ACADEMIC STRESS AND PERSONALITY TRAITS AS PREDICTORS OF SUBSTANCE USE AMONG ADOLESCENTS IN SECONDARY SCHOOLS IN OSUN STATE, NIGERIA

Peter O. Olapegba, Sunday O. Onigbogi, and Emmanuel E. Uye

Department of Psychology, University of Ibadan, Nigeria

ABSTRACT

The use and abuse of substances among adolescents have been a source of concern in youth development in Nigeria. Statistics have shown that the prevalence of substance abuse in Nigeria is 62.4% among adolescents. This study, therefore, examined academic stress and personality traits as predictors of substance use among adolescents in secondary schools in Osun State, Nigeria. The Theory of Planned Behaviour and Transactional Theory of Stress provided the theoretical frameworks, while a cross-sectional design using a survey method was adopted. A purposive sampling technique was used to select three secondary schools (Ilesha High School, Methodist High School and Obokun High School) while the simple random sampling technique was used to select 324 students (males = 168, females = 156, mean age = 14.54, S.D = 2.47). Data was collected using a structured questionnaire comprising demographic variables, substance abuse ($\alpha = 0.71$), academic stress ($\alpha=0.76$), and personality traits ($\alpha = 0.98$). Data was analysed using the t-test for independence mean and multiple regressions at $p<0.05$. The results show that academic stress had significant influence on substance use among adolescents in secondary schools ($t= -13.40$; $df= 322$; $p<.05$). There was also a significant joint influence of personality traits (extraversion, agreeableness, conscientiousness, neuroticism and openness to experience) on substance use [$F (5, 318) = 18.81$, $R^2 = .22$; $p < .05$]. Finally, personality traits and academic stress jointly predicted substance use ($R^2 = .27$, $F (2, 321) = 59.39$, $p<.05$). The

study concluded that academic stress and personality traits significantly predicted substance use among adolescents in secondary schools. It, therefore, recommended that professional psychologists should develop personality screening tests for early detection of substance use by adolescents thereby helping to improve their academic performance.

JEL classification: I12, J13, P46

1. Introduction

Adolescence is the period between childhood and adulthood. It is a critical developmental period that witnesses physical, psychological and social changes. Adolescents engage in experimentation, exploration, show curiosity and identity search. Part of this experimentation involves risk-taking behaviours that include substance use and abuse. Substance use refers to all psychoactive substances which when taken modify perception, mood, cognition, behaviour or motor functions. This includes alcohol, tobacco, solvents, marijuana or Indian hemp, caffeine, cola nut, coffee, cannabis, cocaine, benzodiazepines, palm wine and *paraga* (an alcoholic herbal mixture) (Makanjuola, Sabitiu & Tanimola, 2007).

Currently, substance use has become a global menace that threatens the entire society because of its dire consequences. The World Health Organization (WHO) estimated that about 5.4% of the global burden of disease comes from the use of psychoactive substances (WHO, 2016). Akannam (2015) provided somewhat disturbing statistics of substance use and abuse across the six geopolitical zones in Nigeria. According to him, the North-west has the highest percentage (37.47%) for substance use and abuse in the country, followed by the South-west (17.32%), South-east (13.5%), North-central (11.71%) and North-east (8.54%). Also, the types of substances used among the population in Nigeria include cannabis (10.8%), psychotropic substances like benzodiazepines and amphetamine-type stimulants (10.6%), heroin (1.6%) and cocaine (1.4%) in both urban and rural areas. Most often, adolescents and young adults, who constitute an estimated 3.16 percent of Nigeria's huge and increasing population, started by experimenting with so-called "gateway drugs" such as tobacco, alcohol and marijuana (Siqueira & Brook, 2003) very early in life.

Substance use and abuse among adolescents in secondary schools have become a cause of concern to parents, schools, government, and society at large. If the saying that the youth are the leaders of tomorrow is true, and that they deserve a good education, their engaging in substance use and abuse can prevent them from attaining that goal. This fear is not unfounded as indicated by the frequent and rampant drug crises in many Nigerian schools. Substance use and abuse have become a major problem in Nigeria, which necessitated the establishment of the National Drug Law Enforcement Agency (NDLEA) by the federal government to checkmate the use and abuse of drugs in the country including in schools, colleges and universities (NDLEA, 2013).

Although many factors have been investigated as predictors of substance use in developed and developing countries using different populations and samples, this study focused on the influence of academic stress and personality traits on substance abuse among adolescents in secondary schools.

Generally, stress has become a common trait in the life of every individual, regardless of age, gender, or cultural background (Garret, 2001). According to Schemerhorn (2007), stress is a state of tension experienced by individuals facing extraordinary demands, constraints or opportunities. Stress can be positive or negative. Positive stress is a motivator that improves quality of life, while negative stress is destructive to the person (Blonna, 2005). Various forms of stress are faced by students but this study will focus mainly on academic stress. Academic stress, therefore, refers to the stress that arises from excessive classwork or assignments, running of errands for school teachers, unsatisfactory academic performance, preparing for tests/examinations, and lack of interest in a subject, etc.

Roberts and White (1999) found academic stress to be one of the causes of a high level of stress among students. The pressure to have high grades also causes academic stress among students. A high level of stress can interfere with students' preparation, concentration and performance in school. Academic stress occurs in a variety of ways. For instance, teachers may load students with large volumes of lecture notes and assignments. In a bid to cope with this work, the student is compelled to burn the candle at both ends, which sometimes leads to frustration and fatigue. This results in sleeping during classes or not concentrating in class. Other factors such as preparation for an upcoming

examination or test can be stressful for some students and affect their sleep or concentration.

One of the most noticeable effects of school stress in a student's life is a change in his/her performance. The most obvious evidence of normal or excessive amount of academic stress is where the performance level of such a student begins to decline. This affects their school attendance, completing classroom tasks and general performance. In order to be able to cope with the excessive academic stress some students engage in substance use.

Another variable that is of importance to this study is personality. Personality is a dynamic and organized set of characteristics possessed by a person that uniquely influences his or her cognition, motivation, and behaviour across situations. Sadock (2003) sees personality as a unique pattern of thoughts, feelings and behaviour that persists over time and situations. Personality traits in humans differ and have the potential to determine and explain why people act and respond to situations the way they do. Personality researchers have focussed on the big five personality model (Hurtz & Donovan, 2000) that has global dimensions or factors that characterize individual differences. These five broad traits are extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience (Digman, 1995).

Extraversion is characterized by having positive emotions and the willingness to associate with other people. It is the quality of being sociable, active, talkative, fun-loving, and optimistic (Edwards, 2008). They like people, prefer groups, enjoy excitement and stimulation, and experience the positive effects of energy, zeal and excitement.

Agreeableness is a tendency towards being trusting, caring, accommodating of people, pleasant to be with, generous, and optimistic (Costa & McCrae, 1992). Individuals with agreeable nature tend to be sympathetic to other people, show desire to help others and demonstrate strong social relationships (Pawlik-Kienlen, 2007).

Conscientiousness people are purposeful with strong determination and show self-discipline. They are achievement-oriented individuals. They have the drive to accomplish something, are very thoughtful, have good impulse control, and goal-directed behaviour. Pawlik-Kienlen (2007) stated that conscientious individuals are organized, disciplined, dedicated and loyal, especially at work.

Neuroticism assesses the continuum between emotional adjustment and emotional instability. Individuals who score high on the neuroticism trait tend to experience fear, nervousness, moodiness, anger, worry, and are insecure. Low scorers on neuroticism are emotionally stable, relaxed, calm, and even-tempered.

Openness to experience refers to individuals who are actively involved in seeking and experiencing new ventures (Costa & McCrae, 1994), and are very imaginative, sensitive, original in thinking or intellectually curious (Goldberg, 2006). Such individuals are ready to accept new ideas and hate conventional values (Edwards, 2008). Therefore, personality is an important psychological factor that affects human behaviour, including substance use and abuse.

This study adopted the Theory of Planned Behaviour (Ajzen, 1991) and the Transactional Theory of Stress (Lazarus & Folkman, 1984) as theoretical frameworks. The Theory of Planned Behaviour (TPB) posits that a person's intention to perform any behaviour depends on the person's attitudes, subjective norms, and perceived behavioural control. These three factors have been empirically determined to predict behaviour indirectly or directly through behavioural intention (Ajzen, 1991). Attitude is a person's positive or negative evaluation of the behaviour in question. Subjective norms refer to the perceived social pressure either to perform or not to perform the behaviour in question. Perceived behavioural control is the perceived ease or difficulty of performing the behaviour in question. The validity of this theory has been empirically supported as a predictor of behaviour through behavioural intention (Ajzen, 1991).

Applying that to this study, it implies that students who have a positive attitude towards substance use, being influenced by social pressure (norm), and who can easily have access to drugs will always engage in substance use as a way of coping with academic stress.

The Transactional Theory of Stress (Lazarus & Folkman, 1984) emphasizes the interaction between an individual and the environment. It postulates that stress is not located in the individual or the environment, but in the interaction of the environment, the individual's appraisal of the environment, and the attempt to cope with issues that arise from the process of the interaction (Cooper, Dewe & O'Driscoll, 2001). The theory identifies two stages of cognitive appraisal: primary and secondary appraisals. Primary appraisal involves assessing the potential stressors as threatening and posing some kind of threat to

the individual. Secondary appraisal involves the evaluation of coping resources and alternative responses. For instance, if an individual perceives that a situation is threatening, but that he or she has the ability to cope with it, then stress will not be experienced.

Coping is therefore the thoughts and behaviours used to manage the external and internal demands of situations that are appraised as stressful (Folkman & Moskowitz, 2004). The theory suggests that the relationship between the environment and a person is ongoing and reciprocal, and it is the interactions between the person and environment that cause stress. Relating the theory to this study, the transactional theory states that whenever students feel stressed as a result of their academic work, they will look for behaviour that can help them suppress it by engaging in substance use.

Many adolescents depend on one form of substance (drug) or the other for their daily activities such as social, academic, political, religious, etc. Students who are involved in substance use are exposed to risks and the consequences can manifest physically, psychosocially and behaviorally (Goodman & Huang, 2002). There is, therefore, a need to examine how academic stress and personality traits predict substance use among adolescents in a semi-urban area. The study will be of benefit to psychologists, social workers and counsellors trying to understand the role of academic stress and personality traits in substance use. It will provide possible intervention programmes geared towards reducing substance use to the barest minimum among adolescents. The study will also enlighten secondary school students on the negative effects of substance use in their lives.

The study tested three hypotheses:

1. adolescents who reported higher academic stress will significantly score higher on substance use than those who reported low on academic stress;
2. personality traits will significantly predict substance use among adolescents;
3. personality traits and academic stress will jointly and independently predict substance use among adolescents in the secondary schools sampled.

2. Literature Review

The influence of academic stress on substance use has been examined across different populations and samples, including students in universities (Abikoye, Adeniyi & Adekoya, 2014; Bukoye, 2017; Melaku, Mossie, & Negash, 2015;

Khan & Hafsa Kausar, 2013), in polytechnics (Ibrahim, Mohtar, Sabo, Abdul Rahim & Ariffin, 2015); in secondary schools (Sharma & Pandey, 2017; Akande, Olowonirejuaro, & Okwara-Kalu, 2014; Cornelius-Ukpepi and Ndifon, 2015), and in non-student populations (Omomia, Omomia, Chimezie & Akinwale, 2014; Ogunmakin & Akomolafe, 2013; Nwoke, Ogba, & Ugwu, 2012) with diverse findings.

Abikoye et al. (2014) examined academic stress and substance use among four hundred and fifty-two randomly selected undergraduates of Olabisi Onabanjo University (OOU), Ago-Iwoye, Ogun State, Nigeria. They found that students with high academic stress had higher substance use compared to students with low academic stress.

Bukoye (2017) investigated the influence of academic stress on substance use among 90 students randomly selected from three faculties in IBB University. The study found that academic stress has a positive significant influence on substance use among the students. In their study, Melaku et al. (2015) explored the severity of academic stress on substance use among 329 medical students at Jimma University. They found stress to be significantly associated with substance use (alcohol intake).

Khan and Hafsa-Kausar (2013) carried out a study on the effect of academic stress on substance use among a sample of one hundred and fifty students (75 males and 75 females) taken from different universities across Islamabad, Pakistan. The results showed a significant effect of academic stress on substance use among the sampled population.

Ibrahim et al. (2015) conducted a study on the level of academic stress on substance use among students in Kaduna Polytechnic, Nigeria. A stratified random sampling technique was used to select 250 students in the 2014/2015 academic session. The results indicated that academic stress significantly predicted substance use among the students.

Some studies have also been conducted among adolescents in secondary schools. In a study by Sharma and Pandey (2017) on the influence of academic stress on substance use among 120 students in government secondary schools in the rural area of Mahasamund District of Chhattisgarh State, India, a significant positive effect was found between academic stress and substance use. Similarly, Akande et al. (2014) investigated the level of academic stress on substance use among secondary school students in the Federal Capital Territory (FCT) Abuja,

Nigeria. A total of 540 students were sampled from 18 out of 59 secondary schools. The results showed that the level of academic stress had a significant effect on substance use among the students sampled.

In their study, Cornelius-Ukpepi and Ndifon (2015) examined academic stress and substance use among junior secondary school students from a random sample of 120 students from a population of 2,730 in Calabar Municipality in Cross River State, Nigeria. The result revealed that academic stress significantly predicted substance use among the students.

Ogunmakin and Akomolafe (2013) examined the influence of academic stress on substance use using the correctional research design. The sample consisted of 364 students randomly selected from ten secondary schools. The study found that school stress significantly influenced substance abuse among the students sampled. A similar result was obtained from a study conducted by Nwoke, Ogba and Ugwu (2012) on the influence of academic stress on drug use among 233 Nigerian youth with the result showing academic stress had a significant influence on substance use. However, Omomia et al. (2014), who examined the effects of academic stress on substance use (alcohol use) among adolescents in secondary schools, found no significant effects.

The second independent variable in this study, personality traits, has also been investigated, particularly among university students (Oluwatelure, 2015; Josephine, 2014; Atoyebi, 2013; Lin & Wang, 2012), and non-student populations (Chidi, Wakawa, Kwajaffa, Makput, Ali, Isa, Mukhtar, & Karatu, 2016; Ifeagwazi, 2010; Carey, Dilalla & Windle, 2014; Okhakhume & Abayomi, 2015; Lawal & Ogunsakin, 2012; Adekoya & Abikoye, 2014; Booth-Kewley & Vickers, 2015; Martin & Sher, 1994; Matzler, Renzl, Müller, Herting, & Mooradian, 2008; Okpataku, 2016; Bello, Fatiregun, Ndifon, Oyo-Ita & Ikpeme, 2011; Okafor, Udofia & Onyuku, 2016; Agbonghale & Okaka, 2014; Boogar, Tabatabaee & Tosi, 2014).

For example, Lawal and Ogunsakin (2012) investigated the Big Five Personality Factors as predictors of substance use among 228 people who patronize beer parlours. The results showed that extraversion, agreeableness, neuroticism, conscientiousness, openness to experience and self-monitoring jointly predicted substance use. Agreeableness, conscientiousness and self-monitoring independently predicted substance use. Similarly, Chidi et al. (2016) examined personality traits and substance use adopting a cross-sectional survey

method and a purposive sampling technique to select 104 undergraduate students. The results showed high scores on three dimensions of personality traits (psychoticism, extraversion and neuroticism) which have a significant influence on psychoactive substance use. However, agreeableness, conscientiousness, and openness to experience had a significant effect in predicting the tendency toward substance use. Extraversion had no significant effect in predicting attitude to substance use.

Another study by Lin and Wang (2012) examined the effects of personality traits dimensions on substance use among university students. The study found that personality traits influence substance use among the student population. Oluwatelure (2015) also found a positive relationship between extraversion and alcohol abuse among 175 undergraduate students of Obafemi Awolowo University, Ile-Ife, Osun State.

Matzler (2008) studied personality traits and substance use among a non-student population comprising 600 civil, mechanical, and electrical engineers. Agreeableness, conscientiousness and openness to experience trait were found to have a significant influence on substance use.

Ifeagwazi (2010) found no relationship between extraversion and substance use. The researcher explained the result, suggesting that extraversion is not a pronounced personality trait that distinguishes drug users from non-users. However, it seems that extraversion is a more positively valued personality trait (than introversion) and thus is not likely to be higher among drug users than in the general population.

Luginaah and Dakubo (2003) found that emotional instability, including frustration, anxiety trait, depression and unhappiness were crucial in etiological explanations of substance use among the students. Carey and Dilalla, (2014) found that high scorers on the psychoticism scale exhibit some personality and behavioural traits (e.g., aggressiveness, impulsivity, egocentrism), and impersonal feelings and anti-social tendencies were linked to the initiation and maintenance of substance use.

Okhakhume and Abayomi (2015) examined neuroticism personality traits as a predictor of substance use among 106 officers of the Nigeria Immigration Service. The results revealed a significant positive relationship between neuroticism personality trait and substance use among the officers. However,

there was no significant difference between psychoticism personality trait and substance use among the officers.

Okpataku (2016) examined personality traits on psychoactive substance among 234 long-distance commercial vehicle drivers in a Nigerian city. The study found that personality traits predicted substance use among drivers. Agbonghale and Okaka (2014) studied the influence of personality traits on substance use among 121 commercial drivers and found extraversion and openness to experience predict substance use among the respondents.

Atoyebi (2013) explored the effect of personality traits on substance use among 223 students in a south-western Nigerian City. The result showed that personality traits affect substance use among the population studied. Agbonghale and Okaka (2014) examined the influence of personality traits on the use of drugs among 459 youth. The study found that personality traits predicted substance use. However, Bello et al. (2011) conducted a study on the influence of personality traits on substance use among 124 respondents and did not find a significant influence of personality traits on substance use. Also, Okafor et al. (2016) examined the influence of personality traits on psychoactive substance use among 102 commercial drivers in Calabar. The study found no significant relationship between personality traits and substance use among the population studied.

3. Method of Study

The study adopted a quantitative cross-sectional survey design using a questionnaire to collect data to examine how the independent variables, academic stress and personality traits, predict the dependent variable, substance use. The population of the study consisted of all adolescents in senior secondary schools in Osun State. The population was selected because of their vulnerability to substance use in society. The study was carried out using three secondary schools: Ilesha High School, Methodist High School and Obokun High School, all in Ilesa East Local Government Area in Osun State. A pre-survey executed by the researcher showed that Ilesha High School had a population of 850 students, Methodist High School had a population of 477 and Obokun High School had a population of 550, giving a total of 1,877 students, and this constituted the population of the study.

The sample size for this study was calculated using the Krejcie and Morgan (1970) sample size formula:

$$(n) = N / 1 + N\,(e)^2$$

where: N= Population size, n= Sample size, e= Error variance $(0.05)^2$

Thus,

$$n = \frac{1{,}877}{1 + 1{,}877(0.05)^2}$$

$$n = \frac{1{,}877}{1 + 1{,}877(0.0025)}$$

$$n = 329.87$$

$$n = 330$$

To calculate the minimum number of participants from each school, the researcher applied Bowley's (1990) population allocation formula:

nh = n x Nh/N

where nh = number of questionnaire allocated to each school, n = sample size, Nh = number of students in each school, N = population.

Using the formula, 149 students were selected from Ilesha High School, 84 from Methodist High School and 97 from Obokun High School. A simple random sampling technique was used to pick the final sample of the participants for the study. The researcher put folded pieces of paper with 'participation' and 'non-participation' written on them into a box. Students were asked to pick one paper each from the box. Only students who picked 'participation' were included in the study.

A structured questionnaire was used for data collection. Permission was obtained from the authorities of the three schools. Thereafter participants were informed of the objectives of the study. Direction on how to complete the questionnaire was given and participants were encouraged to be as truthful as

possible in their responses by letting them understand that there are no right or wrong answers to the questions. The researcher informed the respondents that they could withdraw from the study at any time they wished to do so.

A total of 330 questionnaires were distributed, of which 6 were not completed and were discarded, leaving 324 copies. These were coded and analysed using the Statistical Package for the Social Sciences (SPSS, Version 22). The questionnaire consisted of four sections (A-D) covering demographic data, drug abuse scale, academic stress scale and personality traits scale. Section A contained demographic variables of age, gender, religion, family type and class. Section B contained the Substance Use Scale measured with the 10-item Drug Use Questionnaire developed by Skinner (2008). The items required a YES or NO response. Some of the items on the scale read as follows: 'Have you ever experienced withdrawal symptoms when you stopped taking drugs?' and 'Have you had medical problems as a result of your drug use, e.g. memory loss, hepatitis, convulsion or bleeding, etc?' Skinner (2008) reported a reliability of 0.86, while in this study, a Cronbach alpha of 0.71 was reported.

Section C contains the Academic Stress Scale and was measured using the 18-item perception of school stress scale (Bedewy and Gabriel, 2015). Some of the items include: 'My friends could push me into doing just about anything' and 'I give into peer pressure easily'. A four-point Likert scale with a response format ranging from 1= Strongly Agree, to 2= Agree, 3 = Disagree, and 4 = Strongly Disagree was used. Bedewy and Gabriel (2015) reported a reliability of 0.82. In this study, a Cronbach alpha of 0.76 was reported.

Section D contains Personality Traits, which were measured using the 10-Item Personality Inventory (TIPI) developed by Rammstedt and John (2007). It was scored as 1 = Disagree strongly, 2 = Disagree moderately, 3 = Disagree a little, 4 = Neither agree nor disagree, 5 = Agree a little, 6 = Agree moderately, and 7 = Agree strongly. Rammstedt and John (2007) reported a reliability of 0.78 for the overall scale. In this study, a Cronbach Alpha of 0.98 was reported.

Hypothesis one was tested using a t-test for the independent measure, while hypotheses two and three were tested using multiple regression at 0.05 level of significance.

4. Results

Table 1 summarizes the demographic data of the study population.

Table 1. Demographic variables of the study sample

Variable	N	%
Gender		
Male	168	51.9
Female	156	48.1
Age		
10-15 yrs	193	59.6
16-20 yrs	131	40.4
Religion		
Christianity	215	66.4
Islam	109	33.6
Class		
SS1	46	14.2
SS2	245	75.6
SS3	33	10.2
Family Type		
Monogamous	215	66.4
Polygamous	109	33.6

Hypothesis one tested whether adolescents who reported high academic stress will significantly score higher on substance use than those who reported low academic stress. This was tested using the t-test for independent samples; the result is presented in table 2.

Table 2. T-test for independent samples showing the mean difference between academic stress and substance use

	Academic Stress	N	M	SD	df	t	p
Substance use	High	190	17.97	1.60	**322**	**-13.40**	**<.05**
	Low	134	15.46	1.73			

As shown in table 2, academic stress had a significant influence on substance use among adolescents in secondary school (t= -13.40; df= 322; p<.05). This means that adolescents with high academic stress (M=17.97, S.D=1.60) reported higher on substance use than those with low academic stress (M=15.46, S.D= 1.73). The result confirmed hypothesis one and it was accepted.

Hypothesis two tested the joint and independent influence of personality traits(extraversion, agreeableness, conscientiousness, neuroticism and openness to experience) on substance use among adolescents in secondary school. This was tested using multiple regressions analysis and the results are presented in table 3.

Table 3. Multiple regression showing joint and independent predictors of personality traits on substance use

Predictor	β	T	P	R	R^2	F	P
Extraversion	.37	5.78	< 0.5				
Agreeableness	-.17	-3.06	<.05	.47	.22	18.81	< .05
Conscientiousness	.10	1.79	>.05				
Neuroticism	-.09	-1.72	>.05				
Openness to experience	-.12	-2.26	<.05				

The results shown in table 3 indicate a significant joint influence of personality traits on substance use [F (5,318) = 18.81, R2 = .22; p < .05] with the variable accounting for 22% of the variance in substance use. Further results show that extraversion (β=.37; t= 5.78; p<.05), agreeableness (β=.-17; t= -3.06; p<.05), openness to experience (β=.-.12; t= -2.36; p<.05) independently influenced substance use. However, conscientiousness (β=-.10; t= 1.79; p>.05) and neuroticism (β=.-.09; t= -1.72; p>.05) did not independently influence substance use. Hypothesis 2 is therefore partially accepted.

Hypothesis three tested joint and independent predictors of personality trait and academic stress on substance use among adolescents. This was tested using multiple regression analysis and the result is presented in table 4.

Table 4. Regression analysis showing joint and independent predictors of personality traits and academic stress on substance use

Predictor	β	T	P	R	R^2	F	P
Personality trait	.20	4.02	<.05	.52	.27	59.39	<.05
Academic stress	.55	10.89	<.05				

The result in table 4 reveals that personality traits and academic stress jointly predicted substance use $F(2, 321) = 59.39$, $p<.05$). When combined, the respondents' personality traits and academic stress accounted for 27% of the change observed in substance use among adolescents in secondary school. Furthermore, personality traits ($\beta = .20$, $t= 4.02$; $p<.05$) and academic stress ($\beta = .55$, $t= 10.89$; $p<.05$) had independent influences on substance use among adolescents in secondary school. The stated hypothesis is, therefore, accepted.

5. Discussion

The main aim of this study was to examine the influence of academic stress and personality traits on substance use among adolescents in secondary school in a local government area in Osun State, Nigeria. Three hypotheses were stated to achieve this objective.

Hypothesis one tested whether adolescents who reported high academic stress will significantly score higher on substance use than those who reported low academic stress. The hypothesis was confirmed meaning that adolescents with high academic stress used more substance than those who reported low academic stress.

The finding supports the result from Abikoye et al. (2014) that students with high academic stress have higher substance use compared to students with low academic stress. The current finding also supported Abdul-Raheem (2013) who found that school stress has a positive effect on substance use among adolescents in secondary school in Ekiti State. Similarly, Bukoye (2017) found that academic stress has a positive effect on substance use.

The second hypothesis looked at the joint influence of personality traits on substance use among adolescents in secondary school and revealed the significant joint influence of extraversion, agreeableness, conscientiousness, neuroticism and openness to experience on substance use. Extraversion,

agreeableness and openness to experience independently influenced substance use. However, conscientiousness and neuroticism did not independently influence substance use. This finding supports the position of Oluwatelure (2015) that there is a positive relationship between extraversion and alcohol use among the study population. The present result also supported the finding by Chidi et al. (2016) where high scores obtained on three dimensions of personality traits (psychoticism, extraversion and neuroticism) were associated with psychoactive substance use.

Finally, hypothesis three which investigated the joint and independent influence of personality traits and academic stress on substance use among adolescents in secondary school was confirmed. This finding corroborated the work of Lawal and Ogunsakin (2012) where it was found that extraversion, agreeableness, neuroticism, conscientiousness, openness to experience and academic stress jointly predicted substance use. The study also supported the finding by Chambliss, Hart and Lannon (2016) that revealed the joint influence of personality factors on the academic workload on substance use among sampled students.

6. Conclusion and Recommendation

The findings of this study show the significant influence of academic stress on substance use among the population of students, meaning students with high academic stress reported higher substance use than those with low academic stress. There was also the significant joint influence of personality traits on substance use, with extraversion, agreeableness, openness to experience independently influencing substance use, while conscientiousness and neuroticism did not. Lastly, personality traits and academic stress jointly and independently influenced substance use among the studied population.

The study, therefore, recommended having professional psychologists develop a personality screening test which can be used to detect and screen adolescents that have extraversion, agreeableness and openness to experience traits such that they can be given psychological intervention, thus reducing dependence on the use of substances. Second, school managements should reduce those activities which trigger high stress among students. This will give them enough time to rest and thereby reduce the possibility of the use of a substance. Parents and guardians should encourage their children to sleep early

enough so that their body and mind can adequately rest. This will make students think less about using a substance. Finally, policymakers (the Ministry of Education) should review the curriculum to include drug education for students in both primary and post-primary schools to enlighten them on the adverse effects of substance use and abuse.

The present study had some limitations. First, the study used only three secondary schools; hence it suffered from a generalizability problem. Second, data collected was through a self-reported questionnaire which often tends to bias findings due to the social desirability effect of the respondents. Future research can improve the method of data collection by including qualitative methods such as interviews, focus group discussions and observational methods. More psychosocial variables such as parenting styles and self-efficacy that influence substance use should be included in future studies. Finally, a longitudinal study approach could be adopted by future researchers.

References

Abdul-Raheem, B. O. (2013). Sociological factors to drug abuse and the effects on secondary school students' academic performance in Ekiti and Ondo states, Nigeria. *Contemporary Issues in Education Research – Second Quarter*, 6(2), 15-30.

Abikoye, G. E., Adeniyi, M., & Adekoya, A. (2014). School stress and peer-pressure as predictors of substance abuse among university students. *Journal of Social Psychology*, 5(1), 3-9.

Adekoya, A., & Abikoye, G. (2014). Psychosocial correlates of substance use among unemployed persons in Ibadan, Nigeria. *American Journal of Applied Psychology* 3(2), 32-38.

Agbonghale, G. O., & Okaka, R. O. (2014). Effects of drug abuse on academic performance of technology education students in Nigerian public universities. *Journal of Psychology*, 5(1), 79-83.

Ajzen, I. (1991). The theory of planned behaviour. *Organizational Behaviour and Human Decision Processes*, 50(2): 179-211.

Akande, A., Olowonirejuaro, O., & Okwara-Kalu, E. (2014). Level of stress on substance use among secondary school students. *IOSR Journal of Research & Method in Education,* 4(5)I, 32-36.

Akannam, T. (2015). North-West Rank Highest in Drug Addiction. Nigerian Drug Statistics by Zone. www.nairaland.com. Retrieved on 5 /5/2015.

Atoyebi, O. A. (2013). Personality and drug abuse in a Southwestern Nigerian city. *Nigerian Journal of Psychiatry*, 7(2), 7-16.

Bedewey, D., & Gabriel, A. (2015). Examining the perception of academic stress and its sources among university students: The Perception of Academic Stress Scale. *Health Psychology Open*, 2(2).

Bello, S., Fatiregun, A., Ndifon, W.O., Oyo-Ita, A., & Ikpeme, B. (2011). Drug use and personality traits. *Nigeria Medicine Journal*, 5, 244-288.

Blonna, R. (2005). *Coping with Stress in a Changing World.* New York: McGraw Hill Higher Education.

Boogar, I., Tabatabaee, S., & Tosi, J. (2014). Attitude to substance abuse: do personality and socio-demographic factors matter? *International Journal of High Risk Behaviors and Addiction*, 3(3):e16712. doi: 10.5812/ijhrba.16712.

Booth-Kewley, S., & Vickers, R.R. Jr. (2015). Associations between major domains of personality and health behavior. *Journal of Personality,* 62, 281–298.

Bukoye, Y. (2017). Academic stress and substance use. *European Scientific Journal,* 13(8), 60-74.

Carey, B., Dilalla, V. S .L., & Windle, M. (2014). Alcohol consumption and positive study practices among African American college students. *Journal of Alcohol and Drug Education,* 49(4), 26-44.

Chambliss, C., Blust, K., Hart, A., & Lannon, P. (2016). Personality correlates of non-clinical substance use in adolescent. *Journal of Psychology and Behavioural Science*, 4(1), 23-34.

Chidi, O., Wakawa, I., Kwajaffa, S., Makput, D., Ali, A., Isa, B., Mukhtar, M., & Karatu, B. (2016). Personality traits of in-patients with substance use disorders in a mental health facility in Nigeria. *Journal of Neuroscience and Behavioral Health*, 8(1), 1-8.

Cooper, C. L., Dewe, P., & O'Driscoll, M.P. (2001). *Organizational Stress: A Review and Critique of Theory, Research, and Applications*. Thousand Oaks, CA: Sage.

Cornelius-Ukpepi, U., & Ndifon, R. (2015). School stress and drug use of junior secondary school students. *Journal of Scientific Research & Reports*, 4(6), 533-542.

Costa, P. T., & McCrae, R. R. (1992). Normal personality assessment in clinical practice. The NEO Personality Inventory. *Psychological Assessment*, 4(1), 5-13.

Digman, J. (1995). A framework for studying personality in the stress process. *Journal of Personality and Social Psychology*, 69, 890-902.

Edwards, D. (2008). Personality. In Louw, D.A and Edwards, D.J. (Eds.). *Psychology: An Introduction for Students in Southern Africa*. Rivonia: Heinemann, 541-603.

Folkman, S., & Moskowitz, J. T. (2004). Coping: Pitfalls and promise. *Annual Review of Psychology*, 55, 745–774.

Garret, R. (2001). High School Stress. Retrieved on 25th October 2013 from http://www.optimum health.ca.

Goldberg, K. (2006). The search for universals in personality lexicons. In: L. Wheeler (Ed.). *Review of Personality and Social Psychology* 2, 141-165. Beverly Hills: Sage.

Goodman, E., & Huang, B. (2002). Socioeconomic status, depressive symptoms, and adolescent substance use. *Archives of Pediatrics & Adolescent Medicine*, 156, 448–453. http://dx.doi.org/10.1001/archpedi.156.5.448.

Hurtz, G. M., & Donovan, J. J. (2000). Personality and job performance: The Big Five revisited. *Journal of Applied Psychology*, 85(6), 869-879.

Ibrahim, Y., Mohtar, S., Sabo, M., Abdul Rahim, F., & Ariffin, A. (2015). Stress and substance use among polytechnic students in Nigeria. *American Journal of Public Health Research*, 3(6), 214-220. doi: 10.12691/ajphr-3-6-3.

Ifeagwazi, Y. (2010). Adolescents alcohol use and misuse: The socializing influence of perceived family life. *Journal of Behaviour,* 4, 56-78.

Josephine, O. (2014). Drug usage and personality among youth. *British Journal of Education*, 2(1), 1-9.

Khan, M., & Hafsa Kausar, S. (2013). Effect of academic stress and substance use. *FWU Journal of Social Sciences*, (Winter) 7(2), 146-151.

Krejcie, R.V., & Morgan, D.W. (1970). Determining sample size for research activities. *Educational and Psychological Measurements*, 30, 607-610.

Lawal, A., & Ogunsakin, A. (2012). Drug use among people who patronize beer parlours: The function of big five personality factors and self-monitoring. *African Journal of Drug & Alcohol Studies,* 11(1), 37-43.

Lazarus, R. S., & Folkman, S. (1984). *Stress, Appraisal, and Coping*. New York: Springer.

Lin, H.-H., & Wang, Y.-S. (2012). Investigating the effect of university students' personality traits on substance use. A multi-theory perspective. *International Journal of Information and Education Technology*, 2, 354–357.

Luginaah, I., & Dakubo, C. (2003). Consumption and impacts of local brewed alcohol (akpeteshie) in the Upper West Region of Ghana: A public health tragedy. *Social Science & Medicine*, 57(9), 1747-1760.

Makanjuola, B.A., Sabitiu, A.O, & Tanimola, M.A. (2007). Psychoactive substance use among long distance vehicle drivers in Ilorin, Nigeria. *Nigerian Journal of Psychiatry*, 5(1), 34-46.

Martin, E.D., & Sher, K.J. (1994). Family history of alcoholism, alcohol use disorders and the five-factor model of personality. *Journal Stud Alcohol*, 55, 81–90.

Matzler, K., Renzl, B., Müller, J., Herting, S., & Mooradian, T. A. (2008). Personality traits and knowledge sharing. *Journal of Economic Psychology*, 29(3), 301-313.

Melaku, L., Mossie, A., & Negash, A. (2015). Stress among medical students and its association with substance use and academic performance. *Journal of Biomedical Education,* 2, 1-9.

NDLEA. (2013). Drug data collection and research, Lagos: Drug Demand and Reduction Unit National Drug Law Enforcement Agency.

Nwoke, M. B., Ogba, T.U., & Ugwu, N.C. (2012). Peer influence and drug use among Nigerian youth. *International Journal of Research in Arts and Social Sciences*, 4, 3, 5–16.

Ogunmakin, A., & Akomolafe, M. (2013). School stress of secondary school students in Ondo State, Nigeria. *Mediterranean Journal of Social Sciences*, 4(11).

Okafor, C., Udofia, O., & Onyuku, T. (2016). Personality and psychoactive substance use. *International Neuropsychiatric Disease Journal*, 8(3), 1-9.

Okhakhume, A., & Abayomi, O. (2015). Personality factors as correlates of substance abuse among officers of Nigeria immigration service. *Edorium Journal of Psychology,* 1, 37–41.

Okpataku, C. (2016). Personality and psychoactive substance in a Nigerian city. *Indian Journal of Public Health*, 59, 259-63.

Oluwatelure, F. A. (2015). Influence of personality traits and drug use. *Journal of Psychological Studies,* 3: 53-65.

Omomia, T., Omomia, O., Chimezie, U., & Akinwale, G. (2014). Perceived impact of stress on drug abuse in Lagos State. Nigeria. *European Journal of Psychological Studies*, 3(3), 85-92.

Pawlik-Kienlen, L. (2007). The Big Five Personality Traits: Your Personality Affects Every Aspect of Your Life! From< http://psychology.suite101. com/ article. cfm/ the_ big_ five_ personality_ traits>. Retrieved October 07, 2008.

Rammstedt, B., and John, O. (2007). Measuring personality in one minute or less: A 10-item short version of the big five inventory in English and German. *Journal of Research in Personality*, 41(1), 203-212.

Roberts, G. H., & White, W. G. (1999). Health and stress in developmental college students. *Journal of Student Development,* 30(1), 515-521.

Sadock, M. K. (2003). The five-factor model of personality and performance in jobs that involve interpersonal interaction. *Human Performance*, 11(2), 145-165.

Schemerhorn, J. R. (2007). *Exploring Management in Modules*. USA: John Wiley & Sons, Inc.

Sharma, G., & Pandey, J. (2017). School stress, and substance use among Higher secondary school students. *The International Journal of Indian Psychology*, 4(12), 87-99.

Siqueira, L.M., & Brook, J.S. (2003). Tobacco use as a predictor of illicit drug use and drug related problems in Colombian youth. *Journal of Adolescent Health*, 32, 50-57.

Skinner, H. (2008). *Drug Use Questionnaire*. Toronto, Canada: Addiction Research Foundation.

World Health Organisation. (2016). Incidence of psychoactive substance use in Third World countries. http://www.who.int.