ACADEMIC STRESS AND MENTAL HEALTH PROBLEMS AMONG IN-SCHOOL ADOLESCENTS IN IBADAN

BY

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DECLARATION

I declare that this project submitted to the Centre for Child and Adolescent Mental Health (CCAMH) of the University of Ibadan is my own original work. This thesis or part of it has not been previously published or presented anywhere.

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CERTIFICATION BY SUPERVISOR

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ABSTRACT

Background

Adolescence is a period of transition from the immaturity of childhood into the maturity of adulthood. During this period, adolescents undergo a process of physical, psychological, cognitive, social and emotional changes. As these transitions occur, adolescents are likely to face various challenges that may result in mental health problems. This makes Adolescents particularly vulnerable to the problems associated with academic stress such as class workload , need for perfection , worry over grades, parental pressure, and competition. Studies have established that, academic stress is associated with mental health problems of the adolescents. There is a paucity of studies on the relationship between academic stress and mental health problems among secondary school students in Nigeria.

This study therefore aimed to determine the prevalence and correlates of academic stress and mental health problems among senior secondary school adolescents.

Methodology

This was a cross sectional study in which six secondary schools were randomly selected from a list of all secondary schools in Akinyele, Local Government, Ibadan. A total of 366 senior secondary school students were randomly selected from the six schools. A socio-demographic questionnaire was used to obtain the students' background information. The Educational Stress Scale for adolescents (ESSA) was used to assess academic stress, Beck Depression Inventory used to assess depression, Beck Anxiety Inventory was used to assess anxiety and Scale for suicidal Ideation was used to assess suicidal ideation.

Results

There were 45.9% males and 54.1% females with age range between 11 to 19years, mean age was 15years SD = 1.77. Reported prevalence of academic stress was 45.1%. and reported prevalence of mental health problems showed depression 41.8%, anxiety 29% and suicidal ideation of 38.8% .

Socio-demographic correlates of academic stress showed that adolescents in public secondary school were 2 times more likely (OR=2.33, 95% CI=1.3 - 4.1) (p<0.05) to report academic stress than adolescents in private secondary schools. Adolescents in SSS 2 class were 3 times more likely (OR= 3.15, 95% CI=1.8 - 5.5) (p<0.05) to report academic stress than adolescents in SSS 1 and SSS 3 classes. Female adolescents were 1.56 times more likely (OR= 1.56, 95% CI=0.4 - 0.9) (p<0.05) to report academic stress than male adolescents. Adolescents belonging to class of over 25 members were 2 times more likely (OR = 2.17, 95% CI=0.2 - 0.7) (p<0.05) to report academic stress than adolescents belonging to class of 0 - 25 members.

Socio-demographic correlates of depression showed that adolescents belonging to polygamous families were 1.85 times more likely (OR =1.85, 95% CI=1.1 - 2.9) (p<0.05) to report depression than adolescents belonging to monogamous families. Adolescents belonging to class of over 25 members were 1.8 times more likely (OR = 1.80, 95% CI=1.1 - 2.8) (p<0.05) to report depression than adolescents belonging to class of 0 - 25 members.

Socio-demographic correlates of anxiety showed that adolescents in private secondary schools were 2 times more likely (OR= 2.11, 95% CI=0.2 - 0.8) (p<0.05) to report anxiety than adolescents in public secondary schools. Adolescents in SSS 2 class were 2 times more likely (OR= 2.35, 95% CI=1.4 – 3.9) (p<0.05) to report anxiety than adolescents in SSS 1 and SSS 3 classes.

Among the mental health problems, depression (χ^2 = 6.907, p<.006) and anxiety (χ^2 = 8.001, p<.003) were significantly associated with academic stress.

Conclusions

The study revealed that a significant association exist between academic stress and mental health problems. It is recommended that a holistic approach be adopted to prevent academic stress. Treatment and counselling should be offered to vulnerable senior secondary school students, through continual appropriate screening and intervention programs in order to prevent mental health problems and improve their quality of life.**Word count:** 615

Keywords: Depression, Anxiety, Suicidal Ideation, Academic Stress.

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ACRONYMS

BAI	-	Beck Anxiety Inventory
BDI	-	Beck Depression Inventory
DAS	-	Depression, Anxiety and Stress
DSM-IV	-	Diagnostic Statistical Manual of Mental Disorders
ESSA	-	Educational Stress Scale for adolescents
GAS	-	General Adaptation Syndrome
MBBS	-	Medicinae Baccalaureus Baccalaureus Chirurgiae
PTSD	-	Post Traumatic Stress Disorder
SPSS	-	Statistical Package for Social Sciences (SPSS)
SSI	-	Scale for Suicidal Ideation
STAI	-	State-Trait Anxiety Inventory
WHO	-	World Health Organization

CHAPTER ONE

Introduction

1.1.   Background to the Study

Adolescence is a period of transition from the immaturity of childhood into the maturity of adulthood. According to the World Health Organisation (WHO, 2015) adolescence is the stage in human growth and development that occurs after childhood and before adulthood. Although, there is no boundary line that marked the end of childhood or the beginning of adolescence. Adolescence is considers to be the period between the ages of 10 years to 19 years of age accounting for approximately 17% of the world's population (WHO, 2015).

Adolescents at this period, undergo a process of physical, psychological, cognitive, social and emotional transitions which can be turbulent time for them, Saba (2013). Across the phases of adolescence, challenges occur which may result in mental health problems. WHO (2014) identified depression and anxiety as common in adolescence which have been found to have effects which endured into adulthood (Patton & Viner, 2007). Typically these two major mental health problems usually begin during adolescence (WHO, 2014). Reasons behind these mental health issues among adolescents remains a matter of research question.

Studies have revealed an association between academic related events stressors among secondary school adolescents (Guo, Yang, Cao, Li, & Siegrist, 2014; Huan, See, Ang, & Har, 2008; Zhang & Du, 2005). Further, significant link have been found between academic stress and mental health problems among adolescents (Jayanthi,Thirunavukarasu, & Rajkumar, 2015; Sun, Dunne, Hou, & Xu, 2013). This therefore suggests that academic stress, poor academic performance, time spent on school work were associated with their mental health problems (Bjorkman, 2007; Liu& Lu, 2012; Sun, et al., 2013).

Stress is a body's response to any event which is perceived to alter or threaten our health and well-being (Dehaan, 2008). Stress is a biological term that has become a common place of

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popular parlance in the recent (Mannapur, Dorle, Hiremath, Ghattargi, et al., 2010). The term "Stress" first came up in the 1930's by the endocrinologist Hans Selye (Hans Selye, 1956) as a body's reaction to any change that requires a physical, mental or emotional response that threaten our individual's well–being. Stress may be derived from traumatic life events (such as parental loss), continuous troubles (such as economic troubles), and problems in daily life (such as conflicts in relationships, hassles) (Hess & Copeland, 2006). In this regards, excessive stress can result in a lot of discomfort and inability to achieve.

Scholars have identified three categories of stressors that contribute to stress among students. These are physical and psychological changes or normative stressors, life events or non normative stressors, and day to day stressors such as academic requirements, conflicts in relationships, and daily hassles (Isakson & Jarvis, 1999; Sim, 2000). Daily hassles with respect to interpersonal issues are frequently reported as potential sources of stress compared to life events (Ross, Neilbling, & Heckert, 1999). Among these daily hassles is academic stress which has been described as the most important and frequently reported factors contributing to distress among students of all age groups, most especially the pre university students (Connor-Smith, Compas, Wadsworth, Thomsen, & Saltzman, 2000; Latha& Reddy, 2006). Factors such as exams, projects, assignments, expectation of the others as well as expectations of oneself to excel in the field chosen, which are followed by future plans at pre university stage mark the turning point for further career advancement (Kouzma & Kennedy, 2004; Latha& Reddy, 2006). These factors put together place much demands which can be difficult to balance on student, hence result in academic stress.

Academic stress is also called educational stress which is a disappointment about academic failure and a mental distress arising from the feeling of frustration regarding poor academic performance, the anticipation of it, and the fear of being unsuccessful (Verma & Gupta, 1990). It is a discomfort that is caused by different troubles of academic learning experience (Sun, Dunne, Hou, & Xu, 2011) and a perceived feelings of stress traceable to academic events (Akram & Khan, 2012).60-73% of all the stressors identified by adolescents are related to academics (Sahani, 2006).

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Teachers and school also aggravate stress situation significantly because stress level of adolescents depends on time which they spend at schools and on academic activities (Jones, 1993).

Evidence from the study carried out by American Health Association among 97,357 students in 2006, 32 percent considered academic stress as a reason for low grades and dropout (Watson & Watson, 2016). According to adolescents' report, frequently faced academic problems are: homework, lack of time, inability to concentrate, memory problems, difficulty in subjects, examination anxiety and fear of failure (Latha & Reddy, 2006; Patel, Flisher, Hetrick& McGorry, 2007). These problems are as a result of identified source which decreases academic performance, adversely affect students' well-being, and result in mental and physical health problems (Misra & Castillo, 2004). Among these sources are high expectations, information overload, academic pressure, unrealistic ambitions, limited opportunities and high competition (Nakalema & Ssenyonga, 2014).

Evidence abounds to suggest that a number of health conditions affecting both physical health (somatic symptoms) and mental health (depression) has been shown to be associated with academic stress (Gillihan, Samter, & Macgeorge, 2005; Struthers, Perry &Menec, 2000). People and animals study have shown that prolong stress leads to cognitive, emotional and behavioural problems (Zhang, Qin, Yaoa, Zhang, & Wu, 2016). Previous studies substantiated certain health anomalies such as lack of self-confidence, anxiety, depression, somatization disorders, suicidal ideation, negative sense of self are rife among secondary students, and are often derived from educational stress (Ang, & Huan, 2006; Chen & Lu, 2009; Kang, Ko, Lee, Kang, Hur, & Lee, 2013; Hudd, Dumlao, Erdmann-Sager, Murray, Phan, & Soukas, 2000;Anderman, 2002; Ang & Huan,2006; Bjorkman, 2007; Field, Diego, & Sanders,2001; Kouzma & Kennedy, 2000).

There is a two way relationship between academic stress and anxiety because anxiety has significant bearing on adolescent's social, emotional and academic engagement (Essau, Conradt & Petermann, 2000). It is a subjective feelings of apprehension and fear of some unexpected happening which are often accompanied by physical sensations such as high heartbeat rate, increase

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blood pressure, and so forth (Tabrizi & Yaacob, 2011). 8% of children and adolescents worldwide suffers from anxiety disorder (Bernstein & Borchardt, 1991; Boyd, Kostanski, Gullone, Ollendick, & Shek, 2000). This estimate does not take into consideration the percentage of children and adolescents whose anxiety goes undiagnosed due to the internalized nature of the symptoms (Tomb & Hunter, 2004).

Depression is a mental health problem, involving persistent low or irritable mood along with feelings of helplessness, hopelessness, lack of joy and interest in everyday happenings, and sometimes suicidal ideation/thoughts (National Institute for Health and Clinical Excellence, 2011). This occur when events from the environment called "stressor" threatens important motives, thereby leading to stress and poor quality of life. Depression affects mood adversely and involves varying levels of sadness and despair associated with stress (Balkishan & Rajshekhar, 2013).

Depressive symptoms can include loss of interest/pleasure, decreased energy, unhappy mood, feelings of guilt, disturbed sleep and appetite, low self-worth, and poor concentration (World Federation for Mental Health, 2012). The incidence of depression is significantly different by gender with women experiencing it 2 times higher compared to men. There is evidence to suggest that depression occurs with considerable frequency in childhood and adolescence (Avenevoli, Knight, Kessler, & Merikangas, 2008). Research evidences have shown that depressive mood, negative affect, and salivary cortisol were often elevated during exams (Ana, Noelle, Richard and Thomas, 2013). This elevation inadvertently increases the level of stress and this development can be damaging and can hamper normal functioning of the students, hence may cause psychological complications leading to psychological morbidity.

Depression in students can continue into adulthood and if symptoms are aggravated, daily life can become difficult and suicide can even occur (Cho, Jeon, Kim, Suh, Kim, & Hahm, et al. 2002). The impact of depression indicates the importance and severity of depression in this period of life. The close connection between depression and suicide has been reported in various studies.

Mild depression is also a risk factor for severe depression (Wilson, Mottram, & Sixsmith, 2007), and if mild depression is neglected without treatment,the risk of suicide can increase.

From the foregoing, suicide ideation is an important factor worthy of note among depression-related factors because it is the strongest and most consistent predictor of suicidal ideation and suicidal behavior in adolescents (Brand, King, Olson, Ghaziuddin, & Naylor, 1996; Brent, Baugher, Bridge, Chen & Chiapptta, 1999). Suicidal ideation is described as, having thoughts, urges, or intentions of committing suicide (Centers for Disease Control and Prevention, 2015). In other words, it comprised of behaviours that don't always lead to death, but are "related" to the process or concept of self-inflicted death (Silverman, Berman, Sanddal, O'Carroll, & Joiner, 2007a). Suicidal behaviours forms the communicative aspects of suicide, which includes thoughts about suicide, or ideation, and suicide attempts, as well as the severity and frequency of these behaviours (Silverman, Berman, Sanddal, O'Carroll, & Joiner, 2007a; Silverman, Berman, Sanddal, O'Carroll, & Joiner, 2007b). Compared with students with low score on depression, students with high scores on depression were 5.31 times more likely to report suicidal ideas and 3.19 times more likely to attempt suicide (Juon, Nam, Ensminger, 1994). Removal of the effect of depression brought about a reduction in the association between suicide ideation and its correlates such as social support satisfaction and stress, (De Man, 1999). In this regard, this study proposes adolescents' depression as a third criterion variable accounting for the association between suicidal ideation (among other variables) and academic stress.

1.2.   Problem Statement

Studies have revealed that, academic stress is associated with mental health problems Arguera, 2017; Balkishan & Rajshekhar, 2013; Fan, 2017; Hameeda & Musaddiq, 2017; Jayanthi, Thirunavukarasu & Rajkumar, 2015; Niamh, 2016; Sabahat & Seema, 2017; Sibnath, Esben & Jiandong, 2015; Sindhu & Azmal, 2017; Zainab, Rabia, Ayesha, Samina & Asnea, 2017), and that mental health problems of students emanate from adjustment to pathological issues. (Bjorkenstam et al, 2010). According to the New York University Publication in 2016, stress emerged as the

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leading impediment to academic performance, with 55% of the students reporting being stressed out than ever, and affirmed academics to be their biggest stressor (George & Patrick, 2017). Increasing stress loads come with some dire health consequences. Adolescents were also at higher risk of suicide even when socio-demographic variables such as family educational level, receipt of social welfare, being adopted or living with a parent were adjusted (Bjorkenstam et al., 2010).

In fact, evidence showed that considerable levels of mental health problems exist among children and adolescents in sub-Saharan Africa. This is according to the assessment of a community based studies in sub-Saharan Africa involving children aged 0 to 16 years which found that one in 7 children and adolescents have significant difficulties, with 1 in 10 (9.5%) having a specific psychiatric disorder (Melissa, Anisha, Mina, & Paul, 2012). To further substantiate these statements, the American College Health Association statistics reported that suicide rates amongst adolescents are three times higher than they were in 1950 (Psychology Today, 2018). These reports indicate increasing levels of psychological symptoms among young people with academic related factors being one of the main stressors. As such studies involving stress and well-being among students should consider academic stress.

However, despite global reports of increasing academic related stress among adolescents, there are few studies on this in the Nigerian context. In other words, research in this regards have received little attention in Nigeria, hence the need to study these variables and understand their prevalence with the view to provide adolescent with holistic support.

1.3. Justification of the study

School education is a very important turning point in the academic life of students for a further career move. It is also believed that the adolescent who takes academics as their priority, would have a successful future and contribute positively to the society (Wee Eng Hoe, 1994).

However, in today's highly competitive world, students face various academic pressure by reasons of need of perfection, worry over grade, parental pressure, competition and tough class load that affect their mental health (Prabu, 2015). In other words, academic stress could increase the risk

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for mental health problems and without proper intervention, it could result into serious disorders which eventually may have negative impacts on their productivity and contribution to the society in future.

This study will add to the available literature knowledge about how to ascertain the relationship between academic stress and mental health of the adolescents. In the same vein, the prevalence of academic stress among the population of adolescents in Nigeria can be determined so as to provide the proper intervention needs for the adolescents. This development will be more needed considering the fact that academic stress has been studied more among the tertiary students compared to secondary school adolescents (Oku, Owoaje, Oku, & Ikpeme, 2015)

1.4.   Relevance of the study

This study is beneficial in mental health education directed at explaining the association of academic stress on the mental health of adolescents. In this regard, information as to the correlates of academic stress and mental health problems is provided to give more insight. The study outcome will aid the health practitioners such as psychiatrists, psychologists, and educators, in designing programs that can help stem down mental health problems among adolescents. This study will provide information to the adolescents, their families and teachers on helping adolescents to reduce and manage academic stress.

1.5.   Aim

The aim of the study was to determine the prevalence and correlates of academic stress and mental health problems among senior secondary school adolescents.

1.6.   Specific Objectives

1.   To determine the prevalence of academic stress among adolescents in senior secondary schools.

2. To determine the prevalence of mental health problems (depression, anxiety, and suicidal ideation) among adolescents in senior secondary schools.

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3. To determine the socio-demographic correlates of academic stress and mental health problems among adolescents in senior secondary schools.

4. To determine the association between academic stress and mental health problems among adolescents in senior secondary schools.

1.7   Research Questions

The study addressed the following questions:

1. What is the prevalence of academic stress and mental health problems among the adolescents.

2. What are the associations between socio-demographic variables, academic stress, and depression in adolescents.

3. What are the association between socio-demographic variables, academic stress and anxiety in adolescents.

4. What are the associations between socio-demographic variables and academic stress in adolescents.

1.8   Primary outcome measures

The primary outcome measures was the prevalence rate of mental health problems in adolescents, identified by (the Educational Stress Scale for adolescents (ESSA), Beck Depression Inventory, Beck Anxiety Inventory (BAI), and Scale for Suicidal Ideation -SSI).

Word count: 2,434

CHAPTER TWO
LITERATURE REVIEW

2.1. Stress: Definitions

According to Dehaan (2008), stress is defined as a body's response to any event which is perceived to alter or threaten our health and well-being. Stress was coined by Selye (1956), as the common denominator of all adaptive reactions in the body. Selye named the events that naturally produce stress as "stressors". The body's responses to the stressor include the stress reaction and other responses, such as physical adaptations (Tachè & Selye, 1985). Every single life event could produce different levels of stress that could trigger a stress reaction (Akram& Khan, 2012; Dow, 2014). Selye (1985) claimed that stressors could be things other than natural physical stimuli, such as emotions (for example, fear, happy, anger). In terms of the stress process, an early model called the General Adaptation Syndrome (GAS) was developed by Seyle (1950,1985). Stress is inevitable for individuals. It can either be essential to survival or a motivator. However, when there are too many stressors at one time, it can undermine a person's mental and physical health.

Selye concluded that there were three stages involved in stress processes from the laboratory results on his experiment. These are, alarm reaction, resistance, and exhaustion (Seyle 1950, 1985). Among these stages, stress occurs as a result of a prolonged "exhaustion" stage without appropriate coping methods. In addition, the reaction and adaption process could be very different among individuals, as a result of differences in coping methods and thresholds for stress (Jones & Hattie, 1991).

Selye (1985) categorised perceived stress into positive stress as "eustress" and negative stress as "distress". Positive stress is considered to be a motivation, while negative stress on the other hand is excessive stress that an individual would endure, and can lead to negative physical or adverse mental outcomes (Selye, 1974). For example, chronic stress, such as sleep deprivation, can lead to increased levels of anxiety symptoms (McEwen, 2011) and depressive symptoms (Adeosun, 2016). This findings was further corroborated by the outcome of Karl, Supa, Sola and Matthew

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(2013) in an attempt to determine the associations between depression, sociodemographic, social and health variables among a sample of 820 undergraduate students (54.3% men and 45.7% women; mean age 22.3 ± 3.1) of Obafemi Awolowo University in Nigeriain a cross-sectional survey found several risk factors including comorbidity (PTSD and sleeping problems) and lack of social support were identified (Karl et al., 2013).

2.2. Academic stress: Definitions

Academic stress is defined as mental distress resulting from the feeling of frustration regarding poor academic performance, the anticipation of it, and the awareness of a predicted possible failure (Verma & Gupta, 1990). Although, Verma and Gupta (1990) failed to mention the effect of study burden and heavy workload on students' academic stress. To this effect, Akram and Khan (2012) defined academic stress as a student's perceived feelings of stress related to academic events.

Academic stress has been shown to be related with a number of health conditions (Gillihan, Samter, & Macgeorge, 2005). For adolescents in secondary schools, academic related events are believed to be one of the top concerns and sources of stress world over. As such, the factors associated with academic stress appear to vary from country to country, and it is therefore important to explore the unique factors associated with academic stress in Nigeria.

Zainab, Rabia, Ayesha, Samina, and Asnea (2017) investigated the linkage between academic stress on the mental health of 70 college and university students (N=70) between the ages 15-23 years (35 male & 35 female). Participants were recruited from the University of Wah, International Islamic university, Islamabad, SKANS institute of Accountancy and Fauji Foundation School and College, Gujjar khan. No significant association was found among academic stress and mental health problems of college and university students. Females were found to experience greater level of academic stress compared to males while gender difference among participants does not exist with respect to mental health problems (Zainab, et al., 2017).

In a related study carried out by Akanni, Fela-Thomas, Ehimigbai, and Aina (2017) to determine the prevalence of suicide attempt and its linkage with socio-demographic, psychological factors and other risky behaviours in a cross-sectional study among 300 final year secondary school students (aged 16-19 years) in Benin City, South-South Nigeria. Participants being selected by a multi-stage random sampling attended to a self administered questionnaire comprising of socio-demographic characteristics, the 28- item General Health Questionnaire (GHQ), and a portion of the Youth Risk Behaviour Survey. Alongside the findings that revealed 5.7% prevalence rate of suicide attempt, adolescents who were from polygamous family, public school and reported dissatisfying relationship with teachers, independently predicted suicide attempt.

2.3. Epidemiology of Academic Stress

2.3.1. Prevalence

Kio, Omeonu and Agbede (2015) assessed the stress levels among undergraduates in Nigeria, with focus on Babcock University among a sampling of 605 students selected from 5 out of the 6 schools in the University to participate in the study. Factors such as age, gender, religion and marital status of the respondents were examined and found academic related factors ranked as strong causatives of moderate to high stress among respondents with fear of graduating (3.02±1.11) being the major stressor. Sibnath, Esben, and Jiandong (2015) investigated the academic stress and mental health of 190 Indian high school students and the associations between various psychosocial factors and academic stress. Participants from grades 11 and 12 (mean age: 16.72 years) from three government-aided and three private schools in Kolkata India participated in the study and found that, two-thirds (63.5%) of the participants reported stress due to academic pressure with two-thirds (66%) alluding to performance motivated pressure from parent. On stress prevalence across gender Afsheen, Sumaira, Rubab, and Shama (2016) investigated the role of anxiety and non-clinical depression as predictors of academic stress and the prevalence of anxiety and depression among 650 medical students of first year and final year from six major medical colleges of Punjab in a

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quantitative and cross sectional research design and revealed that more females compared to males recorded higher prevalence of academic stress due to symptoms of mental health problems.

In a cross-sectional descriptive survey conducted by Oku, et al. (2015) to determined the prevalence of stress stressors, coping strategies of medical students in the University of Calabar, Nigeria among 451 medical students, majority (94.2%) of undergraduate medical trainees perceived the training as stressful, with excessive academic workload (82.3%), inadequate holidays (76.4%), and insufficient time for reaction (76.2%) identified as the major stressors

Jones and Hattie (1991) investigated the factors contributing to academic stress within an adolescent student population, and how these factors vary across grade, sex, and ethnicity among 550 high school students. Peer pressure, parental pressure, importance of school, and fear of failure components of academic stress contributed significantly to academic stress, with peer pressure varying across all variables, and importance of school and fear of failure varied across ethnicity, sex, and grade. Students of fathers possessing a lower education level (non-graduates) were more likely to perceive pressure for better academic performance. Afsheen, et al. (2016) concluded that compared to males, females reported greater academic stress. This position was underscored by the finding of Niamh (2016) that revealed a statistically significant difference across gender and year of study with respect to the levels of perceived academic pressure such that females score higher on academic pressure than the males. This trend has been consistent in the literature as observed in the recent study outcome of Zainab, et al. (2017). Fan (2017) found that studying in higher grade levels, gender, and having poorer academic achievement were identified as risk factors for academic stress. From the available evidence, the link although indirect, between pocket money and socio-economic status of the parent showcases the significant hold they pose on academic stress.

2.4. Academic Stress and other Stressors Youth Face

Sibnath, et al. (2015) identified parental pressure as found in Jones and Hattie (1991) as an influence on stress. Although this degree of pressure differed with respect to parental educational levels, mother's occupation, number of private tutors, and academic performance (Sibnath, et al.

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(2015). Also, having less amount of pocket money were identified as risk factors for academic stress (Fan, 2017). From the available evidence, the link although indirect, between pocket money and socio-economic status of the parent showcases the significant hold they pose on academic stress.

2.5.   Academic Stress and Mental Health Problems in Youth

Sanjiv, Rahul, and Saini (2010) investigated depression, anxiety and stress (DAS) among 242 adolescent school students belonging to affluent families and the factors associated with high levels of depression, anxiety and stress and discovered that depression was significantly more among the females than the males. Balkishan and Rajshekhar (2013) observed the levels of depression that leads to stresses and its effect on vital parameters during academic curriculum in a prospective cross-sectional study design conducted among 132 final year Medicinae Baccalaureus Baccalaureus Chirurgiae (MBBS) and Physiotherapy students students (year 2012 – 2013) of Sri Aurobindo Medical College and P. G. Institute, Indore, (M. P.) India. With due consideration of participants' prior height, weight, pulse rate and blood pressure of the participants. Results indicated that depression level was high such that extreme major depression was observed in 7.9% of boys and 11.8% of girls from MBBS and 10.7% of girls from Physiotherapy, concluding that depression was more in girls as compared to boys. Karl, et al. (2013) also found a prevalence of 7.0% severe depression and 25.2% moderate to severe depression was revealed among the undergraduate students (54.3% male and 45.7% female; mean age 22.3 ± 3.1).

Age wise, Josephat, Manyike, Obu, Aronu, Odutola and Chinawa (2015) determine the prevalence of several levels of depression among 453 adolescents (age range between 9-18 years) attending secondary schools in South East Nigeria (Enugu and Ebonyi metropolises) revealed that depression is non-existent before the age of 10 years and found that revealed that depression is non-existent before the age of 10 years. However, study found that prevalence of moderate depression was lowest (2.3%) at the age of 10 and highest (6.2%) at the age of 13. The prevalence of severe depression was lowest (1.9%) at the age of 11 and highest (7.4%) at the age of 12 (Josephat, et al.,

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2015). It was also found that felling depressed, sleeping problems and anxiety were the most common effects of stress as reported by the study participants (Oku et al., 2015).

Peltzer, Pengpid, Olowu and Olasupo (2013) determined the relationships between sociodemographic, depression, social and health variables among 820 (54.3% male & 45.7% female) undergraduate students of Obafemi Awolowo University in Nigeria (mean age of 22.3 years & SD=3.1) in a cross-sectional survey study. Study outcome showed a prevalence of 7.0% severe depression and 25.2% moderate to severe depression. Further, multivariate logistic regression revealed that lack of social support, having screened positive for PTSD and having a moderate to severe sleeping problem were associated with depression. Hence, considerable rates of depression were found. Several risk factors including comorbidity (PTSD and sleeping problems) and lack of social support were also identified.

Sibnath, et al. (2010) revealed that 20.1% of female and 17.9% of male suffered from high anxiety such that more girls were anxious than boys. Afsheen, et al. (2016) show a prevalence of anxiety and depression was 83.9% and 67.9%, from first year to fourth year respectively, based on the cut-off points of both instruments.

Colgan (2016) explored the influence of perceived academic pressure of the Leaving Certificate on the mental wellbeing of students, focusing on both 5th and 6th year, male and female secondary school adolescent students and aimed to establish the relationship between perceived academic pressure and levels of depression anxiety stress and self-efficacy. The study outcome showed that there is a prevalence rate 63.7% of depression, 68.1% of anxiety, and 59% of academic stress among the study participants. There is a significant relationship between perceived academic pressure and depression, anxiety, stress and self-efficacy.

Praveena and Karthikeyan (2018) determined the prevalence and patterns of depression, anxiety and stress among 400 school going adolescents belonging to classes 10th to 12th of Tirunelveli district, Tamilnadu, India. The outcome showed that the overall prevalence of depression, anxiety and stress was 73.6%, 86.5% and 24.7% respectively. Further, depression,

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Anxiety and stress were significantly observed more among 10th class students when compared with other classes.

Fatiregun and Kumapayi (2014) assessed the prevalence and correlates of depressive symptoms among in-school adolescents in a rural district in southwest Nigeria in a cross sectional survey involving 1713 adolescents from four private and three public secondary schools. The study outcome showed that the prevalence was 21.2%.

Omigbodun, Dogra, and Esan (2008) attempted to establish the prevalence and associated psychosocial correlates of suicidal ideation and attempts among a total of 1429 youth in Nigerian. The outcome revealed that over 20% reported suicidal ideation and approximately 12% reported that they had attempted suicide in the last year. It is also wotrthy to note that adolescents living in Urban areas, from polygamous or disrupted families, had higher rates of suicidal behaviour.

Priti and Chavan (2009) revealed that out of 2402 students, 1078 (45.8%) had psychological problems, half (1201 students) perceived problems in their role as students, 930 (45%) reported academic decline, 180 (8.82%) students reported that life was a burden, 122 (6%) reported suicidal ideas and 8 (0.39%) students reported suicidal attempt. Also, Akanni et al. (2017) revealed 5.7% prevalence rate of suicide attempt.

2.5.1. Depression

Reynolds (2015) examined the role of depressive symptoms as a potential mediator of the relation between stress and suicidal behavior, and mental health problem stigma as a moderator of that effect among a sample of 913 college students. Overall results showed that perceived stress, depressive symptoms, mental health problem stigma and suicidal behaviors were all positively correlated. Depressive symptoms mediated partially the association between stress and suicidal behaviors in that greater stress was related to more depression and, in turn, to greater engagement in suicidal behavior. This position is corroborated by the study Rebecca and Vivien (2006) which examined relations among academic stress, depression, and suicidal ideation among 1,108 Asian adolescents 12–18 years old from a secondary school in Singapore, testing the prediction that

adolescent depression mediated the relationship between academic stress and suicidal ideation in a four-step process using Baron and Kenny's framework. Previously significant relationship between academic stress and suicidal ideation was significantly reduced in magnitude when depression was included in the model suggesting evidence that adolescent depression was a partial mediator (Rebecca & Vivien, 2006). Further, mental health problem stigma significantly moderated this mediating effect, exacerbating the deleterious relations between perceived stress and depression, stress and suicidal behavior, and between depression and suicidal behaviors (Reynolds, 2015).

Jayanthi, Thirunavukarasu, and Rajkumar (2015) examined the relationship between academic stress and depression among 1120 adolescents in a cross-sectional study conducted at higher secondary schools in Tamil Nadu using MINI-kid tool and Modified Educational Stress Scale as a screening instrument. Research findings revealed that adolescents that scored high on academic stress were at 2.4 times at higher risk of depression than adolescents without academic stress. In a related study Arguera (2017) investigated stress caused by school work load among school aged children based on survey data of year 2005/2006. In an attempt to provide an analysis of the effects of schoolwork pressures on depressive symptomology in Canada, outcome showed that school work pressure is negatively related with depressive symptoms. Afsheen et al. (2016) found a significant association among depression, anxiety, and academic stress.

It was also found that a bi-directional relationship exist between depression and academic stress as revealed by Afsheen et al. (2016) that depression significantly predicted academic stress. Further, findings showed significant distress among medical students on depression, in essence acting as a pertinent predictor of academic stress at the expense of anxiety.

Alongside academic stress, certain psychological variables such as self efficacy and self esteem were identified. Niamh (2016) explored the relationship between perceived academic pressure of the Leaving Certificate on the mental wellbeing (levels of depression anxiety stress and self-efficacy) of students with focus on both 5th and 6th year students. Instruments that tap the participants current emotional states were administered to a total of 210 participants recruited from

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two separate schools. Overall, results indicated that a significant relationship exist between perceived academic pressure and depression, anxiety, stress and self-efficacy. A moderate positive correlation exist between depression, anxiety, and perceived academic pressure. On the other hand, a moderate negative correlation exist between stress, self-efficacy, and perceived academic pressure. As the levels or perceived academic pressure increase, the levels of self-efficacy are seen to decrease. In a related study by Kang et al. (2013) found a positive association between self-esteem and depression.

Fan (2017) identified the relationship between academic stress and depression and anxiety symptoms among adolescents and socio-demographic factors that could influence these variables linkage and the moderating effects of gender and residency type on adolescents' academic stress, depression and anxiety, among chinese population. The result showed that depression and anxiety symptoms, gender and grade level were significant risk factors of academic stress. Also, several risk factors including comorbidity (PTSD and sleeping problems) and lack of social support were also identified (Peltzer et al., 2013). Lack of social support, having screened positive for PTSD and having a moderate to severe sleeping problem were associated with depression (Peltzer et al., 2013).

Oladelea and Oladele (2016) investigated suicidal ideation and depression in 391 students (165 male & 226 female) between 18 and 24 years old, with and without learning disabilities in two Colleges of Education in Nigeria in a descriptive research design. Findings showed that students with learning disabilities experienced more depression and were more prone to suicidal ideation when compared to their mates without learning disabilities. Coker, Coker, and Sanni (2018) assessed the symptoms of depression, anxiety, and stress among a sample of 240 second to sixth year students (mean 25 years; SD = 4.5) of Lagos State University College of Medicine Lagos, Nigerian, in a cross-sectional and descriptive design. Findings revealed that the larger proportion of the participants that experienced stress also experienced symptoms of depression.

Lama (2011) identified the impact of mood disorders, such as anxiety and depression among a sample of 200 university students for their academic achievement in Tafila Technical University.

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Specifically, this study investigates the difference between gender with respect to the level of depression and anxiety they have as well as the difference between colleges and the levels of depression and anxiety. Outcome indicated that males are more depressed than females as also found in Afsheen, et al. (2016). Recently, Fan (2017) confirmed female gender as risk factor for depression symptom. In contrast, Zainab, et al. (2017) posited that gender difference does not exist with respect to mental health. Although research clue emerged in the recent justifying variance observed. Josephat et al. (2015) also confirmed female gender as a risk factor for depression. Adolescent exhibit different levels of depression with a female preponderance among the adolescents (Josephat, et al., 2015).

Fan (2017) found that fewer years living in Shenzhen, poor academic performance, high levels of academic stress, higher grade levels, not living in own accommodation and coming from disrupted families were found to be risk factors for depression symptoms. Children whose parents are separated showed higher incidences of depression in all the spectra studied (Josephat, et al., 2015). Other social and health variables have been identified as risk factors. Karl, et al. (2013) determined the associations between depression, socio-demographic, social and health variables among a sample of 820 undergraduate students (54.3% men and 45.7% women; mean age 22.3 ± 3.1) of Obafemi Awolowo University in Nigeria in a cross-sectional survey confirmed lack of social support, PTSD comorbidity, insomnia as risk factors. Kang, et al. (2013) identified certain socio-demographic variables affecting depression and found academic major and satisfaction with it as positive associate of depression, while home income level was negatively related to it.

Adeosun (2016) assessed depression literacy in a sample of 280 adolescent students (mean age = 15.1(±1.6) years; 54% were females & 46% were male) recruited from three senior secondary schools in Lagos, Nigeria in a cross-sectional survey. Depression literacy was assessed with a questionnaire containing a case vignette of depressive disorder based on the DSM-IV diagnostic criteria. Findings showed that depression was predominantly misidentified as physical illness (26.1%), 'thinking too much' (13.6%), stress (11.8%) emotional problems (14.3%) or reaction to

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maltreatment/abuse (15%). Only 10.4% of the respondents correctly identified that the vignette depicted depression. However, A total of 4.8% (n = 13) participants correctly identified and labelled the depression vignette with Insomnia (17.1%) as the most identified symptom of distress for depression in a study conducted by Aluh, Anyachebelu, Anosike and Anizoba (2018) investigate mental health literacy of 285 secondary school students (grades 10–12 students of Federal Government College) in south-east Nigeria in Nigeria in a cross-sectional descriptive survey. Participants were presented with the 'friend in need' questionnaire designed to elicit the participants' recognition of the disorder depicted in two vignettes (clinically depressed case and a girl undergoing normal life crisis) and their recommendation about the appropriate source of help-seeking. Findings revealed that out of the 285 students recruited into the study, 277 questionnaires were adequately completed indicating a response rate of 97.2%. The commonly endorsed sources of help-seeking were counsellors (33.9%), General practitioners (43.9%) or parents/elders (15.0%), and only 6.5% recommended a mental health professional (Adeosun, 2016), but Aluh et al. (2018) found only four respondents (1.5%) recommended professional help from a Psychiatrist or Psychologist but family and friends were the most recommended source of help. Females demonstrated higher mental health literacy, in terms of their ability to correctly label the depression vignettes, with greater concern over a depressed peer than males, their expectation that depression requires a longer recovery than normal teenage problems and in their ability to identify individual symptoms of depression (Aluh et al., 2018).

2.5.2. Anxiety

In a study conducted by Sanjiv et al. (2010) found stress to be significantly associated with the number of adverse health conditions in students. Sibnath, et al. (2015) found that about one-thirds (32.6%) of the students were symptomatic of psychiatric cases and 81.6% reported examination-related anxiety. A significant positive correlation was found between parental pressure, psychiatric problems, and academic stress. Examination-related anxiety also was

positively related to psychiatric problems. Recently, Fan (2017) revealed academic stress among other variables as risk factors for anxiety symptoms. Although Afsheen, et al. (2016) differed in that as against depression, anxiety does not predict academic stress and this outcome enjoys support from Sindhu and Azmal (2017) that no significant differences exist between the high and low scorers of anxiety with respect to level of stress. In fact more recent studies have revealed that larger proportion of the participants that experienced stress also experienced symptoms of anxiety (Coker et al., 2018).

Sibnath, Pooja, and Kerryann (2010) examined among other things better anxiety among 460 adolescents (220 male & 240 female), aged 13-17 years in Kolkata city, India and their perceptions of quality time with their parents. Alongside these, anxiety was compared across certain socio-demographic variables and findings showed that compared to adolescents from English medium schools adolescents from Bengali medium schools were more anxious. In essence this suggests school type as a risk factor. Adolescents from middle socio-economic class reported more anxiety than those from both high and low socioeconomic class. Adolescents whose mothers are working reported more anxiety.

A substantial proportion of the adolescents perceived lack of quality time from fathers (32.1%) and mothers (21.3%). Also substantial proportion of adolescent did not feel comfortable to share their personal issues with their parents (60% for fathers and 40% for mothers). Lama (2011) revealed that females are more anxiety prone than males, as supported by Afsheen, et al. (2016). Recently, Fan (2017) revealed female gender and being in higher grade levels were risk factors for anxiety symptoms. Zainab, et al. (2017) posited that gender difference does not exist with respect to mental health. Although mental health in respect to its problem subtypes was not considered. Sanjiv, et al (2010) showed that depression anxiety and stress negatively associated with academic performance of the students respectively. Lama (2011) found positive relationship between achievement and anxiety, and a negative relationship depression. In fact Fan (2017) also identified poor academic achievement as a risk factor for academic stress.

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2.5.3. Suicidal Ideation

Hameeda and Musaddiq (2017) investigated associations between stress, social support (from family, friends, and significant others support) and suicidal ideation among a sample of 200 adolescent students (100 boys and 100 girls). Having completed measures of socio-demographic variable, stress, social support, and suicidal ideation, the findings showed a significant positive correlation between adolescents stress and suicide ideation and significant negative correlation between perceived social support and suicide ideation. Priti and Chavan (2009) investigated the relationship between stress, psychological health, and presence of suicidal ideas and their presence in adolescents in secondary school in a cross-sectional study. Data were collected on 2402 students in urban area of Chandigarh city from classes VII to XII on socio-demographic scale, 12-item general health questionnaire, and revealed that a significant correlation exist between student's perception of life as a burden and class they were studying, mother's working status, psychological problems and problems students experienced in relation to study, peers, future planning and with parents. In another study, it was found that students with learning disabilities experienced were more prone to suicidal ideation when compared to their mates without learning disabilities (Oladelea & Oladele, 2016). Also, in a study that investigated academic stress, personality factors and socio-economic status as predictors of suicide ideation among undergraduates, as well as determined the extent to which academic stress, personality factors and socio-economic status could buffer the negative impacts of suicidal ideation in a cross sectional survey found socio-economic status alongside academic stress and personality factors as predictors of suicidal ideation on a joint and independent basis (Oginyi, Mbam, Sampson, Chukwudi & Nwoba (2018). Hameeda and Musaddiq (2017) identified stress combined with family Support as a strong predictor of suicidal ideation in males contrary to females, while low family support increase the observed association between stress and suicidal ideation.

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Mental illness has been primarily viewed as a disorder of the brain based on awareness of its multi-factorial causation as found in Tolulope, Olayinka, Nisha, Yetunde (2011) study that determined perceptions on the nature, causes, characteristics and treatments for mental illness among a sample of 164 student adolescents (aged 10–18 years) from rural and urban schools in Southwest Nigeria. Although some deficits in 12 were identified and cultural and supernatural themes were evident (Tolulope, et al., 2011).

Word count: 4,430

CHAPTER THREE
Methodology

3.1. Study Location

This study was carried out in Ibadan. Ibadan is the capital and most populous city of Oyo state, Nigeria, with a population of over 3 million. National Population Commission (1991). It is the Nigeria's largest city by geographical area and the third most populous city after Lagos and kano. Ibadan is located in south-western Nigeria, 128km inland northeast of Lagos and 530km southwest of Abuja, the federal capital, and is a prominent transit point between the coastal region and the areas in the hinterland of the country, Areola (1994).

3.2. Study Design

This study utilized a descriptive cross – sectional study. The rationale for this choice of research design is because the study used a self-reported questionnaire to gather research data among population samples with variations across socio-cultural and personal characteristics such as age, gender, class in school, and religion. The independent variable is academic stress while the dependent variables are mental health problems (depression, anxiety, and suicidal ideation).

3.3. Study Population

The respondents were adolescents in senior secondary schools in Akinyele Local Government, Ibadan, Oyo state.

3.4. Sample Size Calculation

Sample size calculation using simple proportion developed by Kish (1965)

$$n = \frac{Z^2 P(1 - P)}{d^2}$$

where   n = Sample Size,

         Z = Z score at 95% (confidence level of 1.96)

         d = Margin of error at 5% (0.05)

         P = 63.5% prevalence from the study of prevalence and predictors of percieved stress

           (A study among medical students of Eboniyi State University Abakaliki, Nigeria. (2018)

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$$n = \frac{Z^2 P(1-P)}{d^2} = \frac{(1.96)^2 \times (0.635)(0.365)}{(0.05)^2} = \frac{3.8416 \times 0.2318}{0.0025} = \frac{0.8905}{0.0025} = 356.2$$

$n + 36$ (i.e., 10% of 356.2 *as non response rate to checkmate unreturned or invalid questionnaires*)

$356 + 36 = 392$ (*Total sample size*)

3.5 Sampling Technique

The study adopted a 3-stage sampling technique involving random and stratified sampling. Akinyele Local Government was purposively selected for logistic reason. Afterward, the list of secondary schools in Akinyele Local Government was obtained from the Local Inspector of Education (LIE) of the Ministry of Education. The secondary schools were stratified into public and private. From the list of 21 public secondary schools and 9 private secondary schools, 4 (four) public secondary schools and 2 (two) private secondary schools were randomly selected by balloting between the two strata using the proportional allocation. The systematic random sampling using the classroom sitting arrangement was used in the classes across SSS 1 – SSS 3. Each of the senior classes had one arm, i.e. SSS 1, SSS 2 and SSS 3 but 3 (three) departments which were science, commercial and arts. 7 students were selected from each department of each senior class across SSS 1 – SSS 3 giving a total of 63 participants from each of the senior secondary schools and a total of 378 participants from the 6 (six) selected secondary schools.

3.6 Inclusion Criteria

Participants that were considered for the study was based on the criteria below:

1. Students who were in senior secondary schools and who were willing to participate.

2. Students who had been enrolled in the school for at least 6 months.

3. Students who were within the age bracket of between 11 and 19 years.

3.7. Exclusion Criteria

Participants that were excluded from the study was based on the criteria below:

1. Students whose parent/guardian refused to give consent.

2. Students who did not give assent to participate in the study

3. Students who were physically ill or had been diagnosed with mental health problems.

3.8. Study Instruments

Data were self-administered and collected using the following questionnaire.

3.8.1 Socio-demographic Variables

This section measured the socio-demographic variables in the study. Socio-demographic variables according to Omigbodun and Omigbodun (2004) was used. These variables cut across personal information (e.g., Name of School, Class, where lived, age/date of birth, gender, and religion), family information (e.g., family Type, Number of mother/father's Children, position among father/mother's children, and parent's marital Status), and school related informations.

3.8.2 Educational Stress Scale for adolescents (ESSA)

The Educational Stress Scale for adolescents (ESSA) developed by Sun, Dunne, Hou, and Xu (2011) was used to assess academic stress. ESSA has 16 items with five (5) likert responses (strongly disagree = 1, disagree = 2, neutral = 3, agree = 4, strongly disagree = 5). It measured the subscale of pressure, worry about grades, despondency, self-expectation and workload.

The total score ranges from 16 to 80. The mean score was used to determine the level of stress. Scores above the mean signified high academic stress while scores below the mean signified low academic stress.

Validation of Instrument

As part of the present study, this scale was revalidated to ensure its validity and reliability for the local setting. In the course of this, the researcher engaged some of the participants in focus group discussions so as to assist in generating more valid items that will better measure the construct. This involved three (3) phases.

Phase 1

This phase involved Focus Group Discussions (FGD) conducted among six (6) Senior Secondary School Students of Abadina College, Ibadan. This was done upon approval from the school management and assent from the students. The issue of confidentiality was ascertained as they were

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given a number tag to address themselves accordingly instead of using their names. The six students were asked to respond to the same open ended questions and their responses were recorded. The thematic analysis of the content of the audio recording was analyzed and 18 items were generated.

Content and Face Validity

Face validity was carried out on the generated 18 items. The items were examined, modified and items that were duplicated were removed reducing them to 11 items which were added to the existing 16 items, making the items number be 27. Some of the items that were added to the Educational Stress Scale for adolescents (ESSA) were;

1. My classroom space is too small to contain me and my colleagues and this gives me stress.
2. My classroom is not well equipped (eg. with chairs & tables) and this puts me under academic pressure.
3. I get too many distractions from my classmates even while the lecture is going on me concern.
4. Lack of academic materials put me under academic pressure.
5. My parents frustrate my study time by giving me too many chores and this gives me concern.

Phase 2

The 27 items were arranged on a questionnaire for the first phase of administration. The questionnaires was administered to fifty (50) senior secondary students in Abadina Grammar School, Ibadan. Afterward, these 50 items were checked for reliability analysis using SPSS version 22. The reliability (cronbach's alpha coefficient) of this scale was good, $\alpha = = 0.775$. The item total correlation of the entire scale was good as none was negative. This shows that all the items were measuring the construct in view (Academic stress). The item reliability of the entire scale items ranged from 0.753 to 0.793. Hence, there was no need to delete any of the scale items.

Phase 3

This phase was a repeat of phase 2 which was apparently two (2) weeks after the phase 2 was conducted. The same 27 items questionnaire was re-administered to the same fifty (50) senior

secondary students. After the administration, these 50 items were as well checked for reliability analysis using SPSS version 22. The reliability (cronbach's alpha coefficient) of this scale was good, α = 0.898. The item total correlation of the entire scale was good as none was negative. This shows that all the items were measuring the construct in view (Academic stress). The item reliability of the entire scale items ranged from 0.892 to 0.899. Hence, there was no need to delete any of the scale items. In the study, the reliability coefficient was found to be 0.89.

Therefore, these 27 items were factored into the questionnaire in the main study as Educational Stress Scale for adolescents (ESSA) to measure academic stress.

3.8.3 Beck Depression Inventory

Beck Depression Inventory - Second Edition (BDI-II), is a self-report instrument was used to assess for the existence and severity of depressive symptoms. BDI-II is a 21 items scale rated on four (4) likert range from 0 to 3. These items which correspond to a symptom of depression are summed together to give a single score for the BDI-II. Score between 0 and 13 is considered minimal range, score between 14 and 19 is considered mild, score between 20 and 28 is considered moderate, and score between 29 and 63 is considered severe.

This instrument demonstrated a good reliability (Beck, Steer, & Brown, 1996). The total score range is from 0 to 90. BDI-II has a high coefficient alpha (α) of .80. In this study the reliability coefficient was found to be recorded 0.84.

3.8.4 Beck Anxiety Inventory (BAI)

Anxiety was measured using Beck Anxiety Inventory (BAI) developed by Aron T. Beck (1988). BAI measures the severity of self-reported anxiety adolescents and contains 21 items with four (4) likert responses (Not at all = 0, Mildly - it did not bother me much = 1, Moderately - it was very unpleasant but I could stand it = 2, Severely - I could barely stand it = 3). A total score is the sum of the item scores totaling 63 points.

Score between 0 and 7 indicating minimal anxiety, score between 8 and 15 indicating mild, score between 16 and 25 indicating moderate anxiety, and score between 26 and 63 indicating

severe anxiety (Steer & Beck, 1997). In this study the reliability coefficient was found to be recorded 0.92.

3.8.5 Scale for Suicidal Ideation (SSI)

The Scale for Suicidal Ideation (SSI) developed in 1979 by Beck, Kovacs, and Weissman[1] was used to assess suicidal ideation. SSI is a 19 item self-report Scale for Suicidal Ideation. It was designed to quantify the intensity of current conscious suicidal intent by scaling various dimensions of self-destructive thoughts or wishes and their characteristics as well as the patient's attitude towards them. Each item consists of three alternative statements graded in intensity from 0 to 2. Total score is the addition of the individual item scores and may range from 0 (low ideation) to 38 (high ideation). A positive rating (>1) on any of the ideation scale's 19 items is considered as a potential indicator of suicide ideation. 16 out of 19 items have positive and significant item total correlations and a reliability (α) of .89. In this study the reliability coefficient was found to be recorded 0.90.

3.9. Ethical Consideration

3.9.1 Ethical Review and Approval

Ethical approval to carry out this study was obtained from the Oyo State Ethics Review Committee, Ministry of Health, Secretariat, Ibadan and official permission was obtained from the Ministry of Education, Oyo state and the authorites of the selected schools.

3.9.2 Informed Consent Process

The nature and purpose of the study was explained to the participants and an informed consent was obtained from their parents/legal guardian through an informed consent form. Assent was obtained from the participants.

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3.9.3 Confidentiality of Data

All the information accessed from the participants were treated with maximum confidentiality. They were also informed that the findings of the study may be published in a journal.

3.9.4 Translation of the Instrument

The questionnaires were translated into Yoruba Language for the purpose of those with little and no understanding of English Language and for better and accurate responses. However, the translated questionnaires were unused because the students understood the English version of them.

3.9.5 Beneficence

The outcome of this study will benefit the participants such that it will be an eye opener as to the status of the study population in terms of academic stress. In this regard, school counsellors will be able to leverage on the outcome of this study to the advantage of adolescents in secondary school. Having been evaluated for the predictive variables (academic stress) and criterion variable (depression, anxiety & suicidal ideation), the participants stand a better chance of benefiting from the study outcome through the policy changes in the school as recommended by the study researcher.

3.9.6 Non-Maleficence to Participants

This study poses no harmful effect for the study participant. However, the researcher ensured that inconvenience was reduced to the barest minimum for the participants. This entailed collaboration with the school managements and the participants on the right timing and venues convenient for the study.

3.9.7 Right of decline/withdrawal from the study

Participants were assured that their participation was voluntary and that they deserved the right to withdraw from the study at any point in time. Participants were not made to perceive any

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form of coercion to get involved in the study in the sense that they were made to understand that there were no undue benefits such as favours from the researchers on account of participation.

4.0   Study Procedure

This study involved a cross-sectional data that were collected in six (6) schools both private and public secondary schools in Ibadan. The purpose of the study was to investigate the academic stress and mental health problems among adolescents in secondary schools in Ibadan. It was based on 366 adolescents between the age group of 11 to 19 years.

Prior to questionnaires administration, the researcher carried out a pretest study on a few sample size to pretest each questionnaires. Afterward, the administration of the questionnaires began with the selected participants who gave assent and whose parents/caregivers gave their consent. The researcher established rapport with the students and intimated them with the purpose of the administration. Every instruction given on the front page of the questionnaire was carefully read to the participants, before they attended to the questionnaires.

The researcher ensured the students attended to the questionnaire without the presence of any teachers or other school staff. The data were checked for completeness before collection. It took a period of two (2) week to administer the questionnaire.

4.1   Data Management

The data collected for the study was analyzed using the SPSS version 22. During the data cleaning stage, instruments with invalid answers and duplications were deleted. The socio-demographic information of the respondents were analyzed using descriptive statistics, while the research objectives were analyzed using other advanced statistical tools such as cross tabulation, chi-square of independence and logistic regression analysis.

For the research objective one, frequency analysis was used to determine the prevalence of academic stress. For the research objective two, frequency analysis was used to determine the prevalence of mental health problems (depression, anxiety, and suicidal ideation). For the research

objective three, chi-square and logistic regression were used. All variables on the chi square test at (p=0.1) were analysed using logistic regression to determine the correlates of academic stress and mental health problems (depression, anxiety, and suicidal ideation). For the research objective four, chi-square was used to determine the association between academic stress and mental health problems (depression, anxiety, and suicidal ideation).

Word count: 2,399

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Chapter Four

Results

This study aimed to investigate the relationship between academic stress and mental health problems among senior secondary school adolescents in Akinyele Local Government, Ibadan. A total of 378 adolescents were recruited into the study and 366 returned completed questionnaires giving a response rate of 96.7%. The analyses of the findings are presented as follows:

1. Socio-demographic characteristics of study participants.

2. Prevalence of academic stress in senior secondary school adolescents.

3. Prevalence of mental health problems in senior secondary school adolescents.

4. The correlates of academic stress and mental health problems.

5. The association between academic stress and mental healthh problems in senior secondary school adolescents.

5.1.   Socio-Demographic Analysis of the study participants

As shown in Table 5.1 there were more females (54.1%) than males (45.9%). The participant's age ranged from 11 - 19 years (Mean = 15.41: SD = 1.77). One third (33.3%, n = 122) were from private schools and two third (66.7%, n = 244) were from public schools. Most (79.5%) of the respondents were not engaged in any form of work.

Table 5.1.   Social-demographic characteristics of study participants (N = 366).

Variables	n(%)
Age group (in years)	
11 – 14 years	122(33.3)
15 – 19 years	244(66.7)
Gender	
Male	168(45.9)
Female	198(54.1)
Type of school	
Private	122(33.3)
Public	244(66.7)
Religion	
Islam	173(47.3)
Christian	186(50.8)
Others*	7(1.9)
Position among father's children	
First born	121(33.1)
Other positions	245(66.9)
Position among mother's children	
First born	124(33.9)
Other positions	242(66.1)
Do you do any kind of work to earn money?	
Yes	75(20.5)
No	291(79.5)
Type of work	
Hawking	29(7.9)
Repair phone	8(2.2)
Fashion designing	10(2.7)
Labourer	21(5.7)
Teaching	4(1.1)
Hairdressing	3(0.8)

others* traditional religion and free thinkers

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5.1.1 Family characteristics of study participants (N = 366)

Table 5.1.1. shows that participants from monogamous and polygamous family were 249(68%) and 117(32%) respectively. Majority 308(84.2%) of the participants reported that their parents were married. Participants who reported living with both parents were 268(73.2%). Majority 358(97.8) of the participants reported that they liked their family.

Table 5.1.1. Family characteristics of study participants (N = 366).

Variables	n(%)
Family Type	
Monogamous	249(68)
Polygamous	117(32)
What is your parent's marital status	
Married	308(84.2)
Separated/Divorced	32(8.7)
Others*	26(7.1)
Number of father's children	
0 – 4	104(28.4)
5 and Above	262(71.6)
Number of mother's children	
0 – 4	100(27.3)
5 and Above	266(72.7)
Who do you live with presently?	
Both parents	268(73.2)
Others**	98(26.8)
What is your father's highest academic qualification?	
Primary school and below	39(10.7)
Secondary school and above	327(89.3)
What is your mother's highest academic qualification?	
Primary school and below	29(7.9)
Secondary school and above	337(92.1)
Do you like your family?	
Yes	358(97.8)
No	8(2.2)

others*   father / mother is dead and both dead
others** father / mother only, grandparents, grandfather /
        grandmother only

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5.1.2. Academic characteristics of study participants (N = 366)

Academic demographics of the study participants are summarized in table 5.1.2

Majority 353(96.4) of the respondents reported doing well. Majority 286(78.1%) of the respondents

reported having school guidance and counsellor.

Table 5.1.2.   Academic characteristics of study participants (N = 366).

Variables	n(%)
Academic Performance	
Doing Well	353(96.4)
Not doing well	13(3.6)
Reason for doing well	
I attend class regularly	109(29.8)
Our teacher explain to us better	144(39.3)
I listened well in class and study my books	87(23.8)
My school is of good quality	13(3.6)
Reason for not doing well	
I don't understand my studies	7(1.9)
The work is tough	6(2.7)
Having difficulties with Teacher?	
Yes	14(3.8)
No	352(96.2)
Why having difficulties with teacher	
They do not teach well	9(2.5)
We disagree on my career path	3(0.8)
They condemn a lot	1(0.3)
They are difficult to understand	1(0.3)
Is guardian and Counselor available in school?	
Yes	286(78.1)
No	80(21.9)

5.2. Prevalence of academic stress and mental health problems among the study participants

5.2.1. Prevalence of Academic Stress

The prevalence rate of academic stress among the study participants was 45.1% using the mean score of the study participants which was 72.75.

5.2.2. Prevalence of Mental Health Problems (depression, anxiety and suicidal ideation)

The prevalance of depression was 41.8% at a cut off for depression on (BDI scores of 18 and above). For anxiety, the prevalence rate was 29% at a cut off for anxiety on (BAI scores of 16 and above). The prevalence of suicidal ideation was 38.8% at a cut off for the suicidal ideation on (SSI scores of 6 and above).

5.3   Socio-Demographic correlates of academic stress among study participants

Table 5.3.1 shows the correlates of academic stress of the respondents. Higher proportion (49.6%) of respondents who were in public secondary school were significantly found to have academic stress compared to those in private secondary school (36.1%) (p = 0.009). Higher proportion (53.3%) of respondents who were in SSS 2 were significantly found to have academic stress compared to those in other senior secondary classes SSS 1 (31.1%) and SSS 3(50.8%) respectively (p =0.001). Higher proportion (51.2%) of male respondents were significantly found to have academic stress compared to female respondents (39.9%) (p = 0.020). Higher proportion (51.4%) of respondents who belong to class between 26 members and above were significantly found to have academic stress compared to those who belong to class of 0 – 25 members (38.8%) (p = 0.010).

Table 5.3.1   Correlates of academic stress among study participants

Variables	Low stress n(%)	High stress n(%)	Chi² (χ^2)	P-value
Type of School				
Private	78(63.9)	44(36.1)	6.009	.009*
Public	123(50.4)	121(49.6)		
Academic Class				
SSS 1	84(68.9)	38(31.1)	14.501	.001*
SSS 2	57(46.7)	65(53.3)		
SSS 3	60(49.2)	62(50.8)		
Gender				
Male	82(48.8)	86(51.2)	4.680	.020*
Female	119(60.1)	79(39.9)		
Age				
11 - 14 years	73(59.8)	49(40.2)	1.788	.110
15 - 19 years	128(52.5)	116(47.5)		
Religion				
Islam	99(57.2)	74(42.8)	.760	.684
Christian	98(52.7)	88(47.3)		
Others*	4(57.1)	3(42.9)		
Family Type				
Monogamous	140(56.2)	109(43.8)	.537	.267
Polygamous	61(52.1)	56(47.9)		
Father's Education				
Primary school and below	18(46.2)	21(53.8)	1.354	.160
Secondary school and Above	183(56.0)	144(44.0)		
Mother's Education				
Primary school and below	12(41.4)	17(58.6)	2.332	.061
Secondary School and above	189(56.1)	148(43.9)		
Parent's Marital Status				
Married	169(54.9)	139(45.1)	1.987	.370
Separated/Divorced	15(46.9)	17(53.1)		
Others**	17(65.4)	9(34.6)		
Position Among Father's Children				
First born	70(57.9)	51(42.1)	.628	.248
Other positions	131(53.5)	114(46.5)		

Position Among Mother's Children				
First Born	68(54.8)	56(45.2)	.000	.535
Other positions	133(55.0)	109(45.0)		
Number of students in Class				
0 – 25 members	112(61.2)	71(38.8)	5.838	.010*
26 members & above	89(100.5)	94(51.4)		
Person lived with presently				
Parents	154(57.5)	114(42.5)	2.618	.067
Others***	47(48.0)	51(52.0)		
Number of mother's children				
0 – 4 Children	58(55.8)	46(44.2)	.043	.465
5 & Above	143(54.6)	119(45.4)		
Number of father's children				
0 – 4 Children	57(57.0)	43(43.0)	.241	.355
5 & Above	144(54.1)	122(45.9)		
Student work after school				
Yes	42(56.0)	33(44.0)	.045	.469
No	159(54.6)	132(45.0)		

Others* traditional, free thinker

Others** Separated / divorced, father / mother dead and both parents dead

Others***father / mother only, grandparent, grandfather / grandmother only

Table 5.3.2. shows that type of school, academic class, gender, and number of students in class are significantly associated with academic stress. Adolescents who were in public schools are 2.33 times likely to experience academic stress compared to adolescents from private secondary schools. Adolescents in SSS 2 class are 3.15 times likely to experience academic stress compared to adolescents in other senior secondary classes SSS1 and SSS 2 respectively. Male adolescents are 1.56 times less likely to experience academic stress compared to female adolescents. Adolescents belonging to a class of over 25 members are 2.17 times more likely to experience academic stress compared to adolescents belonging to a class of 25 members and below.

Table 5.3.2. Logistic regression analysis showing the association between academic stress and socio-demographic correlates

Variables	β	Odd ratios	95% C.I	p-value 0.05
School Private Public	.848	1 2.334	[1.320, 4.128]	.004
Class Others* SSS 2	1.150	1 3.157	[1,805, 5.522]	<.001
Gender Female Male	-.446	1 .640	[0.414, 0.991]	.045
Age 15 – 19 years 11 – 14 years	.193	1 1.213	[0.720, 2.044]	.467
Number of student in class 0 – 25 members 26 members & above	-.777	1 .460	[0.279, 0.757]	.002

Dependent variable: Academic Stress

Others*   SSS 1 and SSS 3

Others** father / mother only, grandparent, grandfather / grandmother only

5.4. Socio-Demographic correlates of mental health problems among the study participants

5.4.1. Socio-Demographic correlates of depression among the study participants

Table 5.4.1 shows the correlates of depression of the respondents. Higher proportion (54.1%) of respondents who are in SSS 2 were significantly found to have depression compared to those in other senior secondary classes SSS 1 (28.7%) and SSS3 (49.2%) respectively (p= <0.001). Higher proportion (51.5%) of respondents from polygamous family were significantly found to have depression compared to respondents from monogamous family (39%) (p=0.003). Higher proportion (52.5%) of respondents who belong to class 26 and above members were significantly found to have depression compared to those who belong to class of 0 - 25 members and above (38.8%) (p=0.001).

Table 5.4.1:   Correlates of depression among study participants.

Variables	Non depressed n(%)	Depressed n(%)	Statistics Chi² (χ^2)	P-value
Type of School				
Private	66(54.1)	56(45.9)		
Public	139(57.0)	105(43.0.)	.272	.341
Academic Class				
SSS 1	87(71.3)	35(28.7)	17.987	<.001*
SSS 2	56(45.9)	66(54.1)		
SSS 3	62(50.8)	60(49.2)		
Gender				
Male	89(53.0)	79(47.0)	1.161	.166
Female	116(58.6)	82(41.4)		
Age				
11 - 14 years	69(56.6)	53(43.4)	.022	.486
15 - 19 years	136(55.7)	108(44.3)		
Religion				
Islam	99(57.2)	74(42.8)	1.000	.607
Christian	101(54.3)	85(45.7)		
Others*	5(71.4)	2(28.6)		
Family Type				
Monogamous	152(61.0)	97(39.0)	8.009	.003*
Polygamous	53(45.3)	64(51.5)		
Father's Education				
Primary school and below	24(61.5)	15(38.5)	.541	.288
Secondary school and Above	18(55.4)	146(44.6)		
Parent's Marital Status				
Married	176(57.1)	132(42.9)	2.142	.343
Separated/Divorced	18(56.3)	14(43.8)		
Others**	11(42.3)	15(57.7)		
Position Among Father's Children				
First born	68(56.2)	53(43.8)	.003	.525
Other positions	137(55.9)	108(44.1)		

Position Among Mother's Children				
First born	68(54.8)	56(45.2)	.105	.415
Other positions	137(56.6)	105(43.4)		
Number of students in Class				
0 – 25 members	118(64.5)	65(35.5)	10.657	.001*
26 members & above	87(47.5)	96(52.5)		
Person lived with presently				
Parents	154(57.5)	114(42.5)	.856	.210
Others***	51(52.0)	47(48.0)		
Number of mother's children				
0 – 4 Children	64(61.5)	40(38.5)	1.802	.110
5 & above	141(53.8)	121(115.3)		
Number of father's children				
0 – 4 Children	56(56.0)	44(44.0)	.000	.545
5 & above	149(56.0)	117(44.0)		
Student work after school				
Yes	37(49.3)	38(50.7)	1.707	.120
No	168(57.7)	123(42.3)		

Others* traditional, free thinker

Others** Separated / divorced, father / mother dead and both parents dead

Others***father / mother only, grandparent, grandfather / grandmother only

Table 5.4.2. shows that family type and number of students in class are significantly associated with depression. Adolescents from a polygamous background are 1.85 times likely to experience depression compared to adolescents from monogamous family. Adolescents belonging to a class of over 25 members are 1.8 times more likely to experience depression compared to adolescents belonging to a class of 25 members and below.

Table 5.4.2. Logistic regression analysis showing the association between depression and socio-demographic correlates

Variables	β	Odd ratios	95% C.I	p-value <0.05
Academic class Others* SSS2	.355	1 1.427	[0.880, 2.313]	.149
Gender Female Male	-.152	1 .859	[0.559, 1.319]	.488
Age 15 – 19 years 11 – 14 years	-.117	1 .890	[0.560, 1.414]	.621
Family Type Monogamous Polygamous	.615	1 1.850	[1.174, 2.915]	.008
Number of students in a class 0 – 25 members 26 members and above	-.589	1 1.801	[1.130, 2.872]	.013

Dependent variable: Depression
Others* SSS1 and SSS 3

5.4.3.   Socio-Demographic correlates of anxiety among the study participants among the study   participants

Table 5.4.3.   shows the correlates of anxiety of the respondents. Higher proportion (67.2%) of respondents who were in private secondary school were significantly found to have anxiety compared to those in public secondary school (41.0%) (p = <0.001). Higher proportion (68.9%) of respondents who are in SSS 2 were significantly found to have anxiety compared to those in other senior secondary classes SSS 1 (38.5%) and SSS 2 (41.8%) respectively (p=0.082). Higher proportion (59%) of respondents who belong to class of 26 members and above were found to have anxiety compared to those who belong to class of between 0 – 25 members (40.4%) (p=<0.001)

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Table 5.4.3.   Correlates of anxiety among study participants.

Variables	Non Anxious n(%)	Anxious n(%)	Statistics Chi^2 (χ^2)	P-value
Type of School				
Private	40(32.8)	82(67.2)		
Public	144(59.0)	100(41.0)	22.383	<.001*
Academic Class				
SSS 1	75(61.5)	47(38.5)	4.994	.082*
SSS 2	38(31.1)	84(68.9)		
SSS 3	71(58.2)	51(41.8)		
Gender				
Male	82(48.8)	86(51.2)	.266	.341
Female	102(51.5)	96(48.5)		
Age				
11 - 14 years	56(45.9)	66(54.1)	1.399	.142
15 - 19 years	128(52.5)	116(47.5)		
Religion				
Islam	80(46.2)	93(53.8)	5.075	.079
Christian	98(52.7)	88(47.3)		
Others*	6(85.7)	1(14.3)		
Family Type				
Monogamous	133(53.4)	116(46.6)	3.073	.050
Polygamous	51(43.6)	66(56.4)		
Father's Education				
Primary school and below	21(53.8)	18(46.2)	.223	.381
Secondary school and above	163(49.8)	164(50.2)		
Mother's Education				
Primary School and below	16(55.2)	13(44.8)	.669	.361
Secondary School and above	168(49.9)	169(50.1)		
Parent's Marital Status				
Married	161(52.3)	147(47.7)	5.126	.077
Separated/Divorced	10(31.3)	22(68.8)		
Others**	13(50.0)	13(50.0)		

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Position among Father's children				
First born	55(45.5)	66(54.5)	1.679	.118
Other positions	129(52.7)	116(47.3)		
Number of students in Class				
0 – 25 members	109(100.5)	74(40.4)	12.634	<.001*
26 members & Above	75(61.2)	108(59.0)		
Position among Mother's children				
First born	59(47.6)	65(52.4)	.544	.265
Other positions	127(51.7)	117(48.3)		
Person lived with presently				
Parents	140(52.2)	128(47.8)	1.547	.130
Others***	44(44.9)	54(55.1)		
Number of mother's children				
0 – 4 Children	58(51.0)	51(49.0)	.028	.480
5 & above	131(50.0)	131(50.0)		
Number of father's children				
0 – 4 Children	48(48.0)	52(52.0)	.284	.339
5 & above	136(51.1)	130(48.9)		
Student work after school				
Yes	35(46.7)	40(53.3)	.491	.284
No	149(51.2)	142(48.8)		

Others* traditional, free thinker

Others** Separated / divorced, father / mother dead and both parents dead

Others***father / mother only, grandparent, grandfather / grandmother only

Table 5.4.4. shows that type of school and academic class are associated with anxiety. Adolescents that are in public secondary schools are 2.11 times less likely to experience anxiety compared to adolescents in private secondary schools. Adolescents in SSS 2 class are 2.35 times likely to experience anxiety compared to adolescents in SSS 1 and SSS 3 classes respectively.

Table 5.4.4.   **Logistic regression analysis showing the association between anxiety and socio-demographic correlates**

Variables	β	Odd ratios	95% C.I	p-value <0.05
Type of school private public	-.751	1 .472	[0.271, 0.822]	.008
Academic class Others* SSS 2	.857	1 2.355	[1.400, 3.962]	.001
Gender Female Male	.018	1 1.018	[0.657, 1.580]	.935
Age 15 - 19 years 11 – 14 years	-.115	1 .892	[0.525, 1.514]	.671
Number of students in a class 0 – 25 members 26 and above	.276	1 1.317	[0.823, 2.108]	.251

Dependent variable: Anxiety

Others* SSS 1 and SSS 3

Others**Separated / divorced, father / mother dead and both parents dead

5.4.5 **Socio-Demographic correlates of suicidal ideation among the study participants among the study participants**

Table 5.4.6. shows the correlates of suicidal ideation of the respondents. Higher proportion (45.9%) of respondents who are in SSS 2 were significantly found to have suicidal ideation compared to those in other senior secondary classes (32.0%), (38.5%) (p=<0.001). Higher proportion (44.3%) of respondents who belong to class of 26 members and above were significantly found to have suicidal ideation compared to those who belong to class between 0 – 25 members (33.3%) (p=0.021).

Table 5.4.6. Correlates of suicidal ideation among study participants .

Variables	Suicide		Statistics	
	Low n(%)	High n(%)	Chi^2 (χ^2)	P-value
Type of School				
Private	73(59.8)	49(40.2)		
Public	151(61.9)	93(38.1.)	.144	.394
Academic Class				
SSS 1	83(68.0)	39(32.0)	27.037	<.001*
SSS 2	66(54.1)	56(45.9)		
SSS 3	75(61.5)	47(38.5)		
Gender				
Male	106(63.1)	62(36.9)	.469	.282
Female	118(59.6)	80(40.4)		
Age				
11 - 14 years	75(61.5)	47(38.5)	.006	.516
15 - 19 years	149(61.1)	95(38.9)		
Religion				
Islam	108(62.4)	65(37.6)	.234	.889
Christian	112(60.2)	74(39.8)		
Others*	4(57.1)	3(42.9)		
Family Type				
Monogamous	158(63.5)	91(36.5)	1.663	.120
Polygamous	66(56.4)	51(43.6)		
Father's Education				
Primary school and below	32(82.1)	7(17.9)	7.991	.113
Secondary school and above	192(58.7)	135(41.3)		
Mother's Education				
Primary school and below	21(72.4)	8(27.6)	1.667	.137
Secondary school and Above	203(60.2)	38(39.8)		
Parent's Marital Status				
Married	187(60.7)	121(39.3)	.782	.676
Separated/Divorced	19(59.4)	13(40.6)		
Others**	18(69.2)	8(30.8)		

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Position Among Father's Children				
First born	69(57.0)	52(43.0)	1.328	.150
Other positions	155(63.3)	114(36.7)		
Position Among Mother's Children				
First born	70(56.5)	54(43.5)	1.782	.111
Other positions	154(63.6)	88(36.4)		
Number of students in Class				
0 – 25 members	102(55.7)	81(44.3)	4.603	.021*
26 members & above	122(66.7)	61(33.3)		
Person lived with presently				
Parent	167(62.3)	101(37.7)	.521	.273
Others***	57(58.2)	41(41.8)		
Number of mother's children				
0 – 4 Children	62(59.6)	42(40.4)	.154	.391
5 & above	162(61.8)	100(38.2)		
Number of father's children				
0 – 4 Children	59(59.0)	41(41.0)	.281	.340
5 & above	165(62.0)	101(38.0)		
Student work after school				
Yes	45(60.0)	30(40.0)	.057	.455
No	179(61.5)	112(38.5)		

Others* traditional, free thinker

Others** Separated / divorced, father / mother dead and both parents dead

Others***father / mother only, grandparent, grandfather / grandmother only

Table 5.4.7. shows that there was no independent associations between academic class, gender, age and number of students in class with suicidal ideation

Table 5.4.7.   **Logistic regression analysis showing the association between suicidal ideation and socio-demographic correlates**

Variables	β	Odds ratios	95% C.I	p-value 0.05
Academic class Others* SSS 2	.322	1 1.379	[0.850, 2.238]	.193
Gender Female Male	.201	1 1.222	[0.795, 1.880]	.361
Age 15 – 19 years 11 – 14 years	-.133	1 .875	[0.552, 1.388]	.572
Number of student in class 0 – 25 members 26 members and above	.375	1.455	[0.911, 2.323]	.116

Dependent variable: Suicidal Ideation

Others* SSS 1 and SSS 3

5.5. Association between academic stress and mental health problems among study participants.

Table 5.6.1.   shows that the difference between the participants who were academically stressed and had depression (52.8%) with those without depression (39.0%) was statistically significant (p=0.006). This means that there was a significant association between academic stress and depression.

Also the difference between the participants who were academically stressed and had anxiety (56.6%) with those without anxiety (40.4%) was statistically significant (p=0.003). This means that there was a significant association between academic stress and anxiety.

Table 5.6.1:   Association between academic stress and mental health problems among study participants

	Academic Stress			
Mental Health Problems	**Low**	**High**	**Chi^2 (χ^2)**	**P-value 0.05**
Depression				
No	125(61.0%)	80(39.0%)	6.907	.006*
Yes	76(47.2%)	85(52.8%)		
Anxiety				
No	155(59.6%)	105(40.4%)	8.001	.003*
Yes	46(43.4%)	60(56.6%)		
Suicidal Ideation				
No	131(58.5%)	93(41.5%)	2.962	.053
Yes	70(49.3%)	72(50.7%)		

Word count: 3,013

CHAPTER FIVE
DISCUSSIONS, CONCLUSION, AND RECOMMENDATIONS

6.1.   Discussions

This was a cross sectional study that reported the prevalence of academic stress and mental health problems among senior secondary schools within the age range of 11 – 19 years. It detailed the correlates of academic stress and mental health problems specifically depression, anxiety and suicidal ideation. The study revealed an association between academic stress and mental health problems.

6.1.1   Socio-Demographic Characteristics of Study Participants

The female respondents in this study were of higher proportion (54.1%) against male respondents of (45.9%). This is in variance to the study by Fatiregun and Kumapayi (2014) among in-school adolescents in a rural district in southwest Nigeria which showed a higher proportion of   males (57.4%) compared to females (39.6%). However, in line with this study, Kio, Omeonu, and Agbede (2015) showed a higher proportion of female respondents (54.4%) compared to male (45.6%) among undergraduate students of Babcock University in Nigeria. Also, Ogunsola et al. (2014) showed a higher proportion of female respondents (58%) compared to male (42%). The possible reason of the differences, could be as a result of the location of these studies and gender issue. Studies conducted in rural areas (Fatiregun & Kumapayi, 2014) are likely to have higher proportion of male respondents as school education is more recognised for male gender compared to the female gender (UNESCO 2013). And the possible reason for higher female proportion in this study and studies like Ogunsola et al. (2014) that were conducted in the urban school setting might be the increase in females accessing school based on the efforts of the government to ensure equal access to school education for both gender. The age range of the participants (11 – 19 years; X = 15) is similar to those reported in previous studies. Chinaka et al. (2017) studied participants aged 12 – 18 years (X = 14.8) among in-school adolescents in Enugu, Nigeria. More respondents were

Christians (50.8%) followed by Islam (47.3%). This is expected as Nigeria is a multi-religious nation. This outcome is similar to Kio, Omeonu, and Agbede (2015) more respondents were christians (91.2%).

6.1.2   Prevalence of Academic Stress among Study Participants

The outcome of the present study showed a 45.1% prevalence of academic stress. This outcome is slightly lower than that of similar study conducted in India, Sibnath et al. (2015) in a study conducted among participants aged 13-17 years found that two-third (63.5%) of the participants reported stress due to academic pressure. The present study outcome is also slightly lower than the outcome of Colgan (2016), a study conducted in Republic of Ireland, among adolescents in both 5th and 6th year (aged 12-18 years), which showed a prevalence rate of 59% of academic stress among the study participants. Contrary to what is observed in the higher institutions, there is a dearth of literature on prevalence of academic stress among in school adolescents in the local setting. In this study, student congestion in class, nature of school, academic class, and gender have been shown as a significant correlates of academic stress. India is a highly populated country of which most of their goverrnment schools lack availability of academic resources and good facilities (US Census Bureau 2019). It is expected that in India more adolescents will occupy an academic class compared to what is obtained in Republic of Ireland or Nigeria going by the high rate of population. This study showed that adolescents in public schools were more stressed compared to the private. Private schools are profit driven compared to public schools, hence in a bid to attract more students, the private educationist must have provided facilities compared to the public schools facilities which will indirectly become stress buffer to the adolescents from the private schools.

6.1.3   Prevelance of Mental Health Problems among Study Participants

The study found a 41.8% prevalence of depression, a 29% prevalence of anxiety, and a 38.8% prevalence of suicidal ideation. A study conducted in Republic of Ireland, Colgan (2016), among adolescents in both 5th and 6th year (aged 12-18 years) found a prevalence rate of 63.7% of

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depression, and 68.1% of anxiety using similar screening tools used in this study. These prevalences were on the high side compared to the outcome of the present study. Also, Praveena and Karthikeyan (2018) conducted a study in India and found a prevalence rate 73.6% of depression, 86.5% of anxiety. Contrary to these findings, Omigbodun et al (2008) found that depression and anxiety affects about 10% to 20% of adolescents. Fatiregun and Kumapayi (2014) conducted a similar study in a rural district in southwest Nigeria among in-school adolescents and found a prevalence rate 21.2% of depression. This is however similar to Karl, et al. (2013) which found a prevalence of 25.2% moderate to severe depression. Comparing the outcome of the present study to the outcome of Fatiregun and Kumapayi (2014) there is a wide variations of the prevalence. This might be as a result of the current economic situation in the country. In 2014, the economic system was not as harsh as we observed in this time in Nigeria by which the effect of depression is still being felt. Nigeria Economy Outlook (2019).

In this recent year, the cost of education coupled with the need to survive the harsh economic times might have been the reason for higher prevalence of depression in this study as compared to Fatiregun and Kumapayi (2014). Many families are affected by the harsh socioeconomic milieu coupled with non-payment of salaries and general poor infrastructure in the country. Certain socio-demographic variables are observed in the present study as correlates of depression these are academic class, family type, and number of students in a class. It can be assumed that adolescents from polygamous families will be more stressed because individuals competing for the available resources are more in proportion to the available resources compared to what obtains in monogamous family system. Hence, in polygamous family background it is more of a case of survival of the fittest compared to monogamous family background. Apart from the family type and the number of students in a class, type of school is found as a correlate of anxiety. Adolescents in private secondary schools in this study experienced more anxiety symptoms compared to adolescents in public secondary schools. This could be as a result of parental expectation from the adolescents on academic performance. Adebayo (2009) to examine the

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phenomenon of parental preference for private secondary schools in Nigeria among 750 parents, found that parents conceded to choosing private secondary schools instead of public secondary schools based on the high and positive level of academic performance for private schools which are due to factors such as teacher quality and quantity, facilities, class size, curriculum practices, stability of academic activities, disciplinary concerns, cost effectiveness and overall output quality. Omigbodun et al. (2008) found a prevalence rate 20% of reported suicidal ideation and 12% reported attempted suicide among youths. The present study found much higher rates than this. However, we can say the reason may be analogical to the one cited in justification of variance in the outcome of the depression. In as much as the reasons cited by Omigbodun et al. (2008) are still valid (that is, urban life, belonging to polygamous or disrupted families, and various psychosocial factors such as sexual abuse, physical attack and involvement in physical fights). The risk factors of suicide as cited by Omigbodun et al. (2008) and the present study may have been allowed to fester too long. Hence, the outcome of this study signals that suicidal ideation and possibly suicidal attempts cannot be ruled out in the secondary school as many alluded to the fact that times are harsh.

6.1.4. Correlates of Academic Stress and Mental Health Problems among Study Participants

The outcome of the study found that, among all the socio-demographic factors considered, family type, academic class, type of school, and number of students in class are significantly associated with depression and anxiety. Academic class which is the transitional class (Senior Secondary School 2) experiences more academic stress and mental health problems compared to SSS 1 and SSS 3. The reason may be expected because in addition to the pressure of neccessity to be promoted to the SSS 3, Senior Secondary School Class 2 (SS2) students are taking the GCE O' Levels exam (WAEC & NECO GCE), which is not mandatory, but most students take it to prepare for the Senior Secondary School Examinations, hence SSS 2 students are more pressured due to the external examinations. In essence, The SSS 3 students, apart from "Mock" examination, have

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lesser academic responsibilities in preparing for these examination (NECO, WAEC, & GCE). For this reason, school management might tend to start the examination preparation in the SSS 2 class since students at this academic class have enough time to prepare as compared to the students in the SSS 3 class who sit for the examinations. As a result of these, the SSS 2 students, gradually get exposed to rigours of works. Hence, they may experience more stress. Type of school also serves as a significant correlate of academic stress and anxiety. Adolescents from public secondary school experience more academic stress and anxiety compared to adolescents from private secondary school. It may be possible that parents and guardians of adolescents from public secondary school mount more pressure on their children to succeed due to their awareness of the competition for getting admission into reputable higher institutions such as federal university. Also, the rising unemployment rate in Nigeria may have provoked parents and guardians of adolescents in public secondary school to put pressure on their children for better performance. Some of the parents and guardians may wish to fulfill their unfulfilled dreams through their children. Hence, all these have made a spur a kind of anxiety motivated pursuit for adolescents in public secondary schools leaving them to deal with their personal academic demands, and demands of the school which may be in few supply, therefore, inadvertently resulting to stress. Also they are likely to be poorer and have fewer resources for their education which may increase their stress. Although, adolescents from private secondary school can be faced with related demands from their parents or guardians, it is observed that they have more access to academic facilities that serves more of stress buffer to them. More students in class were also significantly associated with academic stress and depression. This is mostly happening among adolescents from the public secondary schools who grappled with few academic facilities. Adolescents from public secondary schools are likely to experience unavailability of academic resources such as chemicals for experiment and enough furniture. This is enough to serve as stressor when comparing themselves with other adolescents from private secondary schools and make them depressed regardless of whether those in private schools are doing better or not. Lastly, gender was also found to be significantly associated with academic

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stress. That is, female students experience more academic stress than their male counterparts. This has to do with the emotion of female students as they are known of having more internalizing emotions as compared to the male.

6.1.5. Association between Academic Stress and Mental Health Problems among Study Participants.

The study outcome revealed that there is a significant positive relationship between academic stress and mental health problems (depression and anxiety). Reynolds (2015) found that perceived stress and depression were positively correlated. In fact, Jayanthi, Thirunavukarasu, and Rajkumar (2015) in Tamil Nadu India, revealed that adolescents that scored high on academic stress were 2 times more likely to report depression than adolescents without academic stress. Other studies have also revealed a direct linkage between academic stress and depression and anxiety respectively (Afsheen et al., 2016; Niamh, 2016). Afsheen et al. (2016) posited that a bi-directional relationship exist between depression and academic stress.

6.2. Conclusions

In conclusion, this study found that two in every 5 students screened, reported academic stress, depression and suicidal ideation, while 1 in 3 screened positive for anxiety. In addition, showed socio-demographics characteristics such as type of schools, academic class, gender, and number of students in class were significant correlates of academic stress while family type, number of students in a class, type of school, and academic class were significant correlates of mental health problems. Furthermore, there was a significant relationship between mental health problems (depression and anxiety). But not with suicidal ideation.

6.2.1. Strength of the Study

The outcome serves as an eye opener for the secondary school administrator, parents / guardians and the adolescents about secondary school students' mental health and its needs. As it is, mental

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health support initiatives for senior secondary school students are all most absent or not existent as administrators do give minimum attention for mental health support initiatives for the concerned populations.

6.3.   Recommendations

1.   Mentorship initiative should be introduced whereby students can be attached to trained teachers and staff who can act as mentors on academic and personal related matters.

2.   There is need for an urgent attention of the educational policy makers concerning the damaging consequences of academic stress so that solid arrangement on mental health support services for the senior secondary students will be provided to assist them to manage and overcome distress that may interfere with their overall mental health development.

4.   Timely diagnosis, treatment and counselling should be offered to vulnerable senior secondary school students. To get this done, there must be continual, appropriate screening and intervention programs catering for this group of students in order to prevent mental health problems and improve their quality of life.

6.3.1 Limitations of the Study

In the course of conducting this study, certain limitations were encountered among which are:

1.   The study instrument was a screening instrument based on self-reported measures, so the rates may be lower if using a diagnostic instrument.

2.   This study was carried out on a small sample size so it cannot be generalised on the entire population of adolescent students.

Word count: 2,326

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Appendix One
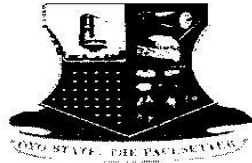
MINISTRY OF HEALTH
DEPARTMENT OF PLANNING, RESEARCH & STATISTICS DIVISION
PRIVATE MAIL BAG NO. 5027, OYO STATE OF NIGERIA

Your Ref. No. ....
All communications should be addressed to
the Honorable Commissioner quoting
Our Ref. No. AD 13/479/ __1139__

19th February, 2019

The Principal Investigator,
Centre for Child and Adolescent Mental Health,
University of Ibadan,
Ibadan
Attention: Umoren Edet

ETHICS APPROVAL FOR THE IMPLEMENTATION
OF YOUR RESEARCH PROPOSAL IN OYO STATE

This is to acknowledge that your Research Proposal titled: "Academic Stress and Mental Health Problems among In-school Adolescents in Ibadan" has been reviewed by the Oyo State Ethics Review Committee.

2.   The committee has noted your compliance. In the light of this, I am pleased to convey to you the full approval by the committee for the implementation of the Research Proposal in Oyo State, Nigeria.

3.   Please note that the National Code for Health Research Ethics requires you to comply with all institutional guidelines, rules and regulations, in line with this, the Committee will monitor closely and follow up the implementation of the research study. However, the Ministry of Health would like to have a copy of the results and conclusions of findings as this will help in policy making in the health sector.

4.   Wishing you all the best.

Signature & Date

Dr. Abbas Gbolahan
Director, Planning, Research & Statistics
Secretary, Oyo State, Research Ethics Review Committee

Appendix Two

OYO STATE POST PRIMARY SCHOOLS TEACHING SERVICE COMMISSION
DEPARTMENT OF PLANNING, RESEARCH AND STATISTICS.
IBADAN – OYO STATE OF NIGERIA.

Our Ref: No..........
All communications should be
Addressed to the Chairman
Quoting

SBA 8190/66

30th April, 2019

Umoren Edet. E,
The Department of Child and
Adolescent Mental Health,
Faculty of Clinical Sciences,
University of Ibadan,
Ibadan

PERMISSION TO CONDUCT RESEARCH WORK

I am directed to refer to the above subject and request you to liase with the Zonal Head, TESCOM, Ibadan Zone II, Moniya, to enable you to carry out the Academic research work in Public Secondary School in Ibadan as requested.

2.   I thank you.

O.J. Oguntona
For: Executive Chairman

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Appendix Three

Umoren, Edet Eunice,
Department of Child & Adolescent Mental Health,
Faculty of Clinical Sciences,
University of Ibadan,
Ibadan.
24th January, 2019.

The Principal,
Ajibode Grammar School,
Ajibode,
Ibadan.

Dear Sir,

REQUEST FOR PERMISSION TO CONDUCT A RESEARCH

My name is Umoren, Edet Eunice, a master's student of Child and Adolescent Mental Health, in the Faculty of Clinical Sciences of the University of Ibadan.

I write to seek for permission to carry out a research in your reputable school.

The research I intend to conduct is for my masters' dissertation and it is titled "Academic stress and mental health problems among in-school adolescents in Ibadan". This will involve the students in senior secondary school.
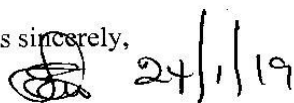
The research will be carried out through the administration of questionnaire among randomly selected 63 students in SSS 1 – SSS 3.

Permission has been sought for from the Head of Service and Oyo State Ministry of Education and an approval from the Oyo State Research Ethica Review Committee, Ministry of Health.

Kindly find attached copies of the acknowledgment letters from the Head of Service, Ministry of Education and certification letter from the Department.

Thank you for your consideration and kind response.

Yours sincerely,

24/1/19

Umoren, Edet Eunice
08039338287

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Appendix Four

INFORMED CONSENT FORM

Project Title: Academic Stress and Mental Health Problems among in-school Adolescents in Ibadan, Nigeria.

My name is Umoren, Edet Eunice. I am master's student of the Centre for Child and Adolescents Mental Health, University of Ibadan, Ibadan. I am interviewing adolescent students in secondary schools in Akinyele Local Government Area in order to find out the prevalence of academic stress and to know if academic stress is associated with mental health problems.

I will ask your child to provide answers to some questions through questionnaire that will be administered to them. Please note that the answers will be kept confidential and each questionnaire will be coded such that it would not need name be written on it. The information that will be recieved will help provide measures in reducing the impacts of academic stress on mental health.

During the period of this exercise, participants who have high exposure to academic stress that has resulted to serious mental health problems would be referred to the child and adolescent mental health clinic at the University College Hospital (UCH), Ibadan if desired.

Note that you are free to refuse your child to take part in this study. You have the right to withdraw at any given time if you choose to. However, I will appreciate your assistance in responding and taking part in the study.

Consent: Now that the study has been well explained to me and I understand fully all that is written therein and the content of the process, I will be willing to participate in the study.

_____   _____

Signature of Participant   **Interview Date**

Appendix Five

<div align="center">

CENTRE FOR CHILD AND ADOLESCENT MENTAL HEALTH

UNIVERSITY OF IBADAN

IBADAN

QUESTIONNAIRE

</div>

Dear Respondent,

I am a master's student of the Centre for Child and Adolescent Mental Health, University of Ibadan, University of Ibadan. This is a research exercise and it is strictly for academic purpose. Participation is voluntary and completion of the survey will take approximately 15-20 minutes. Kindly respond to the questions with all sincerity, your individual survey responses will remain confidential.

Thank you for your participation.

Serial Number: __ __ __

Today's Date: __ __/__ __/__ __

<div align="center">

Section A

</div>

Instruction: Please write the answers to the questions or draw a circle where it applies to you. This is not an examination it is only to find out about you and your health.

SECTION I
Personal Information

1. Name of School:

2. Class:

3. Where do you live?

4. Date of Birth:

5. How old are you?

6. Are you a boy or a girl?

7. Do you practise any religion? No   Yes

8. Please write down the exact place you attend for worship

_____

(a) Islam   (b) Orthodox Christian (c) Pentecostal Christian   (d) Traditional religion (e)

Other

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9. How much does the teaching of your religion guide your behaviour? (a) Very much (b) much (c) Just a little (d) Not at all

10. How much does the teaching of your religion guide your family life? (a) Very much (b) much (c) Just a little (d) Not at all

Family Information

11. Family Type: (a) Monogamous (b) Polygamous

12. Number of Mother's Children:

13. Number of Father's Children:

14. What is your position among your father's children?

15. What is your position among your mother's children?

16. Marital Status of Parents: (a) Married (b) Separated/Divorced (c) Father is dead (d) Mother is dead (e) Mother & Father are dead

17. How many husbands has your mother had?

18. Who do you live with presently? (a) Parents (b) Mother (c) Father (d) Grandparents (e) Grandmother (f) Grandfather (g) Other [please specify] _____

19. Who brought you up from your childhood? (a) Parents (b) Mother (c) Father (d) Grandparents (e) Grandmother (f) Grandfather (g) Other [please specify] _____

20. How many different people have you left your parents to live with from your childhood?____

21. If more than one person, list the people, time spent and whether experience was good or bad?

Person lived with	From which age to which age	Experience (good or bad)
_____	_____	_____
_____	_____	_____

_____   _____   _____

22. Do you do any kind of work to earn money before or after school? Yes   No

23. If yes, please describe what you do _____

24. Level of Father's Education (a) No Formal Education   (b) Koranic School   (c) Primary

School (d) Secondary School (e) Post Secondary (Non-University) (f) University Degree

and above (e) I do not know

25. Occupation of Father: [Write the exact occupation] _____/ I do not

know

26. Level of Mother's Education (a) No Formal Education   (b) Koranic School   (c) Primary

School (d) Secondary School (e) Post Secondary (Non-University) (f) University Degree

and above (e) I do not know

27. Occupation of Mother: [Write in the exact occupation] _____/ I do not

know

28. Do you like your family? Yes   No

29a. If Yes, Why? _____

29b. If No, Why? _____

School-Related Questions

30. Do you like your school? Yes/ No

31. How many children are there in your class? _____

32. Do you do well academically? Yes   No

33a. If Yes, explain_____

33b. If No, explain _____

34. Are you having difficulties with your teachers? Yes   No

35. If yes, what sort of difficulties? _____

36. Do you have guidance counsellors in your school? Yes   No

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37. Have you ever gone to see them?   Yes   No

38. If yes, what did you go to see them for? _____

39. If you have a problem at school would you go to the guidance counsellor for help?   Yes/ No

40a. If yes, why would you go?

40b. If no, why not?

41. What is academic stress / pressure? _____

_____

42. What gives students academic stress / pressure? _____

_____

43. Have you experienced academic stress / pressure? _____

43b. If yes, how was the experience? _____

_____

44. What are the negative effects of academic stress / pressure on students? _____

_____

45. What do you think can be done to reduce academic stress / pressure for students?

_____

_____

Abala A

Jọwọ kọ idahun si awọn ibeere ti o jẹ mọ ọ, tabi ki o fa igi si abẹ eyi to o jẹ mọ ọ. Eleyii kii ṣe idanwo; a kan fẹ mọ nipa rẹ ati ilera rẹ ni.

IPIN KINNI
Oro nipa mi

1. Orukọ ile-iwe:

2.   Kilaasi:

3. Nibo ni o n gbe? (Ibugbe):

                                                          : _____ _____ _____
4. Kini ọjọ ibi rẹ?   Ọjọ ibi: ọjọ   oṣu   ọdun

5. Ọmọ ọdun melo ni ọ? ____

6. Ṣe ọkunrin tabi obinrin?   (a) Ọkunrin   (b) Obinrin

7. Njẹ ẹ manse ẹsin kankan?   Bẹẹkọ   Bẹẹni

8. Kọ ibi ti o ti maa njọsin

_____

9. Bawo ni igbagbọ rẹ ṣe ntọ ihuwasi rẹ?
   (a) O ntọ ọ gan an (b) O ntọ ọ   (c) O ntọ ọ diẹ   (d) Ko tọ ọ rara

10. Bawo ni ẹsin naa ṣe ṣe pataki to ni ẹbi ẹ?
    (a) O ṣe pataki gan-an   (b) O ṣe pataki   (c) O ṣe pataki diẹ   (d) Ko ṣe pataki

Oro nipa ebi mi

11. Iru ẹbi:
    (a) Oniyawo kan   (b) Oniyawo meji tabi ju bẹẹlọ

12. Ọmọ melo ni Iya rẹ ni?:
13. Ọmọ melo ni Baba rẹ ni?:

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14. Ipo wo lo wa ninu awọn ọmọ baba rẹ?

15. Ipo wo lo wa ninu awọn ọmọ iya rẹ?

16. Ibagbepọ awọn obi rẹ:
(a) Ṣe wọn gbe pọ?   (b)   Ṣe wọn ti kọ ra wọn silẹ?   (c) Baba ti ku (d) Iya ti ku (e) Iya ati Baba ti ku

17. Ọkọ melo ni Iya rẹ ti ni ri?

18. Tani o n gbe pẹlu lọwọlọwọ?
 (a) Awọn obi (b) Iya nikan (c) Baba nikan (d) Iya ati Baba Agba   (e) Iya Agba nikan
 (f) Baba Agba nikan (g) Awọn Iyoku [Jọwọ sọ nipato] _____

19. Talo tọ ẹ dagba lati kekere?
 (a) Awọn obi (b) Iya nikan (c) Baba nikan (d) Iya ati Baba Agba   (e) Iya Agba nikan
 (f) Baba Agba nikan (g) Awọn Iyoku [Jọwọ sọ nipato] _____

20. Awon eniyan ọtọọtọ melo ni o fi awọn obi rẹ silẹ lati lọ gbe pẹlu wọn?____

21. Ti o ba ju ẹnikan lọ, ka wọn, akoko ti o lo lọdọ ẹnikọọkan ati bi o ba dara tabi ko dara**?**
    Ẹni ti o ba gbe   Ọmọ ọdun melo ni ọ nigba naa   Iriri rẹ nibẹ (O dara tabi ko dara)

_____   _____   _____

_____   _____   _____

_____   _____   _____

22. Njẹ o maa nṣiṣẹ lati ri owo lẹhin tabi saaju ki o to lọ si ile iwe?   (Bẹẹni tabi bẹẹkọ)

23. Ti o ba je bẹẹni, ṣe alaaye ohun ti o ṣe
_____

24. Iwe melo ni baba rẹ ka?
 (a) Ko kawe rara   (b) Ile-keu   (c) Ile-Iwe Alakọbẹrẹ   (d) Ile iwe girama
 (e) Ile-iwe agba (Yatọ fun yunifasiti) (f) Yunifasiti ati ju bẹẹ lọ   (e) Nko mo

25. Iṣẹ wo ni Baba rẹ n ṣe: [Kọ iṣẹ ti wọn nṣe pato lẹkunrẹrẹ] _____/Nko mo

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26. Iwe melo ni mama rẹ ka?

 (a) Ko kawe rara   (b) Ile-keu   (c) Ile-Iwe Alakọbẹrẹ   (d) Ile iwe girama

 (e) Ile-iwe agba (Yatọ fun yunifasiti) (f) Yunifasiti ati ju bẹẹ lọ   (e) Nko mo

27. Isẹ wo ni iya rẹ nṣe: [Kọ iṣẹ ti wọn nṣe pato lẹkunrẹrẹ] _____

28. Ṣe o fẹran ẹbi rẹ?   Bẹẹni/Bẹẹkọ

29a. Bẹẹni, Ṣe alaye? _____

29b. Bẹẹkọ, Ṣe alaye?   _____

Ibere to farape ileiwe mi

30. Ṣe o fẹran ile-iwe rẹ? Bẹẹni / Bẹẹkọ

31. Akẹkọọ melo ni o wa ni kilaasi rẹ?_____

32. Njẹ o nṣe daada ninu ẹkọ rẹ? Bẹẹni/ Bẹẹkọ

33a. Bẹẹni, Ṣe alaye_____

33b. Bẹẹkọ, Ṣe alaye_____

34. Njẹ o ni iṣoro kankan pẹlu awọn olukọ rẹ? Bẹẹni   Bẹẹkọ

35. Ti o ba jẹ bẹẹni, iru iṣoro wo ni?
_____

36. Njẹ ẹ ni awọn Oludamọran Atọnisọna ni ile-Ẹkọ rẹ? Bẹẹni   Bẹẹkọ

37. Njẹ o ti lo sọdọ wọn ri? Bẹẹni   Bẹẹkọ

38. Ti o ba jẹ bẹẹni, ki ni o lọ ri wọn fun?_____

39. Ti o ba ni idaamu ni Ile-Ẹkọ, njẹ iwọ o lọ ri Oludamọran Atọnisọna? Bẹẹni   Bẹẹkọ

40a. Bẹẹni, Ṣe alaye_____

40b. Bẹẹkọ, Ṣe alaye_____

41.Kinni wahala eko je? _____

_____

_____

42.Kinni o maa n fun awon akeko ni wahala ninu eko?

_____

43. Nje o ti se alabapin ninu wahala inu eko ri? _____

43b. Bi o ba je be, kinni iriri re? _____

_____

44. Kinni awon nkan alebu ti o ro mo wahala inu eko fun awon akeko?

_____

45. Kinni o lero pe o le din wahala inu eko ku? _____

_____

Appendix Six

Section B

Instructions: Below is a list of statements that relate your feelings and attitude on your academic achievement and study. Please indicate the degree of your agreement or disagreement with each statement by ticking in the response option that best represents your point of view by ticking (✓) the appropriate box.

1 = Strongly Disagree (SD); 2 = Disagree (D); 3 = Undecided (U); 4 = Agree (A); 1 = Strongly Agree (SA)

	Statements	SD	D	U	A	SA
1.	There is too much competition among classmates which brings me a lot of academic pressure.					
2.	I feel a lot of pressure in my daily studying.					
3.	Future education and employment bring me a lot of academic pressure.					
4.	My parents care about my academic grades too much which brings me a lot of pressure.					
5.	I feel that I have disappointed my teacher when my test/exam results are not ideal.					
6.	I feel that I have disappointed my parents when my test/exam results are poor.					
7.	Academic grade is very important to my future and even can determine my whole life.					
8.	I am very dissatisfied with my academic grades.					
9.	I always lack confidence with my academic scores.					
10.	It is very difficult for me to concentrate during classes.					
11.	I feel stressed when I do not live up to my own standards.					
12.	When I fail to live up to my own expectations, I feel I am not good enough.					
13.	I usually cannot sleep and worry when I cannot meet the goals I set for myself.					
14.	I feel there is too much homework.					
15.	I feel that there is too much school work.					
16.	I feel that there are too many tests/exams in the school.					
17.	My teacher's expectations from me are too much and this puts					

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	me under pressure.					
18	My parents burden me with too much reading time and this stresses me.					
19	My parents frustrate my study time by giving me too many chores and this gives me concern.					
20	I have to trek long distance from my house to school and this is a source of stress for me.					
21	I don't understand the way my teachers teach me and this is a source of concern for me.					
22	There is no free flow of air in my class and this causes me academic stress.					
23	Lack of academic materials put me under academic pressure					
24	My classroom is not well equipped (eg., with chairs & tables) and this puts me under academic pressure.					
25	My classroom space is too small to contain me and my colleagues and this gives me stress.					
26.	I get too many distractions from my classmates even while the lecture is going on.					
27	My teachers burden me with too much note writing.					

Appendix Seven

Section C

Instructions: Below is a list of statements that relate to how you have been feeling in the past two weeks or more. Please indicate the degree of your agreement or disagreement with each statement by ticking in the response option that best represents your point of view by ticking (✓) the appropriate box.

1.	I do not feel sad.	0	2.	I am not particularly discouraged about the future.	0
	I feel sad	1		I feel discouraged about the future.	1
	I am sad all the time and I can't snap out of it.	2		I feel I have nothing to look forward to.	2
	I am so sad and unhappy that I can't stand it.	3		I feel the future is hopeless and that things cannot improve.	3
3.	I do not feel like a failure.	0	4.	I get as much satisfaction out of things as I used to.	0
	I feel I have failed more than the average person.	1		I don't enjoy things the way I used to.	1
	As I look back on my life, all I can see is a lot of failures.	2		I don't get real satisfaction out of anything anymore.	2
	I feel I am a complete failure as a person.	3		I am dissatisfied or bored with everything.	3
5.	I don't feel particularly guilty	0	6.	I don't feel I am being punished.	0
	I feel guilty a good part of the time.	1		I feel I may be punished.	1
	I feel quite guilty most of the time.	2		I expect to be punished.	2
	I feel guilty all of the time.	3		I feel I am being punished.	3
7.	I don't feel disappointed in myself.	0	8.	I don't feel I am any worse than anybody else.	0
	I am disappointed in myself.	1		I am critical of myself for my weaknesses or mistakes.	1
	I am disgusted with myself.	2		I blame myself all the time for my faults.	2
	I hate myself.	3		I blame myself for everything bad that happens.	3
9.	I don't have any thoughts of killing myself.	0	10.	I don't cry any more than usual.	0
	I have thoughts of killing myself, but I would not carry them out.	1		I cry more now than I used to.	1
	I would like to kill myself.	2		I cry all the time now.	2
	I would kill myself if I had the chance.	3		I used to be able to cry, but now I can't cry even though I want to.	3
11.	I am no more irritated by things than I ever was.	0	12.	I have not lost interest in other people.	0
	I am slightly more irritated now than usual.	1		I am less interested in other people than I used to be.	1
	I am quite annoyed or irritated a good deal of the time.	2		I have lost most of my interest in other people.	2

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	I feel irritated all the time.	3		I have lost all of my interest in other people.	3
13.	I make decisions about as well as I ever could.	0	**14.**	I don't feel that I look any worse than I used to.	0
	I put off making decisions more than I used to.	1		I am worried that I am looking old or unattractive.	1
	I have greater difficulty in making decisions more than I used to.	2		I feel there are permanent changes in my appearance that make me look unattractive.	2
	I can't make decisions at all anymore.	3		I believe that I look ugly.	3
15.	I can work about as well as before.	0	**16.**	I can sleep as well as usual.	0
	It takes an extra effort to get started at doing something.	1		I don't sleep as well as I used to.	1
	I have to push myself very hard to do anything.	2		I wake up 1-2 hours earlier than usual and find it hard to get back to sleep.	2
	I can't do any work at all.	3		I wake up several hours earlier than I used to and cannot get back to sleep.	3
17.	I don't get more tired than usual.	0	**18.**	My appetite is no worse than usual.	0
	I get tired more easily than I used to.	1		My appetite is not as good as it used to be.	1
	I get tired from doing almost anything.	2		My appetite is much worse now.	2
	I am too tired to do anything.	3		I have no appetite at all anymore.	3
19.	I haven't lost much weight, if any, lately.	0	**20.**	I am no more worried about my health than usual.	0
	I have lost more than five pounds.	1		I am worried about physical problems like aches, pains, upset stomach, or constipation.	1
	I have lost more than ten pounds.	2		I am very worried about physical problems and it's hard to think of much else.	2
	I have lost more than fifteen pounds.	3		I am so worried about my physical problems that I cannot think of anything else.	3
21.	I have not noticed any recent change in my interest in sex.	0			
	I am less interested in sex than I used to be.	1			
	I have almost no interest in sex.	2			
	I have lost interest in sex completely.	3			

Ipin C

Ilana: Ni isale awon oro eyi ti o fara han bi o ti ni imo lara lati bi ose meji tabi jubelo. Jowo fi idi re mule nipa fifalasi (✓) inka ti o fara pe iwoye re ti o lodi si aaye kokan.

1.	Inu mi ko baje	0	2.	Mi fi igba Kankan ni irewesi okan nipa ojo iwaju	0
	Inu mi baje	1		Mo ri irewesi okan nipa ojo iwaju	1
	Inu mi baje ni gbogbo igba amo mi o le kuro ninu re	2		Mo ri pe mi o ni afojusun	2
	Inu mi baje gidi inu mi o si dun lati ni amumora re	3		Mo ripe ojo iwaju ko ni ireti ati pe ko ni atunse	3
3.	Mi o ri ara mi be eni ti o ni ikuna	0	4.	Mo maa n ni itelorun ti o kun ninu awon nkan ti mom o	0
	Mo ripe mo ni ikuna ti o koja idaji eniyan	1		Mi o gbadun nkan bi ose ye	1
	Ni igba ti mowo igbesi aye mi nkan ti mo ri nipe opo ikuna	2		Mi o ri itelorun ninu gbogbo nkan	2
	Mo ni idaniloju pe olukuna eniyan ni mi	3		Ai ni itelorun mu ki nkan su mi .	3
5.	Mi o mo lara pe mo jebi	0	6.	Mi o mo lara pe mo beresi jiya	0
	Mo mo pe mo jebi ni igbati o dara ni igba mi	1		Mo mo lara pe maa jiya	1
	Mo mo patapata pe mo jebi lai maye igba	2		Mo reti pe maa jiya	2
	Mo mo lara pe mo jebi ni gbogbo igba	3		Mo mo lara pe mo jiya	3
7.	Mi o ni ijakule ninu ara mi	0	8.	Mi o lero pe mo baje ju elomi lo	0
	Mo ni ijakule ninu ara mi	1		Emi olofintoto furami morope okudie kato fun mi tabi asise	1
	Mi o ni irira ninu ara mi	2		Mo dara mi lebi ni gbogbo igba fun ebi	2
	Mi o ni ife ara mi	3		Mo dara mi lebi fun gbogbo ibaje ti o sele	3
9.	Mi o lero lati para mi	0	10.	Mi o sukun mo bi ti tele	0
	Mo lero lati parami sugbon mi o le se	1		Mo maa n sukun jut i tele lo	1
	Yoo wumi lati parami	2		Mo maa n sukun ni gbogbo igba	2
	Yoo wumi lati para miti aaye ba gbami	3		O maa n wumi lati suku sugbon ni isiyin mi o ti e le sukun	3
11.	Ko ki rimi lara pelu awon nkan ti mo je	0	12.	Mi o ti so ireti nu ninu awon eniyan ti o ku	0
	O maa n ri mi lara die die ju ti tele lo	1		Ireti mi kere ninu awon eniyan to ku ju bi mo se lero lo	1
	Inu bimi die tabi irira oun ti o dara nigbogbo igba	2		Mo ti so ireti pupo nu ninu awon eniyan	2
	Mo maa n ni imolara irira ni gbogbo igba	3		Mi o ni ireti mo rara ninu awon eniyan	3
13.	Mo maa n se ipinu lati se bi o se ye	0	14.	Mi o ni imokara pe mo baje juti tele lo	0
	Mi o ki le se ipinu bi mo se maa n se tele	1		Okan mi porurupe pe mot i dagba ati pemi mi o dun wo	1
	Mo ni idojuko ti o po ninu ipinu sise ju bi mo se maa n se lo	2		Mo ni imo lara pe awon nkan ti ko se yipada ninu ifara han eyi n ti ko mu mi dun wo	2
	Mi o le se ipinu mo rara ati rara	3		Mo gba gbo pe mo burewa	3
15.	Mole sise bi ti tele	0	16.	Mo le sun dada juti tele	0

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	O fun mi ni wahala lati bere si se nkan	1		Mi o le sun bi mo se maa n sunbiti tele	1
	Mo ni lati tipatipa ti ara mi lati se nkan	2		Mo maa n ji larinwakati kan si ekeji o maa n ni mi lara lati pada ri orun subi ti tele	2
	Mi o ti e le sise Kankan rara	3		Mo maa n tete ji lari opo igba juti tele lo ati pe mi ki le pada ri orun sun	3
17.	Ko ki remi juti tele	0	**18.**	Okun inu mi ko baje to ti tele	0
	O maa n tete remi jut i tele lo	0		Okun inu mi ko dara to bi ose wa tele	1
	O maa n remi lati se gbogbo nkan	2		Okun inu mi buru jai bayi	2
	O maa n remi ju lati se nkan ki nkan	3		Mi o ni okun kankan ninu rara	3
19.	Mi o ti so okun ti o po nu ti o ba pe	0	**20.**	Mi o wahala ara mi nipa ago ara mi bi ti tele	0
	Mo ti so owo ti oto wura marun nu	1		Inu mi ko dun nipa isoro to nise pelu ara mi bi ori fifo inu rirun ati lati le se igbose	1
	Mo ti so owo ti o to owo wura mewa nu	2		Inu mi ko dun nipa awon isoro to nise pelu ara mi ati pe onira lati ronu nipa nkan miran	2
	Mo ti so owo ti o to owo wura medogun nu	3		Inu mi ko dun nipa awon isoro to nise pelu ara mi debi pe o le ro oun miran	3
21.	Mi o ti fi iye si atunse tuntun ninu igbadun ninu ibalopo	0			
	Mi o gbadun ibalopo bi mo se maa n gbadun re tele	1			
	Mi o ki gbadun ibalopo rara	2			
	Ibalopo ti yo kuro lemi mi patapata	3			

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Appendix Eight

Section D

Instruction: Please carefully read each item in the list of common anxious feelings. Indicate how much you have been bothered by each during the past month, including today, by ticking (✓) the number in the corresponding space in the column next to each.

Not at all = 0; Mildly, but it didn't bother me much = 1; Moderately – it wasn't pleasant at times = 2; Severely – it bothered me a lot = 3

	Statements	**0**	**1**	**2**	**3**
1	Numbness or tingling				
2	Feeling hot				
3	Wobbliness in legs				
4	Unable to relax				
5	Fear of worst happening				
6	Dizzy or lightheaded				
7	Heart pounding / racing				
8	Unsteady				
9	Terrified or afraid				
10	Nervous				
11	Feeling of choking				
12	Hands trembling				
13	Shaky / unsteady				
14	Fear of losing control				
15	Difficulty in breathing				
16	Fear of dying				
17	Scared				
18	Indigestion				
19	Faint / lightheaded				
20	Face flushed				
21	Hot / cold sweats				

Appendix Nine

Section E

Instructions: Below is a list of statements that relate to how you have been feeling in the past two weeks or more. Please put a tick (✓) on the number that corresponds best to your view against each item.

1.	**Wish to live**		2.	**Wish to die**	
	Moderate to strong	0		None	0
	Weak	1		Weak	1
	None	2		Moderate to strong	2
3	**Reasons for living/dying .**		**4.**	**Desire to make active suicide attempt**	
	For living outweigh for dying	0		None	0
	About equal	1		Weak	1
	For dying outweigh for living	2		Moderate to strong	2
5.	**Passive suicidal desire**		**6.**	**Time dimension: Duration of suicide ideation/wish**	
	Would take precautions to save life	0		Brief, fleeting periods	0
	Would leave life/death to chance	1		Longer periods	1
	Would avoid steps necessary to save or maintain life	2		Continuous (chronic) or almost continuous	2
7.	**Time dimension: Frequency of suicide.**		**8.**	**Attitude toward ideation/wish**	
	Rare, occasional	0		Rejecting	0
	Intermittent	1		Ambivalent; indifferent	1
	Persistent or continuous	2		Accepting	2
9	**Control over suicidal action/acting-out wish**		**10**	**Deterrents to active attempt (e.g., family, religion, irreversibility)**	
	Has sense of control	0		Would not attempt because of a deterrent	0
	Unsure of control	1		Some concern about deterrents	1
	Has no sense of control	2		Minimal or no concern about deterrents	2
11.	**Reason for contemplated attempt**		**12.**	**Specificity/planning of contemplated attempt.**	
	To manipulate the environment; get attention, revenge	0		Not considered	0
	Combination of 0 and 2	1		Considered, but details not worked out	1
	Escape, surcease, solve problems	2		Details worked out/well formulated	2
13	**Method: Availability/opportunity for contemplated attempt.**		**14**	**Sense of "capability" to carry out attempt.**	
	Method not available; no opportunity	0		No courage, too weak, afraid, incompetent	0
	Method would take time/effort; opportunity not readily available	1		Unsure of courage, competence	1
	Method and opportunity available	2a		Sure of competence, courage	2
	Future opportunity or availability of method anticipated	2b			

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15	**Expectancy/anticipation of actual attempt.**		16	**Actual preparation for contemplated attempt.**	
	No	0		None	0
	Uncertain, not sure	1		Partial (e.g., starting to collect pills)	1
	Yes	2		Complete (e.g., had pills, loaded gun)	2
17.	**Suicide note**		18	**Final acts in anticipation of death (e.g., insurance, will)**	
	None	0		None	0
	Started but not completed; only thought about	1		Thought about or made some arrangements	1
	Completed	2		Made definite plans or completed arrangements	2
19.	**Deception/concealment of contemplated suicide.**				
	Revealed ideas openly	0			
	Held back on revealing	1			
	Attempted to deceive, conceal, lie	2			