0.012). Cramer's V results, (Φ_C =0.298, p=0.012), indicate that stress has a moderate but statistically significant association psychosocial adjustment within this course of study. The students in this college tended to have poor adjustment as the stress level increased.

Within the College of Agriculture and Veterinary Sciences, 2 (9.52%) students who experienced low stress had poor psychosocial adjustment compared to 19 (90.48%) students who had good psychosocial adjustment. 4 (19 .05%) students who experienced moderate stress level had poor psychosocial adjustment compared to 17 (80.95%) students who had good psychosocial adjustment. 1 (6.25%) student who had high stress level had poor psychosocial adjustment compared to 15 (93.75%) students who had good psychosocial adjustment. The relationship between stress and psychosocial adjustment is not significant (χ^2 =1.602, df=2, p=0.449; Φ_C =0.166, p=0.449).

In the College of Education and External Studies, 3 (6.38%) students who experienced low stress had poor psychosocial adjustment compared to 44 (93.62%) students who had good psychosocial adjustment. 3 (14.29%) students who experienced moderate stress level had poor psychosocial adjustment compared to 18 (85.71%) students who had good psychosocial adjustment. Among the students who experienced high stress level, 5 (19.23%) students had poor psychosocial adjustment while 21 (80.77%) had good psychosocial adjustment. The relationship between stress and psychosocial adjustment is not significant (χ^2 =2.85, df=2, p=0.241; Φ_C =0.174, p=0.241).

Table 31: Effect of Course of Study on the Relationship between Stress and Psychosocial Adjustment

Course	Stress Level	Poor Adjustment	Good Adjustment	Total
College of Health Sciences	**Low Stress**	6(22.27%)	16(72.73%)	22(100%)
	Moderate Stress	2(15.38%)	13(84.62%)	15(100%)
	High Stress	7(18.92%)	30(81.08%)	37(100%)
	Significance:		**χ^2 =1.16 *p* =0.561 Φ_C=0.125 p=0.561**	
College of Humanities and Social Sciences	**Low Stress**	12(16.0%)	63(84.0%)	75(100%)
	Moderate Stress	13(22.81%)	44(77.19%)	57(100%)
	High Stress	13(24.07%)	41(75.93%)	54(100%)
	Significance:		**χ^2 =1.545 *p* =0.462 Φ_C=0.091 p=0.462**	
College of Architecture and Engineering	**Low Stress**	6(30.0%)	14(70.0%)	20(100%)
	Moderate Stress	6(25.0%)	18(75.0%)	24(100%)
	High Stress	9(33.33%)	18(66.67%)	27(100%)
	Significance:		**χ^2 =0.426 *p* =0.808Φ_C=0.077 p=0.808**	
College of Biological and Physical Sciences	**Low Stress**	6(26.09%)	17(73.91%)	23(100%)
	Moderate Stress	8(38.10%)	13(61.90%)	21(100%)
	High Stress	34(60.71%)	22(39.29%)	56(100%)
	Significance:		**χ^2 =8.88 *p* =0.012Φ_C=0.298 p=0.012**	
College of Agriculture and Veterinary Sciences	**Low Stress**	2(9.52%)	19(90.48%)	21(100&)
	Moderate Stress	4(19.05%)	17(80.85%)	21(100%)
	High Stress	1(6.25%)	15(93.75%)	16(100%)
	Significance:		**χ^2 =1.602 *p* =0.449Φ_C=0.166 p=0.449**	

College of Education	**Low Stress**	3(6.38%)	44(93.62%)	47(100%)
and External Studies	**Moderate Stress**	3(14.29%)	18(85.71%)	21(100%)
	High Stress	5(19.23%)	21(80.77%)	26(100%)
	Significance:		**χ^2 =2.85 *p* =0.241Φ_C=0.174 p=0.241**	

4.8.5 Effect of Locus of Control on the Relationship between Stress and Psychosocial Adjustment

Table 32 presents chi-square analysis of locus of control factor. Within internal locus of control, 12 (13.19%) students who experienced low stress had poor psychosocial adjustment compared to 79 (86.81%) students who had good psychosocial adjustment. Among the students who experienced moderate stress level, 12 (17.65%) students had poor psychosocial adjustment while 56(82.35%) students had good adjustment. 28(28.87%) students who experienced high stress level had poor psychosocial adjustment compared to 69 (71.13%) students who had good psychosocial adjustment. The results of the chi-square analysis show that the relationship between stress and psychosocial adjustments is statistically significant within both the internal locus of control (χ^2=7.54, df=2, *p* =0.023) and external locus of control (χ^2 =6.59, df=2, *p* =0.037). Cramer's V value in both internal locus of control (Φ_C=0.274, *p*=0.023) and external locus of control (Φ_C=0.242, *p*=0.037) indicate that stress and psychosocial adjustment have moderate but significant association within both internal and external locus of control.

Within external locus of control, 23 (19.66%) students who experienced low stress had poor psychosocial adjustment while 94 (80.34%) students had good psychosocial adjustment. 24 (26.37%) students who experienced moderate stress level had poor psychosocial adjustment compared to 67(73.63%) students who had good psychosocial adjustment. Among the students

who experienced high stress level, 41 (34.45%) students had poor psychosocial adjustment compared to 78 (65.55%) students who had good psychosocial adjustment.

The results of the chi-square analysis show that the relationship between stress and psychosocial adjustments is statistically significant within both the internal locus of control (χ^2=7.54, df=2, *p* =0.023) and external locus of control (χ^2 =6.59, df=2, *p* =0.037). Cramer's V value in both internal locus of control (Φ_C=0.274, *p*=0.023) and external locus of control (Φ_C=0.242, *p*=0.037) indicate that stress and psychosocial adjustment have moderate but significant association within both internal and external locus of control..

Table 32: Effect of Locus of Control on the Students' Stress Level and Psychosocial Adjustment

Locus of Control	Stress Level	Poor Adjustment	Good Adjustment	Total
Internal Locus	**Low Stress**	12(13.19%)	79(86.81%)	91(100%)
of Control	**Moderate Stress**	12(17.65%)	56(82.35%)	68(100%)
	High Stress	28(28.87%)	69(71.13%)	97(100%)
	Significance:		**χ^2 =7.537 *p* =0.023Φ_C=0.274 p=0.023**	
External Locus	**Low Stress**	23(19.66%)	94(80.34%)	117(100%)
of Control	**Moderate Stress**	24(26.37%)	67(73.63%)	91(100%)
	High Stress	41(34.45%)	78(65.55%)	119(100%)
	Significance:		**χ^2 =6.585 *p* =0.037 Φ_C=0.242 p=0.037**	

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4.9 Regression analysis of the effects of the confounding factors

Table 33: Regression results for effect of level of stress on psychosocial adjustment

Psychosocial adjustment	*β*	*SE β*	*t-statistic*	*P-Value*	*95% CI*
Constant	67.5303	1.4698	45.95	0.000	[64.6437, 70.4169]
Stress level					
Moderate	.9021	1.9239	0.47	0.6390	[-2.8765, 4.6808]
High	4.5238	1.7859	2.53*	0.0120	[1.0162, 8.0315]
R^2.0142					
No. of observations	584				

Note: *means statistically significant at the 5% level of significance

Table 33 shows the regression results for the effect of stress level on psychosocial adjustment. The estimated model had a small R^2=.0142. It means that only 1.42% of the variation in psychosocial adjustment is attributed to changes in stress level. The small R^2 means that there are very many other variables that influence psychosocial adjustment that were not included in the simple regression model. Identifying and including those variables could increase the size of the R^2 reported.

The results indicate that the moderate and high levels of stress have positive effect on psychosocial adjustment. Particularly, individuals experiencing the moderate stress level had higher psychosocial adjustment compared to those experiencing low stress levels. The effect was however, not statistically significant (t=0.47, *p*=0.6390) at the 5% level of significance. The effect of the high stress level on psychosocial adjustment was statistically significant (t=2.53, *p*=0.0120) at the 5% level of significance.

Table 34: Marginal effects between levels of stress and psychosocial adjustment

Psychosocial adjustment	*β*	*SE β*	*t-statistic*	*P-Value*	*95% CI*
Stress level					
Moderate	.9021	1.9239	0.47	0.639	[-2.8765, 4.6808]
High	4.5238	1.7859	2.53*	0.012	[1.0162, 8.0315]

Table 34 presents the marginal effects of stress level on psychosocial adjustment. Particularly, the moderate stress level had .9021 more scores on psychosocial adjustment compared to individuals experiencing the low stress level. The effect was not statistically significant (t=0.47, *p*=0.639) at the 5% level of significance. The high stress level had 4.5238 more scores on psychosocial adjustment compared to individuals experiencing the low stress level. This effect was statistically significant (t=2.53, *p*=0.012) at the 5% level of significance.

Table 35: Pearson correlation coefficient between level of stress and psychosocial adjustment

Variable	Psychosocial adjustment
Stress	0.1134

Table 35 presents the Pearson correlation coefficient. It measures the linear relationship between two variables by looking at the sign and strength of the coefficient. The correlation coefficient between level of stress and psychosocial adjustment was 0.1134. It implies positive and weak linear relationship between the two variables.

Table 36: Effect of the confounding variables on the interaction between academic stress and psychosocial adjustment

Interaction	*β*	*SE β*	*t-statistic*	*P-Value*	*95% CI*
Constant	123.3412	12.0751	10.21	0.000	[99.6242, 147.0582]
Gender	1.7653	6.0008	0.29	0.769	[-10.0212, 13.5517]
Level of study					
Second year	-6.9797	9.3456	-1.82*	0.070	[-35.3355, 1.3762]
Third year	-4.9298	9.5632	-0.52	0.606	[-23.7132, 13.8534]
Fourth year	3.9400	11.1244	0.35	0.723	[-17.9097, 25.7897]
Fifth year	-4.0155	18.5118	-2.38*	0.018	[-80.3748, -7.6561]
Locus of control	3.0061	.5554	5.41*	0.000	[1.9152, 4.0969]
College					
CBPS	9.6042	23.9325	4.16*	0.000	[52.5969, 146.6115]
CEES	3.8524	24.0207	0.99	0.321	[-23.3282, 71.0329]
CHS	6.3781	24.2369	0.68	0.499	[-31.2272, 63.9835]
CAE	7.0848	23.6509	0.30	0.765	[-39.3696, 53.5391]
CAVs	-3.4592	68.2908	-0.56	0.574	[-172.5935, 95.6750]
$R^2$0.2528					
No. of observations	584				

Note: * mean significant at the 5% level of significant respectively

In *Table 36,* the influence of gender, level of study, locus of control, and college on the relationship between stress and psychosocial adjustment was determined. The CBPS was found to have statistically significant influence on the interaction between stress and psychosocial adjustment (t=4.16, *p*=0.000) at the 5% level of significance.

Gender had no statistically significant influence on the relationship between stress and psychosocial adjustment (t=0.29, *p*=0.769). The second and fifth levels of study had statistically significant influence on the relationship between stress and psychosocial adjustment compared to the first level of study (t=-1.82, *p*=0.070) and (t=-2.38, *p*=0.018) at the 5% level of significance. The third and fourth levels of study had no statistically significant influence on the relationship between stress and psychosocial adjustment compared to the first level of study (t=-0.52, *p*=0.606) and (t=0.35, *p*=0.723) respectively. Locus of control had statistically significant influence on the interaction between stress and psychosocial adjustment (t=5.41, *p*=0.0000) at the 5% level of significance.

Table 37: Marginal contribution of each confounding variable on the relationship between stress and psychosocial adjustment

Interaction	*β*	*SE β*	*t-statistic*	*P-Value*	*95% CI*
Gender	5.1338	5.4404	0.94	0.346	[-5.5519, 15.8196]
Level of study					
Second year	-4.287	8.6421	-1.65*	0.099	[-31.2615, 2.6874]
Third year	-5.4737	8.7048	-0.63	0.530	[-22.5713, 11.6239]
Fourth year	-7.7080	10.2121	-0.75	0.451	[-27.7663, 12.3502]
Fifth year	-2.9679	17.5029	-1.43	0.154	[-59.3466, 9.4108]
Locus of control	3.0652	.5397	5.68	0.000	[2.0051, 4.1253]
College					
CBPS	9.6042	23.9325	4.16	0.000	[52.5969, 146.6115]
CEES	3.8524	24.0207	0.99	0.321	[-23.3282 71.0329]
CHS	6.3781	24.2369	0.68	0.499	[-31.2272, 63.9835]

CAE	7.0848	23.6509	0.30	0.765	[-39.3696,	53.5391]
CAVs	-3.4592	68.2908	-0.56	0.574	[-172.5935	95.6750]

Note: * and ** mean significant at the 5% and 10% level of significance

Table 37 shows the marginal contributions of each confounding variable on relationship between stress and psychosocial adjustment. Regarding gender, the relationship between stress and psychosocial adjustment was found to be 5 times more for males compared to females. The effect was however, not significant (t=0.94, *p*=0.346). On the level of study, the relationship between psychosocial adjustment and stress of students in second, third, fourth and fifth years of study were 4, 5, 7, and 2 times lesser than that of students first year. The influence was statistically significant for the second year of study (t=-1.65, *p*=0.099) at the 10% level of significance. Locus of control contributed 3 times more to the relationship between psychosocial adjustment and stress and it was statistically significant (t=5.68, *p*=0.0000) at the 5% level of significance.

The relationship between psychosocial adjustment and stress of students in the College of Biological and Physical Sciences (CBPS), College of Education and External Studies (CEES), College of Health Sciences (CHS), and College of Architecture and Engineering (CAE) were found to be 9, 3, 6, and 7times higher compared to that of students in the College of Humanities and Social Sciences (CHSS). The marginal contribution was statistically significant at the 5% level of significance for CBPS (t=4.16, *p*=0.0000). The relationship between stress level and psychosocial adjustment for students in the College of Agriculture and Veterinary Sciences (CAVs) was found to be 3 times lesser than that of students in CHSS. It was statistically insignificant (t=-0.56, *p*=0.574) at the 5% level of significance

4.10 Qualitative description of psycho-social effect of stress reported to key informants

The students reported how stress affected them to medical and counselling staff from the University Health Services and office of the Dean of students.

"*They reported to the key informants that stress made them depressed, lonely, anxious, agitated, frustrated, fatigued, hopeless, helpless, antisocial, angry. They also reported having low self esteem and poor self concept and suicidal feelings"*

The following are some cases that were reported to key informants by students

Case One: Jane

"Jane reported to the Student Health Services she had been raped by her boyfriend of three months. She had gone out with the boyfriend but the boyfriend raped her in his car in a city hotel park. She was severely traumatized. She feared the possibility of unwanted pregnancy getting or worse being infected with HIV/AIDS. She was upset because she had lost her virginity in a dehumanizing way. She was also scared about the reactions of her parents if they came to know about the incident. To make matters worse her best friend who came to know about the incident started distancing herself from her. Jane started isolating herself from other people including not going to class. She was put on antiretroviral drugs (PEP) drugs and counselling sessions were undertaken. Ss regained confidence in her ability to overcome the problem and went back to class. She was, however, not yet confident enough to relate with men in a romantic way."

Case Two: John

"John was a student who came from poor background. He could not afford to buy proper clothes and found his self esteem getting very low. He was also not able to buy meals in the cafeteria let alone socialize with his friends. He started feeling depressed and lonely and could not concentrate in his academic work. His grades started falling and this made things worse for him. He started thinking of leaving studies but could not come to do it because of fear of what his father would do if he came to know about it. He thought that he had reached the end of his life. He went through counselling aand was introduced to some organization that offered him some part-time work which enabled him to get some financial support. He regained confidence in himself and started taking his academic work more seriously. His grades have increased and he is a much happier person now."

Case Three: George

"George was a male student who was abusing drugs. He had been introduced to drugs by a colleague a year earlier. He appeared to be addicted and hence physically dependent on the drug. He did not have the financial means to afford the drug and many times he suffered from withdrawal symptoms. This affected his social and academic life. When his friends saw his deteriorating condition they brought to the Students' Health Services where we provided him with medication and counselling. He continues to get treatment and is making good progress on the recovery path."

4.11 Qualitative description of psycho-social effects of stress reported during focuss group discussions

Psychosocial problems reported during focus group discussions appear to to be similar to the ones reported to the key informants. The problems are summarized in the following except:

"*The students said that stress affected them psycholosocially as they feel hopeless, anxious, helpless, fatigued, depressed, lonely, with low self esteem, cant sleep, weak, sickly and easily agitated.They also report suicidal tendencies and engaging in negative behaviours such as drinking and taking drugs"*

The following are excerpts about the effects of stress mentioned by some of the participants in the focus group discussions. The real names of the participants have been replaced to conceal their identities.

Case One: Robina

"There are issues stressing me. Iam extremely depressed and am unable to concentrate during lectures. My class work has deteriorated and i might fail."

Case Two: Tom

"I do not have money to meet my needs on campus. My clothes and shoes are old. I feel depressed with low self esteem. I am feeling lonely and unable to do focus on my studies."

Case Three: William

'I am so stressed that I spend most of my time in my room. I rarely go to class. I believe I might fail my examinations".

Case Four: Ida

"I am feeling overwhelmed by studies and it is stressful. I cannot sleep properly and I am feeling weak and sickly. May be stress is causing all this health problems. I have been told that stress reduces immunity and this makes a person prone to sickness".

4.12 Coping Strategies Reported in Focus Group Discussions

The students discussed during focus group discussions the kind of coping strategies they employ to manage their stress. A summary of the coping strategies are presented below

"The most common coping strategies among all students are talking with family members, watching tv/movies, going out with friends, counselling services, taking a walk, sleeping, visiting relatives and crying in the room. watching tv/movies, talking with family members, going out with friends, going for counselling services, taking alcohol, and visiting relatives, crying in the room, sleeping, taking drugs, engaging in sports, eating, cooking,

The following excerpts represent what some participants in the focus group discussions said about how they cope with stress. The real names have been replaced to conceal their identities*"*

Case One: Jack

"When things are difficult and I am frustrated I go out for a drink. The only problem is that drinking does not make the problem go'.

Case Two: Irene

"*Sometimes I visit a friend and share my problems with her. Sometimes the friend helps me find solution the problem"*

Case Three: Tom

"When I have issues especially with my roommate, I try to solve it by taking a walk to the shops. This makes me forget the problem for a while."

Case Four: Fred

"*When I have difficulties with my roommate I go for counselling services in the college. This has helped understand my roommate"*

Case Five: Mary

When my boyfriend frustrates me I just lock myself in the room and cry.

Case Six: Eva

"When I find academic work difficult, I try to consult a friend or the teacher who teaches the course. They have really helped me go through my problems"

Results from qualitative analysis have provided in depth understanding of the students' stress experience. It has identified causes of stress and coping strategies that are similar to the ones identified from the students responses to the students stress and coping strategies questionnaires. Specific excerpts have revealed stress factors and coping strategies as experienced by selected students.

4.13 Relationship between Psychosocial Adjustment and Academic Performance

Table 38 presents a chi-square analysis of the relationship between psychosocial adjustment and academic performance within stress levels. When considered within good psychosocial adjustment, 8(22.86%) students who experienced low stress had grade A, 17(48.67%) had grade B while 10(28.57%) had grade C. Among the students who had moderate stress 6(16.67%) scored grade A, 19(52.78%) had grade B while 11(30.56%) got grade C. 15(21.74%) students who had high stress got grade A, 21 (30.43%) had grade B while 33(47.83%) received grade C.

The relationsip between stress and academic performance among students who experienced good psychosocial adjustment is not statistically significant (**χ^2 =4.55 *p* >0.05Φ_C=0.144 p=>0.05)**. This means that stress experience did not have significant effect on the academic performance of the students who had good psychosocial adjustment

When considered among students with poor psychosocial adjustment,25(14.45%) students who had low stress scored grade A, 96(55.49%) got grade B while 52 (30.06%) received grade C. 21(17.07%) students who experienced moderate stress scored grade A, 64(52.03%) students got grade B while 38(30.89%) got grade C. 25(17.01%) students who had high stress level got grade A, 84(57.14%) students got grade B while 38(25.85%) students got grade C. The relationsip between stress and academic performance among students who experienced poor psychosocial adjustment is statistically significant (**χ^2 =9. 43 *p* <0.05Φ_C=0.34 p<0.05)**. Stress experience among students in this group appears to have a significant effect on their academic performance.

Table 38: Relationship between Academic Performance and Psychosocial Adjustment

Psychosocial Adjustment		**Academic Performance**			
Psychosocial Adjustment	**Stress Level**	**A**	**B**	**C**	**Total**
Good Adjustment	**Low Stress**	8(22.86%)	17(48.67%)	10 (28.57%)	35(100%)
	Moderate Stress	6(16.67%)	19(52.78%)	11(30.56%)	36(100%)
	High Stress	15(21.74%)	21(30.43%)	33(47.83%)	69(100%)
	Significance:			**χ^2 =4.55 *p* >0.05Φ_C=0.144 p=>0.05**	
Poor Adjustment	**Poor Stress**	25(14.45%)	96(55.49%)	52(30.06%)	173(100%)
	Moderate Stress	21(17.07%)	64(52.03%)	38(30.89%)	123(100%)
	High Stress	25(17.01%)	84(57.14%)	38 (25.85%)	147(100%)
	Significance:			**χ^2 =9.43 *p* <0.01Φ_C=0.34 p<0.01**	

CHAPTER FIVE

SUMMARY DISCUSSIONS CONCLUSIONS IMPLICATIONS AND RECOMMENDATIONS

5.1 Introduction

The purpose of this study was to investigate the relationship between the stress level, academic performance and psychosocial adjustment among University of Nairobi students. The mediating roles of age, gender, locus of control, level of study and type of course in this relationship was also studied. Furthermore, the relationship between psychosocial adjustment and academic performance was explored. Finally, the study identified the coping strategies that the students used to manage their stress. This study was carried out within the six Colleges of the University of Nairobi. Both quantitative and qualitative methodologies were applied. Qestionnaires, an interview schedule and focus group discussion were used to collect data from key informants and university students. This chapter therefore presents the conclusions reached as well as the discussions and implications of the findings. Recommendations and areas that need further research are proposed.

5.2 Internal and External Validity of the Study

Efforts to ascertain adequate validity of the study were done done by minimizing the limitatations in the study. Triangulation of methodologies was applied to achieve this objective. However, internal validity of the study may have been undermined by the inability of the researcher to control all the prevailing confounding variables operating within the University of Nairobi at the time of the study.The University of Nairobi has different categories of students who live in different campuses and the effect of this may not have been captured in the sampling process. The external validity or generalization of the findings of this study may be affected by

the differences pertaining in different universities in and out of Kenya where this study could be generalized.

5.3 Summary of the Findings

Based on both quantitative and qualitative analyses, the following is summary of major findings:

(i) The University of Nairobi government-sponsored undergraduate students experience different levels of stress. Most of the students (64.4%), reported that they experienced between moderate to high levels of stress. The level of stress had statistically significant positive relationship with age, gender, course of study, level of study and locus of control of the students. This is in line with both Selye's (1976) and Lazarus & Folkman's (1984 theories which propose that people may experience stress when exposed to stressors.

(ii) The students experienced the following stressors: academic workload, difficult course, poor academic facilities, fear of failing, financial difficulties, high cost of living, problems with roommates, relationship issues, poor job prospects, ethnic conflicts, lecturers asking for sex, tuition fees, dirty hostels, uncooperative lecturers. The most ommon stressors for all the students are dirty halls of residene (76.4%), Issues with room mates (76.2%), high ost of living (75.8%). For male students the most ommon stressors are high cost of living (87.8%), issues with room mates (76.8%) and cost of tuition (75.5%). For female students the most ommon stressors were dirty halls of residence (79.3%), the cost was too demanding (77.7%), issues with room mate (75.5%) and lack of job prospects (75.5%). Although the stress =as ethnic conflict, dirty hostels, uncooperative lecturers, strikes/riots, demand for sex by lecturers, high cost of living which are reported in this study are rare or nonexistent in

the stress literature. This finding supports Lazarus (1984) theory proposes that individuals may experience stress according to their cognitions of stressors

(iii) There was a statistically significant positive relationship between stress and academic performance (χ^2=9.49, p=0.048 Φ_C=0.228, *p*=0.048). The students who reported experiencing between moderate to high stress levels scored lower grades than those who had low stress level.

(iv) Stress and academic performance were significantly related within age groups 19-22years (χ^2=8.34, df=4, p=0.049) and 23-26 years(X^2=9.72, df=4, p=0.041), males (X^2=12.18, df=4, p=0.025),females (X^2=9.74, df=4, p=0.049), Humanities and Social Sciences (X^2=10.97, df=4, p=0.046), Year One (X^2=9.56, df= 4, p=0.048)

(v) Stress had a statistically significant relationship with psychosocial adjustment of the students (X^2=13.514, df=2, p=0.001) The students who had higher stress levels had poorer psychosocial levels of adjustment.

(vi) The relationship between stress and psychosocial adjustment was mediated by the effects of age, gender, course of study, level of study and locus of control.

(vii) The study found that the relationship between psychosocial adjustment and academic performance was statistically significant regardless of the stress level (X^2=10.65, N=583, df=2, p<0.001)

(viii) The students used a variety of coping strategies to manage stress. The strategies included visiting friends, taking a walk, going out with friends, watching tv/movies, listening to music reading books, crying, looking for sexual partners and taking alcohol. The coping strategies were mostly emotion-focussed (57%) rather problem-focussed (43%) Emotion-focussed coping may not provide solutions to stress issues.

In fact some coping strategies such as taking alcohol and drugs or looking for sexual partners may create more problems than they are intended to solve.

5.4 Discussion of the Results

This section presents a discussion of the findings as presented within each of the three objectives. The link between the findings and the theoretical perspectives are also discussed.

5.4.1 The Relationship between Stress Level and Academic Performance

The study addressed the first objective through a hypothesis that the relationship between stress and academic performance is significant.The discussions of the findings are presented in this section.

The stress literature presents inconsistent findings regarding the relationship between stress and academic performance. Some studies have found that stress affects academic performance negatively (Raffidah, Azizah, Norzaidi, Chang, Salwani & Noraini, 2009; Klomegan, 2007). Others studies have found no effect of stress on academic performance (Womble, 2003; Awofodu & Emi, 2011).The findings of this study showed that stress has a moderate but significant association with academic performance (X^2=9.49, N=584, df=4, p=0.048). Higher levels of stress resulted in poor academic performance. This finding concurs with similar findings in other studies (Raffidah, Azizah, Norzaid, Salwani, & Noraini, 2009; Klomegan, 2007).This finding fits in with Selye' (1976) proposal that long term exposure to stress may undermine the individual's biological and cognitive abilities to operate. The students' exposure to stressors may create intrinsic experiences such as negative physical and mental health outcomes that could interfere with their academic performance

The confounding effects of several intrinsic and extrinsic variables were investigated. Stress and academic performance are significantly related within age groups 19-22 years (X^2=8.34, N=101,

df=4, p=0.049). and 23-26 years (X^2=9.72, N=79, df=4, p=0.041). The association between stress and academic performance is strong and statistically significant in the two age categories. The results indicate that age mediates the relationship between stress and academic performance. Older students appear to be better at dealing with their problems and consequently minimize the effects of stress on their academic work. According to researchers, people are able to manage stress better as they get older (Monteiro et al, 2014, Hara et al, 2014). The students in this study are not only getting older but also becoming more adept at dealing with issues they face in campus.

Gender variable was of interest in this research because it has been found to influence stress experience (Scott, 2009; Taylor, 2003). Across the gender categories, the relationship between stress and academic performance was found to be statistically significant among both male (X^2=12.18, N=319, df=4, p=0.025) and female X^2=9.74, N=265, df=4, p=0.049) respondents. The results therefore suggest that the relationship between stress and academic performance is significant for both male and female students. This implies that stress will affect academic performance in both male and female students.The findings concur with some studies (Talib & Zia-ur-Rehman, 2012 but not others (Kania, 2014).

Several studies indicate that stress may be caused by the type of course that students are doing due to the demands of the course on them (Fairbrother & Warn, 2003; Lawrence, Williams & Eiland; Britz & Pappas, 2012). The researcher wanted to find out whether the relationship =in. Six categories of courses were used in this study. A three way chi-square analysis was done to test the significance of the influence of type of course on the relationship between stress and academic performance.The results do not support studies that suggest that stress is an issue in science and medical courses only (Saravanan & Wilks, 2014; Harris, Millichamp & Thomson,

2015). For instance the relationship between stress and academic performance was significant among students in Agriculture and Veterinary Sciences(X^2=12.46, N=58,df=4, p=0.014) Humanities and Social Sciences(X^2=10.968, N=187, df=4, p=0.046) only but not others

Some researchers have found that stress experience may depend on the students' level of study (Limo et al, 2008; Kai-Wen, 2011, Raffidah, Azizah, Norzaidi, Chong, Salwani & Noraini, 2009).The extent to which the level of study influences the relationship between stress and academic performance has received limited attention. The researcher addressed this shortcoming in the current study. Though this study covers five years of study, some programmes such as Arts and Education are for four years. Others such as Engineering and Veterinary Sciences go for five years. The study looked at whether these courses mediate the relationship between stress and academic performance. Stress and academic performance therefore have moderate but significant association with each other within the first year (X^2=9.56, N=80, df=4, p=0.048) and fourth year (X^2=13.44, N=83, df=4, p=0.015) levels of study. This is probably because during the first year of study, students may be faced with several challenges associated with adapting to new social and academic environment. As the students move towards the end of their programmes a wide range of stressors may set in interfering with the students learning process including fear about the future(Thawabieh & Qaisy, 2012).

Locus of control has been associated with stress experience (Zotovic, 2004; Sarrasin. Mayor & Faniko, 2014). The interest in this study is to find out the mediating role of locus of control in the relationship between stress and academic performance. Stress and academic performance has strong and statistically significant association within both internal locus of ontrol (X^2=21.74, N=256, df=4, p=0.001) and external locus of control (X^2=10.566, N=328,df=4, p=0.047). In both cases stress has significant effect in academic performance but in different ways. This finding

confirms the influence of mediating role of locus of control in the effect of stress on academic performance (Lecic-Tosevski & Stepanovic, 2011). Locus of Control may empower individuals to handle their crisis (Stewart & De George-Walker (2014) This implies that students with internal locus of control, unlike their colleagues with external locus of control, were likely to deal with stress more successfully and consequently reduce the effect of stress on academic performance. Results from the study have confirmed the first objective concerning the relationship between stress and academic performance.

5.4.2 The Relationship between Stress Level and Psychosocial Adjustment.

This section presents discussion on the findings that addressed the second objective about the relationship between stress and academic performance.The null hypothesis was that the relationship between stress and psyhosocial adjustment is not statistically significant.

Psychosocial adjustment is an important aspect of a person's positive wellbeing. According to Carver, Smith, Antoni & Weiss (2005), psychosocial adjustment refers to the emotional, mental and social wellbeing. Several studies suggest that stress undermines psychosocial adjustment (Alkaharusi, 2006; Dyson & Renk, 2006). But other studies have found the opposite to be the case (Hamden-Mansour, 2007; Chen, Wong, Ran, & Gilson, 2009). This inconsistency could be because students come from different geographical, sociocultural, socioeconomic and psychosocial backgrounds. Differences in the students' backgrounds are likely to affect their adjustment processes in different ways.

This study found that stress has a highly statistical significant relationship with psychosocial adjustment (N^2=13.514, N=583, df=2, p=0.001). Three quarters (75%) of the respondents who experienced poor adjustment said that they had moderate to high stress while about 61% of the respondents who had good adjustment experienced moderate to high stress level. The result is

contrary to Hamden-Mansour's (2007) finding which showed that stress is not related to psychosocial adjustment. The results of this study, however, confirms other findings which state that stress has negative relationship with students' psychosocial adjustment (Alkaharusi, 2006; Lin, Lin, Wang & Chen, 2009) This finding supports Lazarus' (1984) cognitive theory that psychosocial adjustment may be depend on the coping strategies of the individual after appraisal of both stressors and available coping resources

Past studies on the role of age on the relationship between stress and psychosocial adjustment has not been consistent in their findings. The study found that the relationship between stress and psychosocial adjustment was significant within the age group of 19-22 years (X^2=11.85, N=119, df=2, p=0.003) but not the other age groups. It seems that the younger students were prone to stress which undermined their psychosocial adjustment. This finding supports studies that revealed that younger people are more prone to stress due their poor coping abilities (Beiter, Nash, McCrady, Rhoades, Linscomb, Claraham & Sammut, 2015; Archer, Lim, Teh, Chang & Chen, 2015). The findings are however inconsistent with those studies that found that older students had more stress and poor adjustment (Chen, Wang, Hui et al, 2013). It seems that age influences the relationship between stress and psychosocial adjustment through other factors.

. Over three quarters (77.2%) of the male students who had low adjustment said that they had moderate to high stress levels. This compares with 76 (71.3%) female students who had moderate to high stress level indicating that they had low adjustment.The relationship between stress and psychosocial adjustment was significant among male students (X^2=8.02, N=318, df=2, p=0.018) but not among female students (X^2=4.69, N=2, df=208, p=0.096). The finding concurs with other studies that propose that male students are better adjusted compared to their female counterparts (Abdullah, Elias, Mahyuddin & Uli, 2009). The results are, however, not consistent

with other studies which found that male students experienced more stress and had poorer psychosocial adjustment (Chen, Wong, Ran & Gilson, 2009; Winter & Yaffe, 2000).The role of gender in the relationship between stress and psychosocial adjustment appear to depend on other factors which need to be investigated further.

The relationship between stress and psychosocial adjustment was statistically significant in year two only (X^2=9.427, N=212, df=2, p=0.009). Some studies have found more stress and poor adjustment at the lower levels of study (Bayran & Bigel, 2008). However, other studies indicated more stress and poor adjustment at the higher levels of study (Sheikh, Kahloon, Kazmi, Khan, & Khan, 2004 It seems that level of study is not a good predictor of stress experience and psychosocial adjustment.

The study revealed that stress and psychosocial adjustment have significant but moderate association within both internal locus of control(X^2=7.537, N=256, df=2, p=0.023) and external locus of control (X^2=6.585, N=119, df=2, p=0.037). This finding concurs with past studies which suggested that stress and psychosoial adjustment may be influenced by both internal locus of control (Au, 2015) and external locus of control (Ye & Lin, 2015) depending on the coping strategies used. This finding contradicts the findings that people with internal locus of control are better at handling stress and tend to be better adjusted than people with external locus of control (Stewart & De George-Walker, 2014; Seixas, James, JeanLouis, Bentley, Zizi & Gardner, 2015). The findings of this study stuggest that the relationship between stress and psychosocial adjustment is due to other confounding variables which need to be investigated further.

The results of the study show that the relationship between stress level and psychosocial adjustment is statistically significant in the biological and physical science course only (X^2=8.88, N=100, df=2, p=0.012). The students in these colleges tended to have poor adjustment as the

stress level increased. The results support findings by Talib & Zia-ur-Rehman (2012) that stress and psychosocial adjustment is influenced by the students' course requirements. The results of the study confirm the second objective of the study.

5.4.3 The relationship between Psychosocial Adjustment and Academic Performance

The third objective of the study was to establish the relationship between the students' psychosocial adjustment and academic performance within stress levels. This is in view of the fact that both academic performance and psychosocial adjustment may be affected by stress. Academic performance may, however, act as independent variables in influencing each other. They may therefore act as intrinsic stressors consequently undermining the the students academic and psychosocial adaptation. Both Selye's (1976) and Lazarus' (1984) theories propose that intrinsic factors may influence stress outcomes. This position has a bearing in the results which show that most students who displayed poor psychosocial adjustment had poor academic peformance compared to the students who indicated that they had good adjustment. When considered within stress levels it was found that students with poor psychosocial adjustment had poor grades in their academic work (X^2=9.43, df=2, p<0.01 This finding concurs with other studies (McKenzie & Schweiter, 2001; Krisher & Shechtman, 2016). Petersen, Louw & Dumont (2009) however, found a negative relationship between psychosocial adjustment and academic performance.

The relationship between psychosocial adjustment and academic performance appear to be influenced by the students coping processes.Most students report using coping strategies which are emotion-focused (57%) than problem focused (43%). The coping strategies identified during focus group discussions appear to have a significant role of social support. The results of the

study confirm the third objective about the relationship between academic performance and psychosocial adjustment.

5.5 Conclusion

The purpose of this study was to investigate the relationship between stress and academic performance and well as psychosocial adjustment. The study also examined the influence of the students' age, gender, locus of control, level and course of study on the students' stress experience. It was also intended to identify the coping strategies that the students used to manage stress. It was found that the majority of students experienced stress at moderate to high levels. Several causes of stress were identified. These causes can be categorized as academic (eg difficult course, fear of failing and heavy workload), psychosocial (eg relationship issues, problems with roommate and lecturers asking for sex), economic (eg high cost of living, tuition fees and no job prospects after graduation), and environmental (eg dirty hostels, crowded library and lecture rooms and insecurity in the campus especially at night).

From the findings of this study it was concluded that stress has negative impact on the students' academic performance and psychosocial adjustment. Age, gender, year of study, course of study and locus of control were significantly related to the level of stress. However, these factors influenced the relationship between stress and academic performance in different ways. For instance, the relationship between stress and academic performance was not significant in certain age levels, years and types of course.

The psychosocial wellbeing of the students was determined by the level of their stress experience. Age, gender, type of course and level of study were significant determinants in this relationship. The students used both problem-focused and emotion- focused coping strategies but mostly emotion-focussed strategies. Gender factor was not a major influence in the type of

coping strategy used. The university should institute programs that can help identify and reduce causes and effects of stress. The counseling programs of the university should be strengthened. Finally further research should be undertaken to investigate the coping strategies employed by the students.

5.6 Recommendations

It is evident from the findings of this study that most students experienced moderate to high levels of stress. The stress was due to a variety of factors. The stress experience also had significant effects on the students' academic performance and psychosocial adjustment. Further, it was revealed that age, gender, type of course, level of study and locus of control were significant mediating factors in the relationship between stress and both academic performance and psychosocial adjustment. Based on the findings of this study the following recommendations are made:

(i) Programmes that can help not only identify but reduce the causes of stress among the student population should be instituted by the relevant authorities

(ii) The university should ensure that the counselling services offered to the students have the professional capacity to help students engage in more problem-focused than emotion-focussed coping strategies.

(iii) Non counselling programmes that can enable students to source for financial support should strengthened.

(iv) There is need for people responsible for the running of academic programmes to ensure that teaching of these programmes are undertaken with minimum frustrations on the part of the students.

(v) The university should initiate in-house training in counselling for lecturers administrative staff so that they can be able to understand students' problems and provide the necessary help whenever possible.

(vi) There is need to improve the living arrangements in the halls of residence to reduce sharing of rooms which may a serious source of conflict for many students.

(vii) The loan scheme should be improved to enable the students have enough financial resources to meet their food and non food requirements.

(viii) More teaching resources should be availed to reduce congestion in the lecture theatres

(ix) The library and computer facilities should be improved to enable the students' access relevant up to date learning resources.

5.7 Suggestions for Further Research

From the findings of this study, there is need to undertake further investigations that can address what the study failed to do.

(i) A study can be conducted to determine whether the link between stress and course of study was not influenced by the geographical location of the campuses.

(ii) A longitudinal study can be done to follow stress experiences and long term effect on the students' academic performance and psychosocial adjustment.

(iii) A study can be conducted to investigate the effectiveness of the university counselling services in minimizing the students' stress.

(iv) A study can be done to establish the capacity of the academic and administrative staff to understand students' problems and how to help them solve them.

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APPENDICES

APPENDIX 1: STUDENTS' STRESS AND COPING STRATEGIES QUESTIONNAIRE

Age……..Year of study……..

Sex M ☐ F ☐ Course of study……..

Campus/College……

Instructions

This questionnaire is aimed at finding out your stress level, factors that cause stress and how you cope with stress. You are requested to be sincere in your response because what you say will remain confidential. The questionnaire has structured items which measure stress level on a 5-point Likert Scale. Please tick or circle one of the five choices as it applies in your case. The questionnaire also has two unstructured items that ask you about your experience of stress, its effects and how you cope with it, respectively. These items will allow you to say as much as you can about your stress experience. Please be free to give as much information as you can.

Please indicate the extent to which you find the following situations stressful to you by ticking or putting a circle around one of the five options that apply in your case.

	Not stressful at all	Slightly stressful	Stressful	Very Stressful	Extremely Stressful
Behaviour of the roommate	1	2	3	4	5
1. Academic workload	1	2	3	4	5

2. Reading for Examinations	1	2	3	4	5
3. Writing Assignments	1	2	3	4	5
4. The need to get good grades	1	2	3	4	5
5. Fear of failing examinations	1	2	3	4	5
6. Use of technology for my studies	1	2	3	4	5
7. How my colleagues treat me	1	2	3	4	5
8. Inability to have friends	1	2	3	4	5
9. Family responsibilities	1	2	3	4	5
10. Lack of family support	1	2	3	4	5
11. Sitting for Examinations	1	2	3	4	5
12. Dealing with family issues	1	2	3	4	5
13. Attending lectures	1	2	3	4	5
14. Understanding lectures	1	2	3	4	5
15. Paying my tuition fees	1	2	3	4	5
16. Cost of reading materials	1	2	3	4	5
17. State of my health	1	2	3	4	5
18. Congested timetable	1	2	3	4	5
19. Availability of books in the library	1	2	3	4	5
20. Availability of internet facilities	1	2	3	4	5
21. Sharing the room in the hostel	1	2	3	4	5
22. State of computer laboratory	1	2	3	4	5
23. Interacting with administration staff	1	2	3	4	5
24. Noise in the hostel	1	2	3	4	5

25. Sanitary conditions in the hostel	1	2	3	4	5
26. Recreational facilities on campus	1	2	3	4	5
27. Finding rooms in the hostels	1	2	3	4	5
28. Type of entertainment on campus	1	2	3	4	5
29. Cost of stationary	1	2	3	4	5
30. Relating with members of the opposite sex	1	2	3	4	5
31. My financial needs for social life	1	2	3	4	5
32. My social life on campus	1	2	3	4	5
33. Relationship with colleagues	1	2	3	4	5
34. Availability of lecture space	1	2	3	4	5
35. Availability of seats in the libraries	1	2	3	4	5
36. Lecture schedules	1	2	3	4	5
37. Number of Assignments	1	2	3	4	5
38. Relating with library staff	1	2	3	4	5
39. The type of course am taking	1	2	3	4	5
40. Behaviour of lecturers	1	2	3	4	5
41. Availability of lecturers for consultation	1	2	3	4	5
42. Lecturers' teaching abilities	1	2	3	4	5
43. Delay in the release of exam results	1	2	3	4	5
44. Cost of meals served	1	2	3	4	5

45. Quality of meals served	1	2	3	4	5
46. Availability of computer facilities	1	2	3	4	5
47. Coverage of courses by lecturers	1	2	3	4	5
48. Relating with administrative staff	1	2	3	4	5
49. State of security on campus	1	2	3	4	5
50. Overall how stressful do you find your university life?	1	2	3	4	5

51. Please state any other causes of your stress at the university----------

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52.Please state the strategies you normally use to cope with stress whenever you are experiencing stress.....

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Appendix 2: Psychosocial Adjustment Questionnaire

Age……..Year of study……..

Sex M ☐ F ☐ Course of study……..

Campus/College……

Instructions

This questionnaire is aimed at finding out your psychosocial well- being while you are at the university. Tick the feeling that applies to you. Be sincere in your response because it is confidential. Please indicate how often you experience the following feelings:

Never=1

Rarely=2

Often=3

Quite Often=4

All the Time=5

1.	Helpless	1	2	3	4	5
2.	Cheerful	1	2	3	4	5
3.	Lonely	1	2	3	4	5
4.	Happy	1	2	3	4	5
5.	Apprehensive	1	2	3	4	5
6.	Joyful	1	2	3	4	5
7.	Scared	1	2	3	4	5
8.	Relaxed	1	2	3	4	5
9.	Hopeless	1	2	3	4	5
10.	Friendly	1	2	3	4	5
11.	Sad	1	2	3	4	5

12. Pleased 1 2 3 4 5
13. Pessimistic 1 2 3 4 5
14. Outgoing 1 2 3 4 5
15. Depressed 1 2 3 4 5
16. Social 1 2 3 4 5
17. Discouraged 1 2 3 4 5
18. Optimistic 1 2 3 4 5
19. Hostile 1 2 3 4 5
20. Lively 1 2 3 4 5
21. Please state any other feelings that you might be experiencing during your stay on campus.....

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THANK YOU

Appendix 3: Locus of Control

Age……..Year of study……..

Sex M ☐ F ☐ Course of study……..

Campus/College……

Instructions

Each item below consists of a pair of alternatives lettered a or b. Please select the one statement of each pair (and only one) which you most strongly believe to be the case as far as you are concerned. Be sure to select the one you actually believe to be more true rather than the one you think you should choose or the one you would like to be true. This is a measure of personal belief; obviously there are no right or wrong answers. Your responses will be treated confidentially.

I more strongly believe that:

1. a) Children get into trouble because their parents punish them too much.

   b) The trouble with most children nowadays is that their parents are too easy with them.

2. a) Many of the unhappy things in people's lives are partly due to bad luck.

   b) People's misfortunes result from the mistakes they make.

3 a) One of the major reasons why we have wars is because people don't take enough

interest in politics

b) One of the major reasons why we have wars is because people try to prevent them

4. a) In the long run people get the respect they deserve in this world.

b) Unfortunately, an individual's worth often passes unrecognized no matter how hard he tries

5. a) The idea that teachers are unfair to students is nonsense.

b) Most students don't realize the extent to which their grades are influenced by accidental happenings.

6. a) Without the right controls one cannot be an effective leader

b) Capable people who fail to become leaders have not taken advantage of their opportunities.

7. a) No matter how hard you try some people just don't like you.

b) People who can't get others to like them don't understand how to get along with others.

8. a) Heredity plays the major role in determining one's personality.

b) It is one's experiences in life which determine what they are like

9. a) I have often found that what is going to happen will happen

b) Trusting to fate has never turned out as well for me as making a decision to take a definite course of action

10.a) In the case of the well prepared student there is rarely, if ever, such a thing as unfair test

b) Many times exam questions tend to be so unrelated to course work that studying is really useless

11.a) Becoming a success is a matter of hard work, luck has little or nothing to do with it.

b) Getting a good job depends mainly on being in the right place at the right time.

12.a) The average citizen can have an influence in Government decisions.

b) This world is run by the few people in power, and there is not much the little guy can do about it.

13.a) When I make plans, I am almost certain that I can make them work

b) It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyhow.

14.a) There are certain people who are just no good

b) There is some good in everything

15.a) In many cases getting what I want has little or nothing to do with luck.

b) Many times we might just as well decide what to do by flipping a coin.

16.a) Who gets to be the boss often depends on who was lucky enough to be in the right Place first.

b) Getting people to do the right thing depend upon ability; luck has little or nothing to do with it.

17.a) As far as world affairs are concerned, most of us are the victims of forces we can neither understand, nor control.

b) By taking an active part in political and social affairs the people can control world events.

18.a) Most people can't realize the extent to which their lives are controlled by accidental happenings.

b) There really is no such thing as 'luck'

19.a) One should always be willing to admit his mistakes

b) It is usually best to cover up one's mistakes.

20.a) It is hard to know whether or not a person really likes you.

b) How many friends you have depends upon how nice a person you are.

21.a) In the long run the bad things that happen to us are balanced by the good ones.

b) Most misfortunes are the result of lack of ability, ignorance, laziness, or all three.

22.a) With enough effort we can wipe out political corruption.

b) It is difficult for people to have much control over things politicians do in the

office.

23.a) Sometimes I can't understand how teachers arrive at grades they give

b) There is a direct connection between how hard I study and the grade I get

24.a) A good leader expects people to decide for themselves what they should do

b) A good elder makes it clear to everybody what their jobs are.

25.a) Many times I feel that I have little influence over the things that happen to me

b) It is impossible for me to believe that chance or luck plays an important role in my life

26.a) Peers are lonely because they don't try to be friendly.

b) There's not much use in trying too hard to please people; if they like you, they like you.

27.a) There is too much emphasis on athletics in high school.

b) Team sports are an excellent way to build character.

28.a) What happens to me is my doing

b) Sometimes I feel that I don't have enough control over the direction my life is taking.

29.a) Most of the time I can't understand why politicians behave the way they do.

b) In the long run the people are responsible for bad government on a national as well as on a local level..

Appendix 4: Academic Performance Measurement

Please attach your academic transcript for the last two semesters to enable me assess your academic performance. This is important for the research to be successful. This document will be treated with confidence so you don't need to worry. If you prefer instead to give the researcher the consent to get the transcript from your faculty/school, please fill the following consent form:

PERMISSION TO GET MY RESULT TRANSCRIPT FROM THE DEAN'S/DIRECTOR'S OFFICE

I am a student in the Faculty/School of....., University of Nairobi, participating in a study on "**The Effect of Stress on University Students' Academic Performance and Psychosocial Adjustment"**. I hereby give permission for the researcher to get my result transcript for the last two semesters from the Dean/Director. I have been assured by the researcher that my academic transcript will be treated confidentially.

Name.....

Registration Number.....

Signature.....

Date.....

THANK YOU

Appendix 5: Interview Schedule for Key Informants.

Job title/Occupation……...…….

Location or workplace……...…….

Gender.....M.....F

No of years in the job…….….

College ……

Instructions

I am conducting a study on stress among University of Nairobi Government- Sponsored Undergraduate Students. I wish to request you to answer the following questions regarding the subject. Your answers are confidential and I am sure the findings of the study will be useful in your work with the students.

1. Do students come to your office with complaints of stress?

Yes ☐ No ☐

2. If yes approximately how many students do you receive in a week?

……

……

3. Which of the students tend to have more complaints about stress?

Male ☐ Female ☐

4. Do students in some courses tend to have more complaints of stress than others? Yes/ No
5. If yes, state the courses where most students complain of stress and the courses where few students complain of stress

……

……

6. What are the main causes of stress according to:
   i) Male students?

   ……

   ……

   ii) Female students?

   ……

   ……
7. What do the students say is the effect of stress on their
   i) Academic performance?

   ……

   ……

   ii) Psychosocial adjustment?

   ……

   ……

   iii) Health?

……

……

8. What other aspects of their life are affected by stress?

……

……

9. What kind of coping strategies do the students prefer to use to cope with stress?.....

.....

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.....

10. Are there any strategies favoured by:

i) Male students?

.....

.....

ii) Female students

……

……

11. How does your office help the students cope with stress?

……

…….....

12. In your observation how do the students appear to you when they come to your office

i) Physically?

……

……

ii) Psychologically?

……

……

iii) Emotionally?

……

……

iv) Socially?

……

……

v) Any other observations?

……

…….....

……

10. Do you have any other comments?

.....

.....

APPENDIX 6:

THEMATIC AREAS FOR FOCUS GROUP DISCUSSIONS

Age..... Year of Study.....

Sex: M.....F..... Course of Study.....

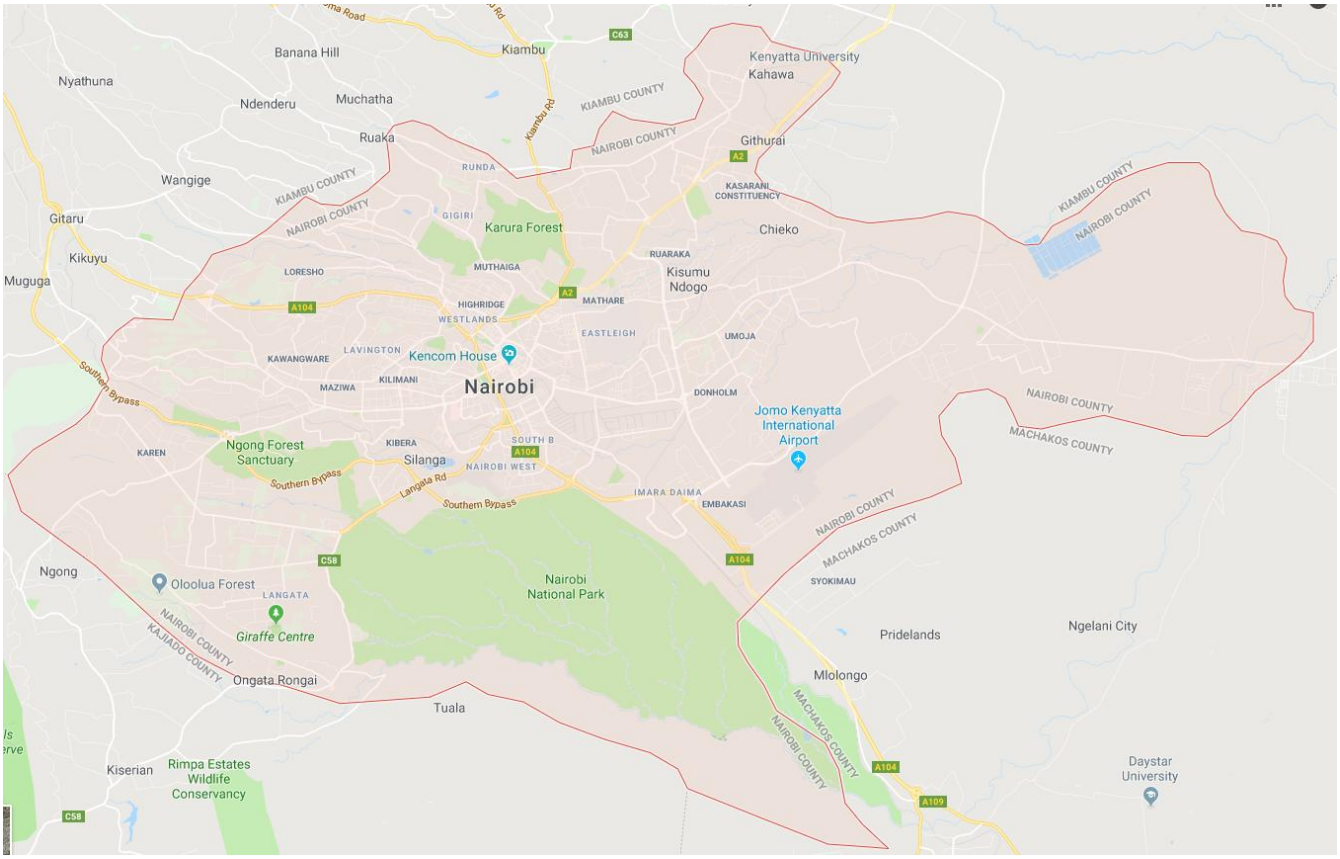
Faculty/School.....

The focus group discussions will focus around the following thematic areas:

- Causes of stress
- Level of stress
- Effects of stress
- Effect of stress on academic performance
- Effect of stress on psychosocial adjustment
- Coping strategies used by the students.

APPENDIX 7:

MAP OF NAIROBI COUNTY



APPENDIX 8:

MAP OF KIAMBU COUNTY