

**STRESS AND COPING MECHANISMS AMONG POSTGRADUATE
STUDENTS OF UNIVERSITY OF IBADAN, NIGERIA**

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**A DISSERTATION SUBMITTED TO THE DEPARTMENT OF
HEALTH PROMOTION AND EDUCATION, FACULTY OF PUBLIC
HEALTH, COLLEGE OF MEDICINE, UNIVERSITY OF IBADAN IN
PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE
DEGREE OF MASTER IN PUBLIC HEALTH
(HEALTH PROMOTION AND EDUCATION)
OF THE
UNIVERSITY OF IBADAN**

JANUARY, 2013

DEDICATION

To the Almighty God, the Great I AM THAT I AM, the ALPHA and OMEGA, whose grace was sufficient for me throughout the course .To him alone be all the glory, honor, and adoration.

To my dearly beloved late parents Chief and Mrs. Moses Moradeyo Adepoju who gave me the best legacy – EDUCATION, May their gentle soul rest in perfect peace Amen. Lastly to my ebony black and shine lovely daughter, Tenioluwa, Oluwatimilehin Vaughan for bearing with me and cooperating when I share her time with my academics. You shall excel above your mates in Jesus name Amen.

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ACKNOWLEDGEMENTS

I am most grateful to my supervisor, Professor Ademola, J. Ajuwon for giving me the opportunity to build my research capacity in the course of this study. His unsurpassable patience and support during the course of this work despite his busy schedule as the Head of Department of Health Promotion and Education will never be forgotten. God in the power of his might will lift up your head above human understanding.

I also appreciate Professor Oladimeji Oladepo, Dr Fredrick Oshiname, and most especially, my big, beautiful, ebony, twin sister, Dr Oyedunni Arulogun (Mrs), you all made this special kind of impact in my life differently in your special kind of way peculiar to you alone. Thanks for adding to my life. God will increase your greatness and comfort you on every side. To all the non teaching staff and Mr. Oyeyemi, in the computer room, Mr Segun Bello, Mr Begun, the Lord will give you a new song and Heaven will open unto you. Thanks for your support always.

To every member of the Health Promotion and Education (MPH) class of 2007 set. Knowing you and being part of this group is a privilege I would not have loved to miss for the world, we will definitely meet again climbing the ladder of life. Adeola Olarinmoye, the course representative for the set, you have been wonderful. To others such as Afuye Busayo, Toyin Daramola, Tosin Aina, the Lords face shall shine upon you, and take you to unprecedented heights in Jesus name Amen.

Olufunke Adenike VAUGHAN

ABSTRACT

Undertaking University education in Nigeria may be fraught with stress. The bulk of previous studies on stress among university students had focused on undergraduates, leaving stress and coping mechanisms among postgraduate students inadequately investigated. In this study the stressors and the coping mechanisms adopted by postgraduate students of the University of Ibadan, Nigeria were identified.

A cross-sectional survey involving a 3-stage random sampling technique was adopted in selecting 340 postgraduate students from the 13 faculties in the institution. Focus group discussions (FGD) and a validated self-administered semi-structured questionnaire that included a 32-point stress scale were used to collect information about the stressors and the coping mechanisms adopted by the students. Descriptive statistics and Chi - square were used to analyze the data at $p = 0.05$.

The mean age of respondents was 30.7 ± 6.7 years, and 50.6% were males. Seventy one percent of respondents stated that stress was a normal phenomenon, while stressors were classified by respondents as those challenges which could be physical, financial, psychological or emotional that hinders them from performing optimally. Forty percent complained of having to do many courses to satisfy university requirements. The situations that respondents considered stressful included having too many assignments (34.7%) and having difficult lecturers (16.5%). Medically, the respondent's response to stress included moderate fatigue (29.1%), sleeplessness (5.3%) and increased heart rate (2.1%). The types of support received included financial assistance (12.6%) moral encouragement (38.5%), spiritual guidance (11.8%) and medical assistance (2.9%). Recreational activities used to relieve stress included sports and exercise (54.7%), sightseeing (10.6%), visiting night clubs (2.6%), reading (11.2%). The overall mean knowledge score on stress was 9.4 ± 4.3 , respondents aged 41-50 years had the highest mean stress score (5.0 ± 3.3) while the lowest mean score of 4.8 ± 3.9 was found among the 21-30 years age group. Female respondents had higher (4.7 ± 3.7) mean score than male 4.6 ± 3.8 . Respondents from the Clinical Sciences had the highest mean score of 7.7 ± 3.8 while those in the faculties of Public Health had the lowest mean score (2.8 and 3.0 respectively). No significant relationship was found between the gender of the respondents and stress. Recommendations made by the FGD participants on how

postgraduate students can cope with stress included improvement in time management, avoiding procrastination, reduction of situations that bring about stress, seeking medical attention, and praying to God.

Coping mechanisms in response to stress by postgraduate students in the University of Ibadan was poor. There is therefore a need to provide training on coping mechanisms and the University authority should improve the condition of the learning environment.

Keywords: Postgraduate students, Stressors, Stress coping mechanisms,
University of Ibadan.

Word count: 434

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CERTIFICATION

I hereby certify that this research work was carried out by Olufunke Adenike VAUGHAN in the Department of Health Promotion and Education, Faculty of Public Health College of Medicine, University of Ibadan.

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LIST OF ACRONYMS USED IN THE TEXT

PG	Postgraduate
MPH	Masters of Public Health
HPE	Health Promotion and Education
GAS	General Adaptation Syndrome
ACTH	Adrenocorticotrophic Hormone
APA	American Psychiatric Association
SPSS	Statistical Package for Social Sciences
U I	University of Ibadan
UCH	University College Hospital
PTSD	Post Traumatic Stress Disorder
FGD	Focus Group Discussion
APS	American Psychosomatic Society
LCDA	Local Council Development Area
PSEV	Psychological Stress Evaluator
DUHS	Dow University Health Sciences
AKU	Agha Khan University
ASUU	Academic Staff Union of Universities
IEC	Information Education and Communication
PPP	Private Public Partnership
RTCT	Response to change test
HOD	Head of Department

CHAPTER ONE

INTRODUCTION

1.1 Background to the study

The definition of stress has beguiled many prominent researchers of this era, the term itself is amorphous and sustains the difficulty in discerning its meaning. Definitions of stress range from metallurgical strain to one's emotional wits' end Selye (1979), although convergence on a common definition of stress is highly desirable, the scientific community has not been able to do so, instead, the research literature reflects wide and divergent opinions concerning stress, Lazarus (1966).

Stress is a biological term, which refers to the consequences of the failure of a human body to respond appropriately to emotional, mental, social, spiritual, or physical threats to the organism, whether actual or imagined Selye (1983). It includes a state of alarm and adrenaline production, short-term resistance as a coping mechanism, and exhaustion, the term 'Stress' was first used by the endocrinologist Hans Selye in the 1930s to identify physiological response in laboratory animals Selye (1983). He later broadened and popularized the concept to include the perceptions and responses of humans trying to adapt to the challenges of everyday life. In Selye's terminologies 'stress' is referred to as the reaction of organisms to certain circumstances which may be experienced positively as Eustress and negatively as Distress. Eustress can be defined as an adaptive response prompting the activation of internal resources to meet challenges and achieve goals. Its impact is positive while Distress on the other hand has a negative impact and is defined as an event that causes great suffering of the mind and body Selye, H (1983).

According to Oxford learner's dictionary (2010), the term stress is commonly used by lay persons in a metaphorical rather than literal sense as catch – for - all for any perceived difficulty in life. It also became a euphemism, a way referring to the kind of severe problems that might result in a real breakdown of health. In popular usage, almost any event or situation between these extremes could be described as stressful. A critical

issue concerning stress among students is its effects on learning. The Yerkes – Dodson law (1908) postulates that individuals under low and high stress, learn the least and that those under moderate stress, learn the most. A field of study and laboratory test support notion that excessive stress is harmful to student’s performance. One of the models that is useful in understanding stress among students is the **person environment model**, Hann, N (1977). According to one variation of this model, stressful events can be appraised by an individual as ‘challenging’ or ‘threatening,’ (Lazarus 1966). When students appraised their education as a challenge, stress can bring them a sense of competence and an increased capacity to learn (*Eustress*). When education is seen as a threat, however, stress can elicit feelings of helplessness and a foreboding sense of loss (*Distress*). Most employed mothers who are students juggle the heavy burden of gainful employment, unpaid housework and childcare, because traditional gender role expectation persists around the world. Child care and housekeeping remain mainly women’s responsibility, the love of her husband and in-laws, as well as successful students, hence a tendency for role conflict and distress if not well managed, (Clarke, 1984).

Housework, Childcare and the African parent’s role/tasks may be as demanding as those paid employment which supports the family, and performance of such tasks may be associated with chronic pressure that can result in generalized psychological distress. In fact, domestic demands contribute at least as much as occupational and educational factors to both men and women’s health and well being. One resource that offset the stressful effect of home, work and academics is perceived control, also referred to as decision latitude. Complete absence of stress is impossible.

There are so many potential stress points that it is impossible to eliminate all of them. Domestic tension is simply one of the main causes of distress. Most of the stress that Post Graduate students experience in modern day life is due to the way in which they perceive circumstances and events. Particularly, every aspect of domestic, occupational or academic life is a potential stress. The relationship with the stress of bringing up children is no child’s play. Parenting is a full time job, not to talk of working, schooling. Balancing the three can really be stressful, likewise, students’ relationship with their boss, lecturers, as well as a conducive working and learning environment (Clarke, 1984).

1:2 Statement of the Problem

Stress is a major problem for university students generally, the problem is more serious among postgraduate students many of whom have to combine multiple roles including being a parent, wife or husband. Performance of these roles usually come in conflict, resulting in stress. Anecdotal experience shows that the other sources of stress for postgraduate students are; the fear of academic failure, the amount and complexity of materials to be learned, for instance, how do you expect a post graduate student, a worker, a father, a mother, belonging to families with the roles to play to successfully pass 13-14 courses? The academic pressure is too much and the fatigue sets in and student read only for examinations and not for impartation and proper acquisition of skills and knowledge.

Some students do not finish their Post-graduate course as at when due, can you imagine a Masters programme lasting for four years or even more? These are major distress to students and though at times, it does bring the best out of them. However, poor learning conditions can cause a lot of distress, such as a hot classroom, long lecture hours of 8:00 am to 6:00 pm, with only 30 minutes break in between lectures, and students are supposed to be stepping on poorly tiled floors, dirty walls and exposed to noise pollution by generating plants and fumes to mention a few. All these are not health promoting. Persistent stress that is not resolved through coping or adaptation deemed distress, may lead to anxiety or withdrawal (depression) behavior. Stress or distress is determined by the disparity between an experience (real or imagined) personal expectations and resources to cope with the situation.

Around the turn of the 19th century, people primarily died from infectious diseases and accidents, but today people generally suffer and die from lifestyle diseases such as heart diseases, stroke, lung cancer and similar problems (Selye, H (1976). Clearly some behaviours and lifestyles promote health whereas; others increase the likelihood of illness and death. Psychologists have identified a high level of stress and untreated high blood pressure among other behavioral risk factors that can be controlled. Today, stress as a health risk has been ignored as an underlying factor in the development of ill-health in Nigeria, Elliot and Eisdorfer (1982).

Most cases of illness apart from biomedical consideration, especially in developing countries are always affected by outward demands which are beyond the individual's control. So many worries cause discomfort for individuals in their everyday

lives, especially in milieus of deprivation. This is the case with stress as a risk factor in the development of high blood pressure and other heart related diseases. Stress is an unpleasant state of emotional and psychological arousal that people experience in situations that they perceive as alarming or perilous to their well being. Though the word stress, means different things to different people, most psychologists regard stress as a process involving a person's interpretation and response to a threatening event (Auerbach and Graming, 1999) Stress may be experienced when one is extremely busy, or has important deadline to meet, or is constrained by time to finish some task. The Nigerian environment is not different, because stress in whatever manifestation is an important factor leading to illness and death of many Nigerians (Kapuku and Mensah, 1998). It is assumed that the apparently stressful environment in which many Nigerians live, work and study, especially situations like the University campuses, lecture hours, course outlines, overcrowded curriculum, poor environmental conditions such as heat, over population of students, inadequate lecture theatres, with all uncertainties, will predispose students to high blood pressure and heart diseases.

The available studies on stress among university students have focused on undergraduates while few have focused on postgraduates hence the need for this study which aims at identifying the stressor agents and coping mechanisms adopted by postgraduate students, while undergoing stress in the course of their study.

1.3 Justification of the study

Through health education and information, ensuring health promotion, post-graduate students will be able to identify stressors, the causes, consequences and coping mechanisms adopted in the management of stress. This will assist them in solving their identified stress-related problems, and ensuring optimal academic performance.

The study will also aid the postgraduate students in adapting and maintaining other health- promoting behaviour, such as getting regular exercise, sightseeing, sports, watching movies, taking life easy, reduction or elimination of situations that bring about stress, as well as time management to bring out the best in them academically despite the stress they undergo in the course of study.

Broad Objective

To identify stressors and the coping mechanisms adopted by the postgraduate students of the University of Ibadan.

Specific objectives

Specific objectives are to:

1. Document the knowledge that postgraduate students have on stress.
2. Identify stressor agents
3. Identify the reported effects of stress on the home, school and work of postgraduate students of the University of Ibadan.
4. Document the measures to relieve stress and minimize its adverse effects
5. Identify the coping mechanisms adopted by the postgraduate students.

Research questions

1. What do postgraduate students know about stress?
2. What are stressor agents to postgraduate students?
3. What are the reported effects of stress on the home, studies and work of postgraduate students?
4. How can the effect of stress be minimized by the postgraduate students?
5. How can stress be managed by postgraduate students?

From the result of this study, it would be possible to identify the stressor agents as well as the coping mechanisms adopted by post graduate students to relieve themselves of stress in the course of their study. The coping mechanisms are identified, recommendations will be geared towards the reduction of distress and its adverse impact on the health of Post graduate students in the course of their study and afterwards.

Hypotheses

1. There is no significant relationship between sex and experience of stress among Postgraduate students of the University of Ibadan.
2. There is no significant relationship between course of study and stress among Postgraduate students of the University of Ibadan.

3. There is no significant relationship between marital status and stress among Postgraduate students.
4. There is no significant relationship between ill health and stress among postgraduate students of the University of Ibadan.

Operational definition of terms

Stress is a situation where demands exceed abilities; it is an individual's in-depth perception of natural environmental occurrence, which might disrupt or affect the individual's well being. In the course of this study, stress is a situation where postgraduate students of the University of Ibadan confront obstacles in fulfilling their strong needs and values.

Limitations of the study

In the course of the study, there was a long ASUU (Academic staff union of Universities) strike which lasted for a period of five months in the year 2009, this slowed down the process of data collection. The plan was to give 400 respondents the questionnaire, however due to the strike action only 340 were distributed when the strike action was called off, and students returned back to school to complete their academic session.

CHAPTER TWO

LITERATURE REVIEW

Theoretical Concept of Stress

In an honest attempt to carry out daily activities, human beings tend to clash with many forces in the environment. These forces are collectively referred to as stress (Pearlin, 1981). Stress has been identified as a convergence of an inadequate standard of living (Pearce 1983) along with the demands of several roles which sometimes enhance, and sometimes interfere with, one another (Miller, 1982; Sweet, 1973; Weiss, 1978). There are few definitions of stress because stress is difficult to conceptualize. For several years, doctors, psychologists considered the term 'stress' unscientific and would not give any meaning and definition to it. Recently, however, with the realization of the role of stress in the aetiology of several health conditions as well as in psychological wellbeing, the defining and studying of stress has become of great interest to social scientist. Several approaches to the study of stress have tried to validate the theory of stress, which concluded that "physiological responses to stress, if chronic or frequently occurring, can result in illness and, or disease states" one of the early studies of this theory was by Selye (1956), who defined stress as the need to adapt to changing life events.

The theoretical frame work for this lies in the General Adaptation Syndrome theory (GAS), which Selye (1956) proposed and described as having three distinct stages, viz; Alarm, Resistance and Exhaustion. Selye, 1978 believed that the body's ability to resist a stressor is limited, and that after a period of time of resistance, exhaustion and death will ensue. The First phase of GAS, which is Alarm, consists of responses like heart beats, rapid breathing, dilated pupils, muscle tension, resulting from increased adrenaline secretion, and increased blood supply. The second phase prepares the body for resistance by continuing the muscle tension. If stress is not lessened muscle tension may result in the third stage, Exhaustion. Here, the body defense breaks down, and the strain may be so great that headaches, ulcers or even heart attack can result.

Definition of Concept

According to the definition Selye (1973) gave to stress later, that it is a response of the body by any demand made to it, it stands to reason that, the general reaction occurs whether the body is exposed to aggression, anxiety or pleasant events. Manson,(1971) established in his study that some environmental conditions like exercises, fasting and heat do not necessarily produce Selye's General Adaptation Syndrome. Selye (1956) also defined stress simply as the rate of wear and tear of the body, thus producing a total impact on the individual. He went further to say stress is the objective event that disrupts or threatens to disrupt the individual's usual activities. This might mean that stress is an individual's concept of small critical factors that result from life events. Consequently, another psychologist (Meichenbaum, 1983), described stress as a problematic level of environmental demand on an individual, or a mismatch between environmental opportunities and individual's need or goals. This leads to a definition of stress as an orientating device that engages one's attention towards certain kinds of events (Reader, Schrama and Dicken, 1973).

When Farmer and Reeder(1984) defined stress as the level of anxiety perceived by an individual, Akinboye (1985/1986) went further to say that stress is a non specific response of the human organism to demands made upon it depending on the perceived threat of the demand.

The concept of perception about stress was brought into focus by Wolfok and Richardson's (1979) proposed model of stress, termed the "Cognitive Appraisal Model". This model proposes that stress response does not result from environmental factors; rather they are products of the individual's appraisal of the situation and events. This simply means that stress depends on the individual's perception of the events around him and his ability to decide whether the events are stressful or not. This therefore might be the reason for saying that what appears stressful to one person, may not necessarily be stressful to another. Stress is an abstraction consisting of many variables and processes.

Three other typical definitional orientations can be used to expand the sphere of meaning of stress. These are stimulus definition, response definition, and relational definition Akinboye (1980). The most common definition of stress adopted by psychologists has been that it is a stimulus. Stress stimuli are most commonly thought of as events impinging on the person, while stimulus is a condition arising within the person.

Examples of such stimuli include drive stimuli like hunger, which is based on tissue condition, and stimuli arising from neurological characteristics. After thirty five years of research, no one has formulated a definition of stress that satisfies even majority of stress researchers (Elliot and Eisdorfer, 1982).

Ader, (1980) criticized the use of the term “Stress” in a presidential address to the American Psychosomatic Society (APS). He pointed out that the use of the word as an explanation of altered Psychophysical state contributes little to an analysis of the mechanisms that may underline or determine the organism’s response. Moreover, Lazarus (1986) suggested that Stress may be treated as an organizational concept for understanding a wide range of phenomena of great importance in human and animal adaptation.

The definition of stress has beguiled many prominent researchers of this era. The term itself is amorphous and sustains the difficulty in discerning its meaning. Definitions of stress range from metallurgical strain to one’s emotional wits’ end. Although convergence on a common definition of stress is highly desirable, the scientific community has not been able to do so. Instead, the research literature reflects wide and divergent opinions concerning stress. Stokes and Kite, (2001) suggested that the term’s versatility (its range of application), is undoing as a useful scientific term or concept, and they are not alone in this assertion (Tepas and Price, 2001).

In summary, stress is an individual’s in-depth perception of natural environmental occurrence, which might disrupt or affect the individual’s well being.

Classification of Stress

Stress is often classified according to its duration, impact, type and origin. Dohrenwend and Dohrenwend (1969) thought that stress could also be either acute or chronic. The death of a spouse is acute, while alienation that results from this event is chronic. They also thought that stress can be classified in both sociological and psychological terms.

Social stress may be lack of money, while deprivation of spouse becomes a psychological stress. In criticism of social and psychological stress, Pearlin and Johnson (1977), think that the distinction cannot be made between sociological and psychological

stress, because studies have established that social stress is translated into psychological distress.

Environmental and interpersonal stress is yet another classification which seems to show the source of stress and cannot be categorically cut out from those already mentioned classes Lazarus and Cohen, (1977). Environmental stressors include extreme heat or cold, excessive pollution or noise, while interpersonal stress emanates from personal conflicts, quarrels, mistrust, lack of support and all other stressors which could occur between individuals and within an individual's private life. Selye (1956) felt that stress could be desirable or undesirable. He felt that it is erroneous to assume that stress is always harmful. In the same vein, Kearns (1973) felt that in all living, dynamic organizations, stress is natural, so that the only human completely unstressed is dead. In proposing, all stressors are not negative, for example, marriage is regarded as desirable while divorce is not, yet both are stressful situations.

It could be concluded that whether stress is psychological, sociological, desirable or undesirable, it is a basic component of all life situations. The individual's personal perceptive ability determines whether the situation is stressful or not (Lazarus,1966).

Sources of Stress

Kearns (1973) who rightly identified that all living organisms are subjected to stress, felt that stress could be found everywhere, even though stress is a complex issue. This means that sources of stress cannot be seen from the same angle for all living organisms. Bakare (1988) therefore identified four sources which are closely related to the classification previously discussed. *These four sources are outlined below:*

Environmental Sources: Ecological factors like heat, cold, home and work environment, school and market environment, competition for space and scarce resources, noise, traffic hold ups, injuries and accidents.

Interpersonal Sources: The associations between people or groups of people that bring out stressors such as quarrels, mistrust, conflicts, hatred, lack of social support or excessive protection, bribery, vindication and many other stressors associated with human relationship.

Personality Sources: These are also known as psychological source (Crider, 1983) and are derived from personal characteristics of the individual. Examples include being

unable to reach the level of aspiration the individual sets for himself; how the individual views things; high and low esteem and pride in short, the individual's make up which conflicts with the environment (Bakare,1988). Here also are included, the personal beliefs and values which may be too strong or too weak to affect the individual's mental health.

Organic Sources: These are the result of certain organic disorders of the body or some physiological imbalance of the body. Examples are injuries, cardiovascular disorders (such as hypertension) and degenerative diseases (such as arthritis, ulcers, paralysis and mental disorders). The circumstances that cause stress are called stressors which vary in severity and duration. For example, the responsibility of caring for a sick parent may be an ongoing source of major stress, whereas getting stuck in traffic jam may cause mild or short-term stress. Some events, such as death of loved one is stressful for everyone.

However, in other situation, individuals may respond differently to the same event, i.e. what is a stressor for one person may not be stressful for another. For example, a student who is unprepared for a chemistry test and anticipates a bad grade may feel stress, whereas a classmate who studies in advance may feel confident of a good grade.

In addition, simply thinking about unpleasant past events or anticipating unpleasant future events can cause stress for many people. Nevertheless, for an event or situation to be stressful for a particular individual, the person must appraise the situation as threatening and lack the coping resources to deal with it effectively.

Stress can be classified into three general categories: catastrophic events, major life changes and daily hassles.

Catastrophe: A catastrophe is a sudden, often life- threatening calamity or disaster that pushes people to the outer limits of their coping capability, Akinboye (1980). Catastrophes include natural disaster - such as earthquakes, tornadoes, fires, flood, and hurricanes-as well as wars, torture, automobile accidents, violent physical attack, sexual assaults and bomb blasts. Catastrophic events affect their victims' mental health long after the event has ended. For example in 1972, a dam burst and flooded the West Virginia mining town of Buffalo Creek, destroying the town. Two years after the disaster, most of the adult survivors continue to show emotional disturbances Selye (1983). Similarly, most of the survivor' concentration camps in the World War 11 (1939-1945) continued to experience nightmares and other symptoms of severe emotional problems for extensive periods following their release from the camp (Barlow and Bufka, 1999).

Some examples of catastrophic events in Nigeria are:

The Ejigbo Bomb Blast. Eight years after the January 27, 2002 bomb blast in which several people died at the Oke-Afa canal in Ejigbo Local Council Development Area, Lagos State, the relatives and rescue teams, have continued to lament their plights. This came just as the Chairman of Ejigbo LCDA, Mr. Kehinde Bamigbetan, at the eighth anniversary of the incidence, held on Wednesday, at the Oke-Afa bomb blast monument site, disclosed that his council has earmarked N2.2bn, under the Private Public Partnership (PPP), to commence construction of Ajao-Ejigbo Link Bridge.

Speaking with journalists at the event, leader of relatives of the victims, Mr. Ola Majekodunmi, who lost two sons, Taiwo and Pelumi, during the blast, accused the state government of insensitivity.

He said, *“Eight years down the line, government has not shown real concern to the feelings of the families who lost their loved ones in the incident”*. Majekodunmi, who said he was attending the ceremony for the first time, could not hide his disgust at what the yearly ceremony had become.

“What we expected them (Government) to do is to call the families of the victims, they are the ones they should be commiserating with and not these politicians here; the people that lost their loved ones are the ones that ought to be here and console them, they don’t need money but what they need is to be called, counseled and prayed for and not organizing ceremony and wasting tax payer’s money for nothing,” he lamented.

Also, the head of the divers, Mr Abayomi Ayelomi, lamented that eight years after, the promise made by the state government was yet to be fulfilled.

He said, *“The dimension of this year’s ceremony is totally different from how it has been in the past, but with what the chairman promised and told us that they are going to take care of us, we are yet to see that”*. Meanwhile, the state government has established institutional and administrative structures to promptly respond to distress calls.

The Lagos State Commissioner for Special Duties, Dr Tola Kasali, who represented Governor Babatunde Fashola, prayed to God to continue to grant the families of the victims the fortitude to move on in life. He disclosed that the state government, as part of its efforts in protecting its citizenry, has established institutional and administrative structures to promptly respond to disaster situations.

On the Ajao-Ejigbo link bridge, Bamigbetan recalled: “The Federal Government promised to construct a bridge that will link Ajao and Iyana-Ejigbo so as to relieve traffic in that area but they have not lived up to that”.

“They also promised to dredge Canal for easy navigation and that also has not been done. But on our own part, in collaboration with the state government, we are now almost at the beginning of that project, we have finished all the drawings and very soon it will be a public private partnership project worth N2.2bn and we will start work on it very soon. And we hope before 2011 it will be completed.”

After the Christmas Eve bomb blast at Abuja Nigeria on 24th December 2010, Air marshal Oluseyi Petirin, a Nigerian Air Force’s top official, told journalists he thought that the bomb was placed where 'people were relaxing because of the new year'.

‘A bomb exploded at a beer garden this evening at a Nigerian army barracks where revelers had gathered to celebrate New Year's Eve’ witnesses said, and state-run television reported that 30 people died, though police immediately disputed that.

A local police spokesman said the blast occurred at about 7:30pm in Abuja, the capital of Africa's most populous Nation. No one immediately claimed responsibility for the explosion, in this oil-rich Nation where Citizens remain uneasy after bombings at other locations which had killed dozens of people several days earlier.

"It's unfortunate that some people planted a bomb where people are relaxing because of the New Year," air marshal Oluseyi Petirin told journalists. *"Nobody has been able to give accurate figures (of casualties), but we have rescued some people"*. An anchor on the state-run Nigerian Television Authority gave a death toll of 30 viewers this evening. The Channel did not give an estimate on the number of the injured. Local police spokesman, Jimoh Moshood, immediately disputed the figure, saying only four people had died and 13 were wounded. Death tolls remain contentious in Nigeria, as politicians often inflate or shrink tolls to suit their aspirations.

The blasts came days after a similar attack struck a Nation that remains uneasily divided between Christians and Muslims. On Christmas Eve, three bombs exploded in the central Nigerian City of Jos, killing dozens of people. That area had seen more than 500 die in religious and ethnic violence last year (2009). Members of a radical Muslim sect attacked two churches in the Northern city of Maiduguri the same night, killing at least six people. The sect, known locally as Boko Haram, later claimed responsibility for both

attacks in an internet message. Police say they are still investigating those attacks, and till date in 2012 January no solution has been found to the massive killings of Boko Haram.

Nigeria's President condemned the attack, blaming it on Islamists who claimed responsibility for a recent bombing in the north of the country. The explosion happened in a market where soldiers and civilians often gather to eat and drink beer.

Major life changes

The most stressful events for adults involve major life changes, such as death of a spouse or a family member, divorce, imprisonment, the loss of one's job, and major personal disability or illness. For adolescents, the most stressful events are the death of a parent or a close family member, divorce of their parents, imprisonment of their mother or father and major personal disability or illness. Sometimes, apparently positive events can have stressful components. For example, a woman who gets a job promotion may receive higher salary and greater prestige, but may also feel stress from supervising co-workers who were once peers. Getting married is usually considered a positive experience, but planning the wedding, deciding whom to invite, sharing of invitation cards, putting logistics together and dealing with family members on both sides according to cultural norms and customs may be very stressful to the couples.

Daily hassles

The bulk of the stress in our lives results from having to deal with daily hassles, pertaining to our jobs, academics, personal relationships, shuttling from one place to the other within and outside town by private or commercial vehicles together with everyday living circumstances. Many people experience the same hassles every day. Examples of daily hassles include living in a noisy environment, commuting to work in heavy traffic, conflict with colleagues, worrying about loans received, waiting in long queue, and misplacing or losing things. When taken individually, these hassles may feel like only minor irritants, but cumulatively overtime, they can cause significant stress. The amount of exposure people have to face in daily hassles is strongly related to their daily mood. Generally, the greater their exposure is to hassles, the worse is their mood. Studies have found that one's exposure to hassles is actually more predictive of illness than is, exposure to major life events. Two other major sources of stress are frustration and

conflict. Obstacles of many kinds lead to frustration, which may be external or personal in origin. External frustration is based on conditions outside of the individual that impede progress towards a goal.

The following are examples of external frustration:

Having a flat tyre in the midst of a very serious traffic jam, or the rejection of a marriage proposal e.t.c. External frustrations are based on delay, failure, rejection, loss and other direct blocking of motives. This can either be social (e. g slow drivers on the road, a traffic stand still, holding a travelling about-to-wed couple on the express road for a whole day, or travelers held in traffic jam all night on the express road.) or non-social (e. g Stuck doors, missing key or mobile phone, rain on a market outing). As social animals, humans are highly sensitive to social sources of frustration. Frustration usually increases as the strength, urgency or importance of a blocked motive increases. Remember too that motivation becomes stronger as we near a goal. As a result, frustration is more intense when people run to an obstacle near to a goal. A person who misses an A grade by 2 points will probably feel quite frustrated.

The writer felt terribly frustrated on two occasions in the course of her study as a postgraduate student and really felt like calling it quit with the programme. She sat for an exam in Epidemiology, and did not know there was a call to identify missing scripts, only to discover that her score was 39.5%. She wrote the HOD Epidemiology calling for her scripts as advised by her HOD Health Promotion and Education then. The HOD promised to look into it, the writer was sure she did better than the score, and even if she did not, if 40% was the pass mark, could she not have been given? But maybe she did the 'it's just not done' i.e., students calling for their scripts only call for trouble. To cut the story short, she resealed the paper.

Secondly, the writer was the Head of Department in Public Health Nursing in a particular school while undergoing her course in a bid to be self actualized, she juggles in between her work of conducting National and local exams, participating in markings, workshops and seminars that are compulsory, solving unexpected problems, coping with the African wife roles at the home front, as well as attending to her academics. Sometimes shuttling between Eleyele where the writer works and school in UCH up to 3-4 times in a day. The lecturers take their attendance themselves to ensure that students

meet the 75% required for them to sit for exams. This is to their credit though it could be highly frustrating for a student with a tight schedule.

On this faithful day, a list was pasted with names of those who did not meet the 75%; the writer was definitely one of them with her names in two places. Immediately the zeal in her to continue with the course started drifting off. she was fed up. Others were gathering to appeal to the lecturer, she was adamant that at least she will not push herself to death. Few days back, one of the postgraduate students, a banker, placed his head on the table in his office, and he was stone dead by the time the co-workers discovered he was not sleeping (STRESS).

To worsen the situation, on getting home with that frustration, she had an invitation as a Chief examiner for a National exam which she could not turn down and her promotion exam was slated for the same week. she was tensed up, it was one of the lecturers that she was unable to meet the 75% that she had to consult for counsel on what to do. On getting to him, he said the choice was hers. When he saw that the writer was at the edge of breaking down, he encouraged her to put more effort in her attendance, which she did. With faith and prayers the ASSU strike started and the examinations were shifted. She went for the invigilation, and when she came back, she was allowed to sit for the examinations.

A final factor affecting frustration is summarized by an old phrase “the last straw that broke the camel’s back”. The effect of repeated frustration can accumulate until a small irritation sets off an unexpectedly violent response.

Reactions to Frustration

Aggression is one of the most frequent responses to frustration Caplan (1984). The frustration-aggression link is so common; in fact the experiments are hardly necessary to show it. However, it is imperative to state here that aggression is not usually the first or the only reaction to frustration even though the connection is strong; frustration does not always provoke aggression. For now, it is enough to note that aggression is not usually the first or only reaction to frustration. Overcoming a barrier ends the frustration and allows the need or motive to be satisfied. The same is true of aggression that removes or destroys a barrier. Directing aggression is disruptive and generally discouraging and as a result it is frequently displaced. Directing aggression

toward a source of frustration may be impossible or it may be too dangerous. Psychologists attribute much hostility and destructiveness in our society to transferred aggression, Gold (1994). A disturbing example is the finding that when unemployment increases, so does child abuse (Steinberg and others., 1981) a pattern known as scapegoating is particularly damaging. A scapegoat is a person who has become a habitual target of transferred aggression.

Another major reaction to frustration is escape, or withdrawal. It is stressful and unpleasant to be frustrated. If other reactions do not reduce feelings of frustration, a person may try to escape. Escape may mean actually leaving a source of frustration (dropping out of school, quitting a job, leaving an unhappy marriage), or it may mean psychologically escaping. Two common forms of psychological escape are apathy (pretending not to care) and the use of drugs such as cocaine, alcohol, marijuana, narcotics.

Indications of stress: One of the definitions given by Selye (1973) claims that stress is a non-specific response of the body to any demand made upon it. He generated studies about how the body usually adapts to this process by which the body tries to minimize the effect of stress on it. This ranges from the already described increase in heart beat to development of major pathological disturbances. Hence, Pride (1978) detects psychological stress by measuring the amount of potassium content in urine, thereby showing physiological reaction to stress. Walker (1988) establishes that nausea and vomiting, sleeplessness, or disrupted sleep help to indicate the presence of stress. Also included in his list were excessive drinking of alcoholic beverages, excessive smoking, weight gain, weight loss, nightmares, feeling chronically tired and difficulty in relaxation, forgetting things, trouble in concentration, frequent colds, pain, and avoidance of making decisions. Walker, (1988) states that these are also symptoms which could arise through stress-related events and may require medical attention.

A study of relationship between stress and utilization of health care services by Gortmaker, Eckendore and Gove (1982) concludes that the presence of stress on a given day is associated with approximate doubling of the probability of a health care contact on that day. Thus, there are health implications for areas where a specific stress factor is constant (e.g. war zone). Gortmaker and others (1982) also found that increased use of toilet coincides with times when there is an undesirable stress factor.

Recently, the discovery of the Psychological Stress Evaluator (P.S.E.) to detect signs of stress in the voice and conditions of extreme stress has proved useful. This was tested using tape recording of negotiations during a prolonged terrorist siege in which a number of death threats were issued Gunn and Gisli (1988) indication of stress could be mild and normal, but could be unnoticed, while some prolonged reactions, which also happen to be severe, could result to major diseases. Again, reaction to stress relies heavily on the severity of the stress factor and on the individual's perception of the situation.

Stressors are: Financial Constraints, long lecture hours 8:00am – 6.00pm, weekend lectures, too many courses e. g 14 courses at most for a semester, crowded Exam time table, inadequate accommodation, poor transportation facilities, inadequate lecture rooms, lack of conducive environment for teaching and learning e. g very hot learning environment, power failure, fume of generator and noise pollution.

The panel on psychological assets and modifiers of stress proposed four broad types of stressors that vary primarily in their duration, degree and quality in the Institute of Medicine report on Stress Mitchell(1983). Acute,time-limited stressors such as, awaiting surgery or encountering an armed robber.

Stressor sequences, or series of events that occur over an extended period of time such as the consequence of an event like losing one's job, or the loss of a spouse or loved one as well as sexual difficulties which may be periodic, these are referred to as Chronic intermittent Stressors. While Chronic stressor, are permanent disabilities, serious job stress, which may or may not result from a discrete event and which may continue for a long time. The creation of a definition of stressful situations depends on an evaluation of pattern of stress response.

Response definition, prevalence in Medicine and Biology, refer to a state of stress in which the person is referred to as - Reacting with stress, being under stress, being disturbed and distressed (Lazarus and Folkman, 1985).

Stimulus and response definitions have limited use, because a stimulus gets defined as stressful only in terms of a Stress response. Adequate rules are still needed to specify the conditions, the environment, takes into account person-characteristics on the other hand, and the nature under which some stimuli are stressors. The definition of stress emphasizes the relationship between the person and environmental events or the other.

This parallels the modern medical concept of illness, which is no longer seen as

caused entirely by external organisms but also on the organism's susceptibility. Taking this into consideration therefore, psychological stress is a relationship between the person and the environment as it is appraised by the person by exacting or exceeding his or her resources and endangering person environment relationship, this hinges on cognitive appraisal.

Cognitive appraisal: Cognitive appraisal refers to evaluative cognitive process that intervenes between the encounter and the reaction. Ekehammer (1974) states that '...the person is a function of the situation, but also, more importantly, the situation is the function of the person through the person's (a) cognitive construction of situation and (b) active selection and modification of situations'.

Through cognitive appraisal process, the person evaluates the significance of what is happening for his or her well-being.

Coping: Coping is defined by Stone and Neal (1984) as efforts, both action-oriented and inter-psychic, environmental and internal demands conflicts, which tax or exceed, a person's resources. According to Bakare (1986), coping is an individuals' secondary appraisal of what can be done in the presence of a threat or challenge. Obadina, (1984) used the word coping and adjustment synonymously. Coping is the process through which an individual manages the demands of the environmental relationship, which are appraised as stressful, and the emotions they generate.

Adjustment, on the other hand, is the resolution of a problem. The difference in the two definitions seems to show that *coping is a process of adjustment in order to solve a problem, while adjustment is the achievement of problem solution*. Stone and Neal (1984) further stated that the need to restore to normalcy, the disturbed environmental equilibrium brought coping into focus.

Very often, several attempts to return to this baseline equilibrium fail and these results in frustration. Bakare, (1986) explains that there is a psychological feeling of well-being enjoyed by an individual who is able to overcome stress, especially when this happens over and over again.

Coping efforts, whether sociological or psychological, is geared towards the threat itself or towards the regulation of emotional distress it is causing. The concept of coping resources, coping strategies/skill and coping responses are also quite important.

Coping strategies/skills: In an effort to describe the strategies used in coping, Campas, Malcarne and Fondacaro (1988), indicate that coping strategies or coping skills are *those resources available to individuals for solving problems or meeting the needs of those individuals*. They felt that coping skills are discrete in themselves yet, some depend on others to resolve problems. That means that some coping skills on their own can resolve the need in the presence of a stress factor or factors, while some might work in combination with other coping strategies.

The editors of Psychological Medicine (1988) wrote on the variability that existed in the process of selecting coping strategies. It was particularly noted that investigators tend to neglect this area of coping. It was suggested that the variability which existed could be due to the level of problems to be coped with and also due to differences which existed between individuals. Available resources at the time of stress occurrence was also made. Study establishes that cognitive and behavioural efforts to alter the sources of stress as well as to regulate the negative emotions associated with stressful circumstances are important in reducing the negative effects of a range of interpersonal and achievement-related stressors.

Two types of coping strategies were identified by Cohen, (1980) as “*problem-focused*” and “*emotion-focused*” coping. Problem-focused coping is defined as efforts to act on the source of stress to change it, while emotion-focused coping is effort to regulate emotional states that are associated with stressful events. The extent to which the individual uses problem and emotion focused coping strategies has recently received increased attention in psychological literature (Lazarus and Folkman, (1980).

Tero and Connell, (1984) who studied the use of coping skills in resolving problems in the face of behavioural and emotional problems in the adolescents and younger children, conclude that the use of emotion and problem-focused skills in this group remains unclear and thinks that the importance of generating alternative solutions for coping with real life stressors has not been investigated. He suggested that future research on coping should concentrate more on the relationship between the types of alternative solutions generated and those actually used in coping with stress. Individuals who appraise a situation or an event as stressful engage in coping activities which either have a direct effect on health or moderate the relationship between appraised stress and

health (Edwards, 1988). Some of these activities or strategies used to cope with stressful situations or events include:

i. Relaxation: Lees and Ellis, (1990) in their study, reported a wide range of relaxation methods used for coping with stress. They include walking, badminton, squash, swimming etc. Relaxation time is also used for problem solving and thinking about them with others. They also reported smoking and drinking as coping strategies. Goldenberg and Wadel (1990) include diaphragmatic breathing, hobbies, television, and support network as relaxation techniques.

ii. Projection: This is the act of attributing unconsciously unpleasant feelings such as guilt, to other people as a means of self-justification or self defense Maddox (1979).

iii. Brooding: Mollon and Parry, (1984) reported that depressed individuals try to cope with stress by brooding or thinking about troubles etc. for a long time.

iv. Reminiscence: One of the coping strategies listed by Vingerhoets and Flohr, (1984) is reminiscence which means recalling of past experiences by writing or talking about them.

v. Attribution: Caplan and others (1984) have explained that students usually cope with examination failure by attributing their poor performance to the examination type.

vi. Hope/Luck: Simon and Feather, (1973) reported that undergraduates coped with examination outcome by looking forward to luck or being hopeful.

vii. Alcohol/Drugs: College students also take drugs or alcohol as a method of coping with stress. More female college students use drugs (Barbiturates, bromide and tranquilizers) to cope with academic-related stress than males Mitchell, (1983), Furnhan and Lowick, (1984) reported, in their study, that one of the causes of alcoholism is an attempt to cope with psychological stress. Crutchfield and Greve, (1984) reported that men drink alcohol more often than women. They also supported the fact that women use more drugs than men.

viii. Religiosity; According to Strobe and Strobe, (1987) religiosity not only offers systems of beliefs which may be comforting to the individual under stress, but also offers a religious community and thus a social support network likely to protect the individual against the adverse effect of stress.

ix. Faith in People: In a study with College students, Tinsley, Aubin and Brown, (1982) reported that for personal problems, the students indicated they would be more likely to

turn to close friends for help. For career problems, the students would be more likely to seek help from academic adviser or instructor.

x. Planning/Reorganization: Zarb's, (1981) study reveals that students cope with academic demand (stress) by developing a good study habit. The result of the study also shows that in normal population the best students are those who have developed good study habits and who realistically perceive themselves as academically successful.

xi. Aggression: Aggression is important in coping with life. It is involved in every task or job we undertake. It is behind every artistic or scientific creation. According to (Fast, 1976), aggression has been given a bad press. When we hear the word, all the ugly aspects of it come to mind – war, hostility, robbery, and murder—sure are all examples of aggression gone wild, but aggression under control is one of the strongest coping tools we can use.

xii. Acceptance: It has been observed that the person who accepts the environment, and who does not struggle against it, experiences greater personal comfort and less psychological symptomology (Mechanic, 1976).

xiii. Task Orientation: Also, according to Mechanic, (1976) task-oriented persons who do not tend to be introspective, cope effectively. Such persons appear to have less interference from psychological arousal that defer from attention to a task orientation, and they appear to suffer less doubts and indecision.

xiv. Being with family: Of all institutions in the society, it is the family that is most likely to act as a buffer to absorb the strains and stressors experienced by its members (Venters, 1981).

xv. Displacement: Other coping strategies, as listed by DeWe (1987), include trying to forget about it, just shutting off, getting angry, looking for fault in others, taking your feelings out on whoever happens to be around, getting mad at yourself and telling yourself you could have avoided the situation, and trying to reassure yourself that everything is going to work out alright and ignoring any difficulties.

Determination of Choice of Coping Strategies

The direction to make use of a particular strategy for coping with stressful situation or event is influenced by some factors like:

i, Irrational and Rational coping behavior: According to Edward (1988), the determinants of coping behaviours are grouped into two. The first is the irrational which is made of primitive instincts of heuristics, biases and habits. The rational determinants examine the potential cost and benefits of the available coping strategies.

ii. Appraisal: The appraisal outcome helps to explain the factors that influence the choice of coping behaviours that lead one person to take active steps to remedy a problem, while another resigns oneself to fate. Folkman and Lazarus (1980), appraisal is a rational examination of the cost effectiveness of the available coping strategies.

Coping response: A coping response is an action, thought, expression or feeling triggered by the stressors or illness and which has a definite link to this particular stressor (Pearlin et al, 1981). Thus, the nature and the type of coping responses developed by the individual will be determined, to an extent, by the coping resources that person is exposed to, it is generally agreed that coping responses act as a buffer between stress and illness.

Three modes of coping responses were described by Evans and Gall, (1988) and they are:

1. Avoidance,
2. Confrontation and
3. Resigned modes of coping.

These three modes originated from what was referred to as cognitive and emotional strategies of coping.

Avoidance coping: It is defined as a mode of coping which does not deal with the situation directly. It tends not to be action oriented. Bakare, (1988) referred to this type of coping response as “substitute at response” or flight to fight response, hence the individual with a problem tends to divert his energies and resources away from confronting the problem. Sometimes, the individual leaves the presenting problem untouched and instead tackles another presenting problem which might offer more satisfaction (Bakare, 1986). However, some stressful situations are successfully solved through this mode.

The Confrontation Coping Response: It is an action oriented mode of coping because causes of problems are sought and solved directly. It is sometimes called direct attack response (Bakare, 1986). An example of this in everyday living is seen when an individual who meets a dried up pond near the home goes on to fetch water from a far away stream.

The Resigned Mode of Response: Otherwise known by other authors as submission response, freeze response, or inert response (Kanner, Coyne, Schaefer, and Lazarus, 1981), is where the individual does not attempt to solve the problem, but submits to or accepts the problem. Sometimes, this individual suffers in silence. In extreme cases, the individual tries to get away or attempts to get himself drunk or commit suicide. Evans and Gall, (1982) scaled these modes of coping on a likert scale, adding “anger and complaint” on the scale. They however explained that in a real life situation, this scale does not run on a continuum, meaning that each sub-scale cannot be said to be better than others without considering all other factors.

Socio-demographic Variable: The result of a study, by Fleishman, (1984), shows that education and income correlate positively with the use of active-behaviour coping, gender and age appeared to have small inconsistent effects. Berger and Gold, (1979) reported that College males and females do not differ significantly on problem solving performance. In their own study, Clopton and Joseph, (1990), reported that age was negatively correlated with problem-focused coping methods, but there was no significant association between social position and coping scores, nor were there any main effects or interactions for either sex or marital status on the coping methods. Rasario, Shinn, Morch and Huckabee, (1988) also found that men and women did not differ on levels of individual problem-focused coping, but men used more emotion-focused than did women.

Personality and coping: Fleishman (1984) reported that personality characteristics such as self-esteem may affect problem and emotion – focused coping. High self-esteem, an attitude of acceptance and liking for oneself, may give rise to a feeling of confidence in one’s ability to overcome adversity. A challenge to someone high in self-esteem may be an overwhelming threat to someone low in self-esteem and the trait of repression. That is, people high in self-esteem maintain their positive outlook, in part, in ignoring or denying negative or threatening information.

Commenting on personality and stress Pearlin and Schooler, (1978) stated:

Psychological characteristics are more helpful in sustaining people facing strains arising out of conditions over which they may have little control, finance and job. But where one is dealing with the problems residing in close interpersonal relations, it is the things one does that make the most difference.

Event types: The study by Solomon et al (1990) showed that more negative events are familial and social areas were significantly associated with less frequent use of problem-focused coping. Clopton and Joseph (1990) reported that wishful thinking is used most often in responses to either the death of a loved one or a decline in significant other's health. It was employed least often when one's own health was concerned. Advice-seeking was the most common way of coping with a decline in personal health. Self-blame was resorted to most often in response to role change, or as a coping reaction to a family stressor. They also reported that more threatening events evoke less self blame as one becomes more likely to seek social support in those events.

Unconscious Defense Mechanism: Heilbrun and Pepe (1985) confirmed the classical Freudian version of defense as an unconscious mechanism that reduces the stress of painful thought. This shows that sometimes one adopts defensive mechanisms to cope with stressful situations without knowing it. Their results also provide some support for the view that defense must be unconscious to work effectively, some of these defense mechanisms are:

- i. denial,
- ii. repression,
- iii. rationalization,
- iv. projection and so on (Clarke, 1984)
- v.

Efficacy of coping strategies: The effectiveness of a coping strategy cannot be judged solely on how well it removes problems and hardships from our lives. Instead, it must be judged on how well it prevents these hardships from resulting in emotional stress (Pearlin and Schooler, 1978), cultural factors determine the precise nature of relevant stressor in a community, specific cultural factors must be taken into account in diagnosing adaptive and maladaptive behaviour. In most cultures, because males are not expected to accept defeat or inability, the more effective coping style for males is one of emotional control,

consisting of projecting an image of themselves as being unconcerned with or unaffected by stressors. This style is more effective in moderating the psychological, as opposed to psychosomatic effects of stressors for males, and it was completely in-effective in moderating effects for women. A study by Dressler, (1985) shows that women who project active coping styles or believe in their own ability to manage stressful situations, had fewer reported psychological or psychosomatic symptoms in relation to high stress level. Men were affected adversely by active coping styles; males who projected such style had more symptoms of psychological and psychosomatic distress in relation to high chronic stressors.

The most effective coping strategy is to utilize many coping strategies in given stressful situations. According to Pearlin and Schooler, (1978), the most direct way to assess the variety of one's coping repertoire is by simply counting the number of responses that one actively invokes. As the numbers of responses that people employ increases, stress becomes decreasingly likely to be associated with marital and economic strains. Stress as a consequence of strain is virtually eliminated when people use more than one of these responses.

Supporting this assertion, Fast, (1976) explained that a flexible man is a creative "Coper" and he is the one who has enough sense to recognize a dead end when he sees one and to search for a workable alternative. He is able to change his approach when things are not working out properly. He must be constantly aware of reality, and this awareness helps him realize just how much he can achieve in any coping situation. It does not only tell him when to stop trying, but also when to keep trying, when he has a realistic chance of success. Fast concluded by saying that the key to coping is to abolish rigidity.

Some stressful situations are not responses to individual coping behaviours. Such coping failure does not necessarily reflect the short-comings of individuals. In the real sense they may represent the failure of social systems in which the individuals are enmeshed. Pearlin and Schooler, (1978) suggested that coping with such stresses may require interventions by collective rather than by individual efforts. They maintained that many of the problems stemming from arrangement deeply rooted in social and economic organization may exert a powerful effect on personal life but be imperious to personal efforts to change them. This perhaps is the reason that much of individual coping

behaviours function only to help them endure that which they cannot avoid, such coping at best provides only a thin cushion to absorb the impact of imperfect social organization.

Outcome of Coping Behaviour

A study by Fisher-Beckfield and Mcfall, (1982), showed that deficits in interpersonal and problem solving skills are significantly related to clinical depression. Maladaptive coping behaviour can also lead to seizure disorder (Parrino, 1979). He maintained that when coping behaviours are adaptive they lead to effective functioning and positive emotional states and when they are maladaptive they lead to the malfunctioning of the system and to emotional and psychosomatic distress.

Coping Resources: Conversely, a coping resource is that aspect of a person's entire environment, which is not totally or really under the individual's control. This acts in a subconscious way to determine the individual's response to an advancing stressor. So many factors can be associated with coping resources, depending on the individual's consciousness to the perceived stressors.

Degree of success of coping strategies

Literature reviewed so far, have entreated that no coping strategy could be said to be better than another unless appraised in a given situation. This means that the three types of coping mode differ in the degree to which they result in successful problem resolution (Bakare1996).

According to Kanner et al, (1981) and Bakare, (1986), confrontative or direct attack response traditionally is often the most effective and satisfactory type of coping response. However, they warn that the confrontative response may not always be effective in all stressful situations. The avoidant coping response follows as the next in the choice of coping responses, it tends (as a rule of the thumb) to be used in combination with confrontation for effective coping response, hence time factor is one of its inner mechanisms. Resigned mode response seems to be the least effective and satisfactory, because the temporary escape lasts for a short period before the stressor resurfaces. On the use of coping strategies Bakare, (1986) writes: ~~the~~ the secret of successful coping therefore lies in the ability to select which coping response will maximize one's effectiveness and satisfaction in the process of problem solution~~.~~

Factors affecting choice of coping strategies

In an attempt to identify the mode and choice of coping strategies, Folkman and Lazarus, (1980) describe some of the factors that affect the choice of styles. Individual appraisal of the stressor topped their list, since it explains clearly how an individual perceives the stress factor. Folkman and Lazarus, (1980) feel that individuals use more problem-focused coping when a situation is appraised as changeable and use emotion-focused coping when a situation is appraised as an unchangeable reality, which they must accept. Another factor which Campas et al, (1988) identified as influencing the choice of coping strategy is age.

Age: Confrontative coping style seems to be the choice of the younger generation. This is because this coping style needs energy, and it is a risk-taking strategy or style. Both risk-taking and energy are common characteristics of youth.

Gender: is another factor that controls choice of strategy. It is a common belief that females are constantly under one stress or the other and therefore utilize emotional coping mechanisms. Hilgard and Akinson, (1975) did not agree with this view, hence they hypothesized that in a given and controlled stressful situation, men and women react the same way. Mathur (1984) felt that women use a combination of emotional and problem-focused coping styles but felt that men are more problem oriented than women.

Resources that are available at the period of occurrence of stress are important factors that affect the choice of coping strategies. Such resources like time, money and social support, degree of mobility, position in office, school, and state of health are all important in making a choice of coping style.

Levels of Stress among Different Groups

There have been few studies done to explain why certain groups or individuals perceive stress differently. One of those studies by Kessler (1979) about socially disadvantaged persons, who are highly exposed to stressful situations, was done with unmarried, uneducated, non-white women. He compared his findings with white, highly placed, educated males and concluded that socially disadvantaged people perceive clusters of stressful experiences, and they utilize a complex of coping styles in dealing with these stressors. Katz, Munuck and Wing, (1986) found an increase of ischaemic heart disease among the group of people with low education and socio-economic status.

This may have a health implication on the Nigerian society since Nweze, 1983) pointed out that more than 25% of Nigerians are in low socio-economic class.

Middle class executives are another highly stressed group of people (Evans and Gall, 1988). Selye, (1971) feels that about 9% to 15% of health services used by middle and upper class executives are related to job stress. A particular group of people who belong to the middle class, and whom stress researchers continually mention as being prone to stress, are the Type 'A' behaviour personalities. These groups of people are depicted as having impatient or hurried behavior, a strong orientation towards work responsibilities and task completion, and intensely competitive behavior in situations that involve evaluation (Ivancevich and Matterson (1988). A high record of coronary disease and mental illness has been associated with this group of people (Evans and Gall 1988).

Suinn, R.M. (1982) studied socio- cultural factors in response to stressful situations among Italians and Jews, using pain as a stressor. He found out that while one culture is acculturated to suppress pain, the other is expected to react freely and strongly to painful situations. Hence, a person's ways of expressing emotions are inherited patterns that originally had some basic survival values. This only means that general statements or suggestions for intervention concerning stress across cultures and societies should be viewed with caution.

Scotch (1963) talked about behavior and situation in relation to stress, referring to cultural situations. Specifically, he predicted that rapid culture change would produce social and psychological stress, which increased rates of stress symptoms. In a study he carried out among the Zulus of the South Africa, he found that some behavior patterns and situations, which were associated with rapid cultural change, produced high blood pressure among the Zulu communities in urban settings, while such behavior patterns in rural setting were not associated with hypertension. This suggests that specific social setting and cultural behaviors have association per se in stressful events and coping behavior.

According to Caudill (1958) a pattern of behaviour or social situation may or may not be stressful depending upon the social context in which it occurs. It could then be deduced that the rapid social change in African countries may have produced stressful situations through predictable strains of urbanization. The process of urbanization

introduced a foreign culture and has made African culture to lose a lot of cultural values, resulting in a situation of continuous stress caused by the mixed culture.

Older people are not without stress. Maddox, (1979) thought that the elderly are constantly under stress, at least for fear of death, the most stressful situation for them is not being able to do what they used to do before and by themselves, like daily routines. Some older statesmen and women might be going through debilitating illness. But most importantly, change (rapid change) causes a lot of stress in the elderly.

Stress is seen in almost all professional domains but it can have a great impact in medical professionals and their society. The main hurdle for doctors is to be able to handle stress and function under it. They have to provide medical care to their patients while ensuring that they do not cause unintentional harm.

Physicians definitely suffer from high levels of psychological disturbance along with high level of perceived stress. There is certainly some good evidence that there is increased prevalence of mental health problem, particularly, stress among doctors compared with the general population with psychological morbidity ranging from 19% to 47%, compared with a rate of 18% for the general population Thumbell, (1967).

Previous studies have showed that ‘distressed trainee doctors’ are likely to suffer from impairment in areas of ‘clinical judgment and technical skills’ that can lead to negligence (Evans and Gall 1988). Occasionally, the first few years of medical education can unmask difficulties with mood and depression. Stress however is a part of residency training and if kept within certain level can lead to desirable attributes such as tolerance of ambiguity, self confidence, and maturity. In a comparative study that was intended to find out the level of stress among postgraduate medical students by using ‘*professional life stress scale*’, and the study population from:

1. Dow University of Health Sciences Karachi (DUHS) in public sector.
2. Agha Khan University Karachi (AKU) in private sector.
3. Selecting participants from four Faculties as samples namely,
 - General Surgery
 - General Medicine
 - Gynecology & Obstetric
 - Pediatrics, with a total of two hundred and seven postgraduate students.

The stress score according to professional life scale in two Universities were not significantly different (mean score university (1) 19.06 and University (2) 18.10, p value 0.386). This study did not find any significant association of age, gender, socio-economic status, and clinical specialty group with stress level. The stress level of postgraduate trainees in both Universities was found to be high 62.3%. Two different local studies conducted in 2002 and 2003 in Karachi found stress level of postgraduate trainees as 48% and 60% respectively. Another study conducted in Riyadh at King Fahad National hospital found the stress morbidity to be as high as 59% Ross and Mico (1980) Hence, the results of these two studies support the result of present study, Stress and coping mechanisms among postgraduate students of University of Ibadan and showed that frequency of stress is increasing but no risk factor showed significant association with stress.

Recent Developments

Accordingly, stress can be viewed as, "...an agent, circumstance, situation, or variable that disturbs the 'normal' functioning of the individual. Stress is also seen as an effect that is the disturbed state itself, this bifurcation of meaning is arguably the most fundamental source of the confusion surrounding the stress concept" Selye(1979) contend that there are no psychological stressors in any absolute, objective sense. In their review of the construct and its evolution, they assert that there are two traditional models of psychological stress, stimulus-based and response-based. The stimulus-based stress approach assumes certain conditions to be stressful and dubs these stressors (i.e. workload, heat and cold, time pressure, etc.).

Historically, this has resulted in researchers selecting such exogenous variables, applying them experimentally, and concluding that the outcome witnessed was likely the result of a "stress" manipulation. The approach is based on an engineering analogy (mechanical stress and emotional strain) that Stokes and Kite contend is inadequate. They argue that this model ignores individual differences, does not evaluate circumstances, and leaves out emotion—we are not just machines that react to environmental stimuli.

Stone, (1984) cites Selye's contention that the human response to stress is a non-specific systemic reaction. This view closely resembles *elements in* arousal theory and served to support volumes of experimental work in this joint direction. They argue that although

non-specific physiological arousal has become inextricably linked with psychological stress, it is inadequate in its explanation of the human stress response.

Ambivalence is usually translated into partial approach (Miller, 1980). Some more realistic examples of approach-avoidance conflicts are planning marriage to someone your parent strongly disapprove, wanting to eat when overweight, and wanting to go to school, but hating to go through the rigours of studying.

Effects of Stress: Typically, a person who is stressed has anxious thoughts and difficulty concentrating, recalling or remembering. Stress can also change outward behaviours. People's feeling/experience, physiologically differs when they are stressed such as fluttering in the stomach ("butterflies"), cold hands and feet, dry mouth, and increased heart rate, nagging, irrational behavior, depression, fear, are all examples of physical effects of stress associated with the emotion of anxiety (Flannery, 1990).

Response to Stress: The body passes through a series of changes that heighten physiological and emotional arousal. When a person appraises an event as stressful, the sympathetic division of the autonomic nervous system is first of all activated. This prepares the body for action by directing the adrenal glands to secrete the hormones epinephrine (adrenaline) and *nor epinephrine (nor adrenalin)*. The heart begins to beat faster in response. In addition, muscle tension increases, blood pressure rises and blood flow is diverted to the brain and muscle from the internal organs and skin, breathing also intensifies, the pupils dilate and perspiration increases. This reaction is sometimes referred to as the flight-to-flight responses as it energizes the body to either confront or flee from a threat. (Auerbech and Grammling, 1999).

Part of the stress response also involves the hypothalamus and the pituitary glands, parts of the brain that are important in regulating hormones and many other systemic body functions. The hypothalamus directs the pituitary gland to secrete Adrenocorticotrophic hormone (ACTH) in times of stress. ACTH then acts on the adrenal glands above the kidney to cause the secretion of corticosteroids hormones; corticosteroids have pronounced effects. Cortisol actually helps the body access fats and carbohydrates to fuel the flight-to-flight response. Some of this corticosteroids act like strong tranquilizers by boosting the effect of inhibitory neurotransmitters which causes the person to become lethargic or depressed. Others have excitatory effect leading to

emotional arousal and increased tension, causing a heightened sensitivity and alertness in a person to his surroundings (Auerbech and Grammling, 1999).

Over 45 years ago, the Australian physiologist, Hans Selye, as a medical student, noticed a patient with a quite different illness who shared various similar symptoms, like muscle weakness, weight loss and apathy. Selye believed these symptoms might be part of a general response by the body to stress, in the 1930s; Selye studied the reactions of the laboratory rats to different physical stressors, such as heat, cold, poisons, strenuous exercise and electric shock. The result was that the different stressors all placed a similar response, enlargement of the adrenal glands, shrinkage of the thymus glands (a gland involved in the immune response), bleeding of the stomach ulcers. Selye described these reactions to stress as the general adaptation syndrome (Selye 1976).

This syndrome involves three different stages

The Alarm Reaction stage, the Resistance Stage and the Exhaustion Stage (Selye, 1976). The alarm reaction is the generalized state of arousal during the body's initial response to the stressor when cortisol hormone levels rise and tension increases. Individuals who believe that they have little or no control over the cause of the stress show an especially heightened alarm response (Selye, 1979). At this early stage in the stress reaction, the person often uses psychological defense mechanisms and sometimes attempts to alleviate the stress through direct action in trying to cope.

Persistent Stress, however, results in occurrence of maladjustment symptoms such as gastrointestinal upset, panic, fear and sleep disruption. The person may then enter the stage of resistance, which is the next phase; where the alarm reaction was merely an alert, the stage resistance is a "full war effort". The body adapts to the stressor and continues to resist it with a high level of physiological arousal. Defense attempts now peak and to prevent complete psychological disintegration, the individual must find some way of dealing with the stress. By intensifying the use of psychological defense mechanism or by taking actions directed at eliminating the stressful situation, a temporary resistance may be achieved.

During this stage, there is tendency for a person to become fixed in their coping pattern rather than re-evaluating the situation and finding a new way of dealing with the stress. Long lasting emotional stress that are often partially resolved have become

common in recent times while continual unresolved stress leads to the exhaustion stage. Here, all the person's resources are at an end, and coping patterns tried during the stage of resistance begin to collapse. Resistance becomes weaker until finally, the body begins to break down, to suffer from the diseases that accompany stress. Depression is also a likely outcome, this is called psychological disorganization (Gold and others 1994).

Stress and the Immune System

The immune system is a marvel of precision, protecting the body from disease by seeking out and destroying foreign invaders, such as viruses and bacteria. Nevertheless, there is substantial evidence that stress can have a direct effect on the body's immune system. Studies (Cohen, S. 1980) have linked stress with decreased immune response. For example, when the laboratory animals are physically restrained, exposed to inescapable electric shocks, or subjected to overcrowding, loud noises, or maternal separation, they show decreased immune system activity. Researchers have reported similar findings for humans. One study, for example, found weakened immune response in people whose spouses had just died (Auerbach and Grammling, 1999).

Other studies have documented weakened immune response among students taking final examinations, people who are severely deprived of sleep; recently divorced or separated men and women; people caring for a family member with Alzheimer's disease; and people who have recently lost their jobs (Parkes, 1972). Stress appears to depress immune function in two main ways. First, when people experience stress, they are more often engaged in behaviours that have adverse effects on their health: cigarette smoking, using more alcohol or drugs, sleeping less, exercising less, and eating poorly. Secondly, stress may alter the immune system directly through hormonal changes. Research indicates that glucocorticoids-hormones that are secreted by the adrenal glands during the stress response-actively suppress the body's immune system.

In the last few years, researchers have begun to uncover the link between the nervous and immune system that did not depend on the actions of hormones such as those involved in the hypothalamus-pituitary-adrenal interaction (Auerbaum and Grammling, 1999). One of the most important findings associating the nervous and immune system was the discovery that lymphocytes (white blood cells) are covered with receptors for

neuropeptides. Lymphocytes are the body's means of attacking and destroying foreign and invading organisms; neuropeptides are messenger-chemicals formed by nerve cells. Scientist can measure the immune system's proper functioning by examining the effectiveness of the body's lymphocytes (Ryff, 1989). The link was suspected not only because stress was known to have an effect on health, but also because of some direct evidence of this effect on the body's ability to fight disease.

The assumption is that lower lymphocyte levels make people more susceptible to disease. It is common for people who lose their spouse to become seriously ill or to die within 2 years. This higher rate of illness and death is more widespread among survivors than among similar individuals of the same age who have not suffered the loss of a loved one (Parkes, 1972).

Natural killer cells are a special kind of lymphocyte and are an important component of the immune system. They help to destroy invading disease agents. The severity of impairment of these cells varies directly with the amount of stress reported by the people who are not able to cope effectively with their situations. The more stress the people were experiencing, the more their killer cells were impaired.

Researchers in this area, Psycho-neuro-immunology, have helped uncover many direct nervous system - immune system connections, such that researchers now think of the immune system as a sensory system, like vision or hearing collecting information (about the state of the body's health) and sending it to the central nervous system for processing while one is unaware (Marx, 1985). The discovery of the connection between the nervous and immune system had aided in the understanding of how shock affects the former, such as results from stress, can compromise the latter (Gold, 1994).

Stress and Illness: Physicians increasingly acknowledge that stress is a contributing factor in a wide variety of health problems. Chronic stress is characterized in its early stage by headaches from muscle tension, gastrointestinal disturbance such as ulcers, skin rashes, dizziness and fatigue. Chronic stress also aggravates arthritis, colitis (inflammation of the colon, large intestine), asthma hypoglycaemia (low blood sugar) and diabetes.

Researchers have clearly identified stress and specifically a person's characteristic way of responding to stress, as a risk factor for cardiovascular disease. The release of stress hormones has a cumulative negative effect on the heart and blood vessel. For

instance, cortisol increases blood pressure which can cause damage to the interior walls of blood vessels and it also increases the free fatty acids in the bloodstream.

The kidney reacts to stressful situation by retaining sodium and fluid. Hypertension, in turn, can result in a heart attack, stroke, or kidney failure (Benson, 1975). Stress also appears to influence the development of cancer, but the relationship is not as well established as it is for cardiovascular diseases. There is however, a moderate positive correlation between the extent of exposure to life stressors and cancer, i.e. the more the stressors the greater the likelihood of cancer Selye (1979).

Philosophers and Scientists have wondered for long about the role of personality in the onset of disease (Taylor, 1990). People with certain personality types seem to be physiologically over responsive to stress and therefore more vulnerable to heart disease. In the 1930's and 1940's, specific personality profiles were developed based on the claim that they were able to predict the likelihood of hypertension, cancer, ulcers, arthritis and other diseases (Alexander, 1950).

Convincing evidence to support these claims however was not in existence. Based on further investigation, researchers like Friedman and Rosenman in 1959, separated male personality into types A and types B and linked them to Coronary Heart Disease. While type A personalities are intense, alert, competitive, striving, impatient and hostile, type B are relaxed, easy going, and unpressured (Friedman and Rosenman, 1974).

Since then, much research has shown that type A males, when they experience stress have higher heart and blood pressure rise and slower recovery rates than the type B (Suinn, 1982). It is believed that the most destructive personality traits of type A personalities are frequent reactions of hostility and anger which correlate with an increased risk of Coronary heart disease.

This theory became so well-grounded that efforts to transform personality with the hope of lessening heart disease have become common place. Two Psychologists, Howard Friedman and Stephaine Booth-Kewley were thus prompted to conduct a meta-analysis, an examination of many studies that focus on one topic, in order to discover an overall consensus while carefully eliminating faulty studies. They analyzed and compounded 101 studies carried out between 1945 and 1984 on disease and personality and concluded that there was an apparent link between types A behaviour and heart attack Maddox,(1979).

However, other researchers conducting meta-analysis of these studies have come to oppose conclusions that type A behaviour is related to heart attack (Matthew, 1990). Reeder (1973) have suggested that the confusion in this findings may be because “type A” has never been clearly defined and is often assessed different from one study to the other. When a person does something active to cope with a threat, these system returns to normal. Running away or fighting (fight-to-flight response) is a successful way of coping with many physical threats. Problems arise, however when the body is prepared to cope with danger but cannot do so

Being caught in a traffic jam, for example, could cause the body to prepare for a fight-to-flight response, but when no action can be taken, the body’s system remain overlay active. Similar repeated experiences of this frustrating nature could lead to conditions such as high blood pressure. Scientists attribute at least part of this effect to evolutionary history Selye (1976). They reason that one time, people had to live with constant physical threat from wild animals and the elements as well as from one another, and the body developed in a way that helped it cope with these physical stresses.

Although early studies suggest that certain personality traits may also lead to stress-related disorders, most studies, since the 1980’s have failed to find a relationship between type A behaviour and Coronary Heart Disease. However, research has consistently demonstrated that people who show a high level of hostility, anger and cynicism, often components of type A behaviour have a high risk of Coronary Heart Disease than people without these traits Lazarus (1986) .

Post Traumatic Stress Disorder (PTSD) sometimes occurs after people experience traumatic or catastrophic events, such as physical or sexual assaults, natural disaster such as earthquakes and floods, automobile or airplane accidents and wars. People with this disorder relive the traumatic event through recurrent dreams or intrusive memories called flashbacks. They avoid things or places associated with the trauma and may feel emotionally detached or estranged from others. Other symptoms may include difficulty in sleeping, irritability and trouble concentrating. People who witness traumatic events may also develop the disorder. Individuals with strong, supportive network of friends and family members seem somewhat protected from developing Post Traumatic Stress Disorder (Barlow and Bufka, 1999).

To turn to a close friend for help, for career problems, the students would be more likely to seek help from academic advisers, instructors, close friends or close relatives. The outcome helps to explain the factor that influences the choice of coping behaviors that leads one person to take active steps to remedy a problem, while another resigns himself to fate (Folkman and Lazarus, 1980). Appraisal is a rational examination of the cost –effectiveness of available coping strategies.

Maladaptive coping behaviour can also lead to seizure disorder (Parrino, 1979). He further maintained that when coping behaviours are adaptive, they lead to effective functioning and positive emotional states and when they are maladaptive they lead to the malfunctioning of the system and to emotional and psychosomatic distress.

Summary of the literature review

Highlighted in literature review were factors influencing the consequence of stress like mastery, intimacy and self esteem. The fact that the outcome of stress is highly influenced by personality type and the availability of social support network, some of the reactions of stress identified in the literature review were depression, use of drugs and alcohol, smoking, increased heart rate, infections, diabetes mellitus, dysmenorrhoea and gastro-intestinal problems.

According to the literature review, some coping strategies include relaxation, hopeful/luck, projection, religiosity, faith in God, attribution, faith in people, planning, brooding, aggression, accepting things as they are, reminiscence, task orientation, and being with family. It is the view from literature review that selection of coping strategies is determined by variables like socio-demographic variables, personality, past experience, rational and irrational forces, event types, and unconscious defense mechanisms. From literature search, it is also agreed that the most effective instrument for selecting good coping behaviors are flexibility and ability to use as many strategies as possible, and that the bad effects of stress are mainly due to poor coping behaviours.

The literature review was concluded by identifying the theoretical framework that are relevant to stress and coping. They include the

- perception theory
- cognitive theory
- personality theory
- situation theory

Theoretical Framework

Health Education Theories in Relation to stress and coping perception theory

This theory explains that message received may be distorted because people see what they want to see, perceiving only those elements that coincide with their needs, interest or expectation (Prentice-Dunn and Rogers, 1986). Therefore stressors are specific to persons and time because what may be a stressful event for one person may be a happy event for the other. This also explains why two people exposed to the same stressful situation differ in the degree to which they perceive the situation stressful.

Personality Theory: This theory explains that alternative behaviour the adolescents could adopt when faced with unguided behavioural choice (Bandura, 1982). According to this theory, individual characteristic behaviour and thoughts are determined by three basic forces. These forces include heredity, self and environment (Ross and Mico, 1980). Some individuals are from birth prone to perceive situations as stressful. The self has two dimensions; self-esteem and mastery. The two dimensions refer to the extent to which one sees oneself as being in control of the forces that affect one's life (Pearlin et al, 1981). The physical environmental force explains that physical facilities like accommodation, population density, availability of toilets, water, electricity, etc, could be sources of stress to students. This theory maintains that stable intra-organismic constructs such as faith, psychic structures, internal dispositions or predisposition and beliefs and values are the crucial determinants of variants in behavioral outcomes (Kwok, 1977).

Situation Theory / Social Learning Theory: According to these theories, the situation in which one finds oneself determines one's behaviour. The principal assumption in this theory is based on four fundamental principles which include Drive, Cue, Response, and Reward (Bates and Blinder, 1984). A CUE is a stimulus that sets off an internal response to satisfy a drive and is followed by external behaviour. If the behaviour is socially rewarding learning has taken place. This theory is also related to **Stimulus – Response learning Theory**. It assumes that coping (Response) is usually a reaction to stress (stimulus).

Cognitive Field Theory: The basic notion of cognitive field theory, also known as Gestalt Theory, is based on systems approach. This means that the attributes or aspects of the component parts are defined by their relationship to the whole system in which they function (Bates and Blinder, 1984). Systems approach to stress indicates that an

individual's response pattern at the physiological, psychological, and behavioural levels is causally and systematically linked to the interpersonal and social response levels (Kwok, 1977). In accordance with the systems approach to stress is Parkes (1972) principle of interaction which explains that the variance of any response depends on individual differences, stimulus characteristic, physical and social environment, and interaction between aspects of each. Also explaining, this theory Ross and Mico, (1980) asserts that a group exists solely for the participation and satisfaction of its members.

PRECEDE Framework

This framework was developed by Green, Kreuter, Deeds, and Partridge, (1980). PRECEDE is an acronym for predisposing, reinforcing, and enabling causes in educational diagnosis and evaluation. It was developed to provide a focused target for intervention and gives specific insights concerning evaluation. There are seven phases of the framework as summarized below:

Phase 1-2 (as shown in fig.1) these phases are the epidemiological and social diagnoses. These diagnoses are made by identifying non-health problems, health problems (like morbidity, disability, prevalence, intensity, etc) and the quality of life (like subjectively defined individuals or communities problems, absenteeism, riots, etc).

Phase 3 is on behavioural diagnosis. This phase identified non-behavioural, and behavioural causes like preventive actions, utilization, consumption patterns etc.

Phase 4-5 from the educational diagnosis which identifies the predisposing factors like knowledge, attitude, values, perception, and socio-demographic characteristics; the enabling factors like available resources, accessibility, referrals, and skills; and the reinforcing factors like attitude and behaviour of health and other personnel, peers, parents, employer etc.

Phase 6-1 the administrative diagnosis. Here decision is taken on the health education strategies to be used. These strategies may include direct communication to the public or the patients, community, organization, staff development e.t.c. This, however, should be an integral and continuous part of working with the entire framework.

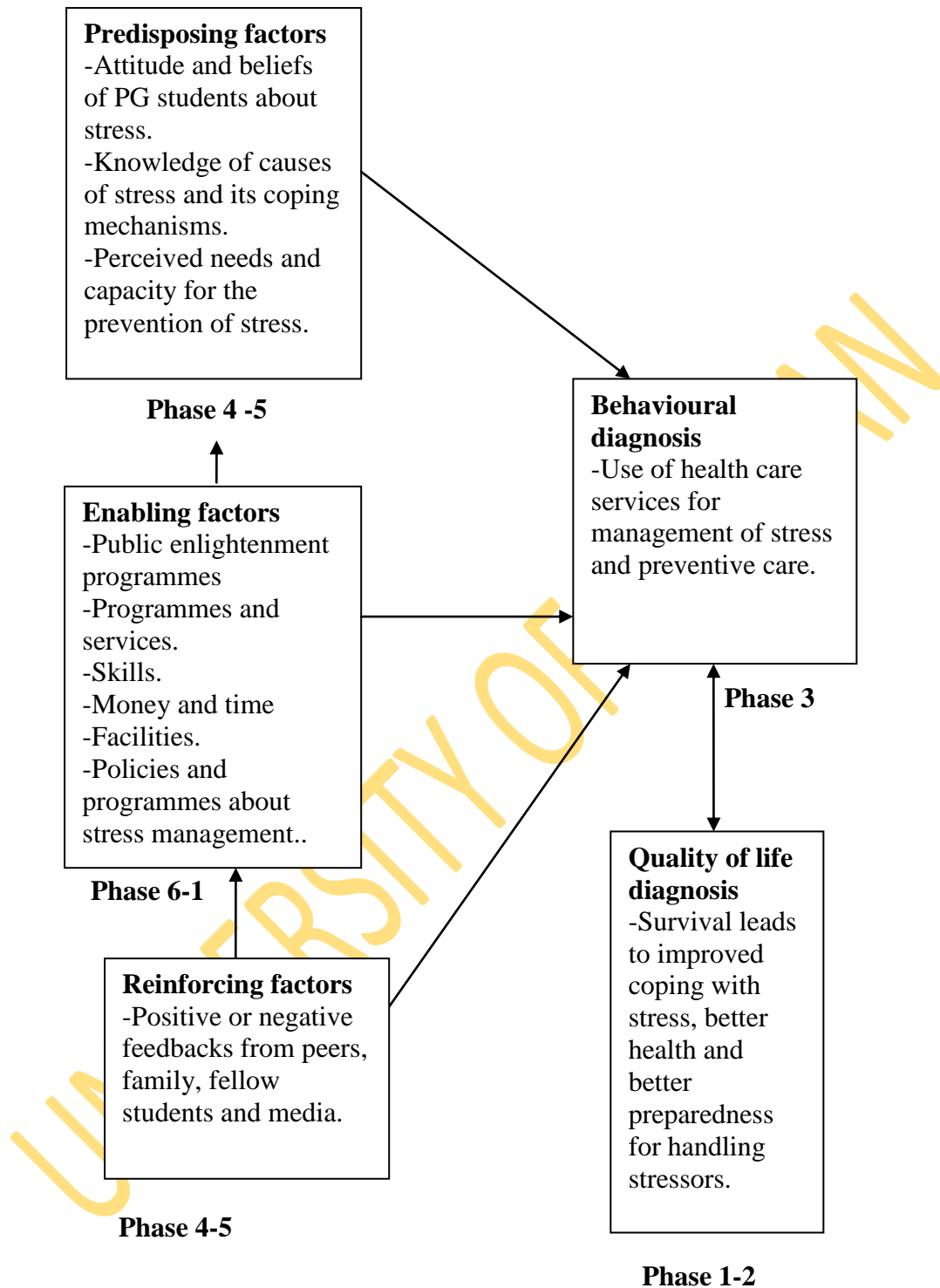


Figure 1: The PRECEDE framework for stress and coping mechanisms among postgraduate students of the University of Ibadan

Source: Green, Kreuter, Deeds, Patridge (1980)

CHAPTER THREE

METHODOLOGY

This chapter begins with the design, description of the study area, study population and study variables. It also describes the methods and instruments of data collection and data analysis, the validity and reliability of instruments and ethical considerations. Finally, it explains the limitations of the study.

Study Design

This study was a cross-sectional survey designed to identify the types of stress experienced by the postgraduate students of University of Ibadan and how they coped with it.

Study Population

The study population comprised of the postgraduate students of the University of Ibadan (including those undergoing diploma courses) residing in the various halls of residence.

Sample size calculation

The sample size was calculated using the Lessly & Kish formula:

$$N = \frac{z^2 pq}{d^2}$$

N = sample size

d = degree of accuracy, 5%

z = confidence level, 1.96

p= assumed knowledge level, 50% or 0.05

q= (1-p) = 1 – 0.5 = 0.5

$$n = \frac{1.96^2 \times 0.5 \times 0.5}{0.05^2}$$

$$= \frac{0.9604}{0.0025}$$

$$= 384.16$$

$$= 384.16$$

The sample size was rounded off to 400

Sampling Technique

A three-stage sampling technique was employed in selection of the respondents.

Stage 1: The University campus was stratified based on the two halls of residence, a new hall for the postgraduate (PG) students alone, as well as Obafemi Awolowo hall mixed with both postgraduate and undergraduate students.

Stage 2: Random selections of respondents from blocks A, B, C for males and block I for females in Awolowo hall of residence, and blocks A, B, C, D in the new PG hall of residence, making a total of 4 blocks each in each of the halls of residence.

Stage 3: In the third stage, a purposive sampling technique was adopted, all the students found in their rooms in each block were selected. A total of 400 students were invited to participate in the study but only 340 (85%) of them agreed to participate.

Instrument for Data Collection

Both Quantitative and qualitative methods were used for the data collection.

Qualitative Method

Focus Group Discussion (FGD) with a sample size of eight was used as a diagnostic tool to determine the effect of stress among postgraduate students, document the knowledge of stress, identify stressor agents as well as the coping mechanisms adopted by the students in the management of stress. The FGD guide comprised of 7 questions focusing on Stress and coping mechanisms among postgraduate students in the University of Ibadan (Appendix 1). Four FGDs were conducted, two for male postgraduate students and two for female postgraduate students. In selecting FGD participants, the researcher took into consideration the course and the level of study. In order to facilitate free flow of discussion, the students were divided into groups based on their current level, i.e the number of years they had spent in the university. Six to eight persons of the target group were brought together to discuss the issues. Each session took

a minimum of 45 minutes. The investigator moderated all the sessions and was assisted by a Research Assistant who operated the tape used for recording the sessions.

Quantitative Method

Information gathered from the FGD guide (Appendix1) guided the development of a semi- structured questionnaire (Appendix11). The questionnaire consists of six sections and a total of 72 questions which were grouped to cover the demographic profile of the respondents and the objectives of the study. The first section elicited information on the demographic profile of the respondents; the second sought information on the causes of stress; section three obtained data on the various health problems the respondents have as a result of stress; section four extracted information on the social traits i.e the interpersonal relationship exhibited by the respondents despite their academic stress, while sections five and six generated information on the various academic stressors, and the coping mechanisms adopted by the respondents and their recommendations. The questionnaire was written in English language.

Data Collection Procedure

The questionnaires were administered with the help of three female research assistants. Each research assistant visited the rooms in the selected block. All students (400) found in the rooms were invited to participate in the study; each student was given the questionnaire for a period of 10 days, and it took an average of 25 minutes to fill the questionnaires. However, only 340 students who agreed to participate in the study returned them.

Data Analysis

The information gathered from the semi-structured questionnaire was entered into the computer and analyzed using SPSS (Statistical Package for the Social Sciences) software, Version 15.0. This was done after accurate editing and coding had been done. Each completed questionnaire was checked on the spot to ensure that they were properly filled. Both descriptive and inferential statistics were used to analyze the quantitative data. For the inferential statistics analysis, a p-value less than or equal to 0.05 was considered statistically significant.

Validity of the Instrument

Prior to the use of the instrument, a copy of an FGD which guided this study was adopted from Uzoukwu 1992, as well as copies of dissertations from Awobokun, 2002 and Eze, 1995. The instruments were subjected to proper scrutiny by professional peers and the project supervisor who critically examined the instrument and made necessary corrections which were effected. The FGD guide and questionnaire were then pre-tested among 20 postgraduate students of the Faculty of Public Health. To determine its level of comprehension and clarity. Twenty questionnaires were administered and collected from respondents, cutting across socio- demographic characteristics. The findings of the pre-test were used to make necessary revisions for the main study.

Reliability of the Questionnaire

The reliability co-efficient of questionnaire was determined from the pre-test using the Alpha-Cronbach test. The Alpha-Cronbach test reported reliability co-efficient of 0.7. This was interpreted as a high reliability since a correlation co-efficient that is greater than 0.5 is usually interpreted as high reliability.

Ethical considerations

The questionnaire was designed to be anonymous to ensure confidentiality. The objectives of the study were clearly explained to the respondents. Secondly, a verbal informed consent was obtained from each of the study participant.

The aspect of confidentiality was well stressed, to encourage the participants to divulge the necessary information that would answer the research questions as personal information that could reveal their identity were not asked in the questionnaire.

CHAPTER FOUR

RESULTS

Section A: Findings from the FGD

Participants' knowledge of PG programme and stress

Majority of the participants confirmed that the postgraduate programme was very challenging. They stressed the fact that the programme has been stressful, tasking, energy sapping and capital intensive. Few of the participants said the programme was interesting though stressful. Many of them pointed to the heavy work load of their programme. One of the participants said *“we believe that when we finish the course work, there will be relief but the project work is another heavy workload on itself”*.

Participants gave their own definitions of stress; however there was a common link between when stressed up and the conditions that constitute stress, since all the PG students are exposed to the same stressors.

A participant also stressed the fact that what may be stressful to someone may not be so to another. Typical definitions of stress given by participants include the followings:

“Stress is getting worn out”

“Stress is when something is difficult for you to manage and it is disturbing you”

“Stress is a challenge which can be physical, financial, psychological, emotional and even health wise”

“Stress is the disability to perform optimally”

Knowledge of sources of stress of PG programme

FGD participants identified sources of stress of the PG programme

Challenges that are identified by the participants include the environment that is not conducive as reflected by poor electricity and water supply, the lengthy period of lectures and financial problems. As stated by a participant, *“In the morning, you are rich, by the time you are going home in the evening, you are poor as if you have been robbed*

or you have been pick-pocketed". Another participant put it like *this "we start lectures by 8am and we don't finish until after 6pm. We feel so tired and there is no time to relax"*.

The timing/schedule of lectures was the common stressor mentioned by many of the participants. One of the participants said *"we come to school as early as 8am and we do not leave until 6pm in the evening by the time we get home, we find it difficult to do other things. There is no time to read after lectures"*.

Another stressor that some of the participants mentioned is conflicts with course-mates. Typical responses given by the participants who mentioned conflicts with course-mates as a stressor included the followings:

- Conflicts with course-mates over group assignments
- Conflicts with course-mates who show non-challant attitudes towards group assignments
- Conflicts with course-mates who feel sidelined during group assignments

According to one of the participants *"even when you want to work on a group assignment without involving others due to their tight schedule, they will confront you and would want to have conflict with you"*.

Typical challenges faced at the home front and work place which was mentioned by the participants included the followings:

- Personal business running down
- Having to combine work with studies due to not being officially released at work place.
- Having to spend more money on study-related activities than was budgeted for
- Not having time for family due to rescheduling of lectures
- Challenges of coping with household chores
- Having to be recalled to attend to official duties at work place despite being officially released
- Having to forfeit tests/exams when they clash with official duties
- Not having a considerate boss at work which makes it more frustrating

Many of the participants stated that the stress does not allow PG students to perform optimally both in their studies and work places. According to one of the participants *“because we have many courses to read, at the end of the day, we do not perform optimally. At times, you have six courses to study for exams within three days. In most cases, when we manage to pass, we score very low marks.”*

Another participant said some people that have to rush to work and come back do not perform well, they do not put in their best. If their job is not done, they would have problem with their bosses.

Some of the participants also mentioned that stressors have impact on relationship with other people as people keep “straight” faces because of the tension.

One of participants who mentioned the impact of stress on relationships said *“some people when the stress is much, they transfer the aggression to others, while some have coping mechanism that they can adopt and adjust to any situation”*.

Stressors

The participants identified sixteen categories of stressors associated with their studies:

- i Financial constraints (not enough pocket money)
- ii Long lecture hours 8:00 am -6:00pm
- iii Having to attend weekend lectures
- iv Too many courses e.g. 14 courses for a semester
- v Crowding of lectures towards examination period
- vi Poor socio-economic status of the country
- vii Inadequate infrastructure
- viii Inadequate textbooks
- xi Lack of conducive environment for teaching and learning e.g. very hot learning environment, power failure, fume from generator and noise pollution (crowded classrooms and lack of chairs).
- xii Cost of books and other educational materials.
- xiii Loads of assignment
- xiv Choosing a research topic
- xv Carrying over a course
- xvi Lots of dues and levies

xvii Having to run from one department to another for lectures.

xviii Lack of study areas after school hours.

Coping mechanisms/strategies

Participants were equivocal on the absence of social activities to cope with stress especially in the UCH campus. Some also pointed to the fact that there was no time to engage in such.

Majority of the participants mentioned spiritual activities like going to church and maintaining /developing relationships with people who they discuss their challenges with, as the way they coped with stress. According to a participant *“the coping mechanism I use is to develop more relationships because there are no way you can do this kind of programme on your own. You need assistance from colleagues”*.

Another participant put it like this *“as a PG student, I have brothers-in-the-Lord that I run to and share my experience with, they help to shoulder my burden, encourage me and pray with me, they give me a shoulder to lean on”*

One of the participants stated that she had to see a psychiatrist as she could not explain how she was feeling while another said he had to live on drugs for a whole month. Another participant also mentioned that seeking assistance from course-mates who had cars was another way of coping with stress when she had to go for lectures.

Sources of assistance to cope with stress

Concerning the kind of assistance PG students receive to cope with stress, many of the participants mentioned financial assistance especially from parents, family members and spouses. Other major assistance mentioned by participants is moral support from friends, family members, fellowship members and fellow-students. The moral support mentioned by many of the participants was in the area of phone calls, counseling and psychotherapy, assistance from lecturers and non academic staff.

Stress is not gender bias

Concerning the question of whether stress is gender-bias especially as it relates to PG students, the participants were of the view that stress was not gender-bias although a participant noted that the belief is that women can cope with stress better than men.

According to the participant *“if we look at it from the home, we see that women can do many things at a time while men will do only one thing at a time”*. Many of the participants were of the view that married PG students experienced more stress, though some noted that the area in which married PG students experience stress relates to their families.

According to a participant, *“the married PG students have a lot of role to play. They have children that do not understand what they are doing, they have to explain to the grown-ups, but the younger ones cannot understand why Mum does not have enough time for them again.*

If you are not married, you do not have any explanation to make. Though my wife is not here, I still have to call her to tell her my movements, as well as the issues of married PG students who have to meet their family at the end of every week .This is stressful indeed”.

Suggestions on how PG students can effectively cope with stress

Participants gave their suggestions on how PG students can effectively cope with stress. Two of the participants were of the opinion that PG students should not do things that are beyond their capacity especially in their studies and at home. One of the two participants said *“I will suggest to colleagues to bite what they can chew and they should seek help from their colleagues.*

Project work is not a one man show, your ideas may get, mix-up with colleagues, ask questions and get some clarifications”.

Another participant said this *“at the family level, soft pedal. You cannot do everything by yourself, get help from people. If you are not there, things will move on”*.

Other suggestions offered by participants are that:

“The individual should be positive that he/she will make it despite what is happening, take things easy and make the best use of what you have”.

“Try and eat well so that you can be stable and think well”.

“At your workplace, once in a while when you are there, make an impact. Let people feel your presence”.

Section B: Survey Results

4.2 Socio - demographic characteristics

The socio-demographic profile of the respondents is shown in Tables 4.1. The ages of respondents ranged from 21 to 50 years with a mean of 30.7 ± 6.7 years and there were more males (50.6%) than females (49.4%). Fifty five of the respondents were Yorubas, 18.2% were Hausas, while 26.2% of the respondents were of the other ethnic groups such as Ibibio, Efik, Edo, Isoko, Tiv and others. Majority (94.4%) of the respondents were Christians. Majority (82.9%) of the respondents were running programmes that would last for duration of one and a half years or eighteen months. Details of the socio-demographic profile of the respondents is shown in the Table 4.1.

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Table 4.1 Socio-demographic characteristics of the respondents

Variables	Number	(%)
Age group		
21 – 30 years	230	67.6
31 – 40 years	79	23.2
41 – 50 years	31	9.1
Total	340	100
Sex		
Male	172	50.6
Female	168	49.4
Total	340	100
Marital Status		
Single	270	79.4
Married	70	20.5
Total	340	100
Religion		
Christian	321	94.4
Islam	16	4.7
Traditional	2	0.6
Non Response	1	0.3
Total	340	100
Ethnicity		
Yoruba	187	55
Hausa	62	18.2
Igbo	1	0.3
*Others	89	26.2
Missing	1	0.3
Total	340	100
Occupation		
Fulltime Students	295	86.7
Lecturer	33	9.7
Nurse	6	1.8
Lab Technologist	2	0.6
Missing	4	1.2
Total	340	100
Level of study		
700	313	92.1
800	27	7.9
Total	340	100

*Others include Delta, Ika, Ibibio, Edo, Isoko, Efik, Tiv, Igala, Urhobo

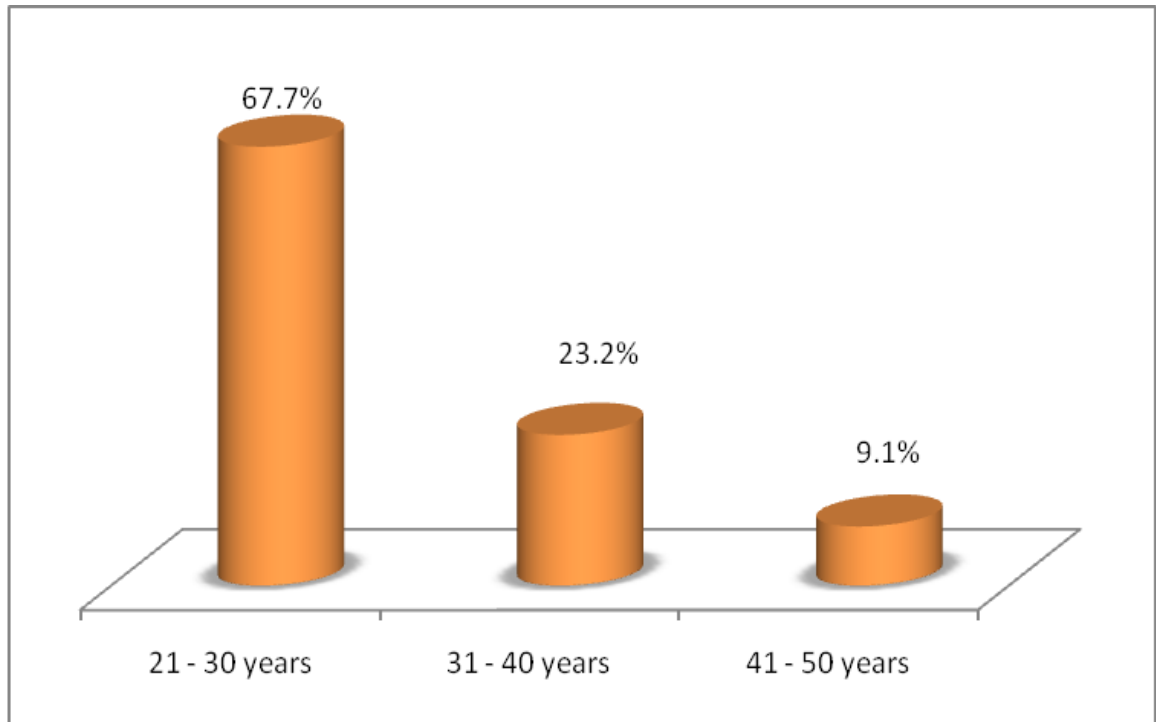


Fig 4.1Age group of respondents

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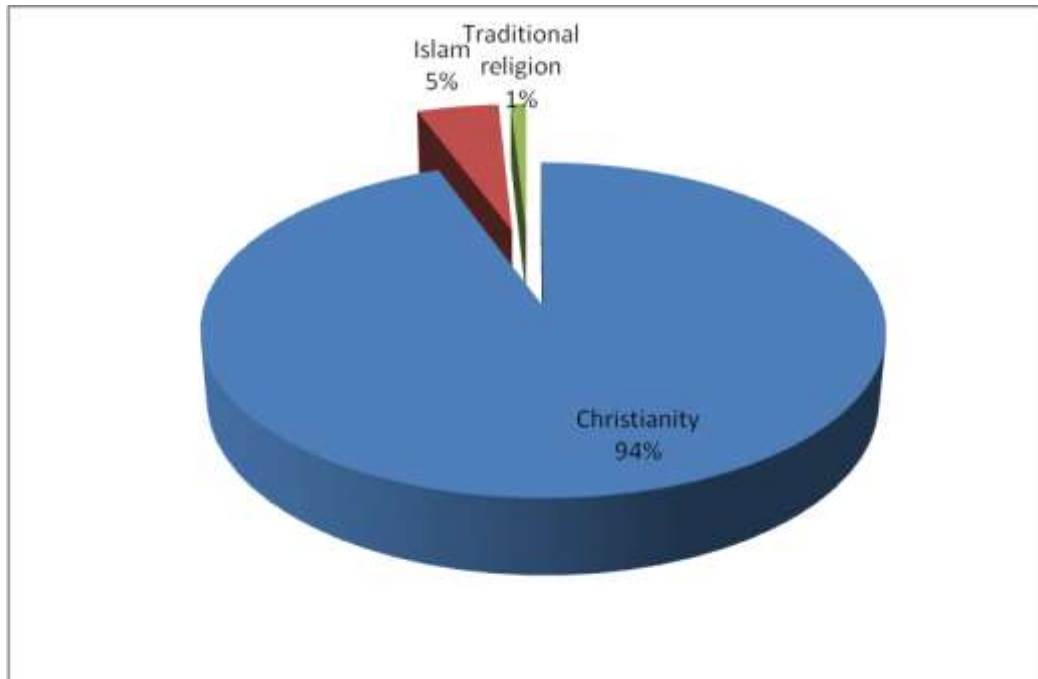


Fig 4.2 Religion of respondents

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Severity of Stress

Respondents were asked to rate how stressful some listed conditions were to them. A few (29.4%) of the respondents agreed that having too many responsibilities was very stressful for them, 16.5% agreed that having difficult lecturers are also very stressful for them while only 7.6% agreed to the statement that it was a very stressful situation to have health problems. Details of the severity of stress are shown in Table 4.2.

Table 4.2 Severity of stress

Conditions	No stress%	Low stress (%)	Moderate Stress (%)	High stress (%)	No Response	Total (%)
Too many responsibilities.	30(8.8)	59(17.4)	145(42.6)	100 (29.4)	6(1.8)	340(100.0)
Difficult lecturers	71(20.9)	92(27.1)	106(31.2)	56(16.5)	15(4.4)	340(100.0)
Health problems	172(50.6)	83(24.4)	45(13.2)	26(7.6)	14(4.1)	340(100.0)
Divorce	233(68.5)	11(3.2)	9 (2.6)	13 (3.8)	74(21.8)	340(100.0)
Not enough money for use.	80(23.5)	89(26.2)	92 (27.1)	60 (17.6)	19(5.6)	340(100.0)
Conflict with spouse	198(58.2)	35(10.3)	16(4.7)	18 (5.3)	73(21.5)	340(100.0)
Conflict with a friend	180(52.9)	84(24.7)	27(7.9)	18 (5.3)	31(9.1)	340(100.0)

Section C: Health problems

The respondents were asked to rate some listed health problems as either low, mild, moderate or severe. Forty two (42.0%) percent of the respondents rated headache as low, only 5.3% rated sleeplessness as severe while 29.1% reported to have had moderate fatigue and low energy as shown in Table 4:3.

Table 4:3 Rating of health problems by respondents

Health problems	Low (%)	Mild (%)	Moderate (%)	Severe (%)	No response (%)	Total (%)
Headaches	143(42.0)	92(27.1)	58(17.1)	25(7.4)	22(6.5)	340(100.0)
Sleeplessness	186(56.7)	59(17.4)	49(14.4)	18(5.3)	28(8.2)	340(100.0)
Dizziness	182(53.5)	72(21.2)	47(13.8)	9(2.6)	30(8.8)	340(100.0)
Fatigue, low energy, tiredness.	93(27.4)	98(28.8)	99(29.1)	34(10.0)	16(4.7)	340(100.0)
High blood pressure	245(72.1)	25(7.4)	18(5.3)	7(2.1)	45(13.2)	340(100.0)
Worry	105(30.9)	118(34.7)	64(18.8)	37(10.9)	16(4.7)	340(100.0)

Section D: Social traits

Respondents' view of some social traits exhibited to combat stress is shown in table 4b. Only a few (36.2%) of the respondents stated that they spend some amount of time socializing with friends. 36.5% of the respondents spend some time after work hours with family and friends as they used to do before they started their respective post graduate programmes, while majority (85.9%) of them agreed that they attend class regularly. Table 4:4

Table 4:4 Respondents' view of some social traits exhibited to combat stress

Social Traits	Yes (%)	No (%)	Non Response (%)	Total (%)
Spending some amount of time resting and socializing	123(36.2%)	210(61.8%)	7(2.1%)	340(100.0)
Spending time with family and friends after working hours	124(36.5%)	192(56.5%)	24(7.1%)	340(100.0)
I enjoy my work I am productive	259(76.2%)	55(16.2%)	26(7.6%)	340(100.0)
I attend class regularly	292(85.9%)	39(11.5%)	9(2.6%)	340(100.0)
My family, work and studies are in harmony with each other.	247(72.6%)	66(19.4%)	27(7.9%)	340(100.0)

Section E: Academic

Experience of stressful academic conditions by respondents

44.7% of the respondents stated that they found the cost of books and other educational materials moderately stressful. 40.9% also found the crowding of lectures towards examination period very stressful, while 33.5% of the respondents found having to do many courses to satisfy the University requirement for graduation moderately stressful as shown in Table 4.5.

Table 4:5 Respondents' Perceived severity of academic stressors

Stressors	Very Stressful (%)	Moderately Stressful (%)	Don't know (%)	Not Stressful (%)	N/A (%)	No Response%	Total (%)
Poor instructions about directions about activities and places within the campus	60(17.6)	123(36.2)	21(6.2)	70(20.6)	41(12.1)	25(7.4)	340(100.0)
Cost of book and other educational materials	76(22.4)	152(44.7)	5(1.5)	65(19.1)	23(7.2)	19(5.6)	340(100.0)
Ill-equipped laboratory	144(42.4)	69(20.3)	35(10.3)	16(4.79)	54(15.9)	22(6.5)	340(100.0)
Crowded classrooms and lack of chair	88(25.9)	80(23.5)	9(2.6)	53(15.6)	87(25.6)	23(6.8)	340(100.0)
Crowding of lectures towards examination period	139(40.9)	83(24.4)	9(2.6)	22(6.5)	61(17.9)	26(7.6)	340(100.0)
Having to do many courses to satisfy university requirement	107(31.5)	114(33.5)	9(2.6)	45(13.2)	46(13.5)	19(5.6)	340(100.0)
Having to attend evening ,night or weekend classes	84(24.7)	79(23.2)	17(5.0)	25(7.4)	116(34.1)	19(5.6)	340(100.0)
Having to run from one department to another for lectures.	68(20.0)	54(15.9)	18(5.3)	24(7.1)	159(46.8)	17(5.0)	340(100.0)

Respondents' experience of stressful health conditions

Respondents were asked how regularly they experience some health condition. 52.3% of them reported to have experienced headache as usual. Majority of the respondents did not report to have experienced abdominal ulcer at all, while only 2.1% stated that they experienced fast heart beat much more than usual. (Details in table 4:6).

Table 4:6 How often respondents experience some health conditions

Stressors	Same as usual (%)	More than usual (%)	Much more than usual (%)	Total (%)
Headache	181 (52.3)	59 (23.9)	7 (2.1)	247(100.0)
Abdominal ulcer	34 (55.7)	24 (39.3)	3 (4.9)	61(100.0)
Fast heart beat (palpitation)	91 (67.9)	36 (26.9)	7 (2.1)	134(100.0)

Section F: Coping mechanisms

Table 4:7 Recreational activities adopted by respondents to cope with stress

Statements	Yes (%)	No (%)	No response (%)	Total (%)
Sports and exercise	186(54.7)	152(44.7)	2(0.6)	340(100.0)
Sightseeing	36(10.6)	302(88.8)	2(0.6)	340(100.0)
Visiting friends and family	64(18.8)	273(80.3)	3(0.9)	340(100.0)
Listening to music and watching movies	107(31.5)	231(67.9)	2(0.6)	340(100.0)
Sleeping and resting	50(14.7)	287(84.4)	1(0.3)	340(100.0)
Clubbing	9(2.6)	329(96.8)	2(0.6)	340(100.0)

Some recreational activities that can be adopted to cope with stress mentioned by the respondents were sports and exercise (54.7%), watching movies (31.5%), sleeping/resting (14.7%), visiting (18.8%), sightseeing (10.6%), listening to music and clubbing such as visiting night clubs and beer parlours (2.6%).

Majority (71.2%) of the respondents agreed that stress is a normal phenomenon. The respondents were asked to make suggestions on how stress can be managed at school. Only a few (39.7%) of the respondents stated that stress can be managed through time management and involvement in recreational activities such as resting, sightseeing, sports and exercise and watching movies. About 15.0% of the respondents stated that stress can be managed if better learning conditions are provided by the school authority, 16.5% suggested that taking life easy can also help manage stress while 2.6% of the respondents stated that students can manage stress by reducing or eliminating the situations that bring about stress. Table 4:8.

Table 4:8 Respondents suggestions on how stress can be managed at school

Statements	No	%
Time management and recreational activities	135	39.7
Creating better learning conditions	51	15.0
Taking life easy	56	16.5
Reduce or eliminate the situation that brings about stress	9	2.6
No response	89	26.2
Total	340	100.0

Respondents response to the ways in which the students have coped with stress

In response to the ways in which the students have coped with the aforementioned stressors, 42.9% resting and exercise, 12.4% of the respondents suggested medical attention, , 9.4% disengaging oneself from stressful activities 7.6% time management and 3.8% mentioned eating regularly as ways of dealing with the stressors, while 23.8% gave no response. Table 9 below.

Table 4:9 Respondents response to the ways in which the students have coped with stress

Respondents response	No	%
Medical attention	42	12.4
Rest and exercise	146	42.9
Time management	26	7.6
Disengaging oneself from stressful activities	32	9.4
Eating regularly	13	3.8
No response	81	23.8
Total	340	100.0

31.8% of the respondents stated that they received support from their friends in order to cope with academic stress, 12.9% listed their relatives, 3.5% of the respondents stated that their classmates provide them with support, 6.8% stated parents, 1.8% stated medical personnel such as their doctors, 8.8% spouse, while 3.5% stated that God provide them with support. Table 10.

Table 4.10 Coping styles of the respondents

Kinds of Support	Yes	No	No Response	Total
Friends	108(31.8)	226(66.5)	6(1.8)	340(100.0)
Relatives	44(12.9)	290(85.3)	6(1.8)	340(100.0)
Spouse	30(8.8)	300(88.2)	10(2.9)	340(100.0)
Parents	23(6.8)	310(91.2)	7(2.1)	340(100.0)
Classmates	12(3.5)	322(94.7)	6(1.8)	340(100.0)
God	12(3.5)	322(94.7)	6(1.8)	340(100.0)
Medical Personnel	6(1.8)	327(96.2)	7(2.1)	340(100.0)

Multiple responses were included

Respondents' recommendations on how postgraduate students can cope with stress

The respondents were asked to make recommendations on how post graduate students can cope with stress. , 92.4% of the respondents were of the view that reduction of situations that bring about stress is a way of coping with stressful situations, 87.6% suggested praying to God, 59.7% suggested time management. Some of the respondents (57.6%) suggested that taking life easy would be a good way of coping with stress while only 2.4% of them were of the opinion that seeking medical attention is a way of coping with stress, Table 4:11.

Table 4:11 Respondents' recommendations on how postgraduate students can cope with stress

Recommendations	Yes	No	Total
Time management	203(59.7)	137(40.3)	340(100.0)
Taking life easy	(196)57.6	144(42.4)	340(100.0)
Reduction of situation that cause stress	314(92.4)	26(7.6)	340(100.0)
Medical attention	8 (2.4)	332(97.6)	340(100.0)
Eating regularly	36(10.6)	304(89.4)	340(100.0)
Praying to God	298(87.6)	42(12.4)	340(100.0)

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Tests of Hypotheses

- 1. There is no significant relationship between gender and stress among postgraduate students of the University of Ibadan.** No significant relationship was found between the gender of the respondents and stress, although more females (67.3%) than males (58.0%) found the crowding of lectures to be very stressful ($p=0.167$). Therefore the null hypothesis was accepted. Table 4.12.
- 2. There is no significant relationship between the faculty and stress among postgraduate students of University of Ibadan.** No significant relationship was found between the faculty of the respondents and stress, although more respondents (60.8%) in Arts/Social Sciences and Humanities found crowding of lectures towards examination period to be very stressful ($p= 0.335$). Therefore the null hypothesis was accepted. Table 4.13.
- 3. There is no significant relationship between marital status and stress among postgraduate students of University of Ibadan.** No significant relationship was found between the marital status of the respondents and stress, although more singles (46.4%) than married (35.9%) found the crowding of lectures to be very stressful ($p= 0.140$). Thus, The null hypothesis was therefore accepted. Table 4.14
- 4. There is no significant relationship between ill health and stress among postgraduate students of University of Ibadan.** No significant relationship was found between the ill health of respondents and stress. 10.0% of the respondents complained of having fatigue, low energy and tiredness as being severely stressful, while only 2.1% responded that high blood pressure was severely stressful($p= 0.335$). Thus, the null hypothesis was therefore accepted. Table 4:15.

Table 4:12 Relationship between gender and stress among postgraduate students of the University of Ibadan.

Gender of respondents	Crowding of lectures towards examination period		Total (%)
	Very Stressful (%)	Moderately stressful (%)	
Males	65(58.0)	47 (42.0)	112 (100.0)
Females	74 (67.3)	36(32.7)	110 (100.0)
Total	139 (62.6)	83 (37.4)	222 (100.0)

$X^2 = 2.023$, $df = 1$, $p=0.155$

Table 4:13 Relationship between faculty of respondents and stress

Faculty of respondents	Crowding of lectures towards examination period		Total (%)
	Very stressful (%)	Moderately stressful (%)	
Agric & Veterinary Medicine	4 (44.4)	5 (55.6)	9 (100.0)
Arts/ Social Sciences /Law/Education/African Studies	62 (60.8)	40(39.2)	102 (100.0)
Public Health/ Basic Medical Sciences/ Clinical Sciences/ Pharmacy	13 (68.4)	6 (31.6)	19 (100.0)
Sciences	51 (67.1)	25 (32.9)	76 (100.0)
Technology	9 (64.3)	5 (35.7)	14 (100.0)
Missing	0 (0.0)	2 (100.0)	2 (100.0)
Total	139 (62.6)	83(37.4)	222 (100.0)

$X^2 = 5.710$, $df = 5$, $p = 0.335$

Table 4:14 Relationship between marital status of respondents and stress

Marital Status of respondents	Crowding of lectures towards examination period			Total (%)
	Very stressful (%)	Moderately stressful (%)	No stress (%)	
Single	116 (46.4)	67(26.8)	67(26.8)	250(100.0)
Married	23 (35.9)	16(25.0)	25(39.1)	64(100.0)
Total	139(44.3)	83(26.4)	92(29.3)	314(100.0)

$X^2 = 3.938$, $df= 2$, $p = 0.139$

Table 4:15 Relationship between stress ill health of respondents and stress

Health problems	Low (%)	Mild (%)	Moderate (%)	Severe (%)	No response (%)	Total (%)
Headaches	143(42.0)	92(27.1)	58(17.1)	25(7.4)	22(6.5)	340(100.0)
Sleeplessness	186(56.7)	59(17.4)	49(14.4)	18(5.3)	28(8.2)	340(100.0)
Dizziness	182(53.5)	72(21.2)	47(13.8)	9(2.6)	30(8.8)	340(100.0)
Fatigue, low energy, tiredness.	93(27.4)	98(28.8)	99(29.1)	34(10.0)	16(4.7)	340(100.0)
High blood pressure	245(72.1)	25(7.4)	18(5.3)	7(2.1)	45(13.2)	340(100.0)
Worry	105(30.9)	118(34.7)	64(18.8)	37(10.9)	16(4.7)	340(100.0)

$X^2 = 3.938$, , $df= 20$, $p= 0.335$

CHAPTER FIVE

5:1 DISCUSSION

This chapter begins with the discussion, social demographic characteristics of respondents, causes of stress as well as individual's perception of what they call stressors and the coping mechanisms adopted by postgraduate students. In conclusion, it was discussed that stress was seen by some respondents as a normal phenomenon, the implication for health education and promotion was mentioned and the chapter ended with recommendations.

In the course of the study, it was observed that the age of the respondent i. e, the postgraduate students ranged from 22 -50 years and there were more males (50.6%) than females (49.4%). The mean age of respondents was 30.7 ± 6.7 years. Fifty- five percent of the respondents were Yorubas, 18.2% were Igbos, while 26.2% of the respondents were of other ethnic groups such as the Ibibio, Efik, Edo, Tiv, and others. Majority (94.4%) of the respondents were Christians.

Today, stress as a health risking factor has been ignored as an underlying factor in the developing of ill-health in Nigeria. Most cases of illness, apart from bio-medical considerations, especially in developing countries, are always affected by outward demands which are beyond the individual's control.

So many worries cause discomfort for individuals in their everyday lives, especially in milieus of deprivation and craze for socio-economic empowerment. Stress in whatever manifestation is an important factor leading to illness and death of many Nigerians (Kapuku and Mensah, 1998). It arises from a combination of one or more of various aspects of life which invariably leads to a disequilibrium in the body, which in turn causes the body to be diseased if a person's interpretation and response to the threatening event is negative (Auerbach and Gramling, 1999).

However, an interesting finding show that 42.1% of the respondents rated headache as low, 5.3% rated sleeplessness as severe, while 29.1% reported to have moderate fatigue and low energy, despite their role conflicts with academics.

Majority (72.6%) of the respondents agreed that their family, work and studies are in harmony, 80.0% reported that they spend quality time with their studies while only 52.1% of the respondents agreed that they learn without stress.

Findings from this study also indicate that 44.7% stated that they find the cost of books and other educational materials moderately stressful, 40.9% also find the crowding of lectures towards examination period very stressful, while 33.5% of the respondents find having to do many courses to satisfy the University requirement for graduation moderately stressful.

Additionally, this study revealed that eighty-five percent of the respondents could not differentiate between Eustress and Distress, and did not know the meaning of Eustress. 0.9% defined Eustress as an healthy stress that gives one a sense of fulfillment and gain, 0.9% stated that distress occurs in unfamiliar situations while Eustress occurs all the time and gradually become one's way of life. A few (7.1%) defined distress as a state of mind filled with great or uncontrolled worry caused by problems or sufferings, while 4.4% defined Eustress as a stress that generates positive results while distress ends up in frustration. However, 0.6% of the respondents stated that Eustress and Distress are the same.

5:2 Conclusion

The study on stress and coping mechanisms among Post-graduate students of the University of Ibadan highlighted and confirmed certain vital issues. Differences in perceptions of male and female Post- graduate students on the gravity of similar stressors experienced were apparent. Among different ages and ethnic groups, perception of stressors also varied.

Despite these differences, responses to stressors ran along similar veins. Respondents mostly employed prayers in handling stressful encounters, 12.4% suggested medical attention, 42.9% rest and exercise, 7.6% time management, 9.4% disengaging oneself from stressful activities and 3.8% mentioned eating regularly as ways of dealing with the stressors also varied.

Taking alcohol and hard drugs (7.9%), self medication (3.8%), having sexual intercourse (2.4%) discouragement and withdrawal (11.2%), procrastination (4.7%), were mentioned by the respondents as negative ways of coping with stress. Sixteen percent

(16%) of the respondents stated that these measures were very effective, while 7.9% stated that the measures were not effective.

Almost half (47.1%) of the respondents stated that they receive support from the people around them in order to cope with academic stress. (31.8%) percent listed friends, (12.9% listed their relatives, (3.5%) of the respondents stated that their classmates provide them with support, (6.8%) stated parents, (92.1%) stated medical personnel such as doctors, (8.8%) spouse, while (3.5%) stated that God provide them with support. The types of support given include financial (12.6%), moral (38.5%), Spiritual (11.8%) and medical support (2.9%).

However, stress is not always a bad thing. In one of the Chinese Languages, the characteristics for stress mean pressure and also opportunity. The Chinese have realized that a small amount of stress can motivate people to take action that may eventually benefit them. Stress is likely to be detrimental only if it is unresolved and long-lasting, most especially if you are prone to deal poorly with it (Snyder and Smith 1985).

Majority (71.2%) of the respondents stated that stress is a normal phenomenon. No significant relationship was found between the gender of the respondents and stress, although more females (67.3%), than males (58.0%), found the crowding of lectures very stressful. Also, no significant relationship was found between the faculty of the respondents and stress, though more respondents (68.4%) in Sciences found crowding of lectures towards examination period to be very stressful.

In addition, the findings in the course of the study reveal that there is a significant relationship between marital status of the respondents and stress. More singles (46.4%) than married (35.9%) found the crowding of lectures to be very stressful.

Thus, marital status may likely have an influence on the coping mechanisms of the Post-graduate students. There was also no significant relationship between the ill health of the respondents and stress.

5:3 Implications for health education and promotion

These are highlights of vital roles that health education can play in assisting post graduate students to be able to understand what stress is, differentiate between *Eustress* and *Distress*, learn to cope and manage stress, as well as appreciate the fact that stress is a normal phenomenon to greater heights if well-managed.

- Through health education and information, ensuring health promotion, post-graduate students will be able to understand what stress is, the causes, consequences and management of stress. This will assist them in solving their identified stress-related problems.
- Health education will also aid in adapting and maintaining other health-promoting behaviour, such as getting regular exercise, sightseeing, sports, watching movies, taking life easy, reduction or elimination of situations that bring about stress.
- Large scale community health campaigns within the University can be designed to lessen a combination of major health risk factors such as, High blood pressure, Alcohol abuse, smoking, sexually transmitted diseases, depression etc.
- University authorities can also benefit from health education initiatives directed at assisting, understanding the stress experienced by their students, thus helping to design a relatively stress-free study environment. If management entails welfarism and impartation of health-promoting values, University authorities should lead by example.
- It will not be an understatement to say that a lot of the University lecturers also undergo a lot of academic stress, hence, it will be of great benefit if they benefit too through information, education, and communication (IEC) on the causes, consequences, and prevention of stress related health risk factors and how to manage them. Several changes may be needed and these may be facilitated through health education strategies.

5:4 Recommendations

For effective management of stress and coping mechanisms among Post-graduate students of the University of Ibadan, the students, the management / the University authorities should be involved in problem solving. Study findings reveal that majority of the Post-graduate students know enough to enable them face stressful situation without falling apart, though this should not be taken for granted. As a result of the findings, the following are recommended:

- The recommendations below which will enlist the cooperation and participation of the University authorities may be replicated in other Universities as the study in U.I. can be regarded as a good representative of events in other Universities. 40.6% of respondents recommended that taking life easy would be a good way of coping with stress, 57.9% suggested time management, 5.9% reduction of situations that bring about stress, 92.4% medical attention, 10.6% eating regularly, 7.9% avoid procrastination, 0.6% suggested having sexual intercourse, 6.8% keeping good association and 87.6% suggested praying to God.
- Improve learning environment by providing facilities needed to enhance learning without stress such as adequate lecture rooms with air conditioners, tempo boards, slide projectors, noiseless stands-by generators, well-equipped laboratories.
- Prevention of crowding of lectures towards examination period, having too many courses just to satisfy University requirement and the students will only manage to pass without knowledge being imparted or behavioural change achieved ensuring that learning has taken place.
- Seminars on stress and coping mechanisms among Post-graduate students as well as lecturers in the University setting can be organized at appropriate intervals yearly by University authorities. These seminars or workshops will serve as avenues to educate the PG students and the University authority on the use of problem –focused coping mechanisms, as well as active and positive methods to cope with stress. During these workshops, participants may also be involved in designing and developing IEC materials- posters, leaflets, etc on stress alleviation and reduction.

REFERENCES

- Ader, R. (1980): Psychosomatic and Psycho-immunological Research. Presidential Address, *Psychosomatic Medicine*: 42, 307-321
- Akinboye, J.O. (1985/86): How to handle stress and tension. *Adjuscope University of Ibadan*, 23: 215-216.
- Akinboye, J.O.(1980): Stress Coping in life and workplace. CYFO Behaviour in some Nigerians. *African Journal of Psychiatry* 1980, 6.17-21.
- Alexander. F (1950): *Psychosomatic Medicine*. New York: Norton
- Altbach, K (1970): *Stress and the Manager. Making it work for you*. New Jersey, Prentice - Hall
- Auerbach, S and Gramling, S. F. (1999): *Stress (Psychology)*. Microsoft Encarta Encyclopedia (1993-1999)
- Awobokun Ogo-O.O.(2002): A Thesis on Perceived Stress Factors, Coping Mechanism and Prevalence of High Blood Pressure Among Staff of the University of Ibadan.
- Bakare, C. G.M. (1985): Patterns of coping, adaptation and well beings, 1st University Lecture 1985, University of Ibadan, Nigeria.
- Bakare, C. G .M. (1986): The dynamics of psychological adjustment, University Lecture, University of Ibadan. 31st March, 1986.
- Bakare, C. G. M. (1988): Psychological adjustment among Nigerian society: University Lecture, University of Ibadan, Ibadan.
- Bandura, A. (1982): Self Efficacy Mechanism in Human Agency. *American Psychologist*: 37, 122-147.
- Barlow, D. H. and Bufka, L. F. (1999): Post- Traumatic Stress Disorder. Microsoft Encarta Encyclopedia (1993-1999).
- Bates, C. E. and Allan S. Blinder. (1984): Dealing with depression naturally. *Stress reduction through mindfulness mediation, practitioner* 228 (1984) 425-427.
- Benson, H, (1975): *The Relaxation Response*. , New York, William Morrow.
- Berger, C and Gold D. (1979): Do sex differences in problem solving still exist, *Personality and Social Psychology Bulletin* 5:109-113.
- Berkowitz, L. (1988): Frustrations, Appraisals and Aversively Stimulated Aggression. *Aggressive Behaviour*. 14(1), 3-11.

- Campas, B. C. Malcarne, L. V. and Fondacaro, K. M. (1986): Coping With Stressful Events In Older Children and Young Adolescents. *Journal of Consulting Clinical Psychology*, 56: 3-10.
- Cannon, W. B. (1935): Stress and Strain of Homeostasis. *American Journal of Medical Science*: 189 (1) 1-14.
- Caplan, R.D, R.K. Naidu and R. C Tripath (1984): Coping and defense: constellation Vs components. *Journal of Health and Social Behaviour* 25:303-320.
- Caudill, J. A. (1958): A study of Stress in two cultural settings. *Journal of Health and Social Behaviour* 12; 2-7.
- Clarke, M. (1984): Stress and coping constructs for Nursing. *Journal of Advanced Nursing* 9: 3-15.
- Clopton, P. and S. Joseph (1990): Internal Vs external determinants of coping responses to stressful life-events in the elderly.
- Cohen, S. (1980): A review of research and theory; after effects of a stress on human performance and social behavior. *Psychological Bulletin* 88:82-108.
- Crider, L. (1983): New Orientation in stress research. *Psychosomatics Medicine*, 4: 18-21
- Crutchfield, R.D.and W.R. Gave (1984): Determinant of drug use: A test of the coping hypothesis. *Social Science and Medicine* 18; 503 – 509.
- Dewe, P. J. (1987) Identifying strategies nurses use to cope with work stress. *Journal of Advanced Nursing*, 12; 489 497.
- Dohrenwond, B. and B.S. Dohrenwond (1969): Social status and psychological disorder. New York: Wiley and sons Pub.Co.
- Dressler, W.W.(1985): The social and cultural context of coping: Action, gender, and symptoms in Southern Black Community. *Social Science and Medicine*, 21; 499-506.
- Edward, I. and J. Cooper (1998): Positive events and social supports as buffers of life change stress, maximizing the prediction of health outcome. *Journal of Applied Social Psychology*, 13: 99-125
- Ekehammar, B. (1974) Internationism in Personality from a Historical Perspective. *Psychological Bulletin*: 81, 1026-1084
- Elliot, G.R. and Eisdorfer, C.(1982). *Stress and human Health*. New York: Springer.

- Evans, D.R. and T. L. Gall (1988); Response specificity revisited: stress and health status; *Journal of clinical Psychology* 44 (2): 108-110
- Eze, U.E. (1995) A Thesis on Stress and coping strategies of students of Federal College of Education (SPECIAL) Oyo.
- Farmer, R. E., G.Reeder, (1984); Stress management for human services: Berverly Hills: Sage Publications Inc.
- Fast, J. (1976): Creative Coping; A guide to positive living. New York, William Morrow and Comapny.
- Fisher- Beckfield, D. and M. Mcfall (1982: Development of competence inventory for college men and evaluation of relationship between competence and depression. *Journal of consultant and clinical psychology*, 50(5), 697-705.
- Flannery, R.B (1990): Becoming Stress-Resistant. Continuum. A Self-Help Guide
- Fleishman, J.A. (1984): Personality characteristics and coping patterns. *Journal of Health and Social Behaviour*; 25; 229-244.
- Folkman, S., and Lazarus, R. S.(1982):Relationship of Daily Hassles, Uplift, And Major Life Event to health Status. *Health Psychology*; 1,199-136
- Folkman, S. and Lazarus, R.S. (1980): An Analysis of Coping in a Middle-aged Community Sample, *Journal of Health Behaviour*: 21,219-239
- Folkman, S.and Lazarus, R.S. (1984):If it changes it must be a process: A study emotion during three stages of a college examination. *Journal of Personality and Social Psychology*, 48: 150-170.
- French, J.R.P. Jr.; Rodergs, W.L. and Cobb, S. (1974) Adjustment as a person-environment Fit in Gunderson, E.K. and Rahe, R.H. (1974) Stress, Relaxation and Health Education. *Health Education* 7: 20-23.
- Friedman, M. and Rosenman, R.H. (1974): Type A.: Your Behaviour and Your Health. Knopf, New York.
- Furnham, A.and V. Lowick (1984): Lay theories of the causes of alcoholism *British Journal of Medical Psychology*,57: 319-332.
- Gold, S.N. Hughes, D., and Hohnecker, L.(1994):Degrees of Repression of Sexual Abuse Memories. *American Psychologist*.49(5), 441-442

- Goldenberg, D. and J. Waddel (1990): Occupations stress and coping strategies among female baccalaureate nursing faculty *Journal of Advanced Nursing*, 15: 531-543.
- Gortmaker, S., L.J. Eckendore, S. Gove (1982): A study to examine relationship between stress and utilization of health service. *Journal of Health and Social Behaviour* 23 (3): 25-28.
- Gunn, J. and G. Gisli (1988): Using psychological stress evaluation in conditions of extreme stress. *Psychological Medicine* 18:235-238.
- Green, L. W., M. Kreuter, R. Deeds and K. B. Patridge (1980). *Health Education Planning. A Diagnostic Approach*. Palo Alto, California: Mayfield Publishing Company.
- Hann, N. (1977) *Coping and Defendings: Processes of Self-Environment Organization*. New York academic press.
- Heilbrun. A.B.& Pepe.V.(1985) Awareness of cognitive defenses and stress management. Onlinelibrary.wikey.com > Home > *British Journal of Medical Psychology* > Vol 58 Issue 1.
- Hilgard, E.and R. Akinson (1975): *Introduction to Psychology*: New York: Harcourt Brace.
- Ivancevich, J.and M. Matterson (1988): Type A behaviour and the healthy individual. *British Journal of Medical Psychology* 61:37-38.
- Kapuku, G. K. and Mensah G.A. (1998) Hypertension in Africa. *Africa Health* 1: 6-8
- Kanner, A. D., Coyne, J. C., Schaefer, C., and Lazarus, R. S. (1981): Comparisons of two modes of stress measurement: daily hassles and uplifts versus major life events. *Journal of Behavioural Medicine* 4: 1-40.
- Karasek, R., J. Russel and T. Theorell (1982): Physiology of stress and regeneration in job related Cardiovasclular illness. *Journal of Human Stress* 8: 29-42.
- Kawakami, N. and Haratani, T. (1999): Epidemiology of Job Stress and Health in Japan: Review of Current Evidence and Future Direction. *Industrial Health*. 37(2): 174-86, Apr.
- Kearns, J. L. (1973): *Stress in Industry*. London: Priory Press Limited.
- Kessler, C.(1979): Stress, social status and psychological distress. *Journal,of Health and Behaviour* 20:259-272.

- Kratz, D. S., S. B. Manuck and R.R. Wing (1986): Psychological Stress in: R. B. Willary (ed) Hand book of Stress, New York, Willey, pp. 75-108.
- Kwork, B.C. (1977): Individual differences in reactions to stress and their personality and situational determinants; some implications for community Mental Health. *Social Science and Medicine*, 11; 88 – 103.
- Lazarus, R. S. (1986): *Psychological Stress and coping Process*. New York, Mc Craw Hill.
- Lazarus, R.S. and S. Folkman.(1985). If it changes it must be a process: study of emotions and coping during three stages of a college examinations. *Journal of Personal and Social Psychology*, 48 (1) 150-170.
- Lees, S. and N. Ellis,(1990): The design of a stress management programme for nursing personnel, *Journal of Advanced Nursing* 15: 946 – 961.
- Lucas, R. A. (1969): *Men in Crisis*. New York: Basic Books
- Lucy, N. Uzoukwu (July 1992) A study of perceived stress factors and coping mechanisms among undergraduates of the university of Ibadan.
- Maddox, G. (1979): Self assessment of health. *Journal of Chronic Disease* 5: 449-463.
- Marx, K. Capital. †For a Ruthless Criticism of Everything Existing‡ volume 1, 45-81(Brooklyn, New York: Autonomedia,1985).
- Matthews, D. B. (1990): A Comparison of Burnout in Selected Occupational Fields. *Career Development Quarterly*: 38(3), 230-239
- Mason, J. (1971): A re-evaluation of the concept of non-specificity in stress theory; *Journal of Psychiatry Research* 8: 323-328.
- Mathur,P. (1984): Stress related complaints among educated working mothers. *Nigerian Journal of Clinical Psychology* 3: 1-2
- Mechanic, D. (1976): Discussion of research programmes on relations between stressful life events and episodes of physical illness in Dohrenwend and Dohrenwend (ed.) *stressful life events*. New York, John Wiley and Sons Inc: p. 87.
- Meichenbaum, D., and Jarenko, M. B. (1983): *Stress Reduction and Prevention*. New York: Plenum.
- Meichenbaum, D., Turk, D and Burstein, S. (1975): The Nature of Coping with Stress. In Sarason, I. G. and Spiel burger, G. D. (eds). *Stress and Anxiety*, Washington: Hemisphere, pp. 108-123

- Miller, S. M. (1980): When Is A Little Information A Dangerous Thing? Coping With Stressful Events By Monitoring vs. Blunting. In S. Levine and H. Ursin (Eds.) Coping and Health. New York: Plenum
- Mitchell, R. E., R. C. Cronkite and R. H. Moss (1983): Stress coping and depression among married couples *Journal of Abnormal Psychology*, 92 (4): 433-448.
- Mollon, P. and G. Parry, (1984): The fragile self: Narcissistic Disturbance and Protective Function of Depression *British Journal of Medical Psychology* 57: 137-145.
- Nweze, A. (1984): Current developments in stress and illness research; A selective review in medicine and psychology. *Nigerian Journal of Clinical Psychology* 3: 3-5
- Obadina, Y.I. (1984): A study of adjustments of stress factors of University of Ibadan undergraduates. Unpublished thesis, University of Ibadan.
- Parkes, C. M. (1972): Bereavement. New York: International Universities Press
- Parrino, J.J. (1979): From panic to power: the positive use of stress, New York; John Wiley and Sons inc.
- Pearce, D.M. (1983): The feminization of ghetto poverty *Society* 21: 70-74
- Pearlin, L. I. And Johnson, J. S. (1977): Marital Status, Life Strains and Depression. *American Sociological Review*: 42, 704-715
- Pearlin, L.I., Johnson, J. and Mantel, B. (1976): Status, Life Stress and Depression. *American Sociological Review*, 42: 704-715.
- Pearlin, L. I., Lieberman, M. A., Menaghan, E. G. and Mullan, J. T. (1981): The Stress Process. *Journal of Health and Social Behavior*: 22: 337-56
- Pearlin, L.I. and Schooler, C. (1978): The Structure of coping. *Journal of Health* Kaplan, B. H., Cassel, J. C., and Gore, S. (1977): Social Support and Health. *Medical Care*: 15(5), 47-58
- Prentice-Dunn, S., & Rogers, R. W. (2006). Protection Motivation Theory and prevention health; Beyond the health Belief Model. *Health Education Research, Journal of Applied Social Psychology* > Vol 30 Issue 2.
- Pride, L.F. (1978): an adrenal stress, index as a criterion measure for nursing. *Nursing Research* 17: 292-303.
- Reeder, L.G., O. Schrama, T.M. Dickens.(1973) Stress and cardiovascular health; an international cooperative study. *Social Science and Medicine* 7: 573-584

- Rosario, M., M. Shinn, H. Morch and C.B. Huckabee (1988): Gender differences in coping and social support: Testing socialization and role constraint theories. *Journal of Community Psychiatry*, 16 (January): 55-69.
- Rosss, H.S.,and P. R. Mico (1980): *Theory and Practice in Health Education U.S.A.* Mayfield Publishing Company.
- Ryff, C.D.(1989): Beyond Ponce de Leon and Life Satisfaction: New Directions in Quest of Successful Ageing *International Journal of Behavioral Development*. 12 (1), 35-55
- Selye , H.(1973) the evolution of the stress concept. *American Sci* 61,692-699.
- Selye, H. (1974): *Stress Without Distress*. J. B. Lippincott, Philadelphia
- Selye, H. (1956): *The Stress of Life USA* (McGraw-Hill).
- Selye, H. (1976): *Stress in Health and Disease*. Butterworths, London
- Selye, H. (1983): *The Stress concept: Past, Present, and Future*. In *Stress Research* (ed.L. Cooper). John Wiley, UK.
- Selye, H. (1979): *Correlating Stress and Cancer*, *American Journal of Proctology, Gastroenterology, Colon and Rectal Surgery*: 30 (4), 18-28
- Scotch, N.A.A preliminary Report on the relation of Socio-cultural factors..... *Health*, 52, 1963, 1205-1213. 28
- Simon, J. G. and Feather, N.T.(1973) causal attributions for success and failure at University examinations. *Journal of Education Psychology* 64 (1): 46 – 56.
- Solomon, Z. M. Mikulincer and A. Habershain (1990): Life – events coping strategies, Social resources and somatic complaints among combat stress reaction casualties *British Journal of Medical Psychology* 63: 137- 148.
- Steinberg, L.D.,Catalano, R, and Dooley, P.(19881): Economic Antecedents Child Abuse and Neglect. *Child Development*. 52, 975-985
- Stone, A.A.and Neale, J.M. (1984): New Measure of Daily Coping: Development and Preliminary Results. *Journal of Personality and Social Psychology*, 46:892-906
- Stroebe, W.and N.S. Stroebe (1987): *Bereavement and wealth. The Psychological and physical Consequences of partner loss*, Cambridge, Cambridge University Press.

- Suinn, R.M. (1982); Intervention With Type A Behaviours. *Journal of Consulting and Clinical Psychology*; 50,933-949
- Taylor, S. F. (1990): *Health Psychology: American Psychologist*, 45(1).40-50
- Tero, P.F. and J.P. Connel (1984): When children think they have failed: An academic coping inventory. Paper presented at the annual conference of the American Educational Research Association. New Orleans, U.S.A.
- Trumbell, S. (1967): Stress related transactions between person and environment. *International Psychology* 6: 287-327.
- Tinsley, H.E.A., T.M. Aubin and M.T. Brown (1982): College student help-seeking preferences. *Journal of Counselling Psychology* 29(5): 523-533
- Venters, M. (1981): Familial Coping with chronic and severe childhood illness: The case of cystic fibrosis *Social Science Medicine* 15: 289-297
- Vingerhoets, A.J.J.M. and P.J.M. Flohr (1984): Type A behavior and self reports of coping preferences. *British Journal of Medical Psychology*, 57: 15-21.
- Walker, J.B. (1988): The influence of recent life experience on the health of college freshmen. *Journal of Psychosomatic Research* 19: 87-89
- Wills, J.A. (1986): Stress and coping in early adolescent relationship to substance use in urban school sample. *Health Psychology* 5: 503-529.
- Wolfork, B. and Richardson, A. (1979): Behaviour under stress. A Neurophysiological hypothesis. *Psychological Review*; 61:5.
- Yerkes R.M. Dodson S.D. (1908). the relation of strength stimulus to rapidity of habit formation. *Journal of comparative Neurology and Psychology* 18: 459-482.
- Zarb, J.M. (1981): Non-academic predictors of successful achievement in a normal adolescence sample *Adolescence XVI* (64): 890 – 900.

APPENDIX I

FOCUS GROUP DISCUSSION GUIDE

TOPIC: STRESS AND COPING MECHANISMS AMONG POSTGRADUATE STUDENTS OF UNIVERSITY OF IBADAN

INTRODUCTION

I thank you all for agreeing to participate in this discussion. My name is Vaughan Olufunke Adenike, I am a student of the Department of Health Promotion and Education, College of Medicine, Faculty of Public Health, University of Ibadan.

I am involved in a study of stress and coping mechanisms among postgraduate students of the University of Ibadan. Your honest answers to the questions will be highly appreciated as no views expressed by any participant will be judged or relayed; there is freedom of expression and ensured confidentiality. The discussion will only be used for the purpose of the research project.

Thanks for your anticipated cooperation.

INTERVIEW

- (1) What is your view about postgraduate programme?
- (2) How can you define stress?
- (3) What are the challenges that cause stress to postgraduate students in the course of their study?
- (4) Is stress gender bias?
- (5) Can stress be totally avoided?
- (6) What are the coping mechanisms adopted by postgraduate students to overcome stress?
- (7) Who encounters stress most, singles or married?

Thank you for taking time to participate in this study.

APPENDIX II

QUESTIONNAIRE

STRESS & COPING MECHANISMS AMONG POSTGRADUATE STUDENTS OF UNIVERSITY OF IBADAN

Dear Respondents

I am Mrs Olufunke Adenike Vaughan a postgraduate student of Faculty of Public Health, College of Medicine, University of Ibadan presently on research project titled : AN INVESTIGATION INTO THE EFFECT OF STRESS ON POSTGRADUATE STUDENTS OF UNIVERSITY OF IBADAN.

This research is purely academic in nature and absolute confidentiality ensured.

O.A. Vaughan

Consent form? Would you want to participate in the study? Yes () No ()

Thank you very much.

SECTION A

SOCIO – DEMOGRAPHIC DATA

- (1) Age (as at last birthday).....years.
- (2) Sex: Male () Female ()
- (3) Marital status: Single () Married ()
- (4) Religion Christian: () Islam () Tradition () Others () Specify ()
- (5) Ethnic Group: Yoruba () Hausa () Igbo () Other () Specify ()
- (6) Occupation: Lecturer () Medical Doctor () Nurse () Others ()
- (7) Faculty.....
- (8) Department.....
- (9) Postgraduate programme.....
- (10) Duration of postgraduate programme.....
- (11) Level of study
- (12) I have been on my postgraduate programme for

SECTION B

RESPONSE TO CHANGE TEST (RTCT)

Rate yourself on the following items by circling a number using the format below if you experience the condition within the last 6 months.

- 4 = High Stress
3 = Moderate Stress
2 = Low Stress
1 = No Stress

13	Too many responsibilities	1	2	3	4
14	Difficult lecturers				
15	Health problems				
16	Divorce				
17	Not enough money to spend				
18	Conflict with spouse				
19	Conflict with a friend				
20	Headache				

SECTION C

HEALTH PROBLEMS

Rate yourself on the following signs and symptoms if they apply to you within the last 6 months using the following formats.

4 = severe 3 = moderate 2 = mild 1 = low

		1	2	3	4
21	Headaches				
22	Sleeplessness				
23	Dizziness				
24	Fatigue, Low Energy				
25	High blood pressure				
26	Worry				

SECTION D

SOCIAL TRAITS

		Yes	No
27	I spend same amount of time resting and socializing with friends		
28	I am good at organizing and spacing work time so that it doesn't disturb my academics		
29	I enjoy my work today as much as ever. I am productive.		

SECTION E

ACADEMICS

39. How can stress be managed at school, home or work? -----

40. The recreational activities that can be adopted to cope with stress are?

41. Is stress a normal phenomenon?

Yes ()

No ()

42. Differentiate between Stress and Eustress.

43. Can stress be managed?

Yes ()

No ()

Don't know/ not certain

44. If yes, how -----

STRESS SCALE

Below is a list of problems you may encounter in relation to academics. Please indicate to what extent these problems are stressful to you.

Stressors

		Very stressful	Moderately stressful	Don't know	Not stressful	Not applicable
45	Poor instructions and directives about activities and places within the campus					
46	Inadequate library services					
47	Cost of books and other educational materials					
48	Ill-equipped laboratories					
49	Crowded classrooms and lack of chairs					
50	Crowding of lectures towards examination period					
51	Having to do many courses to satisfy University requirement					
52	Having to attend evening, night or weekend classes					

53	Having to run from one department to another for lectures					
54	Not enough pocket money					
55	Socio-economic status of the country					
56	Loads of assignment					
57	Inadequate transportation within the campus					
58	Lack of study areas after office hours (classrooms are closed after 3.00pm)					
59	Carrying over a course					
60	Not enough textbooks					
61	Choosing a research topic					
62	Inadequate infrastructure					
63	Difficulty in making own notes from books, journals, and lecture notes					

CONDITIONS

Indicate by ticking the appropriate column on the right side how often you experience the following conditions since you enrolled in this University.

SECTION F

COPING MECHANISM

67. What are ways in which you deal/cope with each of these stressors?-----

68. Can you mention any three ways you can cope with those things which gave you stress?--

69. How effective are these coping mechanism?

70. Do you receive any support from anyone in your attempt to cope with these stressors?

Yes (), No ()

If yes, who gives you support?-----

71. What type of support do you receive?-----

72. What recommendations would you give to PG students on how to cope with stress?

-

APPENDIX III

STRESS AND COPING MECHANISMS AMONG POST GRADUATE STUDENTS OF COLLEGE OF MEDICINE U.I IBADAN

Consent form for Survey Respondents

Name of the Investigator: Vaughan Olufunke Adenike

Name of Organization: University of Ibadan

Name of Sponsor: Self

Title of project

STRESS AND COPING MECHANISMS AMONG POST GRADUATE STUDENTS OF THE COLLEGE OF MEDICINE UNIVERSITY OF IBADAN, OYO STATE.

Greetings: My name is Vaughan Olufunke Adenike and I am a Student of the Department of Health Promotion and Education, College of Medicine, University of Ibadan. I am involved in a study of Stress and Coping Mechanisms among Post Graduate Students of the University of Ibadan. Your honest answers to the questions contained in the questionnaire will be useful. The research is purely academic in nature and absolute confidentiality will be ensured.

Purpose of the research

The purpose of the study is to determine the effect of stress on postgraduate students of the University of Ibadan, identify stressor agents and measure of distress, as well as discover the coping mechanisms adopted in managing stress.

Procedures

To find answers to some of these questions, we invite you to take part in this research project and participate in an interview. If you accept, you will be asked to answer some questions about some aspects of your life as a post-graduate student. A lot of questions will relate to your experience of stress and coping mechanisms among postgraduate students of College of Medicine, University of Ibadan.

You will be asked some questions one by one and your answers will be recorded on a questionnaire. This will be done so that I will remember everything that you told me. Although it is important that you answer all the questions, if you do not wish to answer any of the questions included in the survey, you may ask to move on to the next question. We assure you that we will not tell any other person whatever you disclose to us. Remember also that your name is not required in the interview. Participation in the study is voluntary and you are free to discontinue if you so desire. You are also free to ask questions about the study.

Risk and Discomforts

There is a slight risk as you may feel uncomfortable talking about some of the topics. However, we do not wish this to happen, and you may refuse to answer any of the questions or not take part in a portion of the survey if you feel the question(s) makes you feel uncomfortable. Participation in the survey will take about 30 minutes of your time.

Incentives

You will not be provided any monetary incentives or special tangible rewards for participating in the study. However, we will register our gratitude to you for participating.

Confidentiality

We have taken the following steps that you are safe and that the information you provided to us is confidential.

1. Informed consent will be obtained from each respondent.
2. The information that we collect from this research project will be kept confidential.
3. Information collected from you will be stored in a file that will not bear your name any other identifier will also not be put on your questionnaire so no one can trace your responses to us.
4. You may talk to the leader of the research team in case you have any concern or questions before, during or after participating in the survey.

Who to contact

If you wish to ask questions later, you may contact any of the followings:

(i) Vaughan Olufunke Adenike

Department of Health Promotion and Education

College of Medicine, University of Ibadan.

Telephone: 08033180579

E mail: olufunkevaughan@yahoo.com

(ii) Prof. A.J. Ajuwon (Supervisor)

Department of Health Promotion and Education

College of Medicine, University of Ibadan.

Telephone: 08034892561

Email:

Certification of Consent for Qualitative Study

I have been invited to take part in the research on stress and coping mechanisms among post graduate students of the University of Ibadan. I have read the forgoing information. I have had the opportunity to ask questions about the research and all my questions have been answered to my satisfaction. I therefore consent voluntarily to be a participant in this study and understand that I have the right to withdraw from the interview at any time I so wish.