Influence of gender and academic year on stress and coping behaviour of students in a South African university

S.K. Pheme

orcid.org 0000-0001-7582-5689

Mini-dissertation submitted in partial fulfilment of the requirements for the degree *Master of Social Science in Clinical Psychology* at the North-West University

Supervisor: Prof E.S. Idemudia

March 2019

Student number: 24466794

TABLE OF CONTENTS

DECLARATION

I, the undersigned, Sello Kgokong Pheme, declare that this study entitled “Influence of gender and academic year on stress and coping behaviour in a South African university” is my original work and has not been submitted to this or any other university for the purpose of obtaining a degree.

…….. ……...

Sello Kgokong Pheme Date

DEDICATION

This study is dedicated to my caring, supportive and loving parents, Mr and Mrs Pheme.

ACKNOWLEDGEMENTS

To my Almighty God, it was not by might nor by power, but by your Holy Spirit that this project was a success. Thank you God for your wisdom, guidance and comfort through the Holy Spirit.

- To the Maranatha Fellowship Centre, glory be to God.
- To my family, Solomon, Rachel, Maphuti, Frans, Richard and Nolo: thank you for your love and patience.
- A special thanks to my sister, Joan Maboya; this journey would not be possible without you.
- To Professor E.S. Idemudia, thank you for pushing me out of my comfort zone.
- Special appreciation to all previous and current staff members of the Department of Psychology, Dr M. Maepa, Miss N. Mogotsi, Mrs Pila-Nemutandani, Professor Oduaran, Miss P. Kolobe, Miss M. Erasmus, Mr S. Boshomane, Dr N. Matamela, Dr P. Erasmus, thank you for the knowledge, wisdom and enduring support from first year to this point.
- To Didimalang Matsheka, Lebogang Mphokeng, Tebogo Manamela, Surprise Masimini and Edgar Phukubje, thank you for your persistent encouragement and reflecting through your own lives that anything is possible. You are my inspiration at various functional levels.

LIST OF TABLES AND GRAPHS

ABSTRACT

Influence of gender and academic year on stress and coping behavior of students in a South African university

This study assessed the influence of gender and academic year on stress and coping behaviour of students in one South African university. The objective of this study is to determine whether gender and academic year exert an influence on the stress and coping behaviour of university students. A simple randomization technique was used to recruit 321 students aged between 18 to 30 years ($\bar{x}$ = 21.67, SD = 2.69) among first year and final year students in the North-West University, Mafikeng Campus. The Coping Strategy Indicator (CSI) and University Stress Scale (USS) were adopted as primary data collecting tools.

The results demonstrate that there is no significant difference in stress between male and female students $p>.05$. However, the results show that there is a significant difference in coping behaviour between male and female students $p<.001$. The results further indicate that there is no significant difference in stress and coping behaviour between first and final year students $p>.05$. The majority of students reported practical stressors as major sources of stress $p<.001$. In conclusion, first and final year students apparently experience the same level of stress and tend to adopt similar coping behaviours. The study recommends that in terms of university infrastructure, this should be conducive for studying and living through adequate maintenance. Furthermore, students residing off-campus should get with transport that could assist in the reduction of student stress.

Keywords: *gender, academic year, stress, coping behavior, students*.

CHAPTER ONE

1.1 Introduction

Tertiary institutions play a significant role in improving the economy of the country and standards of living, through empowering people with the necessary knowledge and skills required at the workplace, and skilling individuals on how to conduct themselves in everyday activities (Fornes-Vives, Garcia-Banda, Frias-Navarro & Rosales-Viladrich, 2016). However, there are various factors that could affect students negatively in the process of pursuing and acquiring their tertiary qualifications (Abasimi, Atindanbila, Mahamah & Gai, 2015). Stress is not only associated with depression and poor academic performance, but also predisposes students to the risk of suicidal behaviours (Van Niekerk, Scribante & Raubenheimer, 2012). Therefore, this study focuses on determining the extent of stress experienced by students in different academic years, namely, first and final year.

Ickes, Brown, Reeves and Martin (2015) report that undergraduate and postgraduate students appear to experience stress in relatively the same ways. However, Wolf, Stidham and Ross (2015) state that students tend to use different coping strategies when dealing with various sources of stress. Over the years, some studies have indicated that male and female students tend to use different coping strategies when dealing with stress, some of which are maladaptive in nature (Monteiro, Shyngle & Kutlo, 2014; Hamaideh, 2012). Therefore, the study also aims to assess the influence of gender and academic year on stress and coping behaviour in the North-West University, Mafikeng Campus.

1.2 Background to the study

Stress refers to any demand, pressure or strain exerted by a situation or event on an individual in which a person has to gather their emotional, social, spiritual, physical and mental resources such that they adequately manage the demands of that situation (Ray, 2016). Bhayat and Madiba (2017) indicate that stress is an inevitable experience in any academic institution. It is important to determine how students cope with stress since ineffective ways of dealing with stress could have a negative impact on their academic progress and overall well-being.

Weiten (2013) indicates that coping strategies could be adaptive or maladaptive in nature. Maladaptive coping strategies are those that inhibit a person's ability to adjust healthily in a particular stressful situation. This includes, but is not limited to avoidance, denial or distraction. On the other hand, the adaptive coping strategies aid individuals in coping with an adversity such as seeking social support. Abedalhafiza, Altahayneh and Al-Haliq (2010) indicated that female and male students tend to respond to various sources of stressors through different coping strategies. Thus, Hamaideh (2012) established that there is an evidence that suggests that male students tend to use problem-focused coping strategy, whilst female students tend to use emotion-focused coping strategy.

Based on this, the coping behaviours of university students are very crucial as the implications of stress could affect their physical, physiological, social, psychological and educational functioning (Weiten, 2013). Abedalhafiza *et al*. (2010) argues that coping not only helps us in managing our daily environmental demands, but also ensures our survival as there is a correlation between life span and experienced stress.

Weiten (2013) indicates that stress is pervasive in our daily lives and no one is immune to it. Generally, students experience significant stress, which unfortunately affects their well-being and academic performance negatively. Ickes *et al.* (2015) identified that both undergraduate and post-graduate students experience significant stress. Therefore, the focus of this study was on university students, namely first and final year students. Thawabieh and Qaisy (2012) indicate that when first year students enter into tertiary institutions they are exposed to various stressors such as pressure to achieve good performance, meet deadlines, avoid financial strain, establish social and emotional relationships, regulate peer pressure, overcome anxiety related to exams and adjust to a new environment with different values and norms. On the other hand, final year students have to deal with stress that comes with moving out of the university system, which would include uncertainties about finding employment after graduating.

Furthermore, Ray (2016) indicates that student stress could be triggered by various sources such as relationship problems, health challenges, finances, workload, maladaptive adjustment, lack of resources within university and poor university infrastructure such as studying in a cold or hot room, poor internet coverage, limited computer laboratory, bright lights, noisy place or uncomfortable chairs and tables. Current literature indicates that major sources of stress for students include academic demands, financial challenges and environmental factors (Ray, 2016). Therefore, it is essential to investigate the sources of stress in a South African university, in particular North-West University, Mafikeng campus.

1.3 Statement of the research problem

Stress is a pervasive and inevitable factor in any higher educational institution (Bhayat & Madiba, 2017). According to Erikson (1950), the majority of students are still transitioning from adolescence to the young adulthood stage. This transition is characterized by various stressors such as identity crisis and the need to establish intimate relationships, which could be stressful for most of students. Naidoo, Van Wyk, Higgins-Opitz and Moodley (2014), revealed that the majority of students reported interpersonal stressors as major sources of stress.

On the other hand, Thawabieh and Qaisy (2012) established that the nature of the past of the country in terms of its social, political, educational and economic history affects the quality of its resources in the educational system in terms of distribution of funding and infrastructure. Equally, Chemers, Hu and Garcia (2001) found that environmental factors such as residing off-campus, studying in an unconducive environment and limited resources such as internet and library were the main sources of student stress.

On the other hand, Bamuhair, Farhan, Althubaiti, Agha, Rahman and Ibrahim (2015) found that the majority of students scored high on financial related stressors. Financial stressors in universities are unavoidable for most students as they have to pay for tuition fees, residence, books and food as well. In the South African context, there was a national protest dubbed “Fees Must Fall” against high university costs. Rhodes University announced that students had to make an initial payment of 50% for their 2016 fees, suggesting that students residing in university residence had to pay R45 000 upfront (Pillay, 2016). It is against this background that the #FeesMustFall# campaigns must be understood, again magnifying the stressors generated for university students.

The type of degree and academic year also increases the burden of stress among students. Govender, Mkhabela, Hlongwane, Jalim and Jetha (2015) showed that first year students reported significant personal stressors. This included difficulties with romantic and family relationships, parental expectations and dealing with illness either personally or indirectly,

whereas second to fourth year students reported significant academic stressors (Magalhaes Das Neves, Loots & Van Niekerk, 2014).

Ickes *et al.* (2015) argues that although academic programs differ according to faculties, students appear to experience stress levels relatively the same way irrespective of academic year and sources of stressor. Mahfouz and Alsahli (2016) indicates that first year students are likely to experience high stress, as the transition from high school to university could be very stressful. First year students have to adjust to a new environment in which their social support mechanisms are distant or limited. One of the challenges that first year students face is the immanence of independence. For the first time, many such students are free and getting weaned from depending fully or partially on their parents or caregivers. Therefore, being a first year university student means learning to be independent. Consequently, much is required from first year students in this transition: they have to engage with the acquisition of a new identity, setting new norms, beliefs and behaviours that are appropriate within the university context.

On the contrary, Govender *et al*. (2015) found that final year students experienced higher stress level than first year students. Mahfouz and Alsahli (2016) argue that final year students experience high stress level because of a prolonged exposure to university stress. This suggests that as academic years increase there is also an increase in academic stress. Final year students face far more stressors than other students because they are exiting from the security of university into the uncertainty of the workplace. In addition, they have to deal with the pressure that comes with the uncertainties about finding employment in the face of high competition in the job market. Moreover, during final year, the majority of academic programs require that students should have course work, practical work and research, all of which serve as additional stressors to final year students (Govender *et al*., 2015).

Bhayat and Madiba (2017) found that the majority of students reported significantly high levels of stress and used maladaptive coping strategies. Their study revealed that the most used coping strategies were sleeping and watching television. These coping strategies are maladaptive ways of dealing with stress, as students avoid problems by orientating themselves away from the challenges. These findings were consistent with the work of Kwaah and Essilfie (2017) who found that students utilized self-distracting activities such as moving away from the campus to home and there was increased time on watching television.

On the other hand, Mphele, Gralewski and Balogun (2013) found that there is a correlation between high level of stress and alcohol usage. Students who experienced high stress level reported engaging in harmful alcohol drinking and other maladaptive behaviours. Literature indicates that there is a difference between stress and coping behaviour attributed to gender. Monteiro *et al*. (2014) reported that female students are likely to experience high stress level as they engage in maladaptive coping strategies. In their study, female students used dreaming or fantasy as ways of coping with stress without actively engaging the stressor. On the contrary, Chai and Low (2015) revealed that male students tend to use problem-focused coping strategy when dealing with stress.

Therefore, ineffective ways of coping with stress could have negative consequences on students' academic, physical and psychological functioning (Weiten, 2013). On the academic functioning, Struthers, Perry and Menec (2000) argue that students' inability to manage stress adequately has a negative impact on their level of motivation, which may ultimately affect their academic progress and a need to further their studies, which may lead to students dropping out of universities. The current literature indicates that South Africa is one of the countries that has a high university dropout rate, with about 15% lowest rate of graduation in the world. In the year 2000, a total of 120 000 students enrolled for higher education in both private and public

institutions excluding UNISA (Department of Higher Education & Training, 2014), but only a miniscule graduated on time.

In addition, 30% of the 120 000 students dropped out of university during their first year, 20% dropped out in the second and third year, and only 22% students graduated on time. Research indicates that poor social support, inequality, financial problems, workload and stress were the leading causes of university drop out in South Africa (Department of Higher Education & Training, 2014).

On the psychological functioning, Weiten (2013) indicates that prolonged exposure to stress might lead to the development of psychological pathologies such as depression and suicide. A study by Bhayat and Madiba (2017) at the University of Pretoria revealed that students who experienced severe stress contemplated committing suicide. Van Niekerk *et al*. (2012) conducted a study in three South African universities (University of Pretoria, University of Cape Town and University of Free State), and revealed that a prevalence for suicide attempts in all three universities was 6.2%, about 32.3 % reported suicidal ideations and overall 11.9 % students had a history of diagnosed Major Depressive Disorder.

Barlow and Durand (2015) argue that stress also has a negative impact on the physical, neurological and physiological functioning of the individual. Chronic exposure to stress could cause neurochemical imbalances. The typical negative outcome of stress on an individual's neurochemical functioning include hormonal imbalance due to consistent secretion of the cortisol hormone, also known as a stress hormone. The more exposure to stress, the more secretion of cortisol hormone to counteract the effects of stress. Under a stressful condition, cortisol hormone provides the body with glucose (an energy to fight stress) by triggering the gluconeogenesis in the liver. Therefore, consistent secretion of cortisol hormone leads to increased glucose levels in the blood stream, which is associated with the risk of developing

diabetes, cardiovascular disease and weight gain. Moreover, chronic exposure to stress can also lead to a decreased secretion of cortisol hormone (low energy) since the hypothalamus is increasingly exhausted and no longer alarms the glands to secrete hormones, which is associated with fatigue, irritability, anger outburst, low libido and high need for sleep. There are inconclusive findings on gender and academic year on stress and coping behaviour among students. Based on the above literature, this study seeks to determine whether gender and academic year have an influence on stress and coping behaviours among university students.

1.4 Aim of the study

The aim of this study is to assess the influence of gender and academic year on stress and coping behaviour of students in the North-West University, Mafikeng Campus.

1.5 Objectives of the study

Specifically therefore, the objectives of this study were set to:

1. Determine whether there will be a difference in stress and coping behavior among male and female students.
2. Establish whether there is a difference in stress and coping behavior due to academic year.
3. Determine the most frequently experienced stressors by students.

1.6 Hypotheses of the study

1) There is a significant difference between male and female students on stress and coping behavior.
2) There is a significant difference between first and final year students on stress and coping behavior
3) The majority of students will score high on practical stressors.

1.7 Scope of the study

The aim of this study was to assess the influence of gender and academic year on stress and coping behaviour of students in the North-West University, Mafikeng Campus. Therefore, the study focuses on first and final year students registered as full-time as a mode of study in the North-West University, Mafikeng Campus. There was no age restriction, and both female and students were eligible to participate in the study.

1.8 Significance of the study

It is expected that this study yields both theoretical and practical significance. The significance lies in that results of this study indicate trends in stress and coping strategies used by students. Therefore, professionals dealing with stress and coping have better insight into students stress and coping behaviour. Therefore, awareness on how to cope with stress could be drawn from the results of this study, furthering psycho-education. The study aimed to examine various sources of stressors for university students. Identifying and clarifying these stressors has the practical significance in informing policies aimed at assisting students in dealing with stress.

Theoretically, the results of this study add to the knowledge on existing stress literature. The study interrogates specific stressors faced by university students in South Africa and identifies their coping mechanisms. The study provides data, which could be used to develop new models, theories and scales.

CHAPTER TWO

2. Theoretical framework and definition of key terms

This chapter provides operational definitions of terms utilized in this study, and examines the theoretical framework for the entire study.

2.1 Operational definition of key terms

Gender in this study refers to the condition of being a male or female. This extends the concept to recognise the social, behavioral, psychological, religious and cultural aspects of maleness or femaleness (American Psychological Association, 2015).

Academic year in this study refers to the period during which students attend college or university (Hornby, Turnbull, Lea, Parkinson, Phillips, Francis, Webb, Bull & Ashby, 2010). Academic year in this study includes first and final year that usually commence from January and end in December.

Stress in this study refers to any demanding situation or event that actually threatens or is perceived as a threat to an individual's well-being and goals (Van Zyl, 2016). Scores obtained on the University Stress Scale are used to determine different sources of stressors experienced by university students (Stallman, 2008). In this scale, stress is categorized into six different sources of stressors, which are academic, equity, parenting, relationships, practical, and health. The scale measurement was used continuously for all three hypotheses.

Coping behaviour in this study refers to a conscious effort to reduce stress through different strategies, patterns, styles, responses or skills (Van Heerden-Pieterse, 2005). Scores obtained on the Coping Strategy Indicator determine coping behaviours of the participants (Amirkhan, 1990). In this scale, coping behavior is categorized into three coping strategies, which are

problem-focused, seeking social support and avoidance coping strategies. The scale measurement was also used continuously except for Hypothesis 3.

Students in this study refer to any persons studying at a college or university (Hornby *et al*., 2010). These persons must either be in first or final year of study, and registered with the university with full-time as a mode of study.

2.2 Theoretical framework

2.2.1 The Transactional model of stress and coping

A central concept of the Transactional Model of Stress and Coping is "stress", which Lazarus and Folkman (1987) defined as a product of the relationship between a person and his/her environment. This model explains the process of stress based on the impact of an external stressor, mediated by cognitive appraisals and coping effort. Cognitive appraisal is an individual's perception, evaluation and interpretation of a perceived stressful situation or event. Our appraisal of stress seeks to determine the impact of stress. Therefore, this suggests that what appears stressful to one individual may not be stressful to the other depending on their cognitive appraisal of the stressful situation. Weiten (2013) distinguishes between two categories of cognitive evaluations: primary and secondary appraisal.

The primary appraisal is the first evaluation that takes place when an individual encounters a stressful event. Therefore, in the primary appraisal, an individual evaluates the significance of a stressful situation or event as threatening or not threatening and relevant or irrelevant to their well-being and goals. The relevance of the situation determines the intensity of emotions. When a situation or event is evaluated as highly relevant and threatening to an individual's well-being and goals, he or she is likely to experience intense emotions connected to that situation or event (Gorban, Tyukina, Smirnova & Pokidysheva, 2016). For instance, if all students in the North-

West University receive an email indicating that a Psychology test that was supposed to be written in two weeks' time, would be now in three days' time. All students will evaluate the message in terms of its relevance and threat to their well-being and goals. Non-psychology students will evaluate this email as irrelevant and non-threatening to their well-being and goals and they may not be affected by the email. However, for Psychology students, the email is highly relevant and has a threat on their well-being and goals as they now have a reduced time to study, which will lead to such Psychology students getting highly impacted by stress.

Therefore, if the situation is perceived as relevant and threatening to an individual's well-being and goals, such an individual is likely to engage in secondary appraisal. Secondary appraisal is how an individual evaluates the controllability of the stressor and one's capability and coping resources necessary for dealing with stress. Some of Psychology students may evaluate three days as a short period to study sufficiently for the test, and feel that they have no control over the situation and believe that they cannot cover all the chapters in three days, which would eventually influence the type of coping strategy they would utilize. Some students may cope with this by faking sickness so they that could get more time to study. On the other hand, some of Psychology students may believe that they can still cover all the chapters in three days and come up with proactive strategies on how to deal with the stressor (Weiten, 2013).

2.3 Theoretical perspectives

2.3.1 General adaptation syndrome

Selye (cited in Gorban *et al*., 2016) conceptualized the general adaptation syndrome (GAS) to explain how human beings respond to stress. He argued that the human body is able to maintain a state of equilibrium when any change occurs or is introduced in the body because of stress. Furthermore, he stated that human beings have defense mechanisms such as hormones that are

utilized when faced with a life-threatening event. In addition, he believed that a human body is equipped with resources that makes it possible to adapt and maintain a state of equilibrium. The general adaptation syndrome is a model that consists of three psychological stages in which a body prepares for and adapts to any danger or threatening event to ensure our survival.

Stage 1: Alarm Reaction.

The alarm reaction is the first stage that takes place shortly after a stressful event has occurred. During this stage, the Autonomic Nervous System (ANS) is activated and the body is mobilized about the existence of stress. This entails that a person's blood pressure would increase and there would be an arousal that is produced by the endocrine system through the control of pituitary gland. Therefore, the pituitary gland would mobilize the adrenal glands to produce a hormone called cortisol, also known as a stress hormone. The heightened cortisol in the bloodstream helps us to react to stress. It is during the alarm reaction that the fight or flight response occurs (Gorban *et al*., 2016).

Stage 2: Resistance

If the reactions in the alarm stage continues, an individual would then reach a stage of resistance. The physiological reactions that resulted from the first stage decline but yet still remain above a normal state. In that regard, there would still be an increased blood pressure, glucose level and cortisol hormone in the bloodstream. Consequently, the body becomes vulnerable as it may not resist other stressors and health problems such as asthma, ulcers and high blood pressure may occur as the immune system has been compromised. Therefore, if the experienced stress persists over a considerable period, an individual will then enter an exhaustion stage (Gorban *et al*., 2016).

Stage 3: Exhaustion

This stage occurs if stress continues, in which the body has no more or limited resources to fight stress. If stress stops, the body will successfully repair itself and maintain equilibrium. However, if stress continues, because the coping mechanisms are exhausted, the body will not be able to repair itself. Consequently, the immune system becomes too weak and health problems such as asthma, ulcers, heart attack and high blood pressure and mental problems such as memory deficits may occur (Gorban *et al*., 2016).

2.3.2 Diathesis-Stress Model

The Diathesis-Stress Model is a psychological theory that attempts to explain how stress could lead to the development of a disorder. The concept diathesis in this model refers to factors that predispose or make an individual vulnerable to the development of a disorder when under a stressful situation. The diathesis or vulnerability factors can be in a form of genetic, physiological, personality or cognitive factors (Barlow & Durand, 2015).

The Diathesis-Stress Model suggests that the interaction between biological factors (diathesis or vulnerability) and environmental stressors could lead to the development of a disorder. This model asserts that, the greater the diathesis or vulnerability, the less amount of environmental stressor is required to trigger a disorder, whereas the smaller the vulnerability or diathesis, the greater the environmental stressor is required to trigger a disorder. As a result, if the diathesis or vulnerability and stress exceed a threshold, an individual is likely to develop a disorder (Barlow & Durand, 2015).

2.3.3 The repression-sensitization theory of coping

The repression-sensitization theory is based on the perceptual defense of the psychodynamic approach. This theory proposes that there are various forms of dispositional coping. In essence,

when encountering a stressful situation a person can locate himself or herself on one pole, being either repression or sensitization (Asendorpf, 2004). Therefore, individuals who locate themselves at the repressor pole when facing a stressful encounter tend to deny the existence of the stressor and dislocate themselves away from it. Such individuals at this pole would also fail to express and experience feelings of distress. Conversely, a person on the opposite pole (sensitizer) tends to react to a stressful encounter in a more directive manner, advanced information searching, worrying, lessened fear and ultimately pay attention to the stressor with the aim of dealing with it intensively and actively (Asendorpf, 2004).

2.3.4 The gender schema theory

The gender schema theory is derived from social-cognitive theory and it seeks to explore how societal norms influence gender-based behaviour. According to Bem (1981), the society molds children from an early age about what is masculine and feminine, which leads to the development of gender schemas. These gender schemas influence how we function in relation to expression of thoughts, emotions and behaviour. For instance, most societies encourage men to be bold, brave, courageous and goal-oriented, while the expression of emotions and other feminine characteristics are greatly discouraged. Consequently, individuals with high gender schemas are likely to engage in behaviours that are in line with the societal gender expectations as compared to those with low gender schemas.

CHAPTER THREE

3. Review of relevant Literature

This chapter seeks to provide an overview on two main constructs in the study, namely stress and coping behaviour of university students. The chapter proceeds by reviewing literature on these two constructs.

3.1 Stress

The concept stress evokes diverse emotions and responses in different people. This is simply because there is no universal way of dealing with stress. Weiten (2013) argues that stress depends on the eyes of the beholder since two people who may experience the same situation together, while one may become a helpless victim of that situation, another person may see the very same situation as a catalyst for motivation, change, excitement and thrill. Literature indicates that there is no universal definition of stress. This is based on the notion that there are also different variables that play a role in experiencing and responding to stress, such as psychological, social, physical and physiological factors. However, a broadly acceptable definition of stress is that stress refers to any threatening situation or event that in an individual's perception has the capability or potential to exhaust their coping mechanisms (Weiten, 2013). In order to have a deeper understanding of stress, the study precedes to review literature on the types of stress, its effects, sources and coping strategies.

3.1.1 Types of stress

Bergh (2011) indicates that there are two main categories of stress, namely the eustress and distress. The eustress is also known as a good stress as it provides an individual with motivation, pleasure, positive energy and incentive to get the task done. On the other hand, the

distress, also known as a bad stress, refers to the unbearable condition, which is characterized by negative emotions and exhausted coping mechanisms.

In addition, literature indicates that there are different types of distress, and each stress could be distinguished from another based on their severity, duration and frequency. Therefore, to gain a better understanding of the construct stress, a distinction is made between three main forms of stresses: acute stress, episodic stress and chronic stress (Zandara, Garcia-Lluch, Pulopulos, Hidalgo, Villada & Salvador, 2016).

Acute stress is the most commonly and widely experienced version. This type of stress occurs as the results of our daily challenges, changes and pressures such as long queues in a bank or grocery store, learning how to ride a bike, deciding on what to wear or eat, adapting to a new place or windows software. What sets acute stress apart from other types of stress is its relative short duration and an individual can anticipate the endpoint. Therefore, the symptoms of stress may not be present at the time the stress is experienced until such stress has accumulated (Zandara *et al*., 2016).

Therefore, when stress has accumulated and becomes recurrent, a person experiences episodic stress. This form of stress occurs when an individual experiences the same acute stress on different episodes and accumulating each episodic impact (Weiten, 2013).

The last form of stress is a chronic stress; it is the most critical version that occurs out of a long-term exposure to stress such as a job loss, an unhappy marriage, a chronic illness and traumatic experience such as sexual assault, hijacking and motor vehicle accident. What sets chronic stress apart from the two forms of stress mentioned above is the severity and duration. Chronic stress refers to any threatening event or situation that lasts for a longer duration and an individual is unable to anticipate the endpoint of such stress from the moment this is triggered (Vanishree, Jeswin & Madhusudhan, 2011).

3.1.2 Student stress

Current literature indicates that stress is found in various domains of functioning such as the workplace, education, family and community. Irrespective of the various domains in which stress is mainly found, the concept of academic stress has caught the attention of many current researchers. This is because students face a variety of challenges that make them vulnerable to several bio-psycho-social problems (Al Kalaldeh & Abu-Shosha, 2012). There is some consensus that students at some point experience all three forms of stress (acute stress, episodic stress and chronic stress). For instance, for some students, leaving home for the first time could be stressed; however, students can anticipate that after a few weeks or months they would have adjusted to their new environment (acute stress). On the other hand, students may experience stress every time they have to leave home after recess (episodic stress). In addition, this may occur from first to final year of study, leading to a prolonged exposure to stress that accumulates over the years (chronic stress) (Zandara *et al*., 2016).

Based on this, student stress has caught the attention of many researchers both globally and within South Africa. Bamuhair *et al*. (2015) indicates that university students, specifically first year entering students, are more predisposed to stress due to the nature of university lifestyle whereby students have to learn new social skills and how to become responsible for one's welfare. In addition, the transition from high school to university requires solid adaption and coping skills from the students as this change can be stressful to most of them. Bamuhair *et al*. (2015) found that time demands, social adjustment, peer competition, prolonged duration of lectures and uncertainties about the future were common sources of stress among university students.

3.2. The impact of stress

Literature indicates that stress could affect an individual's functioning in various forms of domains, such as mental, emotional and personality. Therefore, it is significant to review what has been researched on the impact of stress in these domains (Bamuhair *et al*., 2015).

3.2.1. Emotional impact of stress

The most common feature of stress is a change in one's mood. Therefore, the impact of stress in students is likely to lead to mood disturbances such as feeling sad, frustration, fatigue, helplessness, irritability and loss of interest in activities. In addition, continuous chronic stress could results in mood related disorders such as depressive, bipolar and anxiety disorders (Zandara *et al*., 2016).

3.2.2 Mental impact of stress

Ali, Nitschke, Cooperman and Pruessner (2017) indicate that when we experience persistent stress, the body constantly secretes stress hormones, which could lead to hormonal imbalances and disturbances in the nervous system. For instance, the secretion of stress hormones (cortisol) have an impact on brain cells in the hippocampus (a brain area responsible for creation of new memories) and frontal lobe (a brain area responsible for higher executive functioning such as planning, judgment, reasoning, solving problems and abstract thinking). Therefore, chronic exposure to stress is likely to lead to mental problems such as poor concentration, memory deficit, confusion, forgetfulness and problems with decision-making. In the worst case, the experience of stress could lead to mental disorders such as delirium, dementia and psychotic disorders (Barlow & Durand, 2015).

3.3. Coping

Coping is another construct that has a vast literature due to its significance as our source of survival when faced with a threatening or stressful situation. Wising, Potgieter, Guse, Khumalo and Nel (2014) argue that some of the coping strategies are maladaptive in their nature since they significantly increase the perceived stress. On the other hand, adaptive coping strategies are those that usually decrease stress. Therefore, this means when faced with a stressful situation, a crucial element in successful adaptation is not about which coping strategy is used; rather it is mainly about whether an effective adaptive coping strategy is applied to that specific situation. In addition, different individuals might face the same stressor, but how they cope with that stress differs largely depending on the effectiveness of the coping strategy employed (Wising *el at.*, 2014).

3.3.1 Coping strategies

Coping strategies refer to various forms of strategies/styles/skills that people could utilize when dealing with a stressful situation or event. Therefore, the effectiveness of each coping strategy is different depending on the situation or event, while some of these strategies might provide a short-term relief, but they might be maladaptive in a long-term. Literature indicates that there are various forms of coping strategies governed by different theories and models. The following are the most common types of coping strategies (Amirkhan, 1990).

Problem-solving/focused strategy

The problem-focused coping strategy explicates that when individuals are facing a stressful situation or event, they address that situation or event by attempting to reduce the demands of that situation or event or by improving their capability to deal with stress. This coping strategy holds that when individuals face a stressful situation or event, they try to define the problem,

explore and produce alternatives ways of dealing with stress. This entails scrutinizing the costs and benefits of each alternative, making a decision based on their evaluation and taking necessary actions to deal with stress (Straub, 2002).

Emotion-focused strategy

This is a form of coping strategy aimed at reducing the intensity of emotions caused by a stressful event or situation. The intensity of emotions could be reduced through communicating or expressing the emotions. Straub (2002) shows that although emotion-focused coping strategy may provide an emotional relief from stress, this coping strategy does not solve the problem as the focus is primarily on the emotions.

Seeking social support strategy

This coping strategy is influenced by the notion that no individual exists in isolation, but rather, human beings are social species whose social context serves as an important aspect of functioning. Therefore, social support refers to inherent availability of social resources which are at one's disposal in dealing with stress (Wising *el at.*, 2014). Seeking social support entails that when individuals experience stress, they are able to explore and utilize their social resources such as friends, family members, colleges, religious groups, clubs and organizations. Straub (2002) argues that the quality of social support people receive in dealing with stress determines their ability to cope with stress.

Avoidance coping strategy

Avoidance is the degree to which individuals orientate themselves to the stressful problem. Thus, when individuals encounter a stress, they orientate themselves away from the stress. This avoidance could be through denial, wishful thinking, distraction, sleep, escape, blaming others or fantasy (Amirkhan, 1990).

Controlled autonomous coping strategy

Skinner and Edge (2002) describe coping in terms of two broad categories, namely autonomy and control. Controlled coping can be explained in terms of opposition and perseverance. Opposition refers to wide range of oppositional behaviours such as anger, defiance, blaming others and revenge. On the other hand, perseverance is characterized by rigid behaviours such as conformity, compliance and other behaviours that do not foster freedom. Autonomous coping also consists of two broad categories, namely accommodation and negotiation. Accommodation as a coping strategy entails cooperation and flexibility. This coping strategy is about moving beyond blame, self-pity and bitterness to a state whereby an individual works towards acceptance of their current stressful situation. On the other hand, negotiation coping entails being creative, open, flexible, open to new ideas and producing alternatives to a stressful situation (Skinner & Edge, 2002).

3.4 Gender on stress and coping

Bamuhair *et al*. (2015) found that there was a gender difference on perceived stress. They reported that female students scored high in all three measurement tools used to assess stress as compared to male students. In contrast, Chen, Wong, Ran and Gilson (2009) found that male students reported experiencing higher stress levels than female students, with a decline in their psychological well-being and an increase in the utilization of maladaptive coping strategies.

On the other hand, Hamaideh (2012) found that students who scored high on avoidance coping strategy also scored high on psychological stress. Skinner and Edge (2002) reported that when students engage in avoidance coping strategies such as blaming, denial, sleep or fantasy they distract and distance themselves from the problem and do not actively engage the problem with the aim of solving it, which leads to an increase in the experienced stress.

In addition, Hamaideh (2012) found a significant gender difference on coping behaviour of university students. The results revealed that male students employed problem-focused coping strategy, whereas female students employed emotion-focused coping strategy. Bem (1981) reports that societal expectations lead to gender schemas, which ultimately influence the coping behaviour between male and female students.

In contrast, Govender e*t al*. (2015) found no significant gender difference in coping behaviour. Their results confirmed that the majority of students employed problem-focused coping strategy irrespective of their gender. This suggests that students employ similar coping behaviour when dealing with stress, despite societal gender expectations.

3.5 Impact of academic year on stress and coping behavior

Bamuhair *et al*. (2015) found that first year students scored high on perceived stress as compared to other students. The high stress level in first year students is attributed to the transition from home to a new university context in which first year students have to adjust to new norms, new peers and dealing with different and exacting academic demands than those experienced in high school. In contrast, Govender *et al*. (2015) found a significant statistical difference between first and final year students on stress. Their study confirmed that final year students experienced higher stress levels than first year students. This suggests that as academic years increase there is also an increase in stress levels.

A study by Thawabieh and Qaisy (2012) found no significant difference in stress levels among undergraduate students. Their study revealed that students from first to fourth year experienced moderate stress. Consistent with these findings, a study by Ickes *et al*. (2015) also found no significant differences in student stress levels. Their study reported that undergraduate and postgraduate students reported moderate stress levels. Although both studies found no significant differences among students in various academic years, however, in both studies,

students reported experiencing moderate stress levels, which is significant. Wolf *et al*. (2015) argues that stress level appears to remain the same throughout the university period. However, each academic year has different demands and stressors, with no change in the magnitude of stress.

A study by Abedalhafiza *et al*. (2010) aimed at identifying the difference in coping behaviours due to the academic year of university studies. Their study revealed that first year students used avoidance coping strategy, while final year students used problem-focused coping strategy. Conversely, a longitudinal study by Fornés-Vive *et al*. (2016) found that nursing students used emotion-focused coping strategy during their first and second year, and during their third year of study, they used problem-focused coping strategy in dealing with academic stress. Wolf *et al.* (2015) reported that each academic year has different academic demands that require different coping strategies.

3.6 Student stress and personality

Personality refers to a person's persistent patterns of thought, behaviour and emotions that form a distinctive character. Although literature indicates that personality is stable over time, it can relatively change in relation to an individual's experiences. Ali *et al*. (2017) indicate that personality could relatively change as a consequence of stress. Therefore, people who are stressed are likely to become hostile, irritable, impulsive, isolated or socially withdrawn and have a distorted self-concept. A study by Chai and Low (2015) found that individuals who scored high on openness and relational personality dimensions reported experiencing lower levels of stress. Kaur, Chodagiri and Reddi (2013) found that there was a correlation between neuroticism, psychoticism, extroversion and experienced stress. Their study found that individuals who scored high on the above-mentioned personality dimensions reported higher stress levels.

Interestingly, a correlational study by Chai and Low (2015) found a positive correlation between problem-focused coping strategy and analytical personality dimensions. Their study revealed that individuals who scored high on analytical personality dimensions tend to use abstract thinking; they are more logical and prefer procedure, which are similar constructs required for the problem-focused coping strategy.

Furthermore, students who employed emotion-focused coping strategy scored high on neuroticism. Therefore, neurotic individuals tend to have high emotionally reactivity. Fornés-Vives *et al*. (2016) found that students who scored high on extroverted, agreeableness and conscientious traits employed problem-focused coping strategy.

3.7 Sources of stress

A study by Bamuhair *et al.* (2015) aimed at identifying sources of student stress and found that the major source of stress was financially related problems, followed by social issues such as adjustment, loneliness and acquisition of new social skills. Brougham, Zail, Mendoza and Miller (2009) found that daily challenges constituted the major source of stress for both male and female students. This included stress in relation to difficulty in waking up, poor social networks, difficulty in finding a parking space and long queues. In addition, their study found that female students reported experiencing familial, daily problems, social and financial stressors than male students. On the other hand, Govender *et al*. (2015) reported that first year students stated significant personal stressors. This included difficulties with romantic and family relationships, parental expectations and dealing with illness either personally or indirectly such as a family member being ill.

This chapter reviewed literature on stressors and the attendant strategic reactions to these. The next chapter outlines the research methodology adopted in this study in order to explore the research hypotheeses outlined in Chapter1.

CHAPTER FOUR

4. Research methodology

This study was a quantitative research; numerical data was collected, analyzed and interpreted in order to gain significant understanding on the phenomena of interest (Maree, 2007). Therefore, research design, characteristics of the participants, sampling techniques, research instruments, ethical considerations, statistical methods and the process of data collection are discussed in this section.

4.1 Research design

The study used a cross-sectional study design to explore gender (male and female) and academic year (first and final year students) as independent variables, and stress and coping behaviour as dependent variables.

4.2 Sampling technique and participants of the study

A total of 321 undergraduate students from the North-West University, Mafikeng Campus, were randomly selected to participate in this study. Simple random sampling technique was used to recruit male and female students between the ages of 18 and 30 years ($\overline{x}$ = 21.67, SD = 2.69). The study population comprised 193 (60.7%) first year students and 125 (39.3%) final year students. Students were approached in their classrooms through their lecturers. Those who confirmed that they were either in first or final year of study were recruited to complete questionnaires until the desired number for the study was reached.

4.3 Instruments

A self-report questionnaire comprising three sections (A, B and C) was utilized to collect data for the study.

4.3.1 Section A: Demographic questionnaire

The participants' demographic data such as age, gender and academic year were collected using researcher-generated questionnaire.

4.3.2 Section B: Coping Strategy Indicator (CSI)

Somhlaba and Wait (2009) state James Amirkhan originally developed the Coping Strategy Indicator (CSI) in 1990. The CSI is a self-report questionnaire that consists of 33-items with three subscales, namely, problem-focused, seeking social support and avoidance coping strategies.

The CSI uses a 3-point Likert scale (a lot, a little or not at all), and participants have to indicate the degree to which they used these strategic responses in dealing with a stressful situation or event in the last 6 months. The CSI is scored by assigning a numerical score for each respond (A lot = 3, A Little=2, Not at all=1). Therefore, a total score for each subscale is determined by adding all the numerical scores for each subscale in order to identify the most used coping strategy (Amirkhan, 1990). This measurement tool has been used to assess coping behaviour on various populations in different contexts (Kim & Han, 2015; Le Roux, Lotter, Steyn & Malan, 2018; Lo, 2017).

Amirkhan (1990) reports that the validity and reliability of the CSI have been empirically established. A study by Lo (2017) reported an acceptable Cronbach's alpha values for problem solving ($\alpha = 0.861$), seek social support ($\alpha = 0.898$) and avoidance ($\alpha = 0.730$).

In the South African context, Somhlaba and Wait (2009) reported a good internal consistency for the CSI as demonstrated by the Cronbach's alpha (α = 0.86). In addition, the internal consistency coefficients for problem-focused was 0.92, seeking social support was 0.89 and avoidance was 0.83. Furthermore, Le Roux *et al.* (2018) reported that the reliability coefficients demonstrated values of Cronbach's alpha that ranged from 0.76 to 0.83.

4.3.3 Section C: University stress scale (Stallman, 2008)

Stallman developed the University Stress Scale (USS) in 2008. The USS measures both the extent of stress and categories of stressors experienced by students over the past month. Stallman (2008) states that the USS is a self-report questionnaire that consists of 21-items and utilizes a 4-point Likert scale. This measurement tool has six subscales, namely, academic, equity, parenting, relationships, practical and health. The scoring of the USS for the extent of stress is determined by the sum of all the items, therefore, a score greater than 13 indicates a significant psychological distress. A score for categories or subscales is determined by adding all the numerical scores for each subscale (Stallman, 2008).

Stallman and Hurst (2016) reported a good internal consistency for the USS as demonstrated by the Cronbach's Alpha (α = 0.83). In addition, a fair internal consistency was demonstrated for all six subscales, with academic at 0.62; equity at 0.63; parenting at 0.69; relationships at 0.73; practical at 0.64 and health at 0.60. Furthermore, Kayani, Kiyani, Wang, Sánchez, Kayani and Qurban (2018) also reported an acceptable Cronbach's Alpha (α = 0.807) and a benchmark of 0.65 was set for all subscales. In the current study, a Cronbach's Alpha of 0.72 was established, indicating its suitability for use.

Stallman and Hurst (2016) reported a good convergent validity for the USS. In the current study, both convergent and discriminant validity were assessed using exploratory factor analysis (EFA). Evidence from the findings shows a good convergent validity with pattern

matrix loadings of not less than 0.5 on all items, thereby demonstrating construct validity with no serious signs of cross-loadings (see Appendix E).

4.4 Procedure

Permission to conduct the study was requested and obtained from the Psychology Department, North-West University, Mafikeng Campus. Ethical clearance was obtained from North-West University Ethical Committee and ethics number (NWU-HS-2017-0174) was issued. Therefore, verbal consent was obtained from module lecturers to utilize their time slots for lectures to collect data. Participants were approached and informed consent was obtained from each student. Those who were not willing to participate in the study were automatically excluded. In addition, information about the study such as the purpose of the study, confidentiality, anonymity and voluntary was communicated to the participants. The participants were given an opportunity to ask questions, and clarity regarding the study was proffered. Questionnaires were distributed to students during morning lectures and returned the same day. The data collection process took approximately 30 to 45 minutes.

4.5 Ethical considerations

The following ethics were undertaken when conducting the study:

Consent to participate in the study

Informed consent was obtained from the participants and they were informed about the nature of the study. Participants were informed that participating in the study was voluntary and not participating did not disadvantage them in any form. All participants were given an informed consent form to sign.

Privacy, anonymity and confidentiality

In addition, participants were granted the right to confidentiality and no personal information was disclosed that would make it possible to identity them. It was explained that information obtained from this study was not accessible to the public, except to relevant parties involved in the study project.

4.6 Statistical methods

A 2 X 2 ANOVA was used to measure stress and coping behaviour based on gender and academic year. The Tukey Post Hoc Analysis was used to compare mean scores of male and female students on coping behaviour. On the other hand, one Sample T-Test was used to determine the most frequent experienced stressor. Descriptive statistics were used to describe mean and standard deviation of the population's characteristics (Maree, 2007).

Prior to the main analyses, dependent variables were subjected to normality checks and homogeneity of variance test. The Kolmogorov-Smirnov statistic and Shapiro-Wilk statistic were calculated, but their computed significant levels were <0.05 for both stress (0.004 and 0.009) and coping strategy (0.006 and 0.013) respectively (see Table I). These significant results suggest a deviation from normality. Meanwhile, the Shapiro-Wilk statistic is calculated when the sample size is small (<50). Since the sample size for this study was >300, further normality checks were undertaken.

Table I: Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Coping strategy	.061	318	.006	.989	318	.013
Stress	.063	318	.004	.988	318	.009

A. Lilliefors Significance Correction

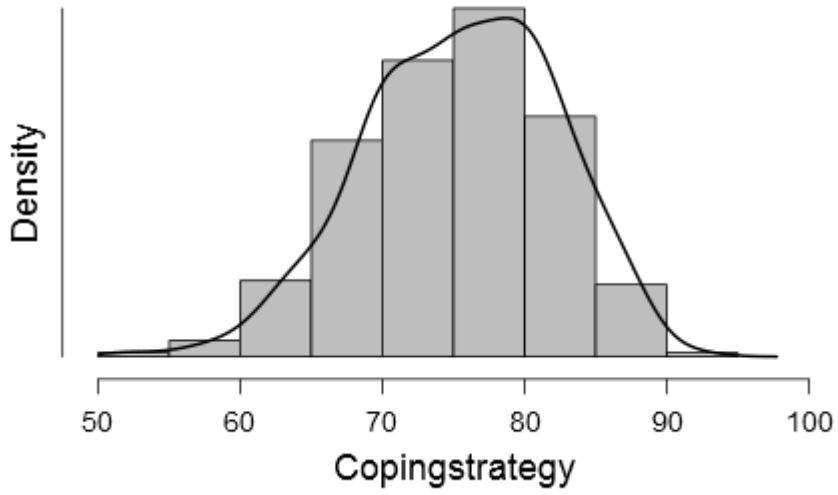
Assessment of skewness and kurtosis for the dependent variable revealed skewness and kurtosis within acceptable value of ±1.96 for both stress (z Skewness = 0.032; z Kurtosis = 0.605) and coping strategy (z Skewness = -0.323; z Kurtosis = -0.92) respectively (see Table II). Therefore, these results suggest that the distributions are normal.

Table II: Assessment of Skewness and Kurtosis

	Stress	Coping strategy
Valid	318	318
Missing	0	0
Mean	28.708	75.535
Median	28.000	76.000
Std. Deviation	6.573	6.734
Skewness	0.302	-0.323
Std. Error of Skewness	0.137	0.137
Kurtosis	0.605	-0.092
Std. Error of Kurtosis	0.273	0.273

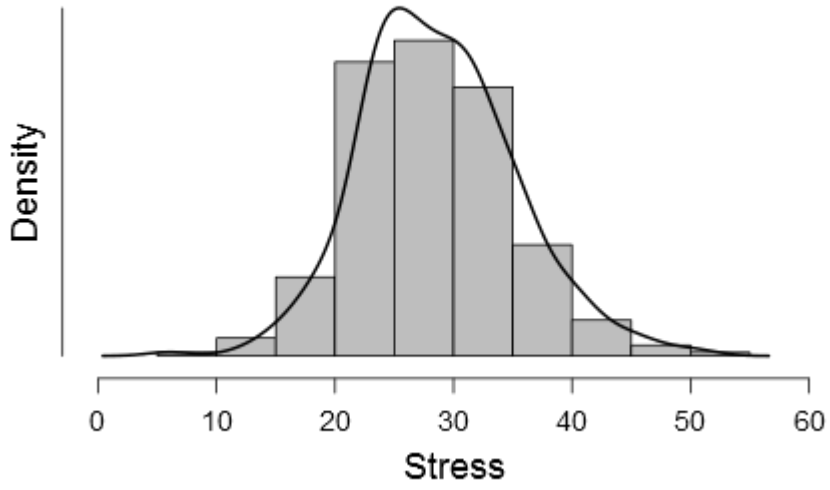
Further assessment of the normality graphs for both stress and coping strategy showed that the distribution of the two variables cannot be described as skewed but near normal (see Graphs I & II). Thus, normality was assumed for these variables.

Graph I: Normal Distribution Graph of coping strategy



Note: Copingstrategy means coping strategy.

Graph II: Normal Distribution Graph of Stress



Homogeneity of Variance Tests

Homogeneity assumption was checked using Levene's test. The results are as indicated in Table III below.

Table III: Test of Equality of Variances (Levene's)

	F	df	p
Stress	0.182	1	0.670
Coping Strategy	2.394	1	0.123

The above results indicated that the assumption of homogeneity of variance is not violated for both stress ($F = 0.182$, $p>0.05$) and coping strategy ($F = 2.394$, $p>0.05$).

CHAPTER FIVE

Presentation of results

This chapter presents the results according to the statistical methods clarified in the previous section. The results are presented in a table form and interpretation of each results are provided in accordance with each hypothesis.

Hypothesis One: There is a significant difference between male and female students on stress and coping behavior. To test this hypothesis, the analysis of variance (ANOVA) was used and the results are presented in Table IV (a).

Table IV (a): Analysis of Variance (ANOVA) showing the difference on stress and coping behaviour between male and female students

	Source of Variation	SS	df	MS	F	*p*
Stress	Corrected Model	17.481[a]	1	17.481	.404	ns
	Intercept	260140.978	1	260140.978	6009.842	.000
	Gender	17.481	1	17.481	.404	ns
	Error	13678.321	316	43.286		
	Total	275767.000	318			
Coping Behavior	Corrected Model	918.504[a]	1	918.504	21.569	.000
	Intercept	1805869.497	1	1805869.497	42407.004	.000
	Gender	918.504	1	918.504	21.569	.000
	Error	13456.616	316	42.584		
	Total	1828716.000	318			

Note. Type III Sum of Squares

The results show that there is no significant difference on stress between male and female students F (1, 316) = .4, p>.05. Meanwhile, the results show that there is a significant difference on coping behaviour between male and female students F (1, 316) = 21.57, p<.001. Because the results indicate a significant difference in the mean scores between male and female students on coping behaviour, a post hoc statistics was computed and the results of the Tukey post hoc analysis are as indicated in Table IV (b) below.

Table IV (b): Post Hoc Comparisons of Male and Female Students on Coping Behavior

		Mean Difference	**SE**	**t**	**p_{tukey}**
Male	Female	3.414	0.735	4.644	<.001

Comparing the mean scores for both male and female students, it is evident in the above table that the mean score for male students (77.40) is higher than that of the female students (73.99) and the difference (3.41) is significant. Thus male students employed problem-focused coping strategy more than female students.

Hypothesis Two: There is a significant difference between first year and final year students on stress and coping behaviour. The Analysis of Variance (ANOVA) was used to test the above hypothesis and the results are presented in Table V below.

Table V: Analysis of Variance (ANOVA) the showing difference on stress and coping behavior among first and final year students

	Source of Variation	SS	df	MS	F	*p*
Stress	Corrected Model	3.144[a]	1	3.144	.073	ns
	Intercept	249708.653	1	249708.653	5762.792	.000
	Year	3.144	1	3.144	.073	ns
	Error	13692.658	316	43.331		
	Total	275767.000	318			
Coping Behaviour	Corrected Model	28.106[a]	1	28.106	.619	.ns
	Intercept	1734362.898	1	1734362.898	38200.192	.000
	Year	28.106	1	28.106	.619	ns
	Error	14347.014	316	45.402		
	Total	1828716.000	318			

Note. Type III Sum of Squares

The results from table IV show that there is no significant difference on stress levels between first year and final year students $F(1, 316) = .07$, $p>.05$. Therefore, the alternative hypothesis that states that there is a significant difference between first year and final year students on stress is consequently rejected. Findings also revealed that there is no significant difference on coping behaviour between first year and final year students $F(1, 316) = .06$, $p>.05$. We therefore also reject the alternative hypothesis that states that there is a significant difference between first year and final year students on coping behaviour.

Hypothesis Three: Majority of students will score high on practical stressors

Table VI (a): Descriptive statistics comparing the mean scores among different categories of stressors

	Academic	Practical	Health	Relationships	Equity	Parenting	Others demands
Mean	8.160	8.708	1.270	4.475	2.031	3.440	0.623
Std. Deviation	2.938	2.287	1.330	2.404	1.762	2.127	0.784

Hypothesis 2 stated that the majority of students would score high on practical stressors. This hypothesis was tested using one-sample t-test and the results are presented in Table VI (a & b). Table VI (a) shows that practical stressors has the highest mean score of 8.71 compared to other categories of stressors. This was further subjected to one sample t-test to determine if the hypothesis that the majority of students would score high on practical stressor would be significant. The results revealed that it is significant as shown in Table VI (b).

Table VI (b): One Sample T-Test: One-Sample test showing that majority of students would score high on practical stressors

	t	df	p
Practical stressors	67.900	317	< .001

The statistical tests conducted on stressors and their intensity in triggering specific behaviours and modes of coping were presented in this chapter. The final chapter deduces plausible conclusions, makes systematic analyses based on these results and proffers suggestions for further research.

CHAPTER SIX

6. Discussion of results and conclusion

This chapter provides a discussion of results and the conclusion to the entire study. The chapter also examines the strengths and limitations of the study and submits recommendations derived from the results, offering possible areas for future research.

6.1 Discussion of the results

The aim of this study was to assess the influence of gender and academic year on stress and coping behaviour of students in the North-West University, Mafikeng Campus. Hypotheses 1, 2 and 3 are elaborated and examined in the following sections.

The objectives of this study were set to:

- Determine whether there is a difference in stress and coping behavior among male and female students.
- Establish whether there is a difference in stress and coping behavior due to academic year.
- Determine the most frequently experienced stressors by students.

Hypothesis One: There is a significant difference between male and female students on stress and coping behavior.

Hypothesis 1 stated that there is a significant difference between male and female students on stress and coping behaviour. The results of this study revealed that there is no significant difference in stress patterns between male and female students. The results of this study are consistent with the work of Ramteke and Ansari (2016) who reported no significant difference in stress levels attributed to gender. In addition, Reddy, Menon and Thattil (2018) also reported no significant difference in stress patterns and levels between male and female students across four academic streams, namely, Commerce, Management, Humanities and Science. This

suggests that irrespective of gender, academic year and academic study stream, both male and female students experience stress in relatively the same ways.

In contrast to the results of this study, a number of studies have indicated that female students tend to experience higher levels of stress than their male student counterparts (Ickes *et al.*, 2015; Misigo, 2015; Sehlo, Al-Zaben, Khalifa, Agabawi, Akel, Nemri & Al-Wassie, 2018). Arla (2002) indicates that the differences in stress levels attributed to gender are primarily influenced by different perceptions and coping strategies used by students in responding to stress.

With regard to the coping behaviour, the results of this study show that there is a significant difference in coping behaviour between male and female students. The results show that male students utilized problem-focused coping strategy more frequently than female students did. This is consistent with the work of Chai and Low (2015) who found that male students utilized problem-focused coping strategy than female students in dealing with stress. In addition, Chai and Low (2015) also found that there was a correlation between problem-focused coping strategy and analytical personality dimensions. Their study revealed that the majority of male students who scored high on analytical personality dimensions used a problem-focused coping strategy than those who scored low on analytical personality dimensions. The analytical personality dimensions are characterized by being more systematic, preference for following procedures and use of more logical reasoning. Following upon this, it is more likely for male students with high scores on analytical personality dimensions to utilize problem-focused coping strategy, which comprises planning, coherent thinking, judgment and finding alternative ways of dealing with a stressful situation.

To advance the argument, Wang, Korczykowski, Rao, Fan, Pluta, Gur, McEwen and Detre (cited in Wadikar, Muley & Muley, 2017) conducted a neurological study to examine the difference in reactions to stress attributed to gender. Their study revealed that there was a gender difference in neural activity when responding to stress. The study demonstrated that there was a prefrontal cortex activity in males, whereas in females there was an activation in the limbic system when responding to stress. The prefrontal cortex is part of the brain found in the frontal lobe, an area responsible for higher cognitive functions such as abstract thinking, decision-making, planning and working towards a defined goal, which are clearly distinct features of problem-focused coping strategy utilized by male students in coping with stress (Jin & Maren, 2015).

On the other hand, the limbic system refers to a group of brain structures defined as the center of emotions. This system enables us to regulate our emotional experiences such as expression, handling emotional process and controlling impulses (Barlow & Durand, 2015; Barnby, Bailey, Chambers & Fitzgerald, 2015), which appears to be the facets of emotion-focused coping strategy used by female students in responding to stress (Innes, 2016).

Furthermore, the gender difference found in this study was also consistent with the gender schema theory, which states that individuals are likely to behave in a certain manner according to their gender roles as determined by their cultural expectations (Bem, 1981). Thus, the way male and female students cope with stress is strongly influenced by their early development of gender-appropriate schemas and therefore socially sanctioned behavioural norms. Several studies found that male students tend to use problem-focused strategy while female students use emotion-focused coping strategy when dealing with stress (Brougham *et al.*, 2009; Hamaideh, 2012).

Bem (1981) argues that the society expects females to be submissive, to express emotions and display limited assertiveness or a complete lack thereof, whereas males are expected to display characteristics such as self-confidence, bravery, assertiveness and goal-orientation. These societal attributes encourage males to utilize active, proactive and instrumental coping strategies, which are the facets of problem-focused strategy. On the other hand, females are likely to have difficulties in assuming proactive problem-focused strategy, as it requires independence, assertiveness, confidence and detachment from emotions, which are in contradiction with how society generally expects females to conduct themselves.

On the contrary, Govender *et al.* (2015) found that the majority of students used problem-focused strategy when dealing with stress, irrespective of gender. This indicates a shift that both male and female students tend to react to stress in similar ways irrespective of societal gender expectations. The problem-focused coping strategy has been found to be generally healthy, adaptive and effective in dealing with stress (Hamaideh, 2012).

Monteiro *et al*. (2014) found that male students used problem-focused strategy, whereas female students employed wishful thinking or fantasy and disengaged themselves away from the problem. This suggests that female students avoided and wished that the problem would be solved without being actively involved in the problem-solving process. Monteiro *et al*. (2014) argues that wishful thinking is a maladaptive coping strategy that only provides a short-term relief from stress while the problem still exists. In tandem, the female students are not actively engaged in the problem-solving process.

In contrast to these results of the study, Ickes *et al*. (2015) found that the majority of students, irrespective of gender, used social support coping strategy in dealing with stress. Interestingly, seeking social support was prominent in both undergraduate and postgraduate students. Mahfouz and Alsahli (2016) indicate that when students enter tertiary institutions, their social

support is distant or limited, as the majority of students get away from their families. Therefore, when under stress, students are likely to reach out to significant others in order to receive emotional, instrumental or informational support the new significant others are surrogates to the actual relational connections that these students are accustomed.

Hypothesis Two: There is a significant difference between first and final year students on stress and coping behaviour.

Hypothesis 2 stated that there is a significant difference between first and final year students on stress and coping behaviour. The results of this study revealed that there is no significant difference in stress levels between first and final year students. This was consistent with the work of Thawabieh and Qaisy (2012) who found no significant difference in stress levels between 1st, 2nd, 3rd and 4th year students. In addition, Ickes *et al*. (2015) also found no significant difference in stress levels between undergraduate and postgraduate students. This indicates a possible consistency in the stress experienced by students during their undergraduate and postgraduate years. Mason and Nel (2015) established that students experience stress levels relatively the same way throughout their academic years, irrespective of changes in the sources of stress.

Silverstein and Kritz-Silverstein (2010) also observed consistency in stress levels in a longitudinal study. They examined stress levels of first year students on three different periods, at the beginning of the year (Time 1), average of 11.6 weeks later (Time 2) and close to end of the year (Time 3). Their study concluded that first year students experienced moderate stress in Time 1 and 2, and there was a significant increase in stress levels during Time 3, at which first year students experienced high stress level. Towbes and Cohen (1996) observed that stress level appears to remain relatively consistent with a significant increase around major events such as examinations, explaining therefore the high stress level at the end of the year.

In contrast to the results of this study, some studies established that first year students scored high on stress as compared to other students (Bamuhair *et al*., 2015; Ramteke & Ansari, 2016; Shiferaw, Anand & Gugsa, 2015). Abedalhafiza *et al*. (2010) concludes that the transition from home to a university could be very stressful for most of first year students as they have to adjust to a new environment, in which they are exposed to a different educational system, have to strive for independence and meet other demands within the university context. In addition, the transition from adolescence to adulthood has also been found to increase stress vulnerability among first year students (Towbes & Cohen 1996). Ramteke and Ansari (2016) specify that first year in university is a period where the majority of students separate from their families; therefore, there is a fear of losing that characteristic emotional closeness. In addition, there are expectations from the parents, which increases the burden of stress among first year university students.

Govender *et al*. (2015) reported that final year students experienced higher stress levels than first year students. These findings may be explained through the demands placed on final year students as academic anxieties tend to increase with the progressive academic years. In essence, final year students have to deal with the combined demands of course work, practical work, research and the looming uncertainties linked to finding employment after graduating, while first year students focus mostly on course work (Govender *et al*., 2015).

With regard to the coping behaviour, the findings of this study established that there is no significant difference in coping behaviour between first and final year students. The results of this study are consistent with the work of Jimenez, Sanchez-Laguna and Jimenez-Linde (2013) who found no significant difference in coping behaviour between first and final year students. Their study revealed that both first and final year students used a problem-focused coping strategy in dealing with stress. Literature also affirms that students who used problem-focused

strategy had a low score on all health problems as compared to students who used emotion-focused coping strategy (Innes, 2016; Jimenez *et al*., 2013).

In contrast with the results of this study, Faye, Tadke, Gawande, Kirpekar, Bhave, Pakhare, Singh and Nadpara (2018) found a significant difference in coping behaviour between first and final year students. Their study established that first year students predominantly used problem-focused coping strategy, whilst final year students used passivity coping strategy and admitted to the use of substances. In addition, their study also confirmed a correlation between problem-focused coping strategy and resilience. This study revealed that first year students with high score on resilience used problem-focused coping strategy, whereas final year students had a low score on both resilience and problem-focused coping strategy. Somaiya, Kolpakwar, Faye and Kamath (2015) emphasize that resilience is an individual's positive capability to deal with stress and the ability to bounce back to a previous normal state of functioning after experiencing adversity. In addition, resilience also constitutes characteristics such as having an internal locus of control, communication and problem-solving skills, and the ability to make realistic and feasible plans, which are the facets of problem-focused coping strategy.

The General Adaptation Syndrome can further explain the difference between resilience and coping strategies for first and final year students. Selye (as cited in Gorban *et al.*, 2016) spell out that human beings are equipped with coping mechanisms, which are used in dealing with stress. Therefore, there are three stages which one could go through when encountering stress. Firstly, an alarm reaction stage occurs immediately when an individual encounters stress. His or her body mobilizes the Autonomic Nervous System, in which there is an arousal caused by the endocrine system that triggers the pituitary gland to secrete cortisol hormone (stress hormone). The physiological arousal enables an individual in the fight or flight response to stress. Secondly, the resistance stage occurs when the stressor from the first stage (alarm

reaction) persists. The cortisol hormone persists to counteract the effects of stress and attempts to maintain a state of equilibrium. Therefore, if the stressor persists over a considerable period, a person enters into the exhaustion stage. This is the last stage that occurs when a stressor continues to such an extent that an individual's coping mechanisms are exhausted. This simply means an immune system becomes weak and there is no longer a fight response within that individual.

Based on this, as mentioned earlier, Faye *et al*. (2018) found that first year students had high scores on both resilience and problem-focused coping strategy as compared to final year students. This could be connected to the notion that final year students have been exposed to stress for a considerable time, which comes as the result of quarterly, semester or annual academic activities such as assignments, class tests, clinical-practical work, examinations and time pressure from their first to final year of study. Therefore, a prolonged exposure to stress among final year students leads to coping mechanisms being exhausted, explaining the low score on resilience, and a use of passivity coping strategy and substances in dealing with stress.

Hypothesis Three: Majority of students will score high on practical stressors

Hypothesis 3 stated that the majority of university students would score high on practical stressors. The results of this study confirmed that the majority of students scored high on practical stressors. This suggests that factors related to housing or accommodation, transport, university environment and the contextual atmosphere were major stressors in this study. The results of this study are consistent with the work of Chemers *et al*. (2001) who found that environmental factors, which are categories of stressors that tap into practical stressors, were the major sources of stress among students. These sources of stress included factors such as living outside the campus, traveling, difficulties in studying in unconducive environments and

living in unfamiliar places. This suggests that major sources of stressors were specifically the practical aspects of being a student.

Although little is documented about the 2015-2016 "Fees Must Fall" students' protest in the North-West University, a study by Langa (2017) analysed the protest in nine different South African universities. There was a pattern suggesting that the protest changed from peaceful marches to violent incidents in various universities. For instance, at the University of KwaZulu-Natal, the university library and cars were burnt; the police chased students out of their residence using teargas leading to a total shutdown of the university for about six weeks. This suggests that students who were living in university residence had to travel back home or make other accommodation arrangements.

Interestingly, Silverstein and Kritz-Silverstein (2010) examined sources of stress over a year among students. Their study revealed that there was a significant change in sources of stress; at the beginning of the year, students reported academic demands such as time pressure, deadlines and course content as major sources of stress. At the end of the year, the major source of stress was the university environment, including such facets as poor infrastructure, limited resources and facilities. Bamuhair *et al*. (2015) suggests that as students enter tertiary institution, they are exposed to a different educational system compared to the one from high school. This is also similar to when students have to progress from one academic year to the next; academic progression means new modules and often change of lecturers. Such an abrupt shift could be stressful for most students; however, over a certain period, students learn to adjust and handle these academic demands. When students have adjusted to the academic demands, on the other hand, university environmental stressors become persistent and such stressors are beyond any student's control and capability, explaining therefore the change in student stress from academic to environmental stressors.

The results of this study contradict with the work of Govender *et al*. (2015) who found that the majority of students in their first year scored high on intra-personal stressors. Govendar *et al*. (2015) established that the majority of first year students are likely to experience intra-personal stressors such as being home sick, high expectations from self, assuming new roles and beliefs within the university context and this is affirmed also in Pulido-Martos, Augusto-Landa and Lopez-Zafra, (2012); and Shiferaw (2015). Interestingly, as students progress academically, sources of stress get reduced in terms of intra-personal stressors, but there was an increase in stress levels relating to academic stressors. This suggests that academic stressors increase as academic years also increase, while intra-personal stressors diminish as students would have adjusted to the new environment, have appropriated a social role and developed personal identity within the university (Geng & Midford, 2015). In addition, Mahfouz and Alsahli (2016) state that as students progress academically, there is also an increase in academic demands. During the first year, majority of university programs require that first year students focus more on introductions, theoretical aspects and commence with practical work and research as they progress over the years, which cumulatively add to the existing academic demands.

In contrast to the results of this study, Naidoo *et al*. (2014) found that the majority of students scored high on interpersonal stressors such as breakdown of romantic liaisons, friendship and family relationships. The interpersonal stressors among students could be attributed to the psychosocial theory of human development. Erikson (1950) stated that there are eight distinct stages of psychosocial development; each stage has a psychosocial crisis, which could have a negative impact on an individual if not successfully managed. Of interest, the majority of students are currently functioning within intimacy versus isolation stage. This stage occurs approximately between the ages of 18 and 40 years. During this stage, the major psychosocial crisis is to establish and maintain relationships. Failure to do so could results in one

experiencing stress manifesting itself through loneliness, isolation, rejection, inferiority feelings and conditional acceptance by others (Erikson, 1950).

In contrast to the results of this study, Bamuhair *et al*. (2015) found that the majority of students scored high on financially related stressors such as paying tuition fees, books, food and residence. Govender *et al*. (2015) states that financial stressors are prominent in most of South African universities, although the results of this study demonstrated that majority of students scored high on practical stressors. The financial stressors were prominent in 2016 not only in the North-West University (Mafikeng Campus), but also in other South African universities and this was substantiated by the national students protest against any increase in tuition fees (Booysen, 2016; Pillay, 2016).

6.2 Conclusions

This quantitative study assessed the influence of gender and academic year on stress and coping behaviour of undergraduate students. The study revealed that there was no significant difference between male and female students in stress levels. However, there was a significant difference in coping strategies between male and female students. Male students used problem-solving/focused coping strategy in dealing with university stressors than female students. The difference in coping behaviour between male and female students could be attributed to societal gender expectations where males are expected to be bold, goal-orientated and have self-assurance. Consequently, exhibition of emotions and other feminine traits are highly discouraged.

The results of the study further proved that there was no significant difference in stress and coping behaviour between first year and final year students. Stress level appears to be consistent throughout academic years. However, each academic year appears to have different stressors. It emerged that when students enter tertiary institutions, they explore various coping

strategies and establish their effectiveness. Students are likely to use coping strategies they deemed effective in their first year throughout their academic journey.

The study also aimed at identifying major sources of stress experienced by students, and the results revealed that the majority of students experienced practical stressors as major sources of stress (university environment, traveling, transport and accommodation).

6.3 Strengths and limitations of the study

The strength of this study is grounded in that it assessed two groups of students (first and final year). Therefore, this aided in making comparisons about the two groups on stress and coping behaviour, which ultimately contributes to the existing literature. Of limitations to this study, little literature was available to make comparisons, as most studies were conducted among first year students, and comparisons were made between undergraduate and postgraduate students. The participants of the study were not recruited systematically based on age, faculty, and other socioeconomic factors. Therefore, the results of this study cannot be generalized to the entire population. In addition, the study utilized self-report measures, and some items of the questionnaires were not explicitly clear for some of the study participants.

Another limitation worth consideration is the academic year: this study recruited participants based on their academic years (first and final year) not historical years. Therefore, repeating students have an added number of historical years than non-repeating students. Based on this, repeating students have either an advantage or disadvantage depending on how they cope with stress. Therefore, either repeating students have a prolonged exposure to stress and university context in which they have adapted or they are overwhelmed by stress as compared to students who have never repeated an academic year.

6.4 Recommendations and directions for future research

The study found that there was no significant difference in stress level among first and final year students. This suggests that students experienced stress relatively the same. Therefore, the university should implement policies carved to assist students in the reduction of stress. This could be achieved through the provision of psychological counselling, peer mentorships and other support groups. All of these could be made available to all students and ultimately assist them in dealing with stress.

The study verified that male students used problem-focused coping strategy; therefore, other researchers could assess the effectiveness of this coping approach and other approaches that were not examined in this study. This provides university administrations, counsellors and health educators with sufficient data on how to implement programs aimed at helping students. Future researchers should focus on answering why there is no significant difference in stress levels between first and final year students. Therefore, a longitudinal study is recommended to assess student stress and how this remains consistent, assessing whether sources of stress experienced by students change or remain relatively the same throughout academic years.

The study indicated that the main sources of student stress were practical stressors. This included stress relating to accommodation, transport and university environment in general. Therefore, university environment such as housing or residences, and other university infrastructures should be maintained properly and be made homely and conducive enough for living and studying in order to reduce student stress. It is also recommended that transport should be made available for students who reside off-campus in order to reduce other factors that could contribute to stress which are closely related to traveling, such as time pressure, seasonal change, a sense of safety when attending late lecturers, and a limited access to university resources such as WIFI and library.

REFERENCES

Abasimi, E., Atindanbila, S., Mahamah, M. M., & Gai, X. (2015). The experiences of stress among nursing students training colleges in Tamale, Ghana. *International Journal of Psychology and Behavioral Sciences, 5*(2), 89-92. doi:10.5923/j.ijpbs.20150502.06

Abedalhafiza, A., Altahayneh, Z., & Al-Haliq, M. (2010). Sources of stress and coping styles among student-athletes in Jordan universities. *Procedia Social and Behavioural Sciences, 5*, 1911-1917. doi:10.1016/j.sbspro.2010.07.387

Al kalaldeh, M. T., & Abu-Shosha, G. M. (2012). Application of the perceived stress scale in health care studies: An analysis of literature. *International Journal of Academic Research, 4*(4), 45-50.

Ali, N., Nitschke, J. P., Cooperman, C., & Pruessner, J. C. (2017). Suppressing the endocrine and autonomic stress systems does not impact the emotional stress experience after psychosocial stress. *Psycho-neuro-endocrinology, 78*, 125-130. doi: 10.1016/j.psyneuen.2017.01.015

American Psychological Association. (2015). *APA Dictionary of Psychology* (2nd ed). Washington, DC: Author.

Amirkhan, J. H. (1990). A factor analytical derived measure of coping: The coping strategy indicator. *Journal of Personality and Social Psychology, 59*, 1066-1074.

Arla, D. (2002). Gender differences in the perceptions of stressors and utilization of social support among university students. *Canadian Journal of Behavioural Science, 35* (2), 73-83. doi: 10.1037/h0087190

Asendorpf, J. (2004). *Psychology of Personality* (3rd ed). New York: Springer-Verlag.

Bamuhair, S. S., Farhan, A. L., Althubaiti, A., Agha, S., Rahman, S., & Ibrahim, N. O. (2015). Sources of stress and coping strategies among undergraduate medical students enrolled in a Problem-Based Learning Curriculum. *Journal of Biomedical Education, 9*(6), 510-524. doi: org/10.1155/2015/575139

Barlow, D. H., & Durand, V. M. (2015). *Abnormal Psychology: An integrative approach* (7th ed). Stanford: Cengage Learning.

Barnby, J. M., Bailey, N. W., Chambers, R., & Fitzgerald, P. B. (2015). How similar are the changes in neural activity resulting from mindfulness practice in contrast to spiritual practice? *Consciousness and Cognition, 36*, 219-232. doi: org/10.1016/j.concog.2015.07.002

Bem, S. L. (1981). Gender schema theory: A cognitive account of sex typing. *Psychological review, 88*(4), 354-364. doi.org/10.1037/0033-295X.88.4.354

Benham, G. (2006). The highly sensitive person: Stress and physical symptom reports. *Personality and Individual Differences, 40* (7), 1433-1440. doi:10.1016/ j.paid.2005.11.021

Bergh, Z. (2011). *Introduction to work psychology*. South Africa, Cape Town: Oxford University Press.

Bhayat, A., & Madiba, T. K. (2017). The self-perceived sources of stress among dental students at a South African Dental School and their methods of coping. *South African Dental Journal, 72*, 6-10.

Booysen, S. (2016). *Fees Must Fall: Student Revolt. Decolonization and Governance in South Africa.* Johannesburg, South Africa: Wits University Press.

Brougham, R. R., Zail, C. M., Mendoza, C. M., & Miller, J. R. (2009). Stress, sex differences, and coping strategies among Ccollege students. *Social Behavior, 28,* 85-97. doi: 10.1007/s12144-009-9047-0

Chai, M. S., & Low, C. S. (2015). Personality, coping and stress among universitystudents. *American Journal of Applied Psychology, 4*(3), 33-38. doi: 10.11648/j.ajap.s.2015040301.16

Chemers, M., Hu, L., & Garcia, B. F. (2001). Academic self-efficacy and first year college student performance and adjustment. *Journal of Educational Psychology, 93,* 55-64. doi: org/10.1037/0022-0663.93.1.55

Chen, H., Wong, Y., Ran, M., & Gilson, C. (2009). Stress among Shanghai University students: The need for social work support. *Journal of Social Work, 9*(3), 323-344. doi: 10.1177/1468017309334845

Department of Higher Education and Training. (2014). *Statistics on Post-School Education and Training in South Africa*. Pretoria, South Africa: Department of Higher Education and Training.

Erikson, E. H. (1950). *Childhood and society*. New York, NY: Norton.

Faye, A., Tadke, R., Gawande, S., Kirpekar, V., Bhave, S., Pakhare, A., Singh, D., & Nadpara, J. (2018). Assessment of resilience and coping in undergraduate medical students: A need of the day. *Journal of Education Technology in Health Sciences, 5,* 36-44. doi: 10.18231/2393-8005.2018.0008

Fornes-Vives, J., Garcia-Banda, G., Frias-Navarro, D., & Rosales-Viladrich, G. (2016). Coping, stress, and personality in Spanish nursing students: A longitudinal study. *Nurse Education Today, 36*, 318-323. doi: 10.1016/j.nedt.2015.08.011.

Geng, G., & Midford, R. (2015). Investigating first year education students stress level. *Australian of Teacher Education, 40*(60), 1-12.

Gorban, A. N., Tyukina, T. A., Smirnova, E. V., & Pokidysheva, L. I. (2016). Evolution of adaptation mechanisms: Adaptation energy, stress, and oscillating death. *Journal of Theoretical Biology, 405*(21), 127-139. doi: 10.1016/j.jtbi.2015.12.017

Govender, P., Mkhabela, S., Hlongwane, M., Jalim, K., & Jetha, C. (2015). OT students' experiences of stress and coping. *South African Journal of Occupational Therapy, 45* (3), 34-39. doi: org/10.17159/2310-3833/2015/v45n3/a7

Hamaideh, S. H. (2012). Gender differences in stressors and reactions to stressors among Jordanian university students. *International Journal of Social Psychiatry, 58*, 26-33. doi: 10.1177/0020764010382692

Hornby, A. S., Turnbull, J., Lea, D., Parkinson, D., Phillips, P., Francis, B., Webb, S., Bull, V., Ashby, M. (2010). *Oxford Advanced Learner's Dictionary* (8th ed). (2010). Oxford: Oxford University Press.

Ickes, B. L., Brown, D., Reeves, L. K., & Martin, G. H. (2015). Differences between undergraduate and graduate students in stress and coping. *Californian Journal of Health Promotion, 13*, 13-25.

Innes, S. I. (2016). The relationship between levels of resilience and coping styles in chiropractic students and perceived levels of stress and well-being. *Journal of Chiropractic and Education, 31*, 1-7. doi:10.7899/JCE-16-2

Jimenez, J., Sanchez-Laguna, J. L., & Jimenez-Linde, I. M. (2013). Coping and health in novice and experienced nursing students during clinical practice: A descriptive, differential and correlational analysis. *Journal of Nursing Education and Practice, 3*(11), 52-164. doi: 10.5430/jnep.v3n11p152

Jin, J., & Maren, S. (2015). Prefrontal-Hippocampal Interactions in Memory and Emotion. *Frontiers in Systems Neuroscience, 9*, 170-178. doi: 10.3389/fnsys.2015.00170

Kaur, R., Chodagiri, V. K., & Reddi, N. K. (2013). A psychological study of stress, personality and coping in police personnel. *Indian Journal of Psychological Medicine, 35*, 141-147. doi: 10.4103/0253-7176.116240

Kayani, S., Kiyani, T., Wang, J., Sánchez, M. L., Kayani, S., & Qurban, H. (2018). Physical Activity and Academic Performance: The Mediating Effect of Self-Esteem and Depression. *Sustainability, MDPI, Open Access Journal, 10*(10), 1-17. doi: 10.3390/su10103633

Kim, M. R., & Han, S. J. (2015). A Study of Emotional Intelligence and Coping Strategies in Baccalaureate Nursing Students. *International Journal of Bio-Science & Bio-Technology, 7*, 275-282. doi: org/10.14257/ijbsbt.2015.7.3.29

Kwaah, C. H., & Essilfie, G. (2017). Stress and coping strategies among distance education students at the University of Cape Coast, Ghana. *Turkish Online Journal of Distance Education, 18*(3), 120-134. doi: org/10.17718/tojde.328942

Langa, M. (Ed). (2017). *#Hashtag: An analysis of the #FeesMustFall Movement at South African universities.* Johannesburg, South Africa: Centre for the Study of Violence and Reconciliation. Retrieved from: https://www.csvr.org.za/pdf/An-analysis-of-the-FeesMustFall-Movement-at-South-African-universities.pdf

Lazarus, R. S., & Folkman, S. (1987). Transactional theory and research on emotions and coping. *European Journal of Personality, 1* (3), 14-69.

Le Roux, S., Lotter, G. A., Steyn, H.S., & Malan, L. (2018). Cultural coping as a risk for depression and hypertension: The SABPA prospective study. Cardiovascular Topics. *Cardiovascular Journal of Africa, 29*(6), 366-373. doi: 10.5830/CVJA-2018-045

Lo, C.-F. (2017). Stress and Coping Strategies among University Freshmen in Hong Kong: Validation of the Coping Strategy Indicator. *Psychology, 8,* 1254-1266. doi: org/10.4236/psych.2017.88081

Magalhaes Das Neves, M. K., Loots, J. M., & Van Niekerk, R. L. (2014). The effect of various physical exercise modes on perceived psychological stress. *South African Journal of Sports Medicine, 26*(4), 104-108. doi:10.7196/SAJSM.476

Mahfouz, R., & Alsahli, H. (2016). Perceived stress and coping strategies among newly nurse students in clinical practice. *Journal of Education and Practice, 7*(23), 118-128.

Maree, K. (2007). *First steps in research*. Pretoria, South Africa: Van Schaik.

Mason, H. D. (2017). Stress-Management Strategies among First-Year Students at a South African University: A Qualitative Study. *Journal of Student Affairs in Africa, 5*(2), 131 -149. doi: 10.24085/jsaa.v5i2.2744

Mason, H. D., & Nel, J. A. (2015). Promoting professional quality and meaning in life among nursing students: A mixed methods study. *Journal for New Generation Sciences, 13*, 54-69.

Misigo, B. L. (2015). Gender difference in the perceived level of stress and coping strategies among university students in Kenya: A case of public universities. *International Academic Journal of Social Sciences and Education, 1*(4), 44-52.

Monteiro, N. M., Shyngle, K. B., & Kutlo, N. O. (2014). Managing stress: The influence of gender, age and emotion regulation on coping among university students in Botswana. *International Journal of Adolescence and Youth, 19*(2), 153-173. doi: 10.1080/02673843.2014.908784

Mphele, B. M., Gralewski, C., & Balogun, S. (2013). Stress and Alcohol Use among College Students: A Case of Molepolole College Students. *Journal of Humanities and Social Science, 8*(3), 1-6.

Naidoo, S. S., Van Wyk, J., Higgins-Opitz, S. B., & Moodley, K. (2014). An evaluation of stress in medical students at a South African university. *South African Family Practice, 56*(5), 258-262. doi: org/10.1080/20786190.2014.980157

Pillay, S. R. (2016). Silence is violence: (Critical) psychology in an era of Rhodes Must Fall and Fees Must Fall. *South African Journal of Psychology*, *46*(2), 155-159. doi: 10.1177/0081246316636766 sap.sagepub.com

Pulido-Martos, M., Augusto-Landa, J. M., & Lopez-Zafra, E. (2012). Sources of stress in nursing students: a systematic review of quantitative studies. *International Nursing Review 59(2),* 15-2. doi: org/10.1111/j.1466-7657.2011.00939.x

Ramteke, P. V., & Ansari, R. J. (2016). Stress and anxiety among first year and final year engineering students. *International Journal of Advanced Research in Education and Technology, 3*(4), 17-21.

Ray, M. (2016). *Free fall: Why South African universities are in a race against time*. Johannesburg, South Africa: Bookstorm.

Reddy, K. J, Menon, K. R., & Thattil, A. (2018). Academic Stress and its Sources among University Students. *Biomedical and Pharmacology Journal, 11*, 531-537. doi. org/10.13005/bpj/1404

Sehlo, M. G., Al-Zaben, F. N., Khalifa, D. A., Agabawi, A. K., Akel, S. M., Nemri, I., & Al-Wassie, A. l. (2018). Stress among medical students in a college of medicine in Saudi Arabia: Sex differences. *Middle East Current Psychiatry, 25*(4), 150-154. doi: 10.1097/01.XME.0000542433.59065.97.

Shiferaw, H. N., Anand, S., & Gugsa, N. N. (2015). Stress and coping strategies among generic B.Sc. Nursing students of Jimma University, South West Ethiopia. *International Journal of Recent Advances in Multidisciplinary Research, 2*(7), 511-517.

Silverstein, S. T., & Kritz-Silverstein, D. (2010). A Longitudinal Study of Stress in First-Year Dental Students. *Journal of Dental Education, 74*(8), 836-848.

Skinner, E., & Edge, K. (2002). *Self-determination, coping and development*. In Deci, E. L., & Ryan, R. M. (Eds). Rochester, NY: University of Rochester Press.

Somaiya, M., Kolpakwar, S., Faye, A., & Kamath, R. (2015). Study of mechanisms of coping, resilience and quality of life in medical undergraduate. *Indian Journal of Social Psychiatry, 31*, 19-28. doi: 10.4103/0971-9962.161995

Somhlaba, N. Z., & Wait, J. W. (2009). Stress, Coping Styles, and Spousal Bereavement: Exploring Patterns of Grieving among Black Widowed Spouses in Rural South Africa. *Journal of Loss and Trauma, 14*(3), 196-210. doi: org/10.1080/15325020802537443

Stallman, H. M. (2008). *University Stress Scale*. Brisbane: Queensland University of Technology.

Stallman, H. M., & Hurst, C. P. (2016). The University Stress Scale: Measuring Domains and Extent of Stress in University Students. *Australian Psychologist, 51*(2), 128-134. doi.org/10.1111/ap.12127

Straub, R. O. (2002). *Health psychology*. New York, NY: Worth Publishers.

Struthers, W., Perry, R. P., & Menec, V. H. (2000). An Examination of the Relationship among Academic Stress, Coping, Motivation, and Performance in College. *Research in Higher Education, 41*, (5), 581-592. doi: 10.1023/A:1007094931292

Thawabieh, A. M. & Qaisy, L. M. (2012). Assessing Stress among University Students. *American International Journal Contemporary Research. 2*(2), 110-116.

Towbes, L. C., & Cohen, L. H. (1996). Chronic stress in the lives of college students: Scale development and prospective prediction of distress. *Journal of Youth and Adolescence, 25*(2), 199-217. doi: org/10.1007/BF01537344

Van Heerden-Pieterse, E. (2005). *Life skills: My journey, my destiny*. Pretoria, South Africa: Van Schaik.

Van Niekerk, L., Scribante, L., & Raubenheimer, P. J. (2012). Suicidal ideation and attempt among South African medical students. *South African Medical Journal, 102*(6), 372 -373.

Van Zyl, A. (2016). The contours of inequality: The links between socio-economic status of students and other variables at the University of Johannesburg. *Journal of Student Affairs in Africa, 4*, 1-16. doi: 10.14426/jsaa.v4i1.141

Vanishree, N., Jeswin, J., & Madhusudhan, S. (2011). Suicide Amongst dentists - Are you at risk? *Journal of Oral Health and Community Dentistry, 5*(3), 160-163.

Wadikar, S. S., Muley, P. A., & Muley, P. P. (2017). A comparative study of gender difference in reaction time in response to exam stress among first-year medical students. *National Journal of Physiology, Pharmacy and Pharmacology, 7*(2), 209-213. doi: 10.5455/njppp.2017.7.0822429082016

Weiten, W. (2013). *Psychology Themes and Variations* (9th ed). United States: Wadsworth, Cengage Learning.

Wising, M., Potgieter, J., Guse, T., Khumalo, T., & Nel, L. (2014). *Towards flourishing: Contextualizing Positive Psychology*. Pretoria, South Africa: Van Schaik.

Wolf, L., Stidham, A. W., & Ross, R. (2015). Predictors of Stress and Coping Strategies of US Accelerated vs. Generic Baccalaureate Nursing Students: An Embedded Mixed Methods Study. *Nurse Education Today, 35*, 201-205. doi: 10.1016/j.nedt.2014.07.005

Zandara, M., Garcia-Lluch, M., Pulopulos, M. M., Hidalgo, V., Villada, C., & Salvador, A. (2016). Acute stress and working memory: The role of sex and cognitive stress appraisal. *Physiology & behavior, 164*, 336-344. doi: 10.1016/j.physbeh.2016.06.022

APPENDICES

Appendix A: Informed consent

INFORMED CONSENT

Enquiry : Sello Pheme

Cell : 0712901869

Email address: sellopheme@gmail.com

Research title : Stress and coping of undergraduate students in a South African University

Dear Participants

My name is Sello Kgokong Pheme. I am conducting research for the purposes of obtaining a Master's Degree of Social Sciences in Clinical Psychology at the North-West University, Mafikeng Campus. My area of interest is to investigate "Stress and coping of undergraduate students in a South African University". There are some questionnaires you should complete and there are no wrong or right answers. Participation in this research is voluntary, and no person shall be advantaged or disadvantaged in any way for choosing to participate or not in this study. All your responses shall be kept confidential, and no information that could identify you would be included in the research report. You may withdraw from the study at any point with no questions asked.

If you choose to participate in the study, please sign below and kindly answer the questions attached.

Appendix B: Demographic questionnaire

1. Gender ……. **(Please indicate)**

2. Age (in years only)…… **(Please indicate)**

3. Year of study **(please tick below)**

1.First year		2. Final year	

Appendix C: Coping Strategy Indicator

Try to think of one problem you have encountered in the last six months and keeping that stressful event in mind, please indicate how you dealt with it. Please tick an answer that is most appropriate for you.

	A lot	A little	Not at all
1. Let your feelings out to a friend			
2. Rearranged things around you so that your problem had the best chance of being resolved			
3. Brainstormed all possible solutions before deciding what to do			
4. Tried to distract yourself from the problem			
5. Accepted sympathy and understanding from someone			
6. Did all you could to keep others from seeing how bad things really were.			
7. Talked to people about the situation because talking about it helped you to feel better			
8. Set some goals for yourself to deal with the situation			
9. Weighed your options very carefully			
10. Daydreamed about better times			
11. Tried different ways to solve the problem until you found one that worked			
12. Confided your fears and worries to a friend or relative			
13. Spent more time than usual alone			
14. Told people about the situation because just talking about it helped you to come up with solutions?			
15. Thought about what needed to be done to straighten things out			
16. Turned your full attention to solving the problem			
17. Formed a plan of action in your mind			
18. Watched television more than usual			

19. Went to someone (friend or professional) in order to help you feel better			
20. Stood firm and fought for what you wanted in the situation			
21. Avoided being with people in general			
22. Buried yourself in a hobby or sports activity to avoid the problem			
23. Went to a friend to help you feel better about the problem			
24. Went to a friend for advice on how to change the situation			
25. Accepted sympathy and understanding from friends who had the same problem			
26. Slept more than usual			
27. Fantasised about how things could have been different			
28. Identified with characters in novels or movies			
29. Tried to solve the problem			
30. Wished that people would just leave you alone			
31. Accepted help from a friend or relative			
32. Sought reassurance from those who know you best			
33. Tried to carefully plan a course of action rather than acting on impulse			

Appendix D: University Stress Scale

How often have each of the following caused you stress over the past month? If any are not applicable to you, tick Not at all.

	Not at all 0	Sometimes 1	Frequently 2	Constantly 3
1. Academic coursework demands				
2. Procrastination				
3. University college environment				
4. Finances and money problems				
5. Housing/accommodation				
6. Transport				
7. Mental health problems				
8. Physical health problems				
9. Parenting issues				
10. Childcare				
11. Family relationships				
12. Friendships				
13. Romantic relationships				
14. Relationship break-down				
15. Work				
16. Parental expectations				
17. Study-life balance				
18. Discrimination				
19. Sexual orientation issues				
20. Language-cultural issues				
21. Other demands				

THANK YOU FOR YOUR PARTICIPATION

Appendix E: Psychometric properties of University Stress Scale

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.599
Bartlett's Test of Sphericity	Approx. Chi-Square	670.628
	df	136
	Sig.	.000

Communalities

	Initial	Extraction
USS1	.203	.362
USS2	.113	.400
USS3	.128	.168
USS5	.244	.609
USS6	.182	.249
USS7	.162	.353
USS9	.336	.647
USS10	.273	.393
USS11	.247	.313
USS13	.313	.750
USS14	.257	.320
USS15	.188	.313
USS16	.171	.256
USS17	.158	.283
USS19	.238	.483
USS20	.191	.524
USS21	.157	.230

Extraction Method: Principal Axis Factoring.

Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings[a]
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	2.242	13.189	13.189	1.690	9.939	9.939	1.482
2	2.027	11.926	25.116	1.459	8.581	18.521	1.182
3	1.618	9.518	34.633	1.033	6.078	24.598	1.151
4	1.326	7.800	42.433	.771	4.536	29.134	1.148
5	1.313	7.724	50.157	.720	4.235	33.369	.957
6	1.131	6.656	56.813	.565	3.321	36.690	.997
7	1.030	6.059	62.872	.414	2.438	39.128	.753
8	.900	5.297	68.169				
9	.760	4.471	72.640				
10	.741	4.357	76.997				
11	.676	3.977	80.974				
12	.664	3.904	84.878				
13	.621	3.655	88.533				
14	.558	3.283	91.816				
15	.537	3.158	94.974				
16	.433	2.548	97.521				
17	.421	2.479	100.000				

Extraction Method: Principal Axis Factoring.

a. When factors are correlated, sums of squared loadings cannot be added to obtain a total variance.

Factor Matrix[a]

	Factor						
	1	2	3	4	5	6	7
USS9	.646						
USS10	.500						
USS11	.484						
USS19	.373	-.332					.316
USS16	.359						
USS5		.575		.423			
USS6		.409					
USS1		.401	.383				
USS3		.320					
USS13	.445	-.429	.456				
USS14			.413				
USS15			.371				
USS17			.309				
USS20	.319			.362	-.499		
USS21					-.360		
USS7					.352	.338	
USS2						.325	-.385

Extraction Method: Principal Axis Factoring.

a. Attempted to extract 7 factors. More than 25 iterations required. (Convergence=.005). Extraction was terminated.

Pattern Matrix[a]

	Factor						
	1	2	3	4	5	6	7
USS9	.791						
USS10	.598						
USS11	.525						
USS13		.844					
USS14		.540					
USS5			.783				
USS6			.401				
USS3			.395				
USS17				.549			
USS1				.487			
USS15				.480			
USS16				.439			
USS20					.735		

USS21					.480		
USS19						.621	
USS7						.562	
USS2							.653

Extraction Method: Principal Axis Factoring.

Rotation Method: Promax with Kaiser Normalization.

a. Rotation converged in 6 iterations.

Structure Matrix

	Factor						
	1	2	3	4	5	6	7
USS9	.786						
USS10	.594						
USS11	.517						
USS13		.857					
USS14		.555					
USS5			.776				
USS6			.446				
USS3			.391				
USS15				.527			
USS17				.524			
USS1				.521			.319
USS16				.428			
USS20					.715		
USS21					.473		
USS19						.662	
USS7						.523	
USS2							.618

Extraction Method: Principal Axis Factoring.

Rotation Method: Promax with Kaiser Normalization.

Factor Correlation Matrix

Factor	1	2	3	4	5	6	7
1	1.000	.089	.053	.172	.261	.256	-.130
2	.089	1.000	-.147	.099	.094	.165	-.128
3	.053	-.147	1.000	.148	.016	-.188	.278
4	.172	.099	.148	1.000	.065	-.167	.170
5	.261	.094	.016	.065	1.000	.171	-.202
6	.256	.165	-.188	-.167	.171	1.000	-.138
7	-.130	-.128	.278	.170	-.202	-.138	1.000

Extraction Method: Principal Axis Factoring.

Rotation Method: Promax with Kaiser Normalization.

Reliability Statistics

Cronbach's Alpha	N of Items
.723	21

Appendix F: Language Editing Certificate

Office: 0183892451

FACULTY OF EDUCATION **Cell: 0729116600**

Date: 10th March, 2019

TO WHOM IT MAY CONCERN

CERTIFICATE OF EDITING

I, Muchativugwa Liberty Hove, confirm and certify that I have read and edited the entire dissertation **Influence of gender and academic year on stress and coping behaviour of students in a South African university** by **Sello K. Pheme, orcid.org 0000-0001-7582-5689,** submitted in partial fulfilment of the requirements for the degree ***Master of Social Science in Clinical Psychology*** at the **North-West University**.

Sello K. Pheme was supervised by **Professor E.S. Idemudia** of the North-West University.

I hold a PhD in English Language and Literature in English and am qualified to edit such a thesis for cohesion and coherence. The views expressed herein, however, remain those of the researcher/s.

Yours sincerely

Dr M.L.Hove (PhD, MA, PGDE, PGCE, BA Honours – English)

Appendix G: Turn-it-in Report

Influence of gender and academic year on stress and coping behaviour of students in a South African university

ORIGINALITY REPORT

7%	3%	6%	0%
SIMILARITY INDEX PAPERS	INTERNET SOURCES	PUBLICATIONS	STUDENT

PRIMARY SOURCES

1	Naveen Pant, S. K. Srivastava. "The Impact of Spiritual Intelligence, Gender and Educational Background on Mental Health Among College Students", Journal of Religion and Health, 2017 Publication	1%
2	baadalsg.inflibnet.ac.in Internet Source	<1%
3	"Well-Being Research in South Africa", Springer Nature America, Inc, 2013 Publication	<1%

4 Nafis I Karim, Alexandru Maries, Chandralekha Singh. "Do evidence-based active-engagement courses reduce the gender gap in introductory physics?", European Journal of Physics, 2018 <1%

Publication

5 Irfana Rashid, Parvaiz Talib. "Occupational 5 Stress and Coping Styles among Doctors: Role of Demographic and Environment Variables", Vision: The Journal of Business Perspective, 2015 <1%

Publication

6 "Issues in Teaching, Learning and Testing Speaking in a Second Language", Springer Nature America, Inc, 2015 <1%

Publication

7 gradworks.umi.com <1%

Internet Source

<1%

8 Wafaa Yousif Abdel Wahed, Safaa Khamis Hassan. "Prevalence and associated factors of stress, anxiety and depression among medical Fayoum University students", Alexandria Journal of Medicine, 2017

Publication

<1%

9 Danielle Wajngarten, Juliana Alvares Duarte Bonini Campos, Ana Carolina Botta, Patrícia Petromilli Nordi Sasso Garcia. "Validity and reliability of the Disabilities of Arm, Shoulder, and Hand scale in dental students: A transnational study", Archives of Environmental & Occupational Health, 2017

Publication

10 www.therushessays.com

Internet Source

<1%

11 Völlink, Trijntje, Catherine A.W. Bolman, Francine Dehue, and Niels C.L. Jacobs. "Coping <1% with Cyberbullying: Differences Between Victims, Bully-victims and Children not Involved in Bullying : Coping with cyberbullying", Journal of Community & Applied Social Psychology, 2013.

<1%

Publication

Exclude quotes On

Exclude bibliography Off

Exclude matches Of f