

**STRESS AND COPING AMONG GRADE TWELVE PUPILS: STUDY AT SELECTED
SECONDARY SCHOOLS IN LUSAKA, ZAMBIA.**

By

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DECLARATION

I Maboshe Namakando do hereby declare that this is wholly my own work and that the work of other persons utilized in this dissertation has been dully acknowledged. The work presented here has not been previously presented at this University or indeed any other university for similar purposes.

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CERTIFICATE OF APPROVAL

This dissertation of Maboshe Namakando has been approved as fulfilling the requirements for the award of the Degree of Master of Child and Adolescent Psychology by the University of Zambia.

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Stress and coping among Grade Twelve Pupils. A study of Selected Secondary Schools in Lusaka, Zambia

Abstract

Studies carried out globally have shown that stress and coping in school children can have negative effects such as health related outcomes, poor academic performance and maladaptive behaviour if not well managed. However, there is no evidence of a study that has been conducted in Zambia to explore stress and coping among school children. Knowledge on stress and coping can help relevant stakeholders in Zambia towards designing ways of managing stress and coping among school children. The present study was aimed at exploring stress and coping strategies among grade twelve (12) Pupils in selected secondary schools in Lusaka, Zambia. A total sample of eighty (80) grade twelve pupils as girls and boys from Highland and New Northmead Secondary Schools in Lusaka had filled a questionnaire on stress and coping. The results indicated that pupils in this study experienced high stress levels. The independent sample t-test Results revealed that girls experienced more stress than boys. ($t(78) = -2.113, P = .038, P < .05$) on the Academic Stress Scale Questionnaire and ($t(78) = -3.201, P = .003, P < .05$) on the Test Anxiety Inventory Questionnaire. The descriptive statistical analyses Results showed that pupils experienced stress from different sources as parental/guardian attitude/home situation, teachers' attitude, pupils' own judgments and examinations. Girls were found to have used more of the maladaptive and adaptive coping strategies than boys. ($t(78) = -2.316, P = .023, P < .05$). Girls were found to have used more of the adaptive coping strategies than boys. ($t(78) = -2.118, P = .037, P < .05$.) These results are similar in many ways to the results on stress and coping in other studies carried outside Zambia. If stress and coping issues are not investigated and managed in Zambia, they might continue contributing to negative effects in school children, in several ways such as health and behaviour problems and poor academic performance. There is need for more research and interventions on stress and coping among pupils by some various stakeholders in Zambia.

Keywords: Stress, stressors, coping strategies and gender.

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Table of contents

List of tables	vii
List of figures	viii
List of abbreviations	x
CHAPTER ONE: INTRODUCTION	
1.1. Background.....	1
1.2. Statement of the Problem.....	4
1.3. Study Justification.....	4
1.4. Aim of the Study.....	5
1.5. Objectives of the Study.....	5
1.6. Research Questions.....	5
1.7. Hypotheses.....	5
1.8. Theoretical Framework.....	6
1.9. Scope of the study.....	8
1.10. Identification of Variables.....	9
CHAPTER TWO: LITERATURE REVIEW	
2.1. General Introduction to stress.....	10
2.2 .Sources of stress.....	10
2.3. Levels of stress.....	11
2.4 .Consequences of stress.....	13
2.5 .Coping Strategies.....	15
2.6 .Summary on Literature Review.....	18
CHAPTER THREE: METHODOLOGY	
3.1. Research Design.....	19
3.2 .Study area.....	19
3.3 .Study Population.....	19
3.4 .Study Sample.....	19
3.5. Sampling Technique.....	20
3.6/ Ethical Consideration.....	20
3.7. Instruments for Data Collections.....	21
3.7.1. The Academic Stress Scale Questionnaire.....	21

3.7.2. The Test Anxiety Inventory Questionnaire.....	23
3.7.3 .The Simplified Coping Style Questionnaire.....	25
3.8 .Data Collection Procedure.....	26
3.9. Summary of the reliability of data through a test of reliability.....	27
3.10. Normality of data.....	27
3.9. Data Analysis.....	28
CHAPTER FOUR: RESULTS	
4.1. Characteristics of the sample.....	30
4.2 .Stress levels among Grade Twelve Pupils in selected secondary schools in Lusaka ,Zambia.....	31
4.3.Gender Difference in stress levels among Grade Twelve Pupils in selected secondary schools in Lusaka, Zambia.....	32
4.4. Sources of Stress among Grade Twelve pupils in selected secondary schools in Lusaka.....	33
4.5.Coping Strategies that Grade Twelve Pupils in selected secondary schools in Lusaka ,Zambia might be using when dealing with stressful situations.....	35
4.6. Summary of the Results.....	38
CHAPTER FIVE: DISCUSSIONS	
5.1 . Stress levels among Grade Twelve Pupils in selected secondary Schools in Lusaka ,Zambia.....	39
5.2.Gender Differences on Stress Levels among Grade Twelve Pupils in selected secondary schools in Lusaka ,Zambia.....	41
5.3. Sources of Stress among Grade Twelve Pupils in selected secondary schools in Lusaka ,Zambia.....	43
5.4.Coping Strategies among Grade Twelve Pupils in selected secondary schools in Lusaka ,Zambia.....	46
5.5. Implications of the study.....	48
CHAPTER SIX: LIMITATIONS, CONCLUSION AND RECOMMENDATIONS	
6.1 Limitations.....	50
6.2 Conclusion.....	50
6.3 Recommendations.....	51

REFERENCES	52
APPENDICES	55
APPENDIX A.....	Academic stress scale questionnaire
APPENDIX B.....	Test anxiety Inventory Questionnaire
APPENDIX C.....	Simplified Coping Style Questionnaire
APPENDIX D.....	Participant Information Sheet
APPENDIX E.....	Participant Consent Form
APPENDIX F.....	Parental/Guardian Information Sheet
APPENDIX G.....	Parental/Guardian Consent Form
APPENDIX H.....	University of Zambia Ethics Approval Letter
APPENDIX I.....	Ministry of General Education Approval Letter

List of tables

Table 1-Identification of variables.....	9
Table 2-Reliability coefficient.....	27
Table 3 -Distribution of participants by age	30
Table 4-Mean Stress Score level of the participants on the Likert Scale of the Academic Stress Scale Questionnaire and the Test Anxiety Inventory Questionnaire.....	32
Table 5- The Independent Sample T-Test results on Gender difference based on the total stress scores of the participants on the Academic stress Scale Questionnaire and the Test Anxiety Inventory questionnaire.....	33
Table 6- Sources of high stress from the Academic stress Scale Questionnaire and the Test Anxiety Inventory Questionnaire.....	34
Table 7- Maladaptive coping items from the Simplified Coping Style Questionnaire.....	35
Table 8- The Independent Sample T-Test results on Gender differences based on the total maladaptive coping strategy scores of the participants on the Simplified Coping Style Questionnaire.....	36
Table 9.- Adaptive coping items from the Simplified Coping Style Questionnaire.....	37
Table 10- The Independent Sample T-Test results on Gender differences based on the total adaptive coping strategy scores of the participants on the Simplified Coping Style Questionnaire.....	38

List of figures

Figure 1. Age range of the participants31

List of Abbreviations

IB.....	International Baccalaureate
PTSD.....	Post Traumatic Stress Disorder
GPA.....	Grade Point Average.
ACOPE.....	Adolescent Coping Orientation for Problem Experiences
ASSQ.....	Academic Stress Scale Questionnaire
TAIQ.....	Test Anxiety Inventory Questionnaire
SCSQ.....	Simplified Coping Style Questionnaire
SPSS.....	Statistical Package for Social Sciences
NS.....	No Stress
SS.....	Slight Stress
MS.....	Moderate Stress
HS.....	High Stress
ES.....	Extreme Stress

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background

Stress can be defined as a situation in which the environmental and/ or internal demands exceed the individual's resources for managing them (Serge, 2000). According to Serge (2000), there is no single agreed definition of stress in existence. It is a concept which is familiar to both laymen and professional alike. All people understand stress in a general context but very few do so when a more precise account is required.

Any person, old, young, male or female can experience stressful situations. Stressful situations can be found anywhere. Some studies from Africa and outside Africa e.g. (Adom, Solomon, Emmanuel, 2014; Shannon, Elizabeth, Robin, 2008) respectively, have shown that stress exists even in learning environments in school children. According to (Stevenson, Harper, 2006), stress can have positive and negative consequences even in learning institutions, depending on the level of stress that one can experience. According to stress researcher Selye (1980), stress which is healthful and necessary to keep us alert and occupied is known as eustress, whereas stress that leads to negative consequences is known as distress. Higher and extreme stress levels are a great concern due to negative consequences.

According to Geraghty (2014) being female is associated with higher academic stress levels throughout the world. Girls tend to put more personal weight on academic performance than boys and might worry more about failure. This means that schools girls might even express more of the negative consequences of stress than boys.

A study in Ghana by Adom et al. (2014) has among its finding indicated that boys had better academic performance than girls because male students might have lower stress levels as compared to their female counterparts. More of the negative consequences of stress which include the health and behaviour related ones are yet to be highlighted in this study, including in the section under the statement of the problem. Despite the above analysis on gender and stress, gender differences regarding stress levels has however not been explored among Zambian pupils. In Zambia, there is a possibility that school children, especially those in examination classes, such as the grade twelve pupils might experience higher levels of stress.

From my experience as a teacher in Lusaka, Zambia, school children especially those who are in Examination classes in Zambia might experience higher or extreme stress from

different sources which include families, teachers, peer pupils and pupils themselves who tend to lack self- confidence.

Some parents and guardians for instance usually fail to provide their children with school necessities compel them to attend extra tuition lessons, leave them with no time for recreation activities and threaten them in various ways if they fail to acquire high examination/test scores. This is in addition to some pupils working up very early in the morning from their parents or guardians' homes to cover long distance on foot to school. There are some teachers who fail to satisfy their pupils academically and those who seem to be bias when interacting with pupils. Some pupils are also, often either ridiculed by their classmates or might experience high stress or lack of self-confidence because of their continuous past poor academic results. It is common to hear of many schools children who have been punished for what seems to be stress related cases such as lack of concentration in class or even sleeping while a teacher is busy teaching in class. Instead of considering other interventions such as counseling and guidance, such pupils seem to be commonly punished straight away, a situation that even tends to increase their stress levels.

Regarding gender and stress, my experience as a teacher in Lusaka has led me to suggest in this section that, there are many schools girls who usually complain that they do not have time to study while at home because they are made to do house chores such as cooking and washing plates. When they go back to school, they are expected to perform well academically, especially during examinations. This situation is made worse because several schools in Lusaka for instance do not have time for pupils to study or rooms for pupils to study from. In other words, several schools in Lusaka do not have what is commonly known as prep time. A situation like this might contribute to school girls experiencing higher stress than boys. This is because most of the boys generally tend to have more time for relaxation while at home and even used such time to study.

The situation above is further confirmed through the results of a study by Mwanza (2010). According to this study, parents in Africa, including Zambia, generally tend to attach a much higher value to female domestic labour than that of males. Females, due to patriarchal practices perform major domestic chores such as cooking, fetching for water

and firewood, caring for the siblings, sick and old, and all house work to sustain households.

With further evidence from my experience as a teacher in Lusaka, several schools in Lusaka, Zambia seem to differ significantly in many ways that might contribute to pupils experiencing different stress levels. Such differences seem to depend on the type of a school. For instance, there are some schools which are Grant aided, non-grant aided, co-education, single sex ones, boarding and day schools. Grant aided are basically private schools which receive certain amount of grant from government e.g religious owned schools. Non-Grant aided are those schools which are owned by government.

All the above experiences are some of the negative situations that can be avoided or reduced as long as the right interventions are to be considered by stakeholders. Unfortunately, my experience indicates that many stakeholders such as parents and the guidance and counseling teachers lack sensitization on stress.

Despite the negative effects that stress has, it is not clear how Grade Twelve pupils in Zambia cope with stress. According to a study by (Folkman, Lazarus, 1980) coping is defined as the cognitive and behaviour meant to master, reduce or tolerate the external or internal demands that are created by a stressful transaction. Strategies for coping with stress can be divided into two main categories: adaptive and maladaptive (Hindle, 1999). Adaptive behavior means responding to stress in a manner that can reduce or tolerate stress, whereas maladaptive behaviour means responding to stress in a manner that is not helpful in terms of reducing or tolerating stress.

One of the great concerns regarding coping is that some pupils are likely to use maladaptive coping strategies. For example, according to a study by (Patterson, McCubbin, 1987) some students at a high school had used negative avoidance and anger coping styles as maladaptive coping styles. This is a problem because wrong coping strategies according to some studies such as by Shannon et al. (2008) can contribute towards internalizing and externalizing behavior problems /psychopathology in addition to contributing to health problems and poor academic performance. Assessment of coping strategies among Grade Twelve pupils in some Zambian schools is therefore one of the important concerns in this study.

1.2. **Statement of the problem.**

Even though research studies by (Ehlinger, 2008; Putwain, 2007; Selye, 1980) have established that stress has several adverse effects, such as contributing to cancer, heart diseases, diabetes obesity, mental health/behaviour problems weakening of the immune systems and poor academic performance, there is no evidence of a research that has been conducted in Zambia to explore stress and coping among grade twelve pupils. For example, a recent study by Malambo (2012) on factors that influence academic performance among pupils in Grant and Non- Grant - Aided Schools did not include stress and coping among the factors which were investigated. Studies which investigated on stress in Zambia had done so on different populations and not on pupils. E.g., a study by (Menon, Munalula, 2007) had investigated stress among Zambian doctors at the University Teaching Hospital and not among secondary school pupils. Another study by Namangala (2002) had investigated stress among teachers at some schools in Lusaka and not on pupils. Research studies suggest that stress exists in school children and has negative consequences. There also seems to be a research gap in this area to promote stress reduction programmes in Zambia.

1.3. **Study Justifications**

This study is important due to various reasons indicated below:

It seeks to attend to a gap in knowledge by seeking to explore stress and coping among Grade Twelve Pupils in selected schools in Lusaka, Zambia. This is important because some studies as indicated in the literature review have shown that stress has adverse consequences yet, there is no evidence of some studies on stress among pupils in Zambia. This study can help as a step towards any future studies on stress and coping among pupils in Zambia because some future studies on stress will be able to refer to it. This study can also contribute significantly towards interventions on stress and coping .For example, policy making regarding how to deal with stress and coping among school children in Zambian schools. Generally, the study will help various stakeholders such as teachers (guidance and counseling) and parents to have a deeper understanding about the nature of stress and the coping strategies that are necessary among pupils. This will help such stakeholders to take any possible steps to address stress and coping among school children in any possible way.

1.4 **Aim of the study**

To explore stress and coping strategies among grade twelve (12) pupils in selected schools in Lusaka, Zambia.

1.5. **Objectives of the Study.**

- (1) To assess the stress levels that grade twelve pupils in selected schools in Lusaka, Zambia might experience.
- (2) To explore gender differences that might exist in stress levels among grade twelve children in selected schools in Lusaka, Zambia.
- (3) To explore factors that might contribute to stress among grade twelve pupils in selected schools in Lusaka, Zambia.
- (4) To explore different coping strategies that grade twelve pupils in selected schools in Lusaka Zambia might be using when they experience stressful situations.

16. **Research Questions.**

This study seeks to answer the following questions:

- (1) Do grade twelve pupils in selected schools in Lusaka, Zambia experience different stress levels?
- (2) Are there gender differences in stress levels among grade twelve pupils in selected schools in Lusaka?
- (3) What are the factors that might contribute to stress among grade twelve pupils in selected schools in Lusaka, Zambia?
- (4) Are there different coping strategies that grade twelve pupils in selected schools in Lusaka might be using when they experience stressful situations?

1.7. **Hypotheses.**

- (1) Grade twelve pupils in selected schools in Lusaka, Zambia, experience high mean stress levels.
- (2) There is gender difference on stress levels among grade twelve pupils in Selected Schools in Lusaka, Zambia.
- (3) Several factors contribute to stress among grade twelve pupils in selected schools in Lusaka Zambia.

- (4) Grade twelve pupils in selected schools in Lusaka, Zambia use different coping strategies when they experience stress.

1.8. Theoretical Framework

This section of the research proposal was based on Lazarus 's theory of stress with regard to the Transactional Model of Stress and Coping. This theory was found to be relevant to this current proposed study because it highlights on stress and coping strategies which formed a great part of the objectives of this study. Dr Richard Lazarus first wrote about the Transactional Model of Stress and Coping in 1966.

Definition

According to (Lazarus, Cohen, 1977; Antonovsky, 1967); Cohen, 1984) the Transactional Model of stress and coping is a framework for evaluating the process of coping with stressful events. Myers (2009) stated that, the Transactional Model of Stress and Coping describes the process by which stressors affect psychological stress outcomes, social resources and coping.

Stressful events, according to (Lazarus et al, 1977; Antonovsky , 1967, Cohen, 1984) are construed as person-environment transactions. These transactions depend on the impact of the external stressor. This is mediated by firstly the person's appraisal of the stressor and secondly on the social and cultural resources at his or her disposal.

Key constructs of the Transactional Model of Stress and Coping according to Glanz et al. (2002).

Primary appraisal

This is the first thing that a person has to do when experiencing a stressful event. According to Cohen (1984) primary appraisal is defined as a person's judgment about the significance of an event as stressful, positive, controllable, challenging or irrelevant. When faced with a stressor, a Grade Twelve pupil as in this study is expected to evaluate the potential threat of a stressor like that of writing an exam. This also means that people can experience different levels of stress regarding the same stressor. After this, the second appraisal follows.

Secondary Appraisal

According to (Glanz, Rimer, Lewis, 2002) secondary appraisals address what one can do about the situation. Cohen (1984) refers to this stage as an assessment of people's coping resources and options. For instance, a pupil can use any of the coping strategies according to how one has evaluated the stressor and what kind of resources one has to deal with the stressor.

Actual Coping Strategies.

According to Glanz et al. (2002) the actual coping strategies are the actual coping efforts aimed at regulation of the problem and give rise to outcomes of the coping process.

The Transactional Model of coping highlights six major ways of coping which can be used even by Grade Twelve Pupils and these are discussed below:

- (1) There is what is called the **problem management concept**, which according to Zeidner (1995) refers to the use of problem-focused coping style (i.e., attempting to reduce stress by changing the environment).
- (2) The other one is called the **emotional regulation**. This is about strategies aimed at changing the way one thinks or feels about a stressful situation. This can involve the use of emotion-focused coping (i.e., attempting to change one's emotional reactions) and avoidance coping (i.e., doing unrelated activities) (Glanz et al. 2002),
- (3) The **Meaning-based coping**. This is about coping processes that induce positive emotion, which in turn sustains the coping process by allowing reenactment of problem- or emotion focused coping (Glanz et al. 2002).
- (4) **Dispositional coping styles**. These are generalized ways of behaving that can affect a person's emotional or functional reaction to a stressor; relatively stable across time and situations (Glanz et al. 2002).
- (5) **Optimism**. This is the tendency to have generalized positive expectancies for outcomes (Glanz et al. 2002).
- (6) **Information seeking**. This is about intentional styles that are vigilant (monitoring) versus those that involve avoidance (blunting) (Glanz et al. 2002).

Outcomes of coping

This is the stage in the transactional model of stress and coping, in which the results of a coping style can be experienced. According to Glanz et al. (2002) this refers to the emotional well-being, functional status and health behaviours. Generally, the outcome of a coping strategy can be negative or positive even among school children. Negative outcomes could include depression, (Monroe, Rohde, Seeley, Lewinsohn, 1999) or loneliness, distress and a loss of self or sense of who one is as a person, (Lewandowski, Aron, Bassis, Kunak, 2006) as experienced for example after failing a Grade Twelve Mock Exam. Both the emotion focused coping and the avoidance

coping have been found to be associated with higher levels of anxiety in exam situations (Zeidner, 1995).

However, an ideal coping strategy should bring out positive outcomes after a stressful situation. In terms of Pupils such as the Grade Twelve, the problem focused coping can contribute to higher exam scores. According to (Whatley, Foreman, Richards, 1998) the Problem Focused Coping can even lower levels of anxiety.

1.9. **Scope of the Study.**

The study was conducted at New Northmead and Highland Secondary Schools in Lusaka, Zambia, involving some grade twelve girls and boys from these two Government co-education schools.

1.10. Identification of Variables

Table 1. Identification of Variables

Variables	Operational definitions	How it was measured in this study
Independent Variables		
Gender	Being Male of female in this study	Demographic part of the three Questionnaires in this study
Stressors	The internal and external problems experienced by the school children in this study.	Academic stress Scale and Test Anxiety Inventory Questionnaire.
Coping Strategies	Thoughts and behaviours used by the school children in this study when experiencing difficult situations/problems.	Simplified Coping Style Questionnaire
Dependent Variable		
Stress	A situation in which the problems experienced by school children in this study exceed their capacity to deal with them.	Academic stress Scale and Test Anxiety Inventory Questionnaire

Table one (1) above showing the main variables in this study.

CHAPTER TWO

2.0. LITERATURE REVIEW

2.1. General introduction to literature review

This section of the research report contains a review of literature under the following subheadings:

2.1. Causes/sources of stress. 2.2. Levels of Stress. 2.3. Consequences of stress. 2.4. Coping strategies. 2.5. Summary on literature review.

This literature review has in some instances given examples of some studies outside and inside Africa where possible. It has also taken a general approach followed by a specific one in certain instances. Aspects such as reasons why the literature discussed, including the studies, are relevant to this current study have been discussed at the end of each subheading.

Data used is obtained from some journals, internet and textbooks. The keywords and terms used in searching for the information are as follows: definition of stress, causes of stress in high school students, effects of gender on stress levels, effects of stress in high school students and coping strategies among high school pupils.

2.2. Sources of stress

According to Serge (2000) stress is generally caused by environmental-external and internal factors.

Sources of external stress in adolescents include normative stress (i.e. developmental challenges inherent to adolescence, such as puberty, school transition, increased academic demands), nonnormative stressful life events (e.g., divorce, deaths) and daily hassles (e.g., chronic stressors such as child-parent conflict and academic pressure). (Mc Namara , 2000) .

According to Denscombe (2000) four aspects can be considered to be sources of stress in pupils. One of such sources is 'Examinations' . Examinations are a source of stress because of their educational and/or occupational consequences. For example, achieving sufficient good grades in an exam is important as a requirement for one to enter certain grades or to get a good job. 'How students/pupils judge themselves based on their own grades' is also one of the sources of stress. 'A good grade results in high esteem' .There is also' judgment from others people such as parents and fellow students' as another source of stress. 'Fear appeals by teachers to students' can lead to stress as well .The message that teachers continuously give to pupils usually creates fear in pupils even though such messages might be intended to be used as motivation strategy to

pupils. These are messages like, ‘Unless you get very good grades you won’t get into college’ or as the situation might be in Zambia, a teacher who continuously reminds pupils that they can’t be accepted to the University of Zambia unless they get six points, can create contribute to high stress in pupils.

Literature review on the sources of stress is important and relevant to this study because in attempting to assess stress among pupils in Zambia, it is necessary to have an idea about the possible sources of stress. This is why the identification of sources of stress among pupils is one of the objectives of this study.

23. Stress Levels

Due to various factors, stress seems to be experienced at different levels even by school children.

According to Geraghty (2014) Chinese students report some of the highest stress levels in the world according to an international survey that compared stress levels in twelfth grade students in the republic of Korea, Japan and the United States of America. A strong culture of academic achievement famously exists in China and Chinese students outperform much of the rest of the world on standardized exams, but this comes with a price of high stress.

Being female is associated with higher academic stress levels throughout the world. Girls tend to put more personal weight on academic performance than boys and might worry more about failure. Students around the world in older grades who are thinking about entrance examinations to the next grade level or to college also experience higher academic stress levels. (Geraghty, 2014).

There has been overwhelming research in support of the notion that gender has an influence on stress levels.

In a study conducted in Ghana by Adom et al. (2014), stress levels among high school pupils were investigated. The study in Ghana had yielded some important results and findings regarding stress levels. A total of 120 senior high school students randomly selected from four Senior High Schools in the Western Region of Ghana participated in the study.

The study in Ghana had yielded some important findings regarding stress levels. The findings showed that, the majority of the students experienced moderate stress levels and that, none of the students experienced high stress levels. It also indicated that academic workload

requires that students face a series of peak periods such as finals. There is a relatively constant underlying pressure to complete an upcoming assignment.

The findings of the study also indicated that, males had better academic performance than females because male students might have lower stress levels as compared to their female counterparts.

In conclusion, for future work regarding stress, the study made several stress reduction recommendations as follows:

1. Guidance programmes such as workshops, symposiums, and public lectures on stress should be organized periodically for students so that they can be adequately equipped with the needed skills to handle issues related to stress.
2. Counseling centers should be put in place in all Senior High Schools to help student build their positive self-concept as well as helping students cope with stress.
3. Teachers and educators must focus on intrinsic motivation which will have greater impact on students in achieving high academic performance in the absence of external rewards.
4. The Government should formulate policies that will help both the urban and rural school students to perform academically. Again, the necessary resources and infrastructure should be provided to enhance teaching and learning in both rural and urban areas.
5. Quiz competitions, class presentations and inter school debates should be organized for students in order to release them from distress and enhance their academic performance.

Part of the gaps in the Ghana study above is that it should have made an analysis based on gender difference on stress levels instead of just assuming that male students might have lower stress levels and hence they performed well academically than the females. This would have made the study very specific and informative.

This study is however very important to this proposed study in various ways as below: It involved Senior High School Students who are also the participants in this current study. It has also investigated on levels of stress and academic performance, which are some of the concerns

in this current study. The Ghana study has made valuable recommendations relating to stress and academic performance.

2.4. Consequences of stress

The literature review in this section first discusses the consequences of stress with regard to the general perspective and then focuses on effects of stress on academic performance among pupils in high schools.

Stress has been found to have several general consequences which have been explained in the literature below as physiological and psychological.

Stress is a clear risk factor for mental health disorders, which have been estimated to affect approximately one in five children aged 9 to 17 years (U.S. Department of Health and Human Services, 1999).

Intense or prolonged stress can overtax our capacity to adjust, dampen our moods, impair our ability to experience pleasure, and harm the body (Repetti, 1993).

According to Stress researcher Selye (1980), stress can help to keep us alert and occupied, whereas stress can also bring about negative consequences.

Chronic stress for instance has been said to increase the risk of developing health problems including obesity, diabetes, heart disease, cancer, and a weakened immune system. Chronic stress also affects a person's mental health. Many studies show a correlation between stress and the development of mood disorders such as anxiety and depression.

According to Maldonado (2014) stress can contribute to physical differences in the brains of people with stress disorders such as **post**-traumatic stress disorder (PTSD) and those without. One of the main distinctions is that the ratio of the brain's white matter to gray matter is higher in those with stress-related mental disorders compared to those without.

If a student is unable to cope effectively with stress, then serious psycho-social-emotional health consequences may result (Arthur, 1998) ; Mac George, Samter, Gillihan, 2005).

Test anxiety and examination stress have generally effect on academic performance in that they are both associated with a negative impact on examination performance. E.g. a student who gets a grade B could have obtained a grade A (Putwain, 2007).

In a study by Ehlinger (2008) the consequences of stress on the academic performance of pupils were investigated. This study was conducted at the University of Minnesota's Boynton Health Service in United States of America. The study specifically investigated the possibility of

a direct link between health –related behaviours such as stress and grades. This was the first study to show direct link between grades and health-related behaviours such as stress. The researchers surveyed 9,931 students. Then they matched Grade Point Averages (GPAs) with health problems such as stress, sleeping difficulties, smoking and drinking as well as typical lifestyles choices such as excessive television viewing. Generally, the researchers found that students with unhealthy behaviours that included stress had significantly lower grade point averages.

Stress was found to be one of the biggest factors which contributed to lower GPAs. Of the 69.9 percent of students who reported they were stressed, 32.9 percent said that stress was hurting their academic performance. Those who reported eight or more emotional stresses-ranging from credit card debt to failing a class or conflicts with parents-had an average GPA of 2.72 while those who reported no significant stress had an average GPA of 3.3. While this may seem like a small difference in GPA, the impact of this difference is said to be big when looking at over 9000 students involved.

In conclusion, this study found that the ability to manage stress was equally important. Students who said they were able to handle their stress effectively performed much better than those who said they couldn't. The study further stated that if students could manage their stress, then their stress level will not matter.

This study had certain gaps. For instance, it could have been very comprehensive if it had compared the effects of stress on the academic performance of pupils in different grades.

This study is however relevant to this proposed study because it lighted on the effect of stress on academic performance and this is one of the concerns in this current study. It also showed the importance of managing stress, which is also an important aspect of this current study.

2.5. Coping strategies

There are several definitions of coping. Coping can be defined as the process by which people try to manage the perceived discrepancy between the demands and resources they appraise in a stressful situation (Sarafino, 2002).

According to Sarafino (2002) coping serves two functions. That is, it can alter the problem causing the stress or it can regulate the emotional response to the problem.

There are a number of coping strategies which a person can use. Emotional focused coping strategy is one that aims at controlling the emotional response to the stressful situation. People can regulate their emotional response through behaviour and cognitive approaches. An example of a behaviour approach includes using alcohol or drugs, seeking emotional social support from friends or relatives and engaging in activities such as sports or watching Television in order to distract one's attention from the problem. Cognitive approaches as a coping strategy is about how people think about the stressful situation. For example, a person who wants to cope with the possibility of changing a job might change the meaning of a situation by deciding that there are worse things in life than having to change a job because of a heart condition.

Problem focused coping strategy is aimed at reducing the demands of the stressful situation or expanding the resources to deal with it (Sarafino, 2002).

According to Glanz et al, (2002) therapeutic techniques are coping strategies that can be used even by pupils as well. These are techniques such as biofeedback, relaxation and visual imagery. Biofeedback aims at developing awareness and control of responses to stressors. It also reduces stress and tension in response to everyday situations. Relaxation techniques use a constant mental stimulus, passive attitude and a quiet environment. Techniques that are used are relaxation training, hypnosis and yoga. Visual imagery is a technique used for improving the mood of a person and improving coping skills. This can be done for example with visualizing host defenses destroying tumor cells.

In view of helping students/pupils to cope with stress and achieve academic success,

Recently (Ramirez, Beilock, 2011) demonstrated that asking students to write about their thoughts and feelings about the upcoming test immediately before they take the test can lessen the negative impact of pressure on performance. This type of coping also helps to alleviate depressive symptoms and frees up the available working –memory for the task at hand. The working memory according to Miyake, (1999).is defined as a short-term memory system

involved in the control, regulation and active maintenance of a limited amount of information immediately relevant to the task at hand.

According to Ramirez et al. (2011) the coping strategy that involves writing of one's worries regarding an upcoming test is said to have a big impact due to several reasons. It was felt that the answer lies in the content of the writing itself. Such a written exercise reduces people's tendency to ruminate because it provides them with an opportunity to express their concerns. . Expressing concerns gives people some insight into the source of their stress, allowing them to reexamine the situation such that the tendency to worry during the actual stressful situation and the resulting disruption of working memory indicated above would be limited.

Ramirez et al. (2011) further indicated that listing of important values like relationship with friends and family is a good coping strategy. This is because, affirming important values buffers students from worrying about their ability to succeed.

In conclusion, Beilock (2008) indicated that, if students can learn to perform up to their ability in schools, the same anxiety-easing techniques can make them better prepared for job interviews, business presentation or other stressful tasks in life.

In a study conducted by Shannon et al. (2008) from the University of South Florida, USA, the researchers among other things investigated the behaviours that adolescents in a high school use most frequently to manage problems of difficult situations. Generally, the study looked at the relationship among stress, coping and mental health.

Participants in this study consisted of students enrolled in one high school in a rural southeastern state. The school was selected because it houses both an IB program and a general education curriculum in a single school building. Although there are two separate principals and administrative staff at the school (one for each curriculum), students share facilities and faculty. The participation was sought from all students in the school. Out of a total number of One Thousand and Fifty (1,050) students in the school, a total sample of Three Hundred and Seven (307) students was used as a sample. This comprised One Hundred and thirty Nine (139) students in the IB program and a comparison sample of One Hundred and Sixty Eight (168) peers from the general education curriculum.

In order to collect data on coping, a questionnaire instrument called the 'Adolescent Coping Orientation for Problem Experiences (ACOPE) was used , reflecting four coping styles

described as (a)the coping styles of positive appraisal, (b)negative avoidance,(c) family communication (d) anger.

In the ACOPE Questionnaire, the items comprising positive appraisal coping involve strategies designed to positively appraise stressful situations or solicit the support of others in times of stress. Negative avoidance coping items all involve the use of substances to cope in the face of stress. All family communication coping style items involve relying on family members for social support in times of stress. Anger coping style items involve ways of expressing emotions outwardly, either directly (e.g., let off steam by complaining) or indirectly (e.g. say mean things to others).

Some of the main findings of this study were that students were using different coping styles to manage stress. Positive and family communication coping styles were found to be related to increased life satisfaction. Family communication alone accounted for 12% of the variance in life satisfaction. Students who were able to find positive outlets when faced with stress (e.g talking with family members, thinking positively, spending time with close friends/family/family members were happier with their lives than those who used anger and negative avoidance coping styles.

Negative avoidance coping style was found to be the strongest predictor of internalizing behaviour such as depression, withdrawal, anxiety, and somatic complaints. Anger coping was found to be the strongest predictor of externalizing behaviours such as rule breaking and aggression. Negative avoidance and Anger coping styles were therefore found to be associated with the risky of psychopathology. This suggests that blaming and saying mean things to others are not effective strategies to deal with increasing stress among students in an academically rigorous programme. This is consistent with the findings of Tolan, Gorman, Henry, Chung, Hunt, (2002) who linked emotion-focused coping strategies, with psychopathology in a sample of inner-city youth.

This study has left a gap in that it has not made an analysis of coping strategies basing on gender and other variables in the study such as grade and ethnicity.

In conclusion, this study is important and relevant to the current proposed study because it has investigated on coping strategies that some high school students use. An investigation of coping styles used by Grade Twelve Pupils is one of the objectives of this proposed study. This

study even revealed that maladaptive coping strategies such as negative avoidance and anger can contribute towards psychopathology.

2.6. Summary on literature review

From some findings of the various studies and views of some authors in the literature review above, various conclusions can be made. School children are likely to experience stress at different levels. There is gender difference on stress levels. External and internal factors are generally sources of stress. Stress has also been found to have a negative affect on health and academic performance. Furthermore, it can be suggested that Grade Twelve Pupils need to be guided on using effective and better coping strategies because certain coping strategies as learnt from the literature review above do not help with academic performance and instead can contribute towards psychopathology.

CHAPTER THREE

3.0 METHODOLOGY OF THE STUDY

This section basically outlines the various aspects of the methodology used.

3.1 Research design.

An exploratory study design was used.

3.2 Study area or Site

This study was conducted at New Northmead and Highland Secondary Schools in Lusaka, Zambia. These schools were chosen for various reasons explained below:

They are both co-education schools. This means that the availability of boys and girls in these schools made it possible to assess stress levels and coping strategies based on gender differences as part of the objectives of this study. The two schools were also chosen because they are Non-Grant Aided ones. According to a study by Malambo (2012) in Zambia, poor Grade Twelve Results were experienced at a Non-Grant - Aided School (Mungule Secondary School) for a continuous period of ten years. This gives a hypothetical view that pupils in such schools might be more stressed and hence the need to target Non – Grant Aided -Schools.

3.3 Study Population.

The study population comprised grade twelve boys and girls from New Northmead and Highland Secondary Schools. The grade twelve pupils were chosen because they were likely to be more stressed by the thought of writing their Final Secondary School Leaving Examination. This is the examination which mostly determines their selection to colleges or universities apart from other requirements. Pupils from these two types of schools have basically the same social-economic status. Their teachers are basically trained from the same colleges and universities. Some of the pupils in these two types of schools have the same parents/guardians and hence some of them even came from the same homes.

3.4. Study Sample.

The study sample comprised eighty (80) pupils as participants with estimated age ranging from sixteen (16) to above twenty years (20) years. Twenty (20) boys and twenty (20) girls were selected from each of the two schools. Due to time factor, and schools that were busy conducting end of term examinations, it was not possible to collect a very large sample during time that remained for data collection. The head teachers felt that the data collection exercise

might put stress on pupils as they were preparation for and writing the end of term one examination. All the Eighty (80) participants had managed to take part in the Study.

3.5. Sampling Technique.

The sample (n) above was selected through ‘simple random sampling’ from a population (N) comprising all the grade twelve pupils in each of the two schools.

The sampling was done through a tool called the ‘Simple Random Generator’. According to (Geoffrey,1997), the Simple Random Generator –Stat Trek or rather the Random Number Generator is said to have been designed for researchers and students who want a quick way to generate random numbers or assign participants to an experimental condition. Research Randomizer can be used in a variety of situations, including psychology experiments, medical trials and surveys research. Since its release in 1997, this tool has been able to create up to 1000 random numbers quickly and easily.

Grade twelve pupils at each school in this study were given some numbers in advance by the researcher. The simple random generator tool was commanded from the laptop to select forty (40) numbers from the total number (N) of grade twelve pupils at each school. The numbers selected randomly were the ones that were taken as sample for this current study. For the sake of transparency, two (2) girls and two (2) boys were asked to witness the random numbers while they were being generated. To ensure the availability of internet to operate the tool, the researcher had used units from an external modem.

3.6. Ethical Considerations.

The researcher obtained approval from the University of Zambia Ethical Committee to conduct this study. The researcher had also obtained permission from the Head teachers of the two schools in the study, to conduct a research among Grade Twelve Pupils. This was after explaining the nature of the study. Since the research dealt with pupils of sixteen and more years, the researcher had earlier thought to obtain informed consent from the pupils, excluding their parents or guardians, but was later advised by the Ethical Committee to obtain Parental/guardian consent as well. Information sheets to parents/guardians were therefore sent to parents and guardians as well. The researcher was obligated at all times to ensure that the research procedure was not stressful. This was done by simplifying the questionnaire as much as possible so that only vocabulary relevant to the educational level of the participants was used. The participants were informed of their right to refuse to participate in this study at any time

without any penalty to them. The researcher also ensured confidentiality and anonymity of the participants as numbers were used for identity. All data to be collected was kept under lock and key. At the end of the research, the researcher arranged for a meeting with the Head teacher and the Guidance and Counseling Teacher to discuss any possible way forward regarding stress and coping among pupils in their schools.

3.7. Instruments for Data Collection

Data was collected through the use of three questionnaires. The three types of questionnaires below were used to ensure that the necessary data that was supposed to be collected through this study was collected. Section A of the instruments gathered some demographic information on gender and age. Section B helped to retrieve participants' responses based on a Likert scale designed for each questionnaire.

3.7.1. The Academic Stress Scale Questionnaire . (appendix A)

The Academic Stress Scale Questionnaire was used in this study to assess stress from different sources .This was possible because this instrument was designed to describe academic stress from various sources. Such sources are teachers' attitude and parental reaction to pupils' school performance' and pupils' own perceptions about their academic life and other sources. This instrument was developed by Hesketh et al. (2010) to capture the levels of academic stress experienced by children in China. The Academic Stress Scale Questionnaire has forty (40) items with a five (5) point Likert Scale as below:

1 = No Stress (NS), 2=Slight Stress (SS), 3= Moderate Stress (MS), 4 = High Stress (HS), 5= Extreme Stress (ES).

This questionnaire is said to have proven validity and reliability. For instance, there is reliability in that this questionnaire has been used in some studies. For example it was used by Balaji Rao during his thesis submitted to Acharya Nagarjuna University for the award of the degree of Doctor of Philosophy in Education. Acharya Nagarjuna University is one of the major Universities in India. Reliability- the test-retest reliability of this instrument in Zambia was investigated and enhanced through both the pilot and main studies which were conducted. The use of a pre-test (pilot) had yielded results such as the need to change some complicated words and phrases to suit the level of the participants. The results of the pilot study had also helped the researcher to appreciate the need to administer the questioner instead of delegating someone else who might not be very familiar with the study being conducted. Reliability on use of this

instrument in this study was also achieved by verifying the findings, relating them to the findings or evidence from the various literatures in this current study. A Reliability Test was conducted to measure internal consistence. The reliability Coefficient through a test of reliability was at found to be at .89. This is a normal accepted level for a main study as it was more than .70. Generally, a Pilot Study was used to test the questionnaire, variance, methods, vocabulary used, all procedures and feasibility of the approach.

Validity especially Face Validity was enhanced through this questionnaire in this study in various ways. E.g, all the items of this questionnaire were related to different sources of stress. The design of the study by including items which tested stress from different sources or factors of stress helped to promote internal validity as it helped to draw accurate conclusion regarding the data. The researcher ensured that the participants fully understood the application of the measurements on the Likert Scale. Equally, some of the vocabularies were changed to suit the level of the participants and this helped them to understand the questions well and hence responded accordingly. Complicated words and phrases which were in the original questionnaire had made the questionnaire seeming like a test on vocabulary, reading or comprehension instead of an assessment of stress from different sources. For example, the word 'stress' was changed to 'worry/worries/worried', depending on each item in the questionnaire.' This enhanced internal validity and therefore helped to measure the intended constructs.

Even though this instrument could not measure stress as a characteristic that could be directly observed, such a characteristic was inferred from patterns in pupils' behaviours as they respond to this questionnaire. In this way, Construct Validity was enhanced.

Content Validity was also enhanced in that this instrument is a representative sample of the content area (domains being measured) as stress from parents/home, school (teachers and peer pupils).

External Validity was also enhanced in various ways. Instead of using laboratory experience, the study used a real-life setting. The participants were met at their schools where they spend most of the time interacting with teachers and their peers. A true representative sample was used so that the results could be generalized to any larger population in a similar setting or situation.

3.7.2. The Test Anxiety Inventory (TAI) Questionnaire. (appendix B)

The test Anxiety Inventory (TAI) Questionnaire developed by Spielberger (1980) was used to assess examinations/tests as a source of stress among pupils in this study. The items in this questionnaire asked the participants to indicate their feelings and behaviour before, during and after taking a test or examination. The TAI consists of twenty (20) items in which the respondents are asked how often they experience anxiety symptoms before, during and after taking tests. Each item is rated on a four (4) point Likert Scale as 1=almost never, 2=sometimes, 3=often, 4=almost always. The score ranges from a minimum of twenty (20) to a maximum of eighty (80) points,

According to Spielberger et al. (1980), the Test Anxiety Inventory Questionnaire –Chinese Version is one of the most widely used instruments for measuring test anxiety in high school and college students. The Chinese version is necessary especially that its vocabulary was made appropriate to 12th grade high school students, who happen to be participants in this study. According to a study by Xiao et al. (2013) this questionnaire was applied successfully in the Chinese School society considering the Academic Pressure that students receive from parents due to reasons such as the need for respect and family pride. Therefore, it can be hypothesised that it can also be tested in Zambia because according to my experience, some parents/guardians put pressure on their children to do well at school for reasons such as the need for respect and family pride.

This questionnaire is also said to have proven validity and reliability. Its reliability is such that it has been used before, for instance in China.

Reliability - the test-retest reliability of this instrument in Zambia was investigated and enhanced through both the pilot and main studies which were conducted. Just like in the academic stress scale questionnaire, the use of a pre-test (pilot) had yielded results such as the need to change some complicated words and phrases to suit the level of the participants. The results of the pilot study had also helped the researcher to appreciate the need to administer the questionnaire instead of delegating someone else who might not be very familiar with the study being conducted. Reliability on use of this instrument in this study was also achieved by verifying the findings, relating them to the findings or evidence from the various literatures. A Reliability Test was conducted to measure internal consistency. The reliability Coefficient through a test of reliability was found to be at .84. This is a normal accepted level for a main

study as it was more than.70. Generally, a Pilot Study was used to test the questionnaire, variance, methods, all procedures and feasibility of the approach.

Just like in the previous questionnaire, validity especially Face Validity was enhanced through this questionnaire in this study in various ways. E.g, all the items of this questionnaire were related to examination as a source of stress. The design of the study by including items which tested stress from one source or factor of stress also helped to promote internal validity as it helped to draw accurate conclusion regarding the data. The researcher ensured that the participants fully understood the application of the measurements on the Likert Scale. Equally, some of the vocabularies were changed to suit the level of the participants so that they could understand the questions well and respond accordingly. Like in the Academic Stress Scale questionnaire, complicated words and phrases would have made the questionnaire seem like a test on vocabulary, reading or comprehension instead of an assessment of stress from one source-test/examination. For example, the word 'stress' was changed to 'worry/worries/worried', depending on each item in the questionnaire.' This also enhanced internal validity and therefore helped to measure the intended constructs.

Even though this instrument could not measure stress as a characteristic that can be directly observed, such a characteristic was inferred from patterns in pupils' behaviours as they respond to this questionnaire. In this way, Construct Validity will be enhanced.

Content Validity was also enhanced in that this instrument is a representative sample of the content area) domain being measured (Examination Stress). All the items in this questionnaire are based on Examination Stress.

External Validity will also be enhanced in various ways. Instead of using laboratory experience, the study used a real-life setting. The participants (Grade Twelve Children) were met at their schools where they spent most of the time interacting with teachers and other peers. A true representative sample was used so that the results could be generalized to any larger population in a similar setting or situation.

3.7.3. The Simplified Coping Style Questionnaire. (appendix C)

The ‘Simplified Coping Style Questionnaire (SCSQ) was used to explore the coping strategies that the participants might be using. It was developed in China by Xie. Xie, (1998), based on Problem –focused Model by (Lazarus et al, 1994),

Twenty (20) items used in this questionnaire refer to different ways of coping, with a total score range from 0 to 60. Two subscales are used. These are active (problem focused) and passive coping (emotion-focused) with items 1 to 12 being for active (problem –focused) while items 13 to 20 are for passive coping (emotion-focused). Each item uses a four (4) point likert type scale as 0=not use-never, 1=use occasionally, 2= use sometimes-often, 3= use frequently-always, where they indicate how they have used the coping strategy described in the items.

Like with the other two previous questionnaires. Validity and reliability was enhanced. Its reliability is such that it has been used before, for instance in china.

Reliability - the test-retest reliability of this instrument in Zambia was investigated and enhanced through both the pilot and main studies which were conducted. Just like in the academic stress scale questionnaire, the use of a pre-test (pilot) had yielded results such as the need to change some complicated words and phrases to suit the level of the participants. The results of the pilot study had also helped the researcher to appreciate the need to administer the questioner instead on delegating someone else who might not be very familiar with the study being conducted. Reliability on use of this instrument in this study was also achieved by verifying the findings, relating them to the findings or evidence from the various literatures. A Reliability Test was conducted to measure internal consistence. The reliability Coefficient through a test of reliability was found to be at .75. This is a normal accepted level for a main study as it was more than.70. Generally, a Pilot Study was used to test the questionnaire, variance, methods, all procedures and feasibility of the approach.

Just like in the other two previous questionnaires, Validity especially Face Validity was enhanced through this questionnaire in this study in various ways. E.g, all the items of this questionnaire is related to the different Coping Strategies. The design of the study by including items which test coping from different strategies of coping helped to enhance internal validity as it helped to draw accurate conclusion regarding the data. The researcher ensured that the participants fully understood the application of the measurements on the Likert Scale. Equally, some of the vocabularies were changed to suit the level of the participants so that they could

understand the questions well and respond accordingly. Complicated words and phrases would have made the questionnaire seem like a test on vocabulary, reading or comprehension instead of an assessment of different coping strategies. This also enhances internal validity and therefore helped to measure the intended constructs.

Even though this instrument could not measure stress as a characteristic that could be directly observed, such a characteristic was inferred from patterns in pupils' behaviours as they respond to this questionnaire. In this way, Construct Validity will be enhanced.

Content Validity was also enhanced in that this instrument is a representative sample of the content area) domains being measured (different coping strategies).

External Validity was also enhanced in various ways. Instead of using laboratory experience, the study had used a real-life setting. The participants (pupils) will be met at their schools where they spent most of the time interacting with teachers and other peers. A true representative sample was used so that the results could be generalized to any larger population in a similar setting or situation.

This tool is reliable as it was used before e.g in China. Its reliability - the test-retest reliability in Zambia was investigated and enhanced through the Pilot Study and this Main Study which was also conducted. Reliability on use of this instrument in this study was also achieved by verifying the findings, relating them to the findings or evidence from the various literatures. A Reliability Test was conducted to measure internal consistence. Generally, a Pilot Study was used to test the questionnaire, variance, methods, all procedures and generally feasibility of the approach.

3.8. Data Collection Procedure.

A Pilot Study was conducted to test the instruments before the Main Study. Before doing so, the permission was obtained from the head teachers of the two Secondary Schools in this study to carry out the study among pupils in their schools. This was after explaining the nature of the study. Then pupils were given the questionnaires after explaining the nature of the study and after getting informed consent from them and their parents. Information sheets were also sent to the parents. Administration of the questionnaire was done by the researcher to ensure that no

questionnaire was lost as the questionnaires were collected by the researcher immediately after the participants had filled in their responses.

3.9. Summary of the reliability of data through a test of reliability

The data was subjected to a test of reliability and below were the summary results:

Table 2. Reliability coefficient.

Questionnaire	Cronbach's alpha	Number of items
Academic Stress scale Questionnaire.	.89	40
Test Anxiety Inventory Questionnaire.	.84	20
Simplified Coping Style Questionnaire	.75	20

Table two (2) above shows that the cronbach's alpha / reliability coefficient on the Academic stress Scale Questionnaire was .89 while that for the Test Anxiety Inventory Questionnaire and Simplified Coping Style Questionnaire was at .84 and .75 respectively. The Academic stress Scale Questionnaire had forty (40) items while the Test Anxiety Inventory Questionnaire and the Simplified Coping Style Questionnaire had twenty (20) items each. All the items in each of the three questionnaires in this study were considered and the scale of if items deleted was applied. Therefore the existence of internal consistent with a cronbach's alpha / reliability coefficient of more than .70 on each of the three questionnaires was yielded.

3.10. Normality of data

Data was also subjected to a test of normality. Results from a test of normality showed that data was normally distributed with significant values above .05 such as .089, .389, .978, .778 and 1.000 on all the stress items or variables. The normality test results further confirmed the normality of the data through visual analysis of the distribution of data on the histograms and the values for skewness and kurtosis, The values for skewness and kurtosis were between -1.96 and 1.96 and hence further confirming that data was normally distributed.

3.11. Data Analysis

This section shows how data was analysed in this study.

Data was first of all coded to facilitate quantitative analysis. It was also cleaned for completeness to avoid producing misleading research findings, which could be as a result of possible errors such as wrong coding by the respondents. In particular data cleaning and contingency cleaning were considered.

The following were the scales that were used to help with data analysis:

(a) The five point likert type scale used on the Academic Stress Scale Questionnaire .is as below: 1 = No Stress (NS), 2=Slight Stress (SS), 3= Moderate Stress (MS), 4 = High Stress (HS), 5= Extreme Stress (ES). This scale helped to capture the levels of stress experienced by the participants. The reliability coefficient of this scale was found to be at .89.

(b) The four point likert type scale used on the Test Anxiety Inventory Questionnaire is as follows:

1=almost never,2=sometimes,3=ofem,4=almost always. The score ranges from a minimum of twenty (20) to a maximum of eighty (80) points. This scale helped to show how often the participants experienced anxiety symptoms before, during and after taking tests. The reliability coefficient of this scale was found to be at .84.

(c) The four point likert type scale used on the Simplified Coping Style Questionnaire is as follows:

0=not use-never,1=use occasionally, 2= use sometimes-often, 3= use frequently-always. This scale helped to indicate how the participants used the coping strategy described in the items. The reliability coefficient of this scale was found to be at .75.

Descriptive analyses based on frequencies, pie charts and tables display were done on gender and age as vital demographic aspects in this study. Other tables and figures were also used to display some findings based on some objectives of this study.

In order to assess the stress levels that Grade Twelve Pupils in selected schools in Lusaka, Zambia might experience, descriptive statistical analyses were used mainly to calculate the mean stress level score of the participants based on their total stress scores, separately on both the Academic stress Scale Questionnaire and the Test Anxiety inventory Questionnaire. This was calculated separately because each stress questionnaire had its own Likert Scale for assessing stress.

To explore if there are gender differences in stress levels among grade twelve pupils in selected schools in Lusaka, Zambia, an Independent Sample T-Test was used. The mean scores of boys and girls were compared.

In order to explore factors that might contribute to stress among grade twelve pupils in selected schools in Lusaka, Zambia. Descriptive statistical analyses were used on the Academic Stress Scale and the Test Anxiety Inventory Questionnaires.

In order to explore different coping strategies that grade twelve pupils in selected schools in Lusaka, Zambia might be using when dealing with stressful academic situations, Descriptive statistical analyses were used. An independent Sample T-Test was further utilised in order to establish gender differences on maladaptive and adaptive coping strategies

All the statistical analyses above were based on the Statistical Package for Social Sciences (SPSS) 16.0.

CHAPTER FOUR

4.0 RESULTS

This section focuses on the results, basically, in line with the objectives of this study.

4.1. Characteristics of the sample.

Study comprised of forty (40) females and forty (40) males, representing 50% females and 50% males from the total number of 80 participants.

Table 3. Distribution of participants by age.

Age Group	Frequency	Percent
Valid 16-17	22	27.0
18-19	50	62.5
20 years and above	8	10.0
Total	80	100.0

Table three (3) above shows the distribution of the variable 'age'. From the table, ages were categorized into three groups as 16-17 years, 18-19 years and 20 years and above. 22 (27.0%) of the sample were between 16-17 years. 50 (62.5%) of the sample were between 18-19 years, while 8(10.0%) of the sample were 20 years and above. Most of the participants as seen from the table above were within the age range of 18 to 19 years old. This could mean that that, most of the pupils started school within the official age range fixed by the Zambian government. The ones in the other two age- groups have not followed the normal official age for one to start school and complete secondary school. Such pupils attended school from the first grade up to grade twelve without serious difficulties. Reasons for such abnormalities in ages when one should be in school might need discussions, but not necessary under the results sections.

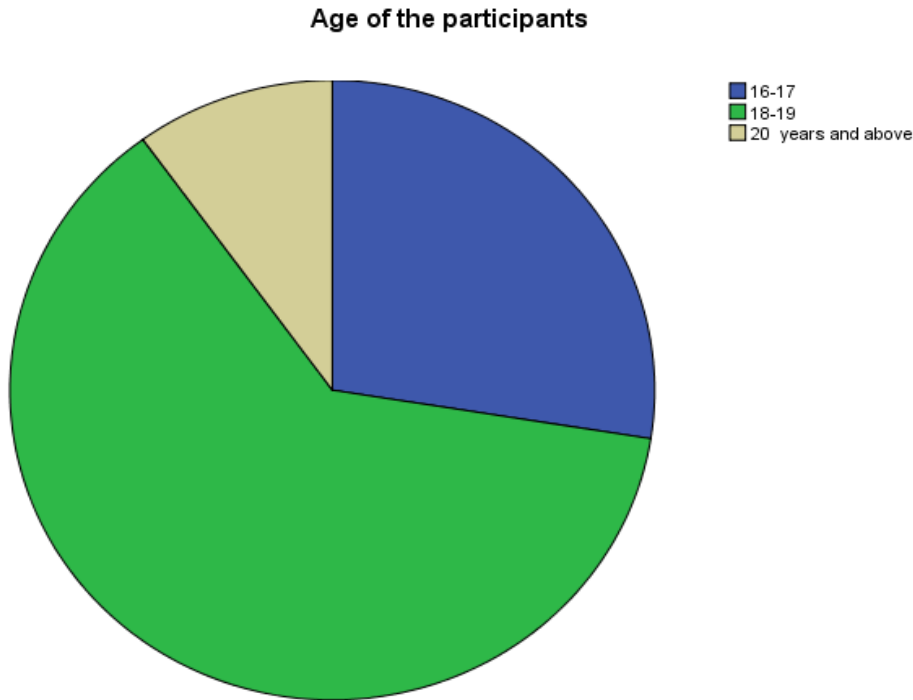


Figure 1. Age range of the participants

4.2. Stress levels among Grade Twelve Pupils in selected secondary schools in Lusaka, Zambia.

In order to assess the stress levels that Grade Twelve Pupils in selected schools might experience, the mean stress level scores were calculated for the Academic Stress Scale Questionnaire and the Test Anxiety Inventory Questionnaire. The Academic Stress Questionnaire assessed stress from different sources such as teachers, parents and pupils’ own judgments about stressful situations while the Test Anxiety Inventory Questionnaire assessed Examination Stress.

Results were based on the total stress scores of each participant on each stress Questionnaire. The means scores obtained through descriptive statistically calculation were further analysed according to the likert scales scores to establish the level of stress score experienced by the participants .In particular, the likert scale for the Academic Stress Scale Questionnaire has scores that determine the stress levels on each item as below:

1 = no stress, 2= slight stress,3=moderate stress,4=High stress, 5=Extreme stress. The likert scale for Test Anxiety Inventory questionnaire has also some scores which determine stress as below: 1=almost never,2=sometimes,3=oftem,4=almost always.

The above stress scores on the likert scales can accumulate depending on the number of items in each questionnaire. E,g the Academic Stress Questionnaire has forty (40) items while the Test Anxiety Inventory Questionnaire has twenty (20) items.

Table 4. Mean Stress Score level of the participants based on the likert scales of the Academic Stress Scale Questionnaire and the Test Anxiety Inventory Questionnaire.

Questionnaires	N	Mean stress score	Lowest value for high stress level score	SD
Academic Stress Scale Questionnaire	80	120.66	121	26.32
Test Anxiety Inventory Questionnaire	80	46.21	41	9.90

From table four (4) above, the scores of 120.66 and 46.21 on the Academic stress Scale Questionnaire and the Test Anxiety Inventory Questionnaire respectively fall within the range of scores that express high stress levels according to the values used for each questionnaire above. The value of high mean stress score which is indicated as 120. 66, when rounded off becomes 121. The minimum or cut off point for high stress was 121. The minimum or cut off for high stress on the Test Anxiety inventory Questionnaire indicated 41.The high stress levels experienced by pupils means that they experienced the bad type of stress which is known as distress instead of the good type of stress known as eustress ,both of which are referred to in the background-introduction section of this study.

4.3. Gender difference in stress levels among Grade Twelve pupils in selected secondary schools in Lusaka, Zambia.

In order to explore if there are gender differences in stress levels among Grade Twelve pupils in Selected Schools in Lusaka, Zambia, an independent sample t-test was used for

analysis. Just The total stress for each questionnaire was calculated statistically by following some steps under SPSS . The mean scores of boys and girls were compared to establish if there was a significant or non -significant difference in the means of the two groups.

Table 5. The Independent Sample T-Test results on Gender differences based on the total stress scores of the participants on the Academic stress Scale Questionnaire and on the Test Anxiety Inventory Questionnaire.

Test Variable	Mean stress scores by Gender				
	Males	Females	t-value	df	p-value
Total Academic Stress Scale Questionnaire Score	114.58	126.75	-2.113	78	.038
Total Test Anxiety Inventory Stress Questionnaire Score	42.95	49.48	-3.103	78	.003

p=0.05 , Sig (2 –tailed)

The results from table five (5) above show that there was a significant gender difference in the stress scores of the participants on both the Academic Stress Scale and Test Anxiety Inventory Questionnaires. The mean stress score of females (F = 126.75) was higher than that of males (M=114.58) participants on the Academic Stress Scale Questionnaire ($t = -2.113, p < 0.05$). Analysis on the Test Anxiety Inventory Questionnaire also shows that females (F=49.48) had stress scores which were higher than that of males (M= 42.95) participants ($t = -3.103, p < 0.05$). This results means that females experienced more stress than males.

4.4. Sources of stress among Grade Twelve Pupils in selected secondary schools in Lusaka, Zambia.

In order to explore factors that might contribute to stress among Grade Twelve Pupils, the outputs from the descriptive statistics analyses were used to assess the levels of stress in line with the likert scales of both the Academic Stress Scale and the Test Anxiety Inventory Questionnaires. Only those stress variables or factors that showed to be high and extreme are recorded below from the Academic Stress Scale Questionnaire as sources of stress. From Test Anxiety Inventory Questionnaire, only those stress variables or factors to which the participants

responded that they had experienced stress often and always are also recorded as sources of stress.

Table 6. Sources of high stress from the Academic Stress Scale and Test Anxiety Inventory Questionnaire.

Major source of stress	Stress items	Mean stress score	Interpretation of stress score
Examinations	1. Worrying about examinations.	3.55	high
	2. Worrying about results after examinations.	3.84	high
	3. Difficulty remembering all that I have studied.	3.59	high
	4. Examination syllabus is too bulky in in certain subjects.	3.48	high
	5. Thoughts of doing poorly interferes with my concentration on tests.	2.56	high
	6 I panicky when writing an important test	2.38	high
	7. During tests, I find myself thinking about what will happen if I fail.	3.15	high
	8. I feel my heart beating very fast during important tests.	2.60	high
	9. As soon as an exam is over, I try to stop worrying about it, but I just cannot.	2.60	high
	10. During examinations. I get so nervous that I forget certain facts I really know.	2.51	high
Teachers and school in general	1. Monotonous, boring or tedious teaching styles by some teachers	3.63	high
	2. Some teachers lack interest in pupils.	3.55	high
	3. Not enough laboratory and library facilities in our school.	4.11	high

Table five (5) above shows some major source of high stress on the Academic Stress Scale Questionnaire and the Test Anxiety Inventory Questionnaire. Items or rather the stress variables number 1,2 ,3and 4 under examination source of stress are from the Academic .Stress Scale Questionnaire, while items number 5 to 10 are from the test Anxiety Inventory .Questionnaire. All the stress items from teachers as source of stress are from the Academic stress Scale questionnaire. Stress from parents indicated moderate and slight stress and therefore items from that source have not been included in the table. This result means that examinations

and teacher or school in general contributed to pupils experiencing the bad type of stress referred to earlier as (distress) in this study.

4.5. Coping strategies among Grade Twelve Pupils in selected secondary schools in Lusaka, Zambia

In order to explore different coping strategies that Grade Twelve Pupils in selected schools in Lusaka, Zambia might be using when dealing with stressful academic situations, Descriptive Statistical analyses were used. The Coping strategies were categorised into adaptive and maladaptive .An Independent Sample T-Test was used to analyse gender differences on both the maladaptive adaptive coping styles. The mean scores of boys and girls were compared to establish if there was a significant or non -significant difference in the means of the two groups.

Table 7. Maladaptive coping items from the Simplified Coping Style Questionnaire

Maladaptive Coping item	Mean coping score	Coping level
1. Get rid of worry by smoking, drinking, taking drugs ,eating or chewing gum etc.	0.54	low
2. Try to rest or go somewhere else to temporary ignore the worry.	1.84	high
3. Imagine that there is a miracle which can change current problem	1.66	high
4. Get involved in your hobbies and actively in some entertainment.	1.56	high
5. Believe that the problem will change for the better in future and waiting is the only thing you should do.	1.59	high
6. Try to forget the problem.	1.81	high
7. I feel less worried /better by studying or doing other activities.	1.64	high

Table seven (7) above shows a list of the maladaptive coping items from the Simplified Coping Style Questionnaire. The mean score and coping level for each coping item are also indicated. According to the results on the table, the participants appear to have used these maladaptive coping strategies at a higher level. According to the likert scale of the Simplified Coping Style Questionnaire, these results mean that the participants had used the maladaptive coping strategies at a higher level except on one where there was a low usage.

Table 8. The Independent Sample T-Test results on Gender differences on the total maladaptive coping strategy scores of the participants on the Simplified Coping Style Questionnaire.

Test Variable	Mean score by Gender		t-value	df	p-value
	Males	Females			
Total Maladaptive Coping strategies	9.73	11.53	-2.316	78	.023

p=0.05 , Sig (2 –tailed)

The result from table eight (8) suggests that there was a significant gender difference in the mean scores of the participants on the Maladaptive Coping Strategies from the Simplified Coping Style Questionnaire. The mean score of the females (F=11.53) was higher than that of male (M=9.73) participants ($t = -2.316, p < 0.05$). This means that females had used more of the maladaptive coping strategies than the male participants.

Table 9. Adaptive coping items from the Simplified Coping Style Questionnaire

Adaptive Coping item	Mean coping score	Coping level
1. Talk with people and share personal worry with them.	1.92	high
2. Try to look on the good side of things.	2.11	high
3. Change your mind and find what are the important things in your life.	2.12	high
4. Don't take the problem too seriously.	1.78	high
5. Stand your ground and fight for what you wanted to get or do.	2.31	high
6. Try to come up with different solutions to the problem.	2.15	high
7. Seek for suggestions from relatives, friends or peers	1.91	high
8. Change something about yourself to deal with the problem.	1.86	high
9. Use the experience of other people to deal with similar problems.	1.81	high
10. Try to control your disappointment, regret, sorrow and anger.	2.33	high
11. Depend on others to solve the problem that you have.	0.97	low
12. Accept the reality because there is no other way to solve the problem.	1.26	high
13. You just control yourself.	2.32	high

Table nine (9) above shows a list of the adaptive coping items from the Simplified Coping Style Questionnaire. The mean score and coping level for each coping item are also indicated. According to the likert scale of the Simplified Coping Style Questionnaire, results

means that on the table, the participants appear to have used these adaptive coping strategies at a higher level except on one coping item where the usage was low.

Table 10. The Independent Sample T-Test results on Gender differences on the total adaptive coping strategy scores of the participants on the Simplified Coping Style Questionnaire.

Test Variable	Mean score by Gender		t-value	df	p-value
	Males	Females			
Total adaptive Coping strategies	25.07	28.00	-2.118	78	.037

p=0.05 , Sig (2 –tailed)

Result from table ten (10) above suggests that there was a significant gender difference in the mean scores of the participants on the adaptive coping strategies from the Simplified Coping Style Questionnaire. The mean score of the female (F=28.00) was higher than that of male (M=25.08) participants ($t = -2.118, p < 0.05$). This means that females had used more of the adaptive coping strategies than the male participants.

4.6. Summary of the results

Descriptive statistical analysis had revealed high mean stress level among Grade Twelve Children in selected Non-Grant Secondary schools in Lusaka Zambia. An independent sample t-test which was run to analyse gender differences on stress levels revealed that there was a significant difference in the means scores between boys and girls, with girls experiencing more stress than boys. The participants were found through descriptive statistical analysis to experience high stress coming from examinations and teacher ‘attitude as factors/sources. The sources of stress were divided into four main categories as parental-guardian attitude/home situation, teachers ‘attitude, pupils ‘own judgments about stressful situations and examinations. The result of the independent sample t-test on coping strategies showed that participants had used both adaptive and maladaptive coping styles. Girls were found to be using more of the maladaptive and adaptive coping style than boys as confirmed by the significant results on gender differences on maladaptive and adaptive coping strategies.

CHAPTER FIVE

5.0. DISCUSSIONS.

This section of the report discusses the results which are presented in chapter four. Therefore, the purpose of this section is to highlight the major statistical findings from the results section and interpret them. This discussion section has been made separately from the results section to avoid disturbing the flow of the discussions and interpretations with statistics from the results.

First, the main aim of the study was to explore stress and coping strategies among grade twelve pupils in selected secondary schools in Lusaka, Zambia. The relationship between the main aim and the results of the study are also partly maintained in the discussions and interpretations that follow in this section.

A brief discussion of the summary of the results at this stage helps among other things to provide a smooth flow of the discussions and interpretation in this section. The results revealed that pupils experienced high stress levels. Girls were found to experience more stress than boys. There were different sources of stress that pupils experienced and that much as the pupils had used both adaptive and maladaptive coping styles, school girls used more of the maladaptive and adaptive coping styles than school boys. The tables and figures used in the results sections help to qualify and hence provide quick reference to some results and discussion obtained in this current study.

5.1. Stress levels among Grade Twelve Pupils in selected secondary schools in Lusaka Zambia.

Various discussions and interpretations can be made regarding the high mean stress level result that was yielded. First this result is a response to the question in this study which is, 'Do grade twelve pupils in selected schools in Lusaka, Zambia experience different levels of stress? This result means that pupils had also experienced different levels of stress. It also means that the participants in this study need some interventions on stress. This is because, high stress levels known as distress can contribute to various negative consequences. Some specific negative effects of stress are yet to be referred to with regard to some studies and authors later below. This result has shown to relate to the main aim of this study by giving a result on stress, which is one of the aspects that the main aim of this study intended to explore.

The result has therefore confirmed the hypothesis of this study on the objective related to the result under discussion .

Further interpretation of this result can be made with regard to the likert scales for the questionnaire on stress in this study. It means that there were some participants who had scored above and below the average stress score on the Academic Stress scale Questionnaire. This is confirmed by the variance of the responses by the participants. On the Test Anxiety Inventory Questionnaire likert scale, some participants had experienced stress often, almost always and as well as sometimes and in a moderate way on average when it comes to Examination stress. Generally there was variance in the ways by which the participants regarded and responded to the same stressors.

The standard deviation revealed as part of the results therefore helps to confirm how far or close the spread out of the stress scores of the participants were from the high mean stress score which was obtained in this study.

These discussions of the result above seem to agree to a large extent with the results of some studies and authors indicated in the literature review.

For instance, Geraghty (2014) indicated that, students around the world in older grades who are thinking about entrance examinations to the next grade level or to college also experience higher academic stress levels.

However, some of the findings from a study conducted in Ghana by Adom et al. (2014), were contrary to the findings of this current study. This is in a study with a total of 120 Senior High School Students. These were randomly selected from four Senior High Schools in the Western Region of Ghana to participate in the study

Part of the findings from the study in Ghana revealed that none of the students experienced high stress levels. This might have been due to the effects of the different factors such as Socio- Economic factors and Educational policies in Ghana. Some differences in the findings are therefore possible. The educational policies in Ghana might have directly or indirectly introduced some interventions on stress .This might have contributed to pupils in the study in Ghana not to experience high stress levels.

Research studies by (Ehlinger, 2008; Putwain, 2007; Selye, 1980) are of importance with regard to the discussions pertaining to high stress levels. They indicated that stress has some

effects such as contributing to cancer, heart diseases, diabetes obesity, mental health/behaviour problems weakening of the immune system and poor academic performance.

This result can also be discussed in line with the results of a study by Malambo (2012) which has earlier been referred to under the statement of the problem. In the study by Malambo (2012), poor academic results were experienced for a continuous number of years by pupils at a Non Grant-Aided Secondary School. Since high stress level was found among pupils in this study and that studies such as (Ehlinger, 2008; Putwain, 2007; Selye, 1980) above have suggest that stress can contribute to poor academic performance, it is possible that stress or in particular high stress levels which were not investigated in that study might have contributed to the poor academic results. Part of the reason for choosing the population from Non- Granted Aided Secondary Schools as indicated in the methodology section in this current study was that pupils in such schools might be having poor academic results partly due to stress.

Stress researcher Selye (1980) can be said to be in support of the results of the current study by categorizing stress into two groups. Selye (1980) indicated that, stress which is healthful and necessary to keep us alert and occupied is known as eustress, whereas stress that leads to negative consequences is known as distress.

5.2. Gender differences on stress levels among Grade Twelve pupils in selected schools in Lusaka, Zambia.

The result of the objective which was meant to explore gender differences on stress levels indicated that there was a significant difference in stress levels on gender basis. This result answers one of the questions in this study which states, ‘Are there gender differences in stress levels among grade twelve pupils in selected schools in schools? The significant gender deference that was found on stress levels simply means that the result was not determined by error or chance. For girls to experience higher stress than boys as the results indicated, it means that there should be some factors that contributed to girls having more stress than boys. Another aspect of important when interpreting these results is that the hypothesis relating to this results has been confirmed.

These results have also shown to relate to the main aim of this study by giving a result on stress, which is one of the aspects that the main aim of this study intended to explore.

From the researcher's experience for many years as a teacher, it can be hypothesized as an example that girls indeed tend to experience more stress than boys due to several stressful factors which are in this study and others which have not been included in the stress questionnaires in this study.

The Zambian Tradition and the slow implementation of gender in some Zambian homes is one of those factors likely to contribute to girls experiencing more stress than boys. Traditionally it still appears in Zambia that, girls are the ones who do more house work compared to boys, They wash plates, cook food, clean houses ,look after babies and even more likely to be sent out to the markets to buy foodstuffs such as bread, tomatoes, vegetables or any relish than boys. As a result of such house chores, a number of girls find themselves without enough time to study while at home.

Furthermore, pupils in this study came from schools that had no room space for pupils to study from after normal classes. Once they knock off from school, they go back to some homes where they are likely not to have chance to study due to the reason already stated above. As a result many girls are more likely to worry about examinations than boys or even worry more about the results they will get after writing an exam.

Another important interpretation to this might be that, school girls who are in grade twelve are considered to be really grown up. As such, some of the parents and guardians tend to depend on them in terms of doing house -chores. Furthermore, all the pupils in this study were from day secondary schools and as such, girls are likely to do more house work compared to other girls who are away in boarding schools. It can also be argued that most of the pupils from the schools in this current study seem to come from homes where parents cannot afford to hire house maids to do house chores usually assigned to girls. These are areas popularly known as garden, kabanana and mazyopa compounds in Lusaka, where most of the parents and guardians seem to belong to the low income groups and hence cannot employ a house helper .

According to my experience as a teacher, generally lack of confidence by many girls can contribute to girls having poor academic performance. Such a situation can contribute to girls having high stress because of worrying more about their poor academic performance.

These results and discussions above on gender differences in stress levels are similar in many ways to the results of other studies mostly indicated in the literature review in this study.

According to Geraghty (2014) being female is associated with higher academic stress levels throughout the world. Girls tend to put more personal weight on academic performance than boys and might worry more about failure.

A study in Ghana by Adom et al (2014) found results that were in a way similar to the results of the current study. Adom et al (2014) found out that, male students might have lower stress levels as compared to their female counterparts and hence males performed better even with regard to academic performance than females.

Generally, evidence from Mwanza (2010) research findings as referred to in the background of this current study revealed that parents in Africa including Zambia attach a much higher value to female domestic labour than that of males. Females, due to patriarchal practices perform major domestic chores such as cooking, fetching for water and firewood, caring for the siblings, sick and old, and all house work to sustain households. This finding by Mwanza (2010) can also be used to confirm that girls are likely to worry more about examinations because they seem not to have enough time to study at home due to house chores.

5.3. Sources of stress among Grade Twelve Pupils in selected secondary schools in Lusaka, Zambia.

The results of the investigation on sources of stress among Grade Twelve Pupils in Selected Secondary Schools in Lusaka, Zambia revealed that examination and teachers/school environment are the major sources of stress responsible for high stress in the participants. Pupil's attitude and parents/guardians/home are the other sources even though these other sources were responsible for low or slight stress. This does not mean however that stress from homes for instance cannot contribute to high stress levels. It all depends on various factors which might not be necessary to investigate as it would mean diverting too much from the results being discussed at this stage of this study. Generally, the levels at which these factors contributed to stress among the participants in this current study differs.

The hypothesis on the objective regarding sources of stress has been well confirmed in this study. This is the hypothesis which states that, 'Several factors contribute to stress among Grade Twelve Pupils in selected schools in Lusaka Zambia.'

These results on sources of stress have also shown to relate to the main aim of this study by giving a result on stress, which is one of the aspects that the main aim of this study intended to explore.

The discussions and interpretations in this section are based more on the sources that contributed to high stress among the participants. This is because of the negative effects of high stress even among school children.

There are several examination related variables that have been found to contribute to high stress among the grade twelve school children in this study. Whenever it is time for examinations, pupils are expected to worry about the coming examinations, but it is the rate at which they worry that matters. If a school child thinks that he /she has not done very well in an exam, such a pupil is likely to be more worried about the result after an exam. It is common that pupils who have not prepared well for an exam might find it difficult to remember even what they studied and this can be a source of high stress. Thoughts of doing poorly usually interferes with school children's concentration on tests and this contributes to high stress . At times, pupils as in this study tended to worry more about the volume of the syllabus. This can also contribute to high stress. Some school children tend to be stressed more about thoughts of what the future will be like for them if they failed an exam. They tend to think that their future will be too hard- full of misery or poverty. During examinations, some pupils tend to get so nervous that they forget certain facts that they really knew.

It is unfortunate that even some teachers as revealed in the results section of this study can contribute to stress in school children. Generally, pupils are expected to see teachers as stakeholders who can help them pass well in an exam. However, there are some teachers who are considered to be sources of major stress among pupils .This is because they are considered by pupils to be boring and users of tedious teaching styles. This means that pupils expect a teacher to use a variety of interesting methods of teaching which will make it easy for pupils to understand the lessons.

Certain teachers in this study were considered by pupils to lack interest in pupils. Such a situation can even contribute to lack of confidence by pupils as they are likely to consider themselves inferior and eventually contributing to high stress in them. This means that going to classes very late, missing classes and punishing pupils for minor offences which could be subject to guidance and counseling can be some of the examples of not caring and hence not showing interest in pupils.

According to the results of this study, Poor laboratory and library facilities were also found to contribute to high stress among pupils. This is true considering that a number of schools

in Lusaka alone appear not to have proper laboratory and library facilities or no laboratories and libraries at all. It can be argued that most of the Grade Twelve pupils know the educational value of having a laboratory and library in a school. Lack of such facilities or poor laboratory and library facilities as in the schools in this study can therefore be a source of high stress. It is important to take note that 'poor laboratory and library facilities' was the stress variable on which the participants in this study had the highest stress score. Why this is so is a concern that might need further investigations in future, but it can be suggested here that it might be due to the educational value that pupils attach to such facilities.

Basically, it can be suggested that the judgments or view that pupils usually make about threat that that comes from examinations, teachers or any other stressor can contribute to high levels of stress among school children.

The discussions interpretations above based on the results on the sources of stress in this study are similar or rather related in several ways to the sources of stress highlighted by some authors and studies in the literature review as below:

Serge (2000) stated in line with the results of this current study that, stress is generally caused by environmental-external and internal factors. Both Serge (2000) and Mc Namara (2000) indicated that academic pressure/demands are among the external factors of stress.

Equally in support of the results of the current study, Rouse (2012) indicted on external pressure/stress that many students experience stress from the pressure that comes from expectations of family members or teachers. Some parents, guardians and teachers tend to put too much pressure on their school children to have the best academic results even when some of the pupils have not been performing well in the past. Pupils would then want to do their best work so that they do not let anyone down with their performance. This pressure to do well can heighten exam stress. Also, if a student is working toward a scholarship or particular academic goal, performing well on a test will be of paramount importance. Students may perceive themselves to be in competition with others, and the competition may heighten their anxiety levels.

Rouse (2012) further indicated that the student may apply the pressure to himself (internal pressure). If the student wants to be the very best, a poor performance on a test may be a great fear. If a student spends too much time thinking about how difficult the exam is and worrying about the outcome of the test, this negative approach will increase exam stress.

Further in support of the results of the current study, Denscombe et al. (2000) indicated that, examinations are among the sources of stress in pupils because of their educational and/or occupational consequences. How students/pupils judge themselves based on their own grades is one of the sources of stress. Continuous fear appeals by teachers to students regarding examinations can contribute to too much stress in pupils.

5.4.Coping strategies that Grade Twelve Pupils in selected secondary schools in Lusaka, Zambia might be using when dealing with stressful academic situations.

The results on coping strategies positively responded to the question about coping strategies in this study. The question reads, ‘Are there some strategies that grade twelve pupils in selected schools in Lusaka might be using in order to cope with stressful situations?’ The results clearly suggested that grade twelve pupils in this study had used different coping strategies as yet to be discussed and interpreted below in this section.

The results on the coping strategies confirm one of the aspects indicated in the main aim of this study. That is coping strategies have been highlighted as one of the components of this study. It would have been inconclusive to conduct an exploratory study on stress among pupils without making any effort on finding out how the same pupils cope with stress. Once more, the main aim of this study was to explore stress and coping strategies among pupils in selected secondary schools in Lusaka. Zambia.

Before making detailed discussions and interpretation on the results based on coping strategies, it will be helpful to refer to the hypothesis and see how this has been affected in line with the results. These results have confirmed the hypothesis which reads ‘Grade twelve pupils in selected schools in Lusaka use different coping strategies to deal with stress.’

There are three main statistical findings necessary to discuss and interpret regarding the results on coping strategies. The first one is that, pupils were found to have used different coping strategies. These were categorised as maladaptive and adaptive coping styles as listed under the results of the study section. The discussion and interpretations below will be based on maladaptive coping strategies because of the negative consequences of using them.

The results indicated that pupils had used various maladaptive coping strategies. Due to the high level of confidentiality that the participants were assured by the researcher, some of them had responded having used the habit of drinking beer, smoking and taking drugs as a way to respond to a stressful situation, but which is maladaptive. There are also others who had

responded that the best way to cope with stress is to rest or go somewhere else in order to temporarily ignore the problem/worry. Trying to forget the problem was also indicated as a response to a stressful situation. Surprising, there are some participants who had indicated that the thing they would do when faced with a stressor is to believe that the problem will change for the better or rather go away on its own and that waiting is the only thing to do.

The use of maladaptive coping strategies as above is not helpful because of providing only temporary solutions to people's stressful situations. Even if one has to go out smoking, drinking or take drugs, the problem will still be there when one regains a sober or normal state. Trying to ignore or forget a problem is also not helpful as a coping strategy as the problem one would want to ignore or forget will always be there. Equally just to believe that a problem will change without doing something about it is not always helpful as a coping strategy. A good coping strategy should enable one to either tolerate or reduce stress.

Apart from offering temporary solutions, maladaptive coping strategies are bad as they can contribute towards bad behaviours such as depression, self -isolation and being aggressive . Such behaviour can lead to loss or reduced number of friends, a situation that can contribute to an increase in stress levels again. Pupils in certain schools have often been suspected for going on strikes because of unnecessary aggressive behavior which might be partly due to high stress. School children who are aggressive are often regarded by their teachers and parents or guardians to be just rude instead of relating their aggressiveness to high stress.

Despite high levels of usage of the maladaptive coping , the results had shown that there was a slight low usage of the maladaptive coping item which reads 'Get rid of worry by smoking, drinking, taking drugs, eating and or chewing gum.' The reason for this is that schools and parents/guards/homes as it is commonly known in Zambia seem not to allow school children to drink beer, smoke or use drugs. Those who are found doing so are punished in one way or the other. Generally, drinking beer, smoking or taking drugs is a wrong coping strategy no matter at what rate it is used as a response to a stressor.

The other second statistical findings that need discussing and interpretation with regard to the assessment of coping strategies is that, girls in this study were found to have used more of the maladaptive coping styles than boys. Even though the object was about the coping strategies that pupils use when faced with stress, it was found necessary as a follow-up and as an exploratory

designed study to explore gender differences on coping strategies. Why girls had used more of the maladaptive coping styles than boys is a concern that might need further research in future.

The third aspect that can be discussed and interpreted from these results on coping strategies is that, coping strategies are generally used at different levels. It has been demonstrated even from the way pupils in this study had responded to the twenty (20) coping items in the questionnaire.

The results and discussions above on coping strategies used by school-going children in this study are similar in various ways to what has been highlighted by some authors and studies in the literature review as below:

In support of the results of the current study, a study by Patterson et al. (1987) revealed that, some students at a high school had used negative avoidance and anger coping styles as maladaptive coping styles. This is a problem because maladaptive coping strategies according to some studies such as Shannon et al. (2008) can contribute towards internalizing and externalizing behavior problems.

Hindle (1999) supports the results of the current study by categorising the coping strategies. According to Hindle (1999), adaptive coping behaviour means responding to stress in a manner that can reduce or tolerate stress, whereas maladaptive coping behaviour means responding to stress in a manner that is not helpful in terms of reducing or tolerating stress.

According to Sarafino (2002) a good coping strategy should help one to generate/expand resources for dealing with it or simply reduce the demands of a stressor.

5.5. Implications of the study

First, this study can claim to be one of the first in Zambia to investigate on stress and coping among pupils. It has therefore contributed a great deal of knowledge to the field of psychology especially in Zambia by filling in some gaps which this study has investigated on. This study can also be said to have contributed to Knowledge of new gaps that might encourage further research. . For instance, there is need to establish why girls had used more of the maladaptive coping strategies than boys. There might be need to explore age differences on stress levels or use of coping strategies. The relationship between stress and various aspects such as academic performance, immune system, and obesity heart problems and mental health/behaviours etc. Despite being an exploratory designed study, this study alone could not investigate on all the possible gaps revealed and that might be revealed from this study due to time factor needed for this study.

As a result of this study, it will now be known by various stakeholders that grade twelve pupils in the selected secondary schools as in this study seem to experience high mean stress levels, girls experience more stress than boys and that they experience stress from different sources. It is further known as a result of this study that the grade twelve pupils seem to be using both adaptive and maladaptive coping styles with girls using more of the maladaptive and adaptive coping styles than boys. Due to the results of this study, various stakeholders are more likely to be made aware of the negative effects of high stress levels and maladaptive coping strategies. The results of this study can therefore lead to the introduction of some interventions and policies on stress and coping among school - children.

CHAPTER SIX

6.0 LIMITATIONS ,CONCLUSIONS AND RECOMMENDATIONS OF THE STUDY

6.1. Limitations of the study

There were some limitations which were experienced during the course of the Study. Below are some of the main limitations highlighted.

- 6.1.1. It was not possible to generalize the results of this study to pupils in rural areas since it was conducted in an urban (town) area. The results can only be generalized to schools that have similar characteristics. That is Co- Education Day Secondary Schools in urban areas and among the Grade Twelve Pupils in such schools.
- 6.1.2. It was difficult for the researcher to use a very large sample size due to time factor and that the instruments used had so many variables or stress and coping items to be analysed. At the same time, the participants were either preparing for the end of term examination or had started writing their end of term examinations at the time authority was finally given to do the research. As such, a reasonable small sample size was used in this study to yield reasonable results.

6.2. Conclusion

This study was based on investigating on stress and coping among grade twelve pupils in selected secondary schools in Lusaka, Zambia to enable stakeholders come up with some interventions and policies on stress and coping. Stress and coping now seem to be some of the areas of great concern in the world today, even among school children, This is due to the various negative effects that the two aspects can have even on school children.

Research on stress and coping has reached an advanced stage in some countries outside Africa. In Africa evidence seem to indicate that nothing much has been done especially when it comes to research on stress and coping among pupils. In Zambia, this study seems to be the first known one to investigate on stress and coping among pupils. Owing to lack of research on stress and coping and as well as the various negative consequences involved with stress and coping ,there is urgent need for more research on the two aspects. Opportunities to get involved in research are usually available. What is

needed is you and I or simply, in our individual capacity to make a difference so that the negative effects of stress and coping on school children can be reduced or avoided.

Recommendations

- 6.2.1 Due to this study seemingly being the first evidence of any study to be carried out on stress and coping among pupils in Lusaka Town and Zambia in general, there is need to replicate this study in rural areas of Zambia as well. This would help a lot towards enhancing External Validity as the results would be generalized to all pupils in Zambia. A study in town such as this one conducted and another similar one in rural areas would present complete real life settings which could be investigated in terms of pupils' responses to stress and coping.
- 6.2.2 In order to enhance Internal Validity of any research instrument, there is need for future studies on stress and coping to be designed in such a way that the items in the questionnaires are simplified by using vocabulary that can be understood easily by participants.
- 6.2.3 Interventions to address stress and coping in Zambian schools should consider Gender Differences. This is because, gender differences have been found to be significant on stress and coping in this study.
- 6.2.4 More research on stress and coping in Zambia is needed. Especially on some gaps identified in this study and those gaps that might further be identified.
- 6.2.5 There is need to extend knowledge on stress and coping to the School Guidance and Counseling Departments so that they can enhance interventions on stress and coping among school-children, teachers, parents and guardians. As seen from the results of this study, some of the stress experienced by school -children originate from teachers, parents and guardians.
- 6.2.6 The newly launched Psychology Association of Zambia should take steps at sensitizing some stakeholders on stress and coping among pupils in examination classes in Non - Grant Aided day Secondary Schools.
- 6.2.7 The Ministry of General Education in Zambia should come up with interventions and policies on stress and coping, especially among pupils, teachers and parents/guardians in schools.

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APPENDICES.

APPENDIX A. The Academic Stress Scale Questionnaire

**UNIVERSITY OF ZAMBIA
SCHOOL OF HUMANITIES AND SOCIAL SCIENCES
DEPARTMENT OF PSYCHOLOGY**

Questionnaire no.....

DATE...../...../.....,.,.,.,.

PART ONE: DEMOGRAPHIC QUESTIONS

GENDER: MALE OR FEMALE

AGE-GROUP: (a) 16-17 years (b) 18-19 years (c) 20 years and above

PART TWO: ACADEMIC STRESS SCALE QUESTIONNAIRE

INTRUCTIONS TO PARTICIPANTS: Please answer each of the questions by circling the number that best describes your response to each of the following statements. There is no right or wrong answer. Indicate how you have been feeling and behaving concerning stress on each of the statements below:

		No stress	Slight stress	Moderate stress	High stress	Extreme stress
SN	ITEM					
1.	Teachers make too many extra demands on pupils.	1	2	3	4	5
2.	Poor interest in some subjects.	1	2	3	4	5
3.	Giving of School Reports to parents or guardians.	1	2	3	4	5
4.	When teachers are not humorous/	1	2	3	4	5

	funny or cheerful.					
5.	Lack of concentration during study hours at school or home	1	2	3	4	5
6.	Difficulty in remembering all that I have studied.	1	2	3	4	5
7.	Worrying about the examinations.	1	2	3	4	5
8.	I do not have self-confidence	1	2	3	4	5
9.	The teachers do not listen to our ideas.	1	2	3	4	5
10.	Conflict with friends, teachers, fellow pupils or prefects in school.	1	2	3	4	5
11.	Teachers give more punishment in the class.	1	2	3	4	5
12.	Worry about results after examinations.	1	2	3	4	5
13.	I hesitate to ask the teachers for detailed explanations.	1	2	3	4	5
14.	When teachers are Biased.	1	2	3	4	5
15.	Not enough space or room for study at home.	1	2	3	4	5
16.	I do not know how to prepare for the examinations.	1	2	3	4	5
17.	Lack of assertiveness (confidence) in class.	1	2	3	4	5
18.	Lack of opportunity to meet teachers for further explanations.	1	2	3	4	5
19.	Teachers show socio-economic status (e.g money, big house, good car) on pupils.	1	2	3	4	5
20.	Slow in understanding the curriculum (what is taught in	1	2	3	4	5

	school)					
21.	Exam papers are tough and not valued well.	1	2	3	4	5
22.	I cannot complete homework in time.	1	2	3	4	5
23.	Lack of communication between teachers and pupils.	1	2	3	4	5
24.	Monotonous (boring or tedious) teaching style by some teachers.	1	2	3	4	5
25.	Not enough discussion in the class.	1	2	3	4	5
26.	Lack of mutual help among classmates.	1	2	3	4	5
27.	Lack of fluency while speaking English language.	1	2	3	4	5
28.	Difficulty in public speaking.	1	2	3	4	5
29.	Some teachers are fast and do not use blackboard clearly.	1	2	3	4	5
30.	Some teachers lack interest in pupils.	1	2	3	4	5
31.	Examination syllabus is too bulky (wide) in some subjects.	1	2	3	4	5
32.	Feeling of inferiority.	1	2	3	4	5
33.	I am not able to discuss my class failures(difficulties) with parents	1	2	3	4	5
34.	I cannot understand what is being taught in class.	1	2	3	4	5
35.	Incomplete and confusing study notes/books.	1	2	3	4	5
36.	I prepare late for the examinations.	1	2	3	4	5
37.	Importance of the subject matter	1	2	3	4	5
38.	Difficulty in learning with the opposite sex.	1	2	3	4	5
39.	Teachers not knowing their subjects very well.	1	2	3	4	5
40.	Not enough laboratory and library facilities in our school.	1	2	3	4	5

APPENDIX B. The Test Anxiety Inventory Questionnaire

INSTRUCTIONS TO PARTICIPANTS: Please answer each of the questions by writing circling the number that best describes your response to each of the following statements. There is no right or wrong answer. Indicate how you have been feeling and behaving concerning stress on each of the statements below:

		Almost never	sometimes	often	Almost always
SN	ITEM	1	2	3	4
1.	I feel confident and relaxed while writing tests.	1	2	3	4
2.	While writing final examinations I feel very uneasy, upset and worried.	1	2	3	4
3.	Thinking about the grade I may get in a subject disturbs me during tests.	1	2	3	4
4.	I panic when writing final exams.	1	2	3	4
5.	During exams I find myself wondering whether I will ever complete school.	1	2	3	4
6.	The harder I work to prepare for a test, the more confused I get.	1	2	3	4
7.	Thoughts of doing poorly interfere with my concentration on tests.	1	2	3	4
8.	I panic when writing an important test.	1	2	3	4
9.	Even when I am well prepared for a test, I feel very worried about it.	1	2	3	4
10.	I start feeling very uneasy just before getting a test paper back.	1	2	3	4
11.	During any tests, I feel very worried.	1	2	3	4
12.	I wish examinations did not bother me	1	2	3	4

	so much.				
13.	During important examinations, my stomach gets upset when I panic.	1	2	3	4
14.	I seem not to have confidence while writing important tests.	1	2	3	4
15.	I feel very panicky when I write an important exam.	1	2	3	4
16.	If I were to write an important exam, I would worry a great deal about writing it.	1	2	3	4
17.	During tests I find myself thinking about what will happen if I fail.	1	2	3	4
18.	I feel my heart beating very fast during important tests.	1	2	3	4
19.	As soon as an exam is over, I try to stop worrying about it, but I just cannot.	1	2	3	4
20.	During examinations I get so nervous (afraid) that I forget certain facts I really know.	1	2	3	4

APPENDIX C. The Simplified Coping Style Questionnaire

INSTRUCTIONS TO PARTICIPANTS: Please answer each of the questions by circling the number that best indicates your response to the statements below. There is no right or wrong answer. Indicate how you have used the ways stated below when you faced a problem/s. It will be very helpful to know how you have used the ways below when you faced difficult situations or problem/s.

SN	ITEM	Not use-never	Use occasionally	Use sometimes -often	Use frequently-always
1.	I feel less worried/better by studying or doing other activities.	0	1	2	3
2.	Talk with people and share personal worry with them.	0	1	2	3
3.	Try to look on the good side of things.	0	1	2	3
4.	Change your mind and find what are the important things in your life	0	1	2	3
5.	Don't take the problem too seriously.	0	1	2	3
6.	Stand your ground and fight for what you wanted to get or do.	0	1	2	3
7.	Try to come up with different solutions to the problem.	0	1	2	3
8.	Seek for suggestions from relatives, friends or peers	0	1	2	3
9.	Change something about yourself to deal with the problem.	0	1	2	3
10.	Use the experience of other people to deal with similar problems.	0	1	2	3
11.	Get involved in your hobbies and actively join in some entertainments.	0	1	2	3
12.	Try to control your disappointment, regret, sorrow and anger.	0	1	2	3
13.	Try to rest or go somewhere else to temporally ignore the worry.	0	1	2	3
14.	Get rid of worry by smoking, drinking, taking drug, eating or chewing gum etc.	0	1	2	3

15.	Believe that the problem will change for the better in future and waiting is the only thing you should do.	0	1	2	3
16.	Try to forget the problem.	0	1	2	3
17.	Depend on others to solve the problem that you have.	0	1	2	3
18.	Accept the reality because there is no other way to solve the problem.	0	1	2	3
19.	Imagine that there is a miracle which can change current problem.	0	1	2	3
20.	You just control yourself.	0	1	2	3

THANK YOU.

APPENDIX D. Participant Information Sheet

UNZAREC FORM 1a



**THE UNIVERSITY OF ZAMBIA
DIRECTORATE OF RESEARCH AND GRADUATE STUDIES**

Telephone: 290258/
Fax: +260-1-290258/253937
Zambia
E-mail drgs@unza.zm

P O Box 32379
Lusaka,

HUMANITIES AND SOCIAL SCIENCES RESEARCH ETHICS COMMITTEE

PARTICIPANT INFORMATION SHEET

TITLE OF RESEARCH:

Stress and Coping among Secondary School Pupils: Case Study of selected schools in Lusaka, Zambia

PURPOSE OF THE STUDY:

- (1) To assess if Grade Twelve Pupils in selected schools in Lusaka, Zambia experience stress.
- (2) To explore gender differences in stress levels among Grade Twelve Pupils in selected schools in Lusaka, Zambia.
- (3) To assess factors in schools that might contribute to stress among Grade Twelve Pupils in selected schools in Lusaka, Zambia.
- (4) To explore coping strategies among Grade Twelve Pupils in selected schools in Lusaka Zambia.
- (5) To assess the relationship between stress and Academic Performance.

DESCRIPTION OF THE STUDY AND YOUR INVOLVEMENT:

Exploring stress and coping strategies among Grade Twelve (12) Pupils in selected schools in Lusaka, Zambia. The Participants will fill in a questionnaire which will be administered by the

researcher .The researcher will hence facilitate and offer assistance such as simplifying the vocabulary so that understanding on the part of the participants becomes easy.

CONFIDENTIALITY:

The researcher will also ensure confidentiality and anonymity of the participants as numbers will be used for identity. All data to be collected will be kept under lock and key

VOLUNTARY PARTICIPATION AND WITHDRAWAL:

Participation will be voluntary based on informed consent. Participants will be allowed to withdraw from the study at any time without a cost should they wish to withdraw.

RISKS AND BENEFITS:

- Risks: Misunderstandings of the maladaptive effects of stress and coping if the research is not well-handled.
- Benefits: Deeper understanding of the nature of stress and coping among pupils by various stakeholders and they would take any possible steps to address the negative aspects of stress and coping . Improvement in academic performance by pupils.

CONTACTS FOR QUESTIONS (Names, addresses and phone numbers of the following):

1. Principal Investigator: Mabushe Namakando, Roma Girls' Secondary School. P. o Box 30437, Lusaka.
2. The Chairperson, Humanities and Social Sciences, Research Ethics Committee, University of Zambia.
3. The Director, Directorate of Research and Graduate Studies. University of Zambia.

APPENDIX E. Participant Consent Form

UNZA REC Consent form

THE UNIVERSITY OF ZAMBIA
UNZAREC FORM 1b



DIRECTORATE OF RESEARCH AND GRADUATE STUDIES

Telephone: 290258
P. O. Box 32379
Fax: +260-1-290258/253937
Lusaka, Zambia
E-mail drgs@unza.zm

**HUMANITIES AND SOCIAL SCIENCES RESEARCH ETHICS COMMITTEE
CONSENT FORM**

(Translated into vernacular if necessary)

TITLE OF RESEARCH

Stress and Coping among Secondary School Pupils: Case Study of selected schools in Lusaka, Zambia

REFERENCE TO PARTICIPANT INFORMATION SHEET:

1. Make sure that you read the Information Sheet carefully, or that it has been explained to you to your satisfaction.
2. Take note of whether tape or 'audio' recording will be used or not.
3. Your participation in this research is entirely voluntary, i.e. you do not have to participate if you do not wish to.
4. Refusal to take part will involve no penalty or loss of services to which you are otherwise entitled.
5. If you decide to take part, you are still free to withdraw at any time without penalty or loss of services and without giving a reason for your withdrawal.
6. You may choose not to answer particular questions that are asked in the study. If there is anything that you would prefer not to discuss, please feel free to say so.
7. The information collected in this research-from the questionnaires will be kept strictly confidential.

8. If you choose to participate in this research study, your signed consent is required below before I proceed with this study.

VOLUNTARY CONSENT

I have read (or have had explained to me) the information about this research as contained in the Participant Information Sheet. I have had the opportunity to ask questions about it and any questions I have asked have been answered to my satisfaction.

I now consent voluntarily to be a participant in this research and understand that I have the right to withdraw from this study at any time without any penalty should I wish to do so.

My signature below says that I am willing to participate in this research:

Participant's name (Printed):

.....
.....

Participant's signature:

Consent Date:

Researcher Conducting Informed Consent (Printed)

Maboshe. Namakando.....0977110488.....

Signature of Researcher:

Date:

Signature of parent/guardian:

Date:

APPENDIX F. Parental/Guardian Information Sheet



THE UNIVERSITY OF ZAMBIA
DIRECTORATE OF RESEARCH AND GRADUATE STUDIES

Telephone: 290258/
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P O Box 32379
Lusaka,

HUMANITIES AND SOCIAL SCIENCES RESEARCH
DEPARTMENT OF PSYCHOLOGY

PARENT/GUARDIAN INFORMATION SHEET

TITLE OF RESEARCH:

Stress and Coping among Secondary School Pupils: Case Study of Selected Schools in Lusaka, Zambia.

PURPOSE OF THE STUDY:

- (6) To assess if Grade Twelve Pupils in selected schools in Lusaka, Zambia experience stress.
- (7) To explore gender differences in stress levels among Grade Twelve Pupils in selected schools in Lusaka, Zambia.
- (8) To explore factors that might contribute to stress among Grade Twelve Pupils in selected schools in Lusaka, Zambia.
- (9) To explore the Coping Strategies among Grade Twelve Pupils in selected schools in Lusaka Zambia.
- (10) To assess the relationship between stress and Academic Performance.

DESCRIPTION OF THE STUDY AND YOUR INVOLVEMENT:

Exploring stress and coping strategies among Grade Twelve (12) Pupils in selected schools in Lusaka, Zambia. Your child as a Participant will fill in a questionnaire which will be

administered by the researcher .The researcher will hence facilitate and offer assistance such as simplifying the vocabulary so that understanding on the part of the participants becomes easy.

CONFIDENTIALITY:

The researcher will also ensure confidentiality and anonymity of your child as a participant because numbers will be used for identity. All data to be collected will be kept under lock and key.

VOLUNTARY PARTICIPATION AND WITHDRAWAL:

Participation will be voluntary based on informed consent. Your child will be allowed to withdraw from the study at any time without a cost should he/she wish to withdraw.

RISKS AND BENEFITS:

- Risks: Psychological distress and possible misunderstandings of the maladaptive effects of stress and coping.
- Benefits: Deeper understanding of the nature of stress and coping among pupils by stakeholders who would take any possible steps to address the negative parts of stress and coping.

CONTACTS FOR QUESTIONS

1. **Principal Investigator:** Maboshe Namakando, Roma Girls' Secondary School. P. o Box 30437, Lusaka. Cell: 0977110844
2. **Chairperson, Humanities and Social Sciences, Research Ethics Committee, University of Zambia.**
3. **The Director, Directorate of Research and Graduate Studies.**

APPENDIX G. Parental /Guardian Consent Form

THE UNIVERSITY OF ZAMBIA



DIRECTORATE OF RESEARCH AND GRADUATE STUDIES

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**HUMANITIES AND SOCIAL SCIENCES
PSYCHOLOGY DEPARTMENT**

**PARENT/GUARDIAN CONSENT FORM
(Translated into vernacular if necessary)**

TITLE OF RESEARCH

Stress and Coping among Secondary School Pupils: Case Study of selected schools in Lusaka, Zambia

REFERENCE TO PARTICIPANT INFORMATION SHEET:

1. Make sure that you read the Information Sheet carefully, or that it has been explained to you to your satisfaction.
2. The participation of your child in this research is entirely voluntary, i.e. he/she does not have to participate if you do not wish to.
3. Refusal to take part will involve no penalty or loss of services to which you are otherwise entitled.
5. If you decide that your child should take part, he/she is still free to withdraw at any time without penalty or loss of services and without giving a reason for withdrawal.
6. Your child may choose not to answer particular questions that are asked in the study. If there is anything that you would prefer not to discuss, please feel free to say so.

7. The information collected in this research-from the questionnaires will be kept strictly confidential.
8. If you choose that your child DOES NOT participate in this research study, please return the slip below:

VOLUNTARY CONSENT

I have read (or have had explained to me) the information about this research as contained in the Parental Information Sheet. My signature below says that I am NOT WILLING to allow my child participate in this research.

Child's name

.....

Signature of Parent/Guardian

.....

Date:.....

Notably: Knowing how busy you might be, I will take it that you have still allowed your child to participate in this study. If you do not return this consent form, even by giving it to your child by.....March, 2016.

APPENDIX H. University of Zambia Research Ethics Approval Letter



THE UNIVERSITY OF ZAMBIA
DIRECTORATE OF RESEARCH AND GRADUATE STUDIES

Telephone: +260 -1- 290258/291777 Ext. 2208
Fax: +260-1-290258/253952
E-mail: drgs@unza.zm

P O Box 32379
Lusaka, Zambia

12th February, 2016

Mr. Namakando Maboshe
Roma Girls' Secondary School
P.O Box 30437
LUSAKA

Dear Mr. Namakando,

RE: EXEMPTION FROM FULL ETHICAL CLEARANCE

With reference to your research proposal entitled:

"Stress and Coping among Secondary School Pupils: Case Study of selected schools in Lusaka."

As your research project does not contain any ethical concerns, you are hereby given an exemption from full clearance to proceed with your research.

ACTION:	APPROVED
DECISION:	12th February, 2016
EXPIRATION DATE:	11th February, 2017

Please note that you are expected to submit to the Secretariat a Progress Report and a copy of the full report on completion of the project.

Finally, and more importantly, take note that notwithstanding ethical clearance given by the HSSREC, you must also obtain authority from the Permanent Secretary, Ministry of Education, before conducting your research. The address is: Permanent Secretary, Ministry of Education, Science, Vocational Training and Early Education, P.O Box 50095, Lusaka. Tel: +260 211 253594.

Yours sincerely,

Dr. J. Simwinga
ASSISTANT DIRECTOR (RESEARCH),
DIRECTORATE OF RESEARCH AND GRADUATE STUDIES

cc: Director, Directorate of Research and Graduate Studies
Assistant Registrar (Research), Directorate of Research and Graduate Studies

APPENDIX I . Ministry of General Education Approval Letter

MOGE/53/2/4

All communications should be addressed to:
The Permanent Secretary, Ministry of General Education
Not to any individual by name

Telephone: 250855/251315/251283
251293/211318/251291
251003/251319



REPUBLIC OF ZAMBIA

MINISTRY OF GENERAL EDUCATION

In reply please quote

No.

P. O. BOX 50093
LUSAKA

20th September, 2016

University of Zambia
School of Humanities and Social Sciences
Department of Psychology
P. O. Box 32379
LUSAKA

Attention: Assistant Director (Research)
Directorate of Research and Graduate Studies

REQUEST FOR AUTHORITY TO CONDUCT A RESEARCH: MR. MABOSHE NAMAKANDO

The Ministry is in receipt of a letter dated 12th February, 2016 in which you were requesting authority for Mr. Maboshe Namakando to conduct a research on Stress and Coping among Secondary School Pupils in selected Schools in Lusaka, Zambia.

The Ministry of General Education has no objection to the request as the findings of the research would be beneficial to the Ministry.

A handwritten signature in black ink, appearing to read 'E. Chisuta'.

Esther S. Chisuta (Mrs.)
Acting Chief Human Resources Development Officer
For/Permanent Secretary
MINISTRY OF GENERAL EDUCATION