

Stress, Substance Use and Academic Performance among students in Makerere University

Kampala, Uganda

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Declaration

We Odida Mark, Ayebazibwe Patience, Amoding Barbra, Mbabazi Jovia, hereby submit this Dissertation as our original composition that has not been done by any other person or institution in any academic field except where otherwise acknowledged.

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Approval

This is to certify that this Dissertation submitted for the award of Bachelors Degree of Community Psychology has been examined and recommended for the acceptance and approval.

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List of Abbreviations

SPSS	Statistical Package for Social Science
UNESCO	United Nations Educational, Scientific and Cultural Organization
UIS	UNESCO Institute for Statistics
UNDP	United Nations Development Program
BBC	British Broadcasting Co-operation
GPA	Grade Point Average
NIDA	National Institute on Drug Abuse
PSM	Psychological Stress Measure
DAST	Drug Abuse Screening Test
APS	Academic Performance Scale
SSA	Stress Scale for Adolescents

Abstract

The aim of the study was to examine the relationship between stress, substance use and academic performance among students of Makerere University in Kampala, Uganda. A correlation study was used and 100 students participated in this study. Simple random sampling technique was used to select the respondents. Semi structured questionnaires were the main tools in data collection and data was analyzed using Statistical Package for Social Sciences (SPSS). Pearson's Correlation Coefficient (r) was used to determine the level of significance of the hypotheses. Results indicated that there was significant relationships between stress, substance use and academic performance among students of Makerere University.

Chapter One

Introduction

Introduction

This chapter contains the background, purpose, objectives, questions, hypotheses and significance of the study.

Background

Academic performance refers to the outcomes that indicate the extent to which a person has accomplished specific goals that were the focus of activities in instructional environments, specifically in school or university (Mimrot, 2016). Pickard (2007) indicates that academic performance is a multidimensional concept referring to factual, conceptual, procedural and meta-cognitive knowledge achievement. And in this research paper, we figure out how this achievement of knowledge is influenced by factors of stress and substance use.

In the last century, the most salient of academic performance trends in higher education has undoubtedly expanded dramatically worldwide. In 1970, the UNESCO Institute for Statistics (UIS) estimated that there were roughly 32.5 million students enrolled in higher education worldwide. In the year 2000, this estimation increased to nearly 100 million and in 2010 to 178 million. This translates into 4.3% average annual growth in enrolment, a very rapid growth when compared to the 1.6% average annual growth in the world population over the same period (UNDP, 2012).

The U.S. News and World Report (2016), has ranked according to academic performance, Makerere University as the 569th best university worldwide and the 8th best in Africa. Juliette (2020), in the U.S. News Report ranking stated that Makerere is the highest ranked in sub-Saharan Africa outside of South Africa. The Times Higher Education World University Rankings (2016)

ranked it as the 4th best university in Africa. Makerere University is Uganda's largest and oldest institution of higher learning, first established as a technical school in 1922. It became an independent national university in 1970. Today Makerere University is composed of nine colleges and one school offering programs for about 36,000 undergraduates and 4000 post graduates BBC News (2020).

One of the most pressing issues facing universities is the number of students who fail to graduate. Nearly one out of five three-year institutions graduate fewer than one third of its first-time, full-time degree seeking first year students within six years (Carey, 2004). Although there are various explanations for attrition, students often leave for personal reasons, job demands, dissatisfaction with the academic environment, and incongruence with campus values (Kuh, Kinzie, Schuh, Whitt, et al., 2005). This research is focusing more on factors of stress and substance use in relation to the academic performance of the students.

Stress is a hugely unpleasant state of emotional arousal that humans experience in situations perceived as troublesome or challenging (Khodarahimi, Hashim, & Mohd – Zaharim, 2012). It is experienced only when one perceives that the demands are greater than the individual and social resources that the person is able to mobilize (Lazarus, 1966). It is reported that students undergo circumstances during their training that expose them to stress (Sreeramareddy et al., 2007). Romano (1992) noted that the personal or environmental events that cause stress are known as stressors and it is an individual's reaction to these that eventually cause stress.

Researchers have documented the prevalence of stress to be high among higher education students (Aktekin et al., 2001). A systematic review of literature on stress among students revealed high prevalence of stress ranging from 14.3% to 56% (Salam, Yosuf, Bakar, & Haque, 2013). While these findings show high prevalence of stress, studies done particularly among students in

African universities have documented worrying levels of stress ranging from 21.6% to 86% (Amr, El-Gilany, El-Moafee, Salama, & Jimenez, 2011; Dessie, Ebrahim, & Awoke, 2014; Ofili, Oriaifo, Okungobwa, & Eze, 2009). In Uganda, data about stress among students is scarce, however, a study done to explore academic stress among students of Mbarara University revealed that students had moderate levels of stress and it affected their academic performance negatively (Nakalema & Ssegonya, 2014).

Substance use can simply be defined as a pattern of harmful use of any substance for mood-altering purposes. "Substances" can include alcohol and other drugs (illegal or not) as well as some substances that are not drugs at all.

"Use" can result because you are using a substance in a way that is not intended or recommended, or because you are using more than prescribed. To be clear, someone can use substances and not be addicted or even have a substance use disorder. (McLellan, 2017).

Though the studies dealing with substance abuse by university students are innumerable for example Substance Abuse and Academic Performance Among University Students, Jackson Bunch (2002), Drug abuse among the students,(Muhammad et al., 2015) , little research has focused on the connection between substance use and academic performance. Of those studies that do, for example, in a study dealing only with legal substances, Musgrave-Marquart, Bromley, and Dalley (1997) found that alcohol and nicotine use were negatively related to GPA, while caffeine was not. In another study on substance abuse by university students that focused on demographic variables, Carlson and Davis (1988) discovered that marijuana users had lower high school grade point-averages. Other studies, however, have shown that the connection between substance abuse and GPA might be less straightforward for example Glickman, Newton- Taylor, Adlaf, and Giesbrecht (1997) conducted a study of substance use by university students in Ontario that

revealed several trends. Heavy drinking was more prevalent among students with lower grades. Students with a B average were more likely to use hallucinogens than A-students. However, C-students were less likely to use cocaine, crack, heroin, stimulants with a prescription, and barbiturates without a prescription compared to students with the highest academic average.

Therefore, the continued decline in academic performance is more likely to lead to high numbers of school drop outs, high rates of unemployment, early marriages and many more, thus, there is a need to find out how stress, substance use influence academic performance.

Problem Statement

One of the most pressing issues facing universities is the number of students who fail to graduate. Nearly one out of five three-year institutions graduate fewer than one third of its first-time, full-time degree seeking first year students within six years (Carey, 2004). Although there are various explanations for attrition, students often leave for personal reasons, stress, substance use, and incongruence with campus values (Kuh, Kinzie, Schuh, Whitt, et al., 2005).

Beilock (2011), noted that stressful academic situations impact the performance of students. If stress is not managed properly, it can prevent students from successfully achieving their academic goals. The American Institute of Stress points out that "stress can have wide ranging effects on emotion, mood, and behavior." Stress affects both students' physical and mental functioning.

Gilmour (2017) noted that students abuse a wide range of legalized substances, illicit drugs, prescription medication, and over-the-counter drugs. Each affects student performance in a different way, mainly because of their unique chemical constituents. Drug abuse is a real problem in the school environment which affects students between the ages of 13 and 24. A recent survey funded by the National Institute of Drug Abuse (NIDA) shows that in 2016, nearly a quarter (23%) of high school students have consumed more than a few sips of alcohol, 9.4% have used marijuana,

and 5% have used other illicit drugs. The use of legal and illegal substances persists throughout high school and university, increasing their risk for drug abuse. (Gilmour, 2017).

Gilmour (2017) says that, substance or drug abuse is a widespread phenomenon that begins as early as the high school. Though numbers are declining for high school students, the incidence continues to worsen as students move up to college.

Libraries (2010) notes that, of all the issues that can affect a student's success in university, stress and substance use causes more problems than anything else. Everyone knows what happens when you drink too much. Your judgment is impaired and you may behave in risky ways. Your health may be affected. Your studies surely are affected.

Purpose

The general purpose of this study was to find out the correlations between stress, substance use and academic performance of the undergraduate students at Makerere University.

Objectives

This study sought to:

1. To establish the relationship between stress and academic performance of students.
2. To establish the relationship between substance use and academic performance of students.
3. To establish the relationship between stress and substance use among students.

Scope of the Study

The study was conducted at Makerere University Kampala, Uganda, The study was carried out between June – October 2022. The study focused on stress, substance use and academic performance.

Significance of the Study

One of the most pressing issues facing universities is the number of students who fail to graduate. Nearly one out of five three-year institutions graduate fewer than one third of its first-time, full-time degree seeking first year students within six years (Carey, 2004). Although there are various explanations for attrition, students often leave for personal reasons, stress, substance use, and incongruence with campus values (Kuh, Kinzie, Schuh, Whitt, et al., 2005).

This research will help improve on the already existing literature on stress, substance use and academic performance amongst students. There are lots of people that will stand to benefit from this study for example students, lecturers, therapists, other researchers in the future and many others.

Conceptual framework

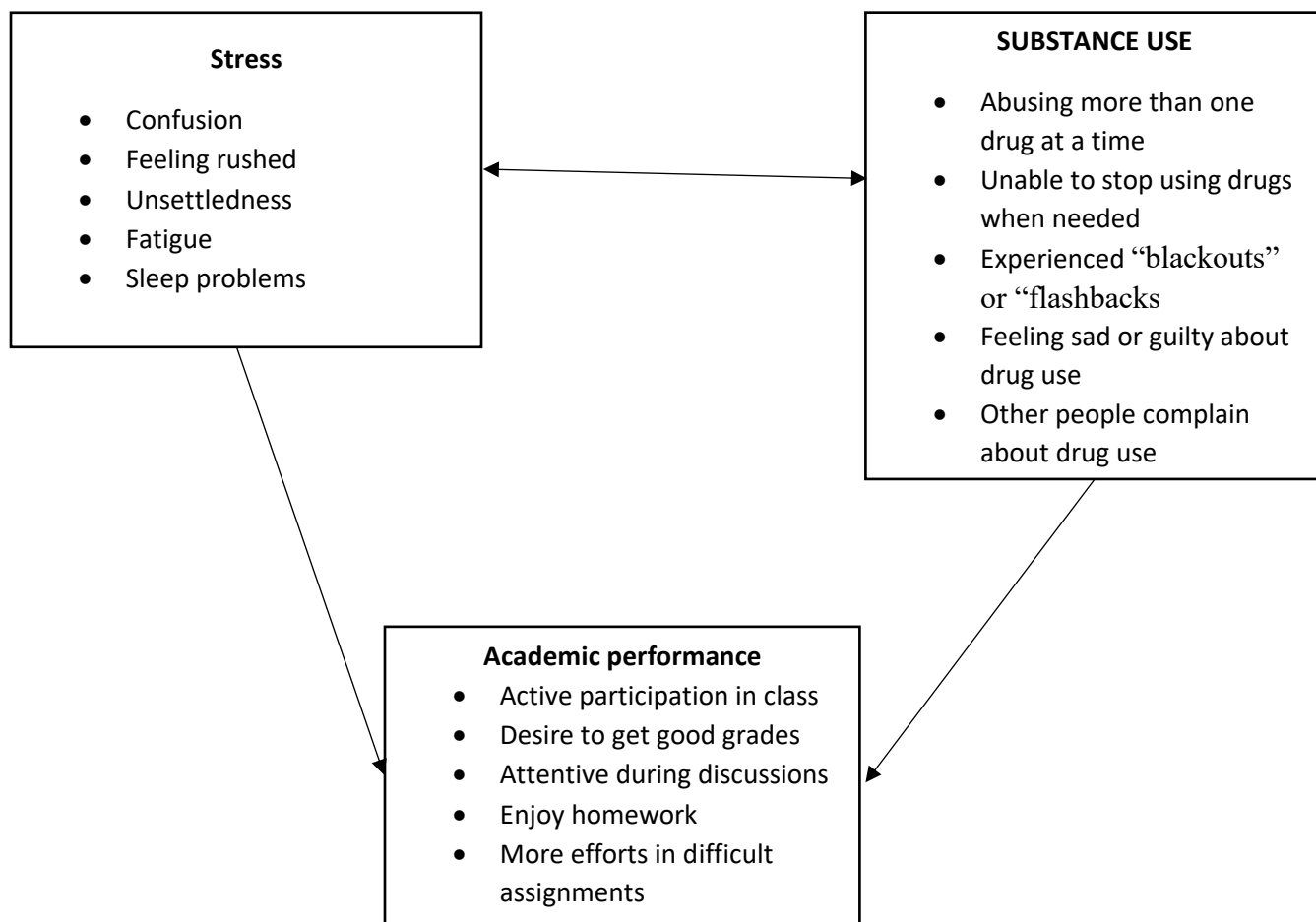


Figure 1: Shows relationship between stress, substance use and academic performance.

Figure 1 above shows stress and substance use as the independent variables and academic performance as the dependent variable. It also shows stress has a relationship with substance use. Substance use has a relationship with stress and also both stress and substance use are related to academic performance.

Chapter Two

Literature Review

Introduction

This chapter outlines the literatures that are related to the study under sub themes of stress and academic performance, substance use and academic performance, stress and substance use.

Stress and Academic Performance

Stress is a hugely unpleasant state of emotional arousal that humans experience in situations perceived as troublesome or challenging (Khodarahimi, Hashim, & Mohd – Zaharim, 2012).

Baker (2003) noted that the undergraduates are faced with many new interpersonal, social, and academic demands during the transition from secondary school life to university, which is stressful for many of them. The immediate challenges that students face are the decisions they have to make about the presented career paths in addition to developing and negotiating new relationships, getting novel ideas that challenge their past-learned views, and moving away from home (Lumley & Provenzano, 2003). Baker further noted that adjustment during the transition period is linked to the way the undergraduate copes with that stress which affects academic motivation and performance. DeBerard, Spielmans, and Julka (2004) emphasize that the potential buffer for stress during the transition into university life is social support from friends, peers, and religious peers that provide insulation from the harmful impact of stress.

In the academic environment, high expectations, information overload, academic pressure, unrealistic ambitions, limited opportunities, and high competitiveness are some of the common sources of stress that create tension, fear, and anxiety in students (Sinha, Sharma, & Nepal, 2001). In a study by Dahlin, Joneborg, and Runeson (2005), undergraduate students indicated

experiencing the highest degree of pressure from studies. Misra, Mckean, West, and Russo (2000) pointed out that students have found the requirement to meet assessment deadlines as a major source of stress. Students report experiencing academic stress with the greatest sources of academic stress coming from taking and studying for exams, grade competition, and the large amount of content to master in a small amount of time (Kohn & Frazer, 1986).

Course load versus time available has also been cited to be a stressful factor in the academic environment (Zeidner, 1992). Studies reveal that students perceive course load to be high in their first year of study, and that the perception of course load positively correlates with exam stress (Mani, 2010). In their study, Talib and Zai-ur-Rehman (2012, p. 129) found out that majority of the students (53%) claimed that course load is the source of their stress which in turn affected their GPA. Further students report that the prospect of having to sit for examinations are stressful because of the pressure to review all the learned material within a given period of time (Mani, 2010). Mani explains that it is not the examination itself that induces stress but the fact that the possibility of failing or passing the exam can shape the course of one's academic career and professional life.

Besides the course load and exam preparation, there are course demands that may induce academic stress depending on the nature of the course that the student is undertaking

(Bernold, Spurlin, & Anson, 2007; Kuhn, Kranz, Koo, Cossio, & Lund, 2005). Research conducted to explore factors that lead to academic related stress of medical students cite academic demands like variable hour shift for clinical rotations, sleep deprivation in addition to the curriculum overload (Kuhn, et al., 2005). Psychology students reported that stress emanating from the supervisory process while in field placement was due to the individual differences between the trainee and the supervisor (Dodds, 1986). Further research by Talib and Zai-ur-Rehman (2012)

showed that there was a significant difference in the perceived stress between engineering students and management science students. The engineering students had a higher mean academic stress score than the management science students.

In their study on sources of stress among college students, Ross, Niebling, and Heckert (1999) found that daily hassles related to interpersonal relations were the most often reported source of academic stress among the college students. This can be attributed to personal issues such as the individual differences in values, beliefs, situational intentions, and goal commitments that greatly influence one's perceived stress (Devonport & Lane, 2006).

Jou and Fukada (1996) confirmed this as their research findings illustrated a positive correlation between interpersonal problems and other stressors implying that the more interpersonal problems students had, the more stress they were likely to face. Personal factors were recognized as a challenge that influenced their coping mechanisms and eventual levels of stress (Bang, 2009; Zeidner, 1992).

Ross et al. (1999) emphasized the fact that stress levels varied basing on the year of study. The first year students were more prone to greater stress compared to other years of study. This resulted from the absence of a social support framework and the transitional nature of college life that requires adjustment to the new environment amidst new responsibilities and challenges. At times, the first year students are leaving home for the very first time and therefore need to adjust to the newfound freedom as well as maintain a high level of academic performance (Robotham, 2008). On the other hand, Shaikh et al. (2004, p. 346) found that senior students experienced higher levels of stress that is 95% and 98% for fourth and final year students respectively due to the academic demands like having supervised clinical rotation. Furthermore, that final year students are required to write their research dissertations that exposes them to additional stress.

In addition to stress levels varying across the year of study, Misra, McKean, West, and Russo's (2000) research findings suggest that stress levels vary by gender of the students.

Levels of academic related stress differed among male and female students with female students being more prone to more academic stress than their male counterparts (Abouserie, 1994; Bang, 2009; Misra & Mckean, 2000; Rayle & Chung, 2008). Females experienced higher levels of academic stress because of negative appraisals of the stressful event and focus on the emotional challenges in the wake of the stressful event. Male students are trained to display strength and machismo in the face of challenges right from their young age (Misra& Mckean, 2000). However, female students performed better than the male students and had better GPAs than male students even in case of significant stress (Talib & Zia-ur-Rehman, 2012).

Despite all the sources of stress in the academic environment, the future of the students depends most on high academic performance. It is estimated that 10 to 30 percent of the students experience academic related stress that affects their academic performance (Sinha, Sharma, & Nepal, 2001, p. 105). Academic stress is documented to have several negative effects not only to the academic performance of the students but also to their wellbeing. Academic stress is seen to interfere with the students' way of life, cognitive processes, and adaptive behaviors such as class attendance (Lumley & Provenzano, 2003). Studies have shown that there is a positive association between academic stress, depression, and physical illness, which these associations decrease with the provision of informational support (Fisher, 1994).

Other forms of coping mechanisms used by students include sports, music, hanging out with friends, sleeping, or going into isolation (Shaikh, et al., 2004). Students with higher problem-solving appraisals reported better psychosocial adjustment to university life, had lower levels of stress while studying, and better academic performance than their counterparts with lower problem

solving appraisals (Baker, 2003). More specifically, male students use more active coping, positive reframing, planning, and accepting the stressor whereas female students use more emotion focused strategies like venting, self-blame, and behavioral disengagement (Davonport & Lane, 2006). The choice of coping mechanisms used is accounted for by the difference in the gender role expectations and sex role stereotypes where females are taught to focus on emotions and seek social support whereas males are trained to take outward action to deal with the stressful situation (Bang, 2009).

Many college students may find the academic experience very stressful, attributing it to various poor study habits such as poor time management that may include not allocating time properly or last minute cramming for exams. This is frequently discussed as a source of stress and poor academic performance (Macan, et al., 1990). In addition, very often students are urged to start working on large tasks well before due dates. The large tasks are broken down into small ones, which are achievable on a regular schedule. Students who regularly ignore these techniques find themselves in great distress before exams (Brown, 1991). This results in the students having increased stress due to pressure and as a result students engage in emotional and cognitive reactions to stressors more frequently (Misra & Mckean, 2000).

Generally, students appreciate the fact that examination grades are the most important aspect of their school life. However, the process of preparing for examinations was reported to be the most stressful event of their school life (Ang & Huan, 2006; Ang, et al., 2009; Dobson, 1980).

Substance Use and Academic Performance

Substance use can simply be defined as a pattern of harmful use of any substance for mood-altering purposes. "Substances" can include alcohol and other drugs (illegal or not) as well as some substances that are not drugs at all. "Use" can result because you are using a substance in a way

that is not intended or recommended, or because you are using more than prescribed. To be clear, someone can use substances and not be addicted or even have a substance use disorder. (AT. McLellan, 2017).

University students have been reported to consume higher levels of alcohol than non-university students worldwide (Kypri, Langley, 2005). Various theories have been advanced to explain this observation. For example, the tension reduction theory contends that tension producing circumstances (i.e. stressors) could lead to increased drinking (Sher, Bartholow, 2007; Young, Oei, Knight, 1990). Given that alcohol is perceived to reduce tension, high levels of stress and depressive symptoms are associated with alcohol consumption (Dyrbye et al., 2006; Ansari, Stock, 2010; Dahlin, Nilsson, Stotzer, Runeson, 2011; Jones-Webb, Jacobs, 1996). Indeed, college students have been reported to consume alcohol to potentially relax or relieve tension, celebrate, and feel comfortable with the opposite sex, as a reward for working hard and to get away from troubles (Marczinski et al., 2011).

Unfortunately, excess consumption of alcohol has adverse physical and mental health consequences which lead to impaired academic malfunctioning. The majority of research studies on the alcohol use patterns of university students have been conducted in developed countries. These studies have shown that among university students, factors including year of study, peer influence, age, having an income source among others as divers to high levels of alcohol consumption in these settings (Berkowitz, Perkins, 1986).

University life is a developmental transition to new responsibilities in absence of well-established networks of social support. On the other hand, it also represents freedom, liberty and fewer restrictions due to living away from parents (A. Claes, J. Kent, 2007). Both aspects can increase the use of alcohol among university students. The alcohol patterns of young adults vary

according to gender in the same way as in the general population (Dyrbye et al., 2006). In general, men drink more alcohol and experience more and different kinds of alcohol related problems. To our knowledge, alcohol use patterns among university students in sub-Saharan Africa are limited and non-existent in Uganda. Studies on alcohol consumption among university students have mainly focused on prevalence rates and associated factors of alcohol use problems (Atwoli et al., 2011; T. Steyl, J. Phillips, 2011). Information about the different alcohol use patterns and their correlates is lacking. Further, the extent to which various factors such as gender and year of study may be associated with various alcohol use patterns has not been

Stress and Substance Use

There have been reports on the use of alcohol to relieve stress since ancient times. The concept of “drinking to relax”, in addition to drinking in social settings, has had a strong influence in different cultures (Sayette, 1999). According to the stress-reducing theory, some people use alcohol for its anxiolytic and stress-reducing effects, since this helps them to cope with stressful situations (Conger, 1956). Most theories of drug dependence assume that stress plays an important role in increasing substance use and also in triggering relapse (Campbell, Szumlinski, & Kippin, 2009; Ungless, Argilli, & Bonci, 2010). Moreover, studies in animals and humans have shown that exposure to stress increases the self-administration of drugs (Caldwell & Riccio, 2010; Erb, 2010; Weiss, Ciccocioppo, Parsons, Katner, Liu, Zorrilla and Richter 2001). Interestingly, Farber, Khavari, & Douglass (1980) reported that while most of the social drinkers used alcohol for its positive reinforcing effects (pleasant mood, celebration, sociability), 93% of a sample of alcoholics used alcohol for its negative reinforcing properties (stress reduction). In addition, the use of ethanol tended to be high in individuals with high levels of stress and anxiety (Kushner, Sher, & Beitman, 1990; Terra, Barros, Stein, Figueira, Jorge, Palermo and Da Silveira 2006). Most of the studies on

the relationship between stress and substance abuse were carried out in adult drug-dependent individuals (Battista, Stewart and Ham2010; DeMartini & Carey, 2011). There are few studies on this issue in the adolescence period, although this is the most critical and susceptible period to start using drugs (Ernst & Korelitz, 2009; Ernst, Romeo, & Andersen2009; Silva, Malbergier, Stempliuk and de Andrade2006).

According to many reports, exposure to stress in students is significantly associated with the use of alcohol and drugs (Agnew & and White1992; Hoffmann, Cerbone and Su, 2000; Hoffmann & Su, 1998; Koch-Hattem & Denman, 1987; Shahtahmasebi & Berridge, 2009). However, few studies take into account the different kinds of stress or its stage (Tarter, Blackson, Brigham, Moss, & Caprara, 1995). Stress is a process that involves both cognitive and affective perceptions of a stressful event, the development of coping strategies and the production of biological, behavioral and cognitive responses (Sinha, 2001). Selye (1956) defined this set of non-specific reactions that the body develops in the face of stressors as the “General Adaptation Syndrome”. It manifests itself in three distinct stages: alarm or alert stage, resistance stage and exhaustion stage. Lipp (2000) proposed the inclusion of a fourth stage to Selye’s triphasic model: the “near exhaustion” stage, which corresponds to the second half of the resistance stage where the body’s energy is nearly depleted. Tricoli (2002) validated an instrument (Stress Scale for Adolescents - SSA) to evaluate the psychological, cognitive, physiological and interpersonal aspects of stress, classifying them according to the stages proposed by Lipp (2000). Cerbone & Larison (2000) pointed out the need for studies that use standardized instruments and also focus on other factors, such as the cultural context, to allow for a more adequate evaluation of the complex relationship between stress and substance use, since there are many other issues associated with both in this period, such as academic performance (Wechsler, Davenport, Dowdall,

Moeykens, & Castillo, 1994), living arrangements (De Micheli & Formigoni, 2004) and neurobiological vulnerabilities (Ernst & Korelitz, 2009).

In this report, we examine the prevalence of stress and substance use factors associated with academic performance among university students in Uganda. Information from the study can be used to guide the development of student-led group interventions to stress and substance use problems and their adverse consequences among university students in Uganda.

Hypothesis

1. There is significant relationship between stress and academic performance.
2. There is significant relationship between substance use and academic performance.
3. There is significant relationship between stress and substance use.

Chapter Three

Methodology

Introduction

This chapter describes the methods that will be used to collect data and tools for analysis and interpretation of results of the study. Specifically, this chapter describes the research design, target population, sample size and sampling procedures, data collection procedure and tools, and data analysis in Makerere University, Kampala, Uganda.

Research Design

The research employed a quantitative and correlational and survey design. Correlational design was chosen to explore the relationship between stress, substance use and academic performance among students. Survey design was chosen because it is time efficient, and this research had to be done within a particular timeframe. The research was done at Makerere University, Kampala Uganda.

Target Population

The study population consisted of students of Makerere University Kampala. Particularly, the study targeted third year undergraduate students from courses of Community Psychology and Organizational psychology. This specific population was chosen because the students are more open to talk about stress, substance use and academic performance due to the fact that they have studied deeply about these issues during the three years in course units like; Drugs, alcohol and behavior, Stress and stress management, Introduction to Research methods, Behavior Change, and many others.

Sampling Procedure

The sample consisted of both male and female students of the school of psychology who are studying either Bachelor of Community Psychology or Bachelor of industrial and Organizational Psychology. We used a simple random sampling technique among the students. Simple random sampling is a sampling technique in which each member of a population has an equal chance of being chosen, through the use of an unbiased selection method. Each subject in the sample is given a number and then the sample is chosen by a random method. This is meant to provide a representation of a group that is free from researcher bias. Like any sampling technique, there is room for error, but this method is intended to be an unbiased approach.

Data Collection Procedure and Tools

Questionnaires were administered individually by the researchers to the sampled students.

For stress, we used the Psychological stress measure PSM-9. The Psychological Stress Measure (PSM) was designed using 49 items drawn from descriptors generated by focus groups on stress (Lemyre, 1990). For content validity, a quantitative analysis was conducted of items selected as the best indicators of stress. They tested for internal consistency, retaining the indicators that had inter-item and item-total correlations of between .35 and .85, a Cronbach α coefficient of approximately .95, and the normality of distribution that is at the core of the definition of the construct. The scale is unifactorial in structure and maintains a test-retest stability of .68 to .80 under apparently constant conditions. To validate the tool, they compared groups that differed in social and economic status and urban density, school examinations and holidays, and benign and malignant diagnostic biopsies. Convergence validity was established with classic depressive or anxiety scales; divergence validity was established by distinct factorial scores on

these measurements. Concomitant validity with immune competency was demonstrated in a double before-after design of school stress and holidays, using salivary immunoglobulin concentrations. The discriminatory power of the PSM was also tested on a clinical sample of patients with schizophrenia and major depression. Finally, the predictive power of the PSM over an 8-month period, with respect to indicators of physical health among child-care workers, was significant. The PSM's responsiveness and normality of distribution give it statistical power in analysis, hence its usefulness in research designs. Follow-up protocols with repeated measurements, two parallel 25-item versions were developed using the original long version, and each showed a Cronbach α coefficient of .92 and .93. The PSM-9 version is used at Hydro-Québec and Renault (France) as well as in public service, hospitals, community services, and private practice. Having been translated into English, Japanese, Spanish, Portuguese, and Italian, it can be used for international comparisons. It has the same psychometric qualities of reliability, validity, and internal consistency (.89) and maintains the same heuristic value for statistics: normality of distribution and responsiveness.

For substance use, we used the Drug Use Questionnaire (DAST-10). The DAST-10 is a 10-item, yes/no, self-report instrument that has been shortened from the 28-item DAST and should take less than 8 minutes to complete. The DAST-10 was designed by Skinner in 1982 to provide a brief instrument for clinical screening and treatment evaluation and can be used with adults and older youth. The answer options for each item are "YES" or "NO". The DAST-10 is a self-administered screening instrument. (Gavin et al) Diagnostic validity of the DAST was assessed using a clinical sample of 501 drug/alcohol patients. Various DAST cut-points were validated against DSM-III drug abuse/dependence criteria, as assessed by the Diagnostic Interview

Schedule. The DAST attained 85% overall accuracy in classifying patients according to DSM-III diagnosis.

For academic performance, we used an academic performance scale by Carson Birchmeier, Emily Grattan, Sarah Hornbacher, and Christopher McGregory from Saginaw Valley State University. For the total score, an internal consistency of .89 and a test-retest reliability of .85. The APS consisted of (8) 5-point scale items. This 5-point scale assessment was carried out by Carson Birchmeier Emily Grattan, Sarah Hornbacher, and Christopher McGregory of Saginaw Valley State University. For researchers who have a particular interest in academic performance among students, the APS promises to be a useful tool. Scale scores showed adequate internal consistency, 2-week test–retest reliability, and satisfactory concurrent validity.

Data Analysis

Quantitative data analysis procedures were used to generate explanations about the relationships amongst stress, substance use and academic performance. The quantitative data generated through the questionnaires was entered into a spreadsheet and analyzed using the Statistical Package for Social Scientists (SPSS) computer program version 18. Correlations were performed to establish the relationships amongst variables of stress, substance use and academic performance. The univariate analysis was conducted to present the bio-data information of the respondents and frequency of responses on the study variables in form of a frequency table. Pearson Product Moment Correlation (r), was used to test the hypotheses of the study by establishing the relationship between stress, substance use and academic performance among students.

Ethical Considerations

The researchers sought informed consent from the respondents. The researchers further insured confidentiality, privacy and explained to the respondents the main purpose of the study before engaging them in the study. The respondents participated voluntarily and anonymously, and data was analyzed with utmost confidentiality. Participants were free at any time to choose to withdraw their participation since the decision to participate was upon them since the researchers could not force them to participate in the study.

Chapter Four

Results

Introduction

This chapter presents the results of the study. It has two main sections with the first section containing univariate analysis of the respondents' bio-data. The second section focuses on the results from the hypotheses in line with the study objectives.

Univariate analysis of Participants Bio-data

There was a total of 100 respondents. Of these respondents, 100 (100%) completed all the questions and were thus used for further data analysis. The demographic details about the participants are presented in Table 1.

Table 1: Demographic Data of Respondents

Variable	Frequency(N)	Percent
AGE		
18-22	80	80.0
23-27	15	15.0
28-32	5	5.0
Total	100	100
SEX		
Male		
Female	35	35.0
Total	65	65.0
	100	100
RELIGION		
Muslim		
Catholic	10	10.0
Anglican	22	22.0
Born again	34	34.0
SDA	19	19.0
Total	15	15.0
	100	100

According to Table 1. Most of the respondents of the study had different age, sex and religious affiliation as shown in the table above, the majority of the respondents were ranging in

the ages of 18-22 with the total 80 (80%) which means that the most students in the school of psychology year three 2019-2022 were adults above 18 years.

The female students were more than the male represented at 65% and 35% respectively. Anglican religion was represented the most by 34%, and then Catholics at 22%, Born agains at 19%, SDA at 15% and Muslims recorded the least presentation at 10%. This therefore concluded that most students were adults above the age of 18, mostly female and largely belonging to the Anglican denomination.

Hypothesis Testing

Table 2: Relationship between Stress and Substance Use

		Stress	Substance Use
Stress	Pearson correlation	1	-.224*
	sig.(2-tailed)		.042
	N	100	100
Substance Use	Pearson Correlation		1
	sig.(2-tailed)		
	N		100

** . Correlation is significant at the 0.05 level (2-tailed).

Hypothesis; 1

The first hypothesis stated that there is a significant relationship between stress and substance use. To determine the significance of the relationship, Pearson correlation (r) was used (table 2) the frequency of the participant's responses of the occurrence of stress related substance use was obtained. Correlation results in Table 2 show that there is significant positive relationship between stress and substance use among students ($r = -.224^*$, $p = .042$). The p value (.042) is smaller

than 0.05 in magnitude. Therefore, the alternative hypothesis is retained and it is concluded that there is a significant positive relationship between stress and substance use among students. This could imply that an increase in stress leads to an increase in substance use and vice versa.

Table 3: Relationship between Stress and Academic Performance

		Stress	Academic performance
Stress	Pearson Correlation sig,(2-tailed)	1	
	N	100	
Academic performance	Pearson correlation sig,(2-tailed)	.198*	1
	N	.021	
		100	100

**. Correlation is significant at the 0.05 level (2-tailed).

Hypothesis; 2

The second hypothesis stated that stress and academic performance are significantly related. To determine the significance of the relationship, Pearson correlation (r) was used (table 3). The frequencies of participant's responses of the occurrence of stress related academic performance was obtained. Correlational results in table 3 show that there is a significant relationship between stress and academic performance among students ($r=.198$, $p=.021$). the p value (.021) is smaller than 0.05 in magnitude therefore the alternative hypothesis is retained and it is concluded that there is a significant relationship between stress and academic performance among students suggesting that an increase in stress affects academic performance and vice versa.

Table 4: Relationship between substance use and academic performance

		Substance use	Academic performance
Substance use	Pearson correlation sig.(2-tailed)	1	
	N	100	
Academic performance	Pearson correlation sig.(2-tailed)	-.488*	1
	N	.033 100	100

** . Correlation is significant at the 0.05 level (2-tailed).

Hypothesis; 3

The third hypothesis stated that there is a significant relationship between substance use and academic performance. To determine the significance of the relationship, Pearson correlation (r) was used (table 4). The frequencies of participants' responses of the occurrence of substance use related academic performance was obtained. Correlation results in table 4 show that there is small significant positive relationship between substance use and academic performance among students ($r=-.488^*$, $p=.033$). The p value (.033) is less than 0.05 in magnitude. Thus, the alternative hypothesis is retained and it's concluded that there is a small significant relationship between substance use and academic performance among students. This could imply that an increase in substance use among students leads to increase in effects on academic performance and vice versa.

Chapter Five

Discussions, Conclusions and Recommendations

Introduction

This chapter presents the discussion of the results of the study in relation to the hypotheses and previous findings by some scholars in relation to the study. The first section discusses the relationship between stress and substance use, the second section discusses the relationship between stress and academic performance and the third section discusses the relationship between substance use and academic performance among university students. The chapter ends with a conclusion, recommendations and suggestions for the area for further research.

Discussions

Stress and Substance Use

Hypothesis stated that there is significant relationship between stress and substance use. The result revealed that there is significant relationship between stress and substance use among students. Similar findings have been reported by scholars. There have been reports on the use of alcohol to relieve stress since ancient times. The concept of “drinking to relax”, in addition to drinking in social settings, has had a strong influence in different cultures (Sayette, 1999). According to the stress-reducing theory, some people use alcohol for its anxiolytic and stress-reducing effects, since this helps them to cope with stressful situations (Conger, 1956). Most theories of drug dependence assume that stress plays an important role in increasing substance use and also in triggering relapse (Campbell, Szumlinski, & Kippin, 2009; Ungless, Argilli, & Bonci, 2010). Moreover, studies in animals and humans have shown that exposure to stress increases the self-administration of drugs (Caldwell & Riccio, 2010; Erb, 2010; Weiss, Ciccocioppo, Parsons, Katner, Liu, Zorrilla and Richter 2001). Interestingly, Farber, Khavari, & Douglass (1980) reported

that while most of the social drinkers used alcohol for its positive reinforcing effects (pleasant mood, celebration, sociability), 93% of a sample of alcoholics used alcohol for its negative reinforcing properties (stress reduction). In addition, the use of ethanol tended to be high in individuals with high levels of stress and anxiety (Kushner, Sher, & Beitman, 1990; Terra, Barros, Stein, Figueira, Jorge, Palermo and Da Silveira2006). Most of the studies on the relationship between stress and substance abuse were carried out in adult drug-dependent individuals (Battista, Stewart and Ham2010; DeMartini & Carey, 2011). There are few studies on this issue in the adolescence period, although this is the most critical and susceptible period to start using drugs (Ernst & Korelitz, 2009; Ernst, Romeo, & Andersen2009; Silva, Malbergier, Stempliuk and de Andrade2006).

According to many reports, exposure to stress in students is significantly associated with the use of alcohol and drugs (Agnew & and White1992; Hoffmann, Cerbone and Su, 2000; Hoffmann & Su, 1998; Koch-Hattem & Denman, 1987; Shahtahmasebi & Berridge, 2009). However, few studies take into account the different kinds of stress or its stage (Tarter, Blackson, Brigham, Moss, & Caprara, 1995). Stress is a process that involves both cognitive and affective perceptions of a stressful event, the development of coping strategies and the production of biological, behavioral and cognitive responses (Sinha, 2001). Selye (1956) defined this set of non-specific reactions that the body develops in the face of stressors as the “General Adaptation Syndrome”. It manifests itself in three distinct stages: alarm or alert stage, resistance stage and exhaustion stage. Lipp (2000) proposed the inclusion of a fourth stage to Selye’s triphasic model: the “near exhaustion” stage, which corresponds to the second half of the resistance stage where the body’s energy is nearly depleted. Tricoli (2002) validated an instrument (Stress Scale for Adolescents - SSA) to evaluate the psychological, cognitive, physiological and interpersonal

aspects of stress, classifying them according to the stages proposed by Lipp (2000). Cerbone & Larison (2000) pointed out the need for studies that use standardized instruments and also focus on other factors, such as the cultural context, to allow for a more adequate evaluation of the complex relationship between stress and substance use, since there are many other issues associated with both in this period, such as academic performance (Wechsler, Davenport, Dowdall, Moeykens, & Castillo, 1994), living arrangements (De Micheli & Formigoni, 2004) and neurobiological vulnerabilities (Ernst & Korelitz, 2009).

In this report, we examine the prevalence of stress and substance use factors associated with academic performance among university students in Uganda. Information from the study can be used to guide the development of student-led group interventions to stress and substance use problems and their adverse consequences among university students in Uganda.

Stress and Academic Performance

Hypothesis stated that there is significant relationship between stress and academic performance. The result of the study also confirmed that there is a significant relationship between stress and academic performance. This means that an increase in stress will lead to a decrease in academic performance among students. Baker further noted that adjustment during the transition period is linked to the way the undergraduate copes with that stress which affects academic motivation and performance.

In the academic environment, high expectations, information overload, academic pressure, unrealistic ambitions, limited opportunities, and high competitiveness are some of the common sources of stress that create tension, fear, and anxiety in students (Sinha, Sharma, & Nepal, 2001). In a study by Dahlin, Joneborg, and Runeson (2005), undergraduate students indicated experiencing the highest degree of pressure from studies. Misra, Mckean, West, and Russo (2000)

pointed out that students have found the requirement to meet assessment deadlines as a major source of stress. Students report experiencing academic stress with the greatest sources of academic stress coming from taking and studying for exams, grade competition, and the large amount of content to master in a small amount of time (Kohn & Frazer, 1986).

Course load versus time available has also been cited to be a stressful factor in the academic environment (Zeidner, 1992). Studies reveal that students perceive course load to be high in their first year of study, and that the perception of course load positively correlates with exam stress (Mani, 2010). In their study, Talib and Zai-ur-Rehman (2012, p. 129) found out that majority of the students (53%) claimed that course load is the source of their stress which in turn affected their GPA. Further students report that the prospect of having to sit for examinations are stressful because of the pressure to review all the learned material within a given period of time (Mani, 2010). Mani explains that it is not the examination itself that induces stress but the fact that the possibility of failing or passing the exam can shape the course of one's academic career and professional life.

Besides the course load and exam preparation, there are course demands that may induce academic stress depending on the nature of the course that the student is undertaking

(Bernold, Spurlin, & Anson, 2007; Kuhn, Kranz, Koo, Cossio, & Lund, 2005). Research conducted to explore factors that lead to academic related stress of medical students cite academic demands like variable hour shift for clinical rotations, sleep deprivation in addition to the curriculum overload (Kuhn, et al., 2005). Psychology students reported that stress emanating from the supervisory process while in field placement was due to the individual differences between the trainee and the supervisor (Dodds, 1986). Further research by Talib and Zai-ur-Rehman (2012) showed that there was a significant difference in the perceived stress between engineering students

and management science students. The engineering students had a higher mean academic stress score than the management science students.

In their study on sources of stress among college students, Ross, Niebling, and Heckert (1999) found that daily hassles related to interpersonal relations were the most often reported source of academic stress among the college students. This can be attributed to personal issues such as the individual differences in values, beliefs, situational intentions, and goal commitments that greatly influence one's perceived stress (Devonport & Lane, 2006).

Jou and Fukada (1996) confirmed this as their research findings illustrated a positive correlation between interpersonal problems and other stressors implying that the more interpersonal problems students had, the more stress they were likely to face. Personal factors were recognized as a challenge that influenced their coping mechanisms and eventual levels of stress (Bang, 2009; Zeidner, 1992).

Ross et al. (1999) emphasized the fact that stress levels varied basing on the year of study. The first year students were more prone to greater stress compared to other years of study. This resulted from the absence of a social support framework and the transitional nature of college life that requires adjustment to the new environment amidst new responsibilities and challenges. At times, the first year students are leaving home for the very first time and therefore need to adjust to the newfound freedom as well as maintain a high level of academic performance (Robotham, 2008). On the other hand, Shaikh et al. (2004, p. 346) found that senior students experienced higher levels of stress that is 95% and 98% for fourth and final year students respectively due to the academic demands like having supervised clinical rotation. Furthermore, that final year students are required to write their research dissertations that exposes them to additional stress.

In addition to stress levels varying across the year of study, Misra, McKean, West, and Russo's (2000) research findings suggest that stress levels vary by gender of the students.

Levels of academic related stress differed among male and female students with female students being more prone to more academic stress than their male counterparts (Abouserie, 1994; Bang, 2009; Misra & Mckean, 2000; Rayle & Chung, 2008). Females experienced higher levels of academic stress because of negative appraisals of the stressful event and focus on the emotional challenges in the wake of the stressful event. Male students are trained to display strength and machismo in the face of challenges right from their young age (Misra& Mckean, 2000). However, female students performed better than the male students and had better GPAs than male students even in case of significant stress (Talib & Zia-ur-Rehman, 2012).

Despite all the sources of stress in the academic environment, the future of the students depends most on high academic performance. It is estimated that 10 to 30 percent of the students experience academic related stress that affects their academic performance (Sinha, Sharma, & Nepal, 2001, p. 105). Academic stress is documented to have several negative effects not only to the academic performance of the students but also to their wellbeing. Academic stress is seen to interfere with the students' way of life, cognitive processes, and adaptive behaviors such as class attendance (Lumley & Provenzano, 2003). Studies have shown that there is a positive association between academic stress, depression, and physical illness, which these associations decrease with the provision of informational support (Fisher, 1994).

Other forms of coping mechanisms used by students include sports, music, hanging out with friends, sleeping, or going into isolation (Shaikh, et al., 2004). Students with higher problem-solving appraisals reported better psychosocial adjustment to university life, had lower levels of stress while studying, and better academic performance than their counterparts with lower problem

solving appraisals (Baker, 2003). More specifically, male students use more active coping, positive reframing, planning, and accepting the stressor whereas female students use more emotion focused strategies like venting, self-blame, and behavioral disengagement (Davonport & Lane, 2006). The choice of coping mechanisms used is accounted for by the difference in the gender role expectations and sex role stereotypes where females are taught to focus on emotions and seek social support whereas males are trained to take outward action to deal with the stressful situation (Bang, 2009).

Many college students may find the academic experience very stressful, attributing it to various poor study habits such as poor time management that may include not allocating time properly or last minute cramming for exams. This is frequently discussed as a source of stress and poor academic performance (Macan, et al., 1990). In addition, very often students are urged to start working on large tasks well before due dates. The large tasks are broken down into small ones, which are achievable on a regular schedule. Students who regularly ignore these techniques find themselves in great distress before exams (Brown, 1991). This results in the students having increased stress due to pressure and as a result students engage in emotional and cognitive reactions to stressors more frequently (Misra & Mckean, 2000).

Generally, students appreciate the fact that examination grades are the most important aspect of their school life. However, the process of preparing for examinations was reported to be the most stressful event of their school life (Ang & Huan, 2006; Ang, et al., 2009; Dobson, 1980).

Substance Use and Academic Performance

Hypothesis stated that there is a significant relationship between substance use and academic performance. The result also confirmed that there is significant relationship between

substance use and academic performance among students suggesting that an increase in substance use can lead to a decrease in academic performance. This result is supported by previous research for example, university students have been reported to consume higher levels of alcohol than non-university students worldwide (Kypri, Langley, 2005). Various theories have been advanced to explain this observation. For example, the tension reduction theory contends that tension producing circumstances (i.e. stressors) could lead to increased drinking (Sher, Bartholow, 2007; Young, Oei, Knight, 1990). Given that alcohol is perceived to reduce tension, high levels of stress and depressive symptoms are associated with alcohol consumption (Dyrbye et al., 2006; Ansari, Stock, 2010; Dahlin, Nilsson, Stotzer, Runeson, 2011; Jones-Webb, Jacobs, 1996). Indeed, college students have been reported to consume alcohol to potentially relax or relieve tension, celebrate, and feel comfortable with the opposite sex, as a reward for working hard and to get away from troubles (Marczinski et al., 2011).

Unfortunately, excess consumption of alcohol has adverse physical and mental health consequences which lead to impaired academic malfunctioning. The majority of research studies on the alcohol use patterns of university students have been conducted in developed countries. These studies have shown that among university students, factors including year of study, peer influence, age, having an income source among others as divers to high levels of alcohol consumption in these settings (Berkowitz, Perkins, 1986).

University life is a developmental transition to new responsibilities in absence of well-established networks of social support. On the other hand, it also represents freedom, liberty and fewer restrictions due to living away from parents (A. Claes, J. Kent, 2007). Both aspects can increase the use of alcohol among university students. The alcohol patterns of young adults vary according to gender in the same way as in the general population (Dyrbye et al., 2006). In general,

men drink more alcohol and experience more and different kinds of alcohol related problems. To our knowledge, alcohol use patterns among university students in sub-Saharan Africa are limited and non-existent in Uganda. Studies on alcohol consumption among university students have mainly focused on prevalence rates and associated factors of alcohol use problems (Atwoli et al., 2011; T. Steyl, J. Phillips, 2011). Information about the different alcohol use patterns and their correlates is lacking. Further, the extent to which various factors such as gender and year of study may be associated with various alcohol use patterns has not been.

Conclusion

The purpose of this study was to find if stress, substance use and academic performance among students were related. The study revealed that there is a significant relationship between stress and substance use. The study also revealed a significant relationship between stress and academic performance. The study also revealed that there was a significant relationship between substance use and academic performance. Therefore, the study accepted the hypotheses and concluded that stress, substance use and academic performance are interrelated among students of Makerere University.

Recommendations

Basing on the result of the study, researchers recommended that awareness be created by the government or organizations working with students to know the dangers of stress substance use on academics and the consequences that can come from them.

Parents and guardians of students should be provided with basic skills and knowledge on how to guide their children on the type of friends and peers they associate themselves with as this may reduce substance use related issues and hence reduce stress among the students.

Area for Further Research

We suggest that more research should be conducted on stress, substance use and academic performance using more measurable means and more scientific methods. This might help to create a wider dimension of results and make results more generalizable.

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Appendices

Appendix A: Questionnaire

Dear Sir/Madam,

We are a group of undergraduate psychology students in our final year carrying out research to identify the relationship of stress, substance use and academic performance among students of Makerere University. This questionnaire comprises of questions that will collect information on the above mentioned research area. Participating in this study may not benefit you directly, but it will help us in our academic area of learning. You may find answering some of the questions upsetting, but we expect that this would not be different from the kinds of things you discuss with family and friends. We kindly request that you fill in this questionnaire with honesty and answer each of the questions provided. The information that you include in this questionnaire will not be used anywhere else and all information will be used in a confidential manner. We ask that therefore you don't include your name or telephone number or registration number anywhere in this questionnaire.

I voluntarily agree to take part in this study.

Thank you very much for agreeing to participate in this survey.

SECTION A

Appendix B: Social Demographic Characteristics

Use a tick to indicate your answer.

1. How old are you.

18-20 21-24 25-28

2. Sex

Male Female

3. Religion

Anglican Catholic Muslim Born Again SDA

4. Occupational status

Employed Unemployed Self-employed Student

5. Marital status

Single Dating Married Divorced

SECTION D

Appendix E: Academic Performance Scale

Instructions: Please answer each question using the 5-point scale to answer each question so that it accurately reflects what you do or have done as a student. Be as honest as possible because the information can be utilized to discover areas of strength.

Scale: SA – strongly agree. A – Agree. N – Neutral. D – Disagree. SD – strongly disagree.

Questions	SA	A	N	D	SD
1. I made myself ready in all my subjects.					
2. I pay attention and listen during every discussion.					
3. I want to get good grades in every subject.					
4. I actively participate in every discussion.					
5. I start papers and projects as soon as they are assigned.					
6. I enjoy homework and activities because they help me improve my skills in every subject.					
7. I exert more effort when I do difficult assignments.					
8. Solving problems is a useful hobby for me.					