SOCIO-PSYCHOLOGICAL FACTORS ASSOCIATED WITH SUBSTANCE USE AMONG SENIOR SECONDARY SCHOOL STUDENTS IN NYANYA AND MARARABA AREAS OF THE FCT AND NASARAWA STATE, NIGERIA.

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ABSTRACT

The study investigated the socio-psychological factors associated with substance use among senior secondary school students in Nyanya and Mararaba areas of the Federal Capital Territory (FCT) and Nasarawa State, Nigeria. An ex post facto, cross-sectional research design using stratified sampling technique was adopted to recruit 179 participants (M=85 and F=94) who were senior secondary school students (SSI-SSIII) from selected public secondary schools in Nyanya and Mararaba areas of the FCT and Nasarawa. Three psychological research instruments were used in the study: Adolescent Alcohol Substance Use Questionnaire was used to assess adolescents' substance use, Nowicki and Strickland Locus of Control Scale was used to assess locus of control while Rosenberg Self-esteem Scale was used to assess global self-esteem (self-worth and self-acceptance) of adolescents. Three hypotheses were tested in the study. Findings indicated that there was a significant prevalence rate of alcohol use (X2 (1) = 8.106, P< .05), cigarettes (X2 (1) = 3.881, P< .05) and marijuana (X2 (1) = 7.326, P< .05) with no statistically significant prevalence rate for other drugs among Senior Secondary School Students. The result further showed a significant relationship between substance use and locus of control (r[177] = 0.226, P< 0.01), no significant relationship between substance use and self-esteem (r[177] = 0.077, P> 0.05). The results showed that age, gender, family background and locus of control jointly predicted substance use ([R= .359; F= 5.129, p< .01]) among secondary school students. Independently, gender (β= -.212; t= -2.713, p< .05) and locus of control (β= .207; t= 2.700, p< .05) significantly predicted substance use but age (β= -.107; t= -1.443, p> .05), family background (β= -.001; t= -.015, p> .05), and self-esteem (β= .155; t= 2.106, p> .05) did not predict substance use. By implication, the findings suggest that there is a high prevalence of substance use caused by some socio-psychological factors such as gender, family background, locus of control and self-esteem among senior secondary school students in Nyanya and Mararaba areas of the FCT and Nasarawa State. We therefore recommended that Government at various levels, Professional Associations like the Nigerian Psychological Association and NGOs should initiate well-articulated preventive and intervention programmes such as having counsellors in schools to help change attitudes / behaviours and reverse the trend of drug use among secondary school students.

Keywords: *Substance use, Public secondary schools, Locus of control, Self-esteem, Gender, Family background.*

INTRODUCTION

Substance use, particularly alcohol and minor tranquilisers seems to be high among adolescents in secondary school. Many of the adolescents seem to have dropped out from school as a result of excessive substance use; some are engaged in various forms of delinquent and antisocial behaviours that may lead to adult criminality or substance dependence in future. These children come from different family backgrounds but it appears that most of them are from low-income families who live in high-density and low-income housing areas in the urban centres. Apparently, these children are vulnerable to all kinds of influences within their neighbourhood, as they mingle with friends and significant figures among whom are those who often challenge the authority of their parents / guardians and teachers in their schools.

Substance use and abuse has emerged as one of the major public-health challenges facing the world today. According to Lassi, Taylor, Mahedy, Heron, Eisen and Munafo (2019) adolescence and young adulthood are critical risk periods for the initiation of tobacco and alcohol use. According to the National Centre on Addiction and Substance Abuse, more than 90% of people with a substance problem began smoking, drinking or using other drugs before age 18. The social, economic and health cost is highly

worrisome. Each year in the United States, federal, state and local governments spend close to $500 billion on addiction and substance abuse (https://www.centeronaddiction.org/). Nigeria is not an exception because since the 1960s when cannabis was discovered, 1980s when cocaine and heroin became more popular, available and accessible, drug abuse has been a major burden for public health services and the society in general. Nigeria and other West African countries became the major drug trafficking pathways for cocaine and heroin from South American into Europe and North American since 2004. Nigerian citizens were responsible for 81% of the 2.4 tons of heroin seized from West Africans on commercial air flights since 2000, based on incidents recorded in the UNODC Individual Drug Seizures (IDS) database. In addition, almost half of this 2.4 tons was destined for Nigeria, and 61% to West Africa generally (UNODC 2008)

One area of major concern is substance use among adolescents who represent the future of the society. According to latest statistics available, the prevalence of drug use in Nigeria for 2017 was estimated at 14.4 per cent or 14.3 million people aged between 15 and 64 years; comparatively higher the 2016 global annual prevalence of 5.6 per cent among the adult population (UNODC, 2018). The former Director General of National Drug Law Enforcement Agency (NDLEA), Otunba Ipinosho observed that substance use and abuse in Nigeria is becoming overwhelming among the youth as about 40% of them are already drug abusers (Thisday Newspaper, 20 May, 2016). Studies have been conducted to understand drug pathways and the physiological effects in human system (Falco, 1988). Traditionally, herbs and other unorthodox substances are specially used to heal and control diseases (Fareo, 2012), and when administered as prescribed the traditional specialists, they do not constitute any danger to humans (Falco, 1988). However, it is no longer a conjecture that all living cells react to chemicals, (Afolabi, Oladotun and Chinwe, 2014) which explains why drugs are generally considered important to human well-being.

In all these, misuse of substance is critical and locus of control is a potential intervention target for preventing substance use and dependence of adolescents in risky behaviour (Lassi et al., 2019).

LITERATURE REVIEW

Several studies have examined various factors associated with substance use. For instance, Abdu-Raheem (2013) examined the influence of drug abuse on secondary school students in relation to their family background, family cohesion, peer group influence, and students' academic performance in Ekiti and Ondo States, Nigeria. In the study, 460 students were randomly selected using a multistage sampling technique and data collected with Drug Abuse Questionnaire (DAQ). The result reported a significant relationship between family background, family cohesion, and peer influence and drug abuse at 0.05 level of significance. Furthermore, it was reported that drug abuse negatively affects students' academic performance in Ekiti and Ondo States. The researcher then opined that parents should guide their children morally, socially, psychologically and financially against negative peer pressure and societal influence.

A significant relationship between students' age and drug abuse has been established in a study among secondary school students randomly selected from six (6) Local Government Areas in Osun State (Majirade and Olusola, 2015). The researchers highlighted preventive strategies such as academic improvement and social support system for school students and dropouts. In another study conducted by Manyike, Chinawa, Obu, Nwokocha and Odetunde (2016) among 900 secondary school adolescents in Enugu State, using the World Health Organisation (WHO) *Students Drug Use Questionnaire,* it was found that more males than females used substance. They also

found that kolanut and coffee were used among students less than 10 years, alcohol, tranquilisers and tobacco with students between ages 11 to 14 years while cannabis was used by students between ages 15 to 19 years. Furthermore, they found that kolanut and coffee were first used in primary school, while alcohol, tobacco, cannabis and tranquilisers were used in secondary school. In the same study, it was found that while father education had no significant association with substance use, parent alcohol use had a positive correlation to current and lifetime of adolescents' alcohol use. Further findings indicated that educational level and age had significant influence on substance use.

A cross-sectional study was conducted by Akanni and Adoyonfo (2017) among 492 adolescent Nigerian students using a multistage sampling technique. Results from data gathered, using the WHO Students *Drug Use Questionnaire,* showed that having a friend who uses substance was significantly associated with tobacco, alcohol, cannabis and caffeine use while being a male, having a family member that uses substance were significantly associated with tobacco and caffeine use. They also found that older age, lack of satisfaction with relationship and polygamous family background were significantly associated with tobacco use; lack of satisfaction with the relationship with parents / guardians and having parents or guardians who are not religious were significantly associated with alcohol use. They concluded that a comprehensive approach was needed to prevent the use of substance by targeting individuals, schools, families and religious institutions through seminars and symposiums. Similarly, Hamdi et al. (2016) carried out a research on the socio-demographic predictors of substance use and abuse in Egypt among a sample of 106,480 participants aged 16 to 65 years, who were directly interviewed using a structure questionnaire. With regards to the pattern of substance use, they found that cannabis was the commonest substance used in the region; in total, 77% were cannabis users, 28.6% were alcohol users and 23.4% were opiate users. 13.3% used substance once in their life, 60% were experimental users, 6.7% were regular substance users while 6.4% were fulfilling the criteria of dependence. There was a highly significant difference between both genders as regards the use of substance, 15.8% of the sample were male substance users while 2.2% were female substance users. Their findings further revealed that 15.8% of young people aged 16-25 were using substance(s). Nevertheless, the adult age groups (26-35; 36-45) showed a relatively high representation among the users (4.8% and 4.1% of the whole sample, respectively). As regards educational level, less educated people were more common users of substance(s); 34.2% of those with primary school, 25.4% of illiterate persons 23.8% of those who can barely read and write. As regards occupation, substance use and abuse were common among merchants (38.9%), and among technicians (37.6%). Marital status was also significantly correlated to substance use and abuse (30.9% for those married twice and 25.7% of those who were divorced).

Working with a sample of 270 participants from motor parks, Okpataku (2016) collected data using drug use questionnaire and drug screening instrument in his research on the Socio-Demographic correlates of substance use among long distance commercial vehicle drivers in Kaduna State. He reported 76% prevalence for the use of at least one psychoactive substance. He also found out that younger drivers were more likely to use cannabis and tobacco while those without spouses used more cannabis. He also reported that a significant proportion of alcohol users were Christian with formal education of at least primary school level while Muslims were more likely to use cannabis and caffeinated substances. The study showed religion, age and marital status significant as predictors for alcohol use but indicated insignificant relationship between socio-demographic factors of age, marital status, education attained, religious affiliation and the use of psychoactive substances. He also opined that socio-demographic factors are cogent variables to be considered in exploring substance use / abuse among adolescents. Also, a study was

conducted by Negm and Fouad (2014) on the prevalence of substance abuse among adolescent students in Zaga zig, Egypt. 204 preparatory and secondary school students were selected, aged 13-18 years old. Data were collected via Drug Use Disorder Identification Test (DUDIT) and the Drug Use Disorder Identification Test Extended (DUDIT-E) for the urine drug test. They found that the prevalence of smoking and drug abuse among school students was 8.3% and 8.8% respectively. They also reported that the most common substance used by the students includes tramadol, cannabis and alcohol (83.3%, 27.8% and 16.7%) respectively with a mean age of onset of smoking 16.06 years and substance abuse as 16.05 years.

A study on substance use among secondary school students was conducted by Oshodi, Aina and Onajole (2010) in an urban setting of Nigeria to find out the rate and predictors of substance use in Lagos. 402 (178 males and 227 females) students were selected randomly, aged range between 11-30 years. 83.1% lived with their parents, 7.6% lived with their relatives and 7.2% lived with peers. They found that the commonest substance used by students were caffeine (kolanut and coffee), mild analgesics (paracetamol and aspirin) and antimalarials, most especially chloroquine with lifetime use prevalence rates of 85.7%, 73.8% and 65.7% respectively. In addition, the prevalence rates of lifetime use of the substance varied from 3.8% for heroin and cocaine to 85.7% for psychostimulants; and for current use varying from 2% to 56.5%. For the so-called gateway drugs, prevalence rates were: 9.2% for alcohol and 5.2% for tobacco while cannabis was 4.4%. In terms of gender, the study showed that the prevalence rate for males were generally higher than for females except for antibiotics, analgesics, heroin and cocaine. They also found that the reasons for substance use included: to relief stress (23.5%), self-medications to treat illness (23.8%) and to stay awake at night to study (14.9%). They recommended health education programmes for substance users.

Uba, Yaacob, Talib, Abdullahi and Mofoad (2013) carried out a study to assess the role of self-esteem in the diminution of substance abuse among adolescents in Nigeria. A total of 352 adolescents aged between 13-18 years were sampled from secondary schools in Somolu Lagos. The study used two sets of instruments through a survey study to measure peer substance use, self-esteem and substance abuse. A multistage cluster sampling technique was used in data collection. The result of their study showed that there is a direct effect of peer substance use and abuse on self-esteem. It also revealed a significant relationship between peer substance use and substance abuse among adolescents. The finding highlighted the important role self-esteem played in peer influence and substance abuse. It indicated that adolescents with high self-esteem have a lesser tendency of been influenced by peers with substance abuse behaviour. They recommended that further research should explore other settings, family background and school factors that may correlate with adolescents' substance use / abuse. Similarly, a survey study by Abikoye and Fusigboye (2010) was conducted with 230 undergraduate students to assess the influence of gender, locus of control and smoking habit. Participants included 137 male and 93 female students sampled (using snowballing sampling techniques) from two relaxation centres in Ago-Iwoye, with mean age of 24.93 (SD= 4.58). The results of the study revealed a significant influence of locus of control on students' smoking habit where internal locus of control reported significantly and relatively higher on smoking habit. Meanwhile, their findings also indicated a no significant difference in smoking habit between male and female students. They concluded that, students who started smoking at early stage are likely to be influenced in secondary school before entering university. They also found that age had no significant influence on students' smoking habit.

In a longitudinal study, Lassi, G., Taylor, A. E., Mahedy, L., Heron, J., Eisen, T. and Munafò, M. R. (2019) examined locus of control associated with tobacco and alcohol

consumption among young adult parents and children. The study sampled 13,773 children from the Avon Longitudinal Study of Parents and Children (ALSPAC) birth cohort (www.alspac.bris.ac.uk). The cohort consisted of children born to residents of the former Avon Health Authority area in South West England who had an expected date of delivery between 1 April 1991 and 31 December 1992. Locus of Control (LoC) scale and Alcohol Use Disorders Identification Test (AUDIT) were used for data collection. A more external LoC at age 16 was associated with higher odds of being a weekly smoker at age 17 and 21; and with dependence measured using the Fagerström Test of Nicotine Dependence (FTND) at age 17 and 21. Individuals with external LoC at age 16 were more likely to be hazardous drinkers according to the Alcohol Use Disorders Identification Test at age 17 but not at 21. Having a more external LoC at age 16 is associated with increased tobacco consumption at age 17 and 21 and alcohol consumption at 17 years. They concluded that LoC may represent an intervention target for preventing substance use and dependence. They therefore recommended early intervention at 16 years to prevent risky behaviour with the aim of increasing internal LoC of adolescents.

In examining the relationship between substance use and self-esteem, Akhter (2013) sampled 240 participants (aged 20 to 30 years) from different areas and educational institution of Karachi, Pakistan. Using two instruments - Rosenberg Self-Esteem Scale (RSES) and Severity of Dependence Scale (SDS) - for data collection, the study showed that drugs have a strong influence on self-esteem. This study supported the notion that self-esteem has long been believed to play an important role in the use of alcohol and psychoactive substances. He found that 50% were taken drugs from their friends and 10% were taken drugs from their parents, 40% reported that they were taken drugs from an unknown person, 47% were taken drugs due to social status and 21% were taken drugs for fun. His research concludes that: drugs have a strong influence on one's self-esteem; taking high rates of drug may lead to low self-esteem; and drugs also have a very strong influence on one's health and academics.

This study is undertaken within two settlements (Nyanya and Mararaba) on the outskirts of Nigeria's capital city, Abuja - which encapsulate the demographics that underpin the issues of interest in this research. Nyanya and Mararaba are slums located at the entrance to Abuja from Nasarawa State. The towns have been in existence since 1981 and are home to a significant number of the civil servants who work in the major city of Abuja. The towns are known for their populations and congestion of houses. Crimes are reported regularly along the Nyanya-Mararaba axis (e.g., Sunday Trust report of 12 May 2019 on *https://www.pressreader.com/nigeria/sunday-trust/20190512/281509342629320*) It serves as a major hideout for drug traffickers and perpetrators of antisocial behaviours (e.g., Leadership Newspaper report of 27 April 2019 on https://leadership.ng/?s=Drugs+On+Sale%21). Based on observations, several arrests have been made linking substance use and drug trafficking for over 25 years leading to adolescents dropping out from school for drug use. The popular Nyanya night market and its environs have turned into booming markets for all sorts of drugs (Igidi, Adeniyi, Umar, Abudullahi & Isa, 2017). As part of efforts to fill this gap, this study investigated the psychosocial factors associated with substance use among students from public senior secondary schools in Nyanya and Mararaba suburbs.

STATEMENT OF PROBLEM

Based on the review of literature, substance use among adolescents in secondary school has been a major issue in public health in Nigeria with far-reaching implications. So far, studies on drug use in Nigeria have attempted to estimate the rate, effects and impact of drug use and abuse among adolescents in our communities, whereas fewer studies have made efforts to investigate the social and psychological (in particular, locus of control)

factors that associated with use and abuse of substance among adolescents in secondary schools. This study is concerned with the fact that we do not have sufficient information on the prevalence of illicit substance use among these adolescents living in the slums, densely populated, low-income suburban areas.

We do not have adequate information on what may predispose these adolescents to make us of substance that are only prescribed by law for medical use. We do not have adequate knowledge of the patterns of substance these adolescents take. Again, we do not have sufficient information on self-esteem and locus of control of these adolescents. We do not have adequate knowledge of the social factors such as gender, age, level of education and family background that are associated with adolescents' substance use. According to the former Director General of NDLEA Otunba Ipinosho, over 40 % of Nigeria youth are substance abusers. Therefore, a substantial percentage of the young population uses alcohol and drugs to the extent that their health and interpersonal relationships are adversely affected (Johnson, Bachman and Omalley, 2003).

HYPOTHESES

The study hypotheses are as follows:

1. There will be a high prevalence of substance use among adolescents across age and gender in public senior secondary schools in Nyanya and Mararaba.
2. There will be a significant relationship between locus of control and substance use among public senior secondary school students in Nyanya and Mararaba.
3. There will be a significant relationship between self-esteem and substance use among public senior secondary school students in Nyanya and Mararaba.
4. Gender, age, family background, locus of control and self-esteem will independently and jointly predict substance use among public senior secondary school students in Nyanya and Mararaba.

METHOD

An ex post facto, cross-sectional research design was used to: (i) find out the prevalence of substance use among adolescents in public senior secondary schools in Nyanya and Mararaba and (ii) determine the relationships between age, gender, family background, locus of control and self-esteem on the one hand, and substance use among adolescents in public senior secondary schools in Nyanya and Mararaba. According to Sharma (2019), the term ex post facto means 'from what is done afterwards' where independent variable is not manipulated which has already occurred. It is a quasi-experimental study which explores how an independent variable, present earlier to the study in the participants, influence a dependent variable. The independent variables (age, gender, family background, self-esteem and locus of control) were not manipulated but used as described in their natural state.

In terms of time dimensions, it is cross-sectional since the research took place at a single point in time: instruments measuring the variables were administered to participants on one occasion; and data was gathered on present conditions instead of looking at the effects of the variables over a period of time (Cherry, 2019).

Population, sample and sampling techniques

The total enrolled population of students in the two public senior secondary schools used in the study was 1,875 (Government Secondary School, Nyanya: 1,107; and Government Secondary School, Aso Pada-Mararaba: 768). About 10% of the total population was drawn using a stratified sampling technique to select 179 participants. There were 90 participants from Government Secondary School, Nyanya (30 students from SS I, 30 Students from SS II and 30 students from SS III) and 89 from Government Secondary

School, Aso Pada-Mararaba (30 students from SS I, 30 Students from SS II and 29 students from SS III).

Instruments

The *Adolescent Alcohol and Substance Use Questionnaire* developed by Knight, Sherriff, Shrier, Harri and Chanq (2002) was used to assess adolescents' alcohol and substance use and abuse. The questionnaire is a self-report instrument which consists of 9 items with response option of YES and NO where YES = 2 and NO = 1.

The Nowick and Strickland *Locus of Control Scale* (N-SLCS) developed by Nowick and Strickland (1973) was used to measure locus of control. It is a 40-item inventory developed to assess the extent to which an individual has internal locus of control or external locus of control. It determines the tendency to make attribution to self or to others the causes of happenings and events in the individual's personal life. Based on the judgement of four experts, the study adopted the first 20 items certain items were eliminated and modifications made. Thereafter, a pilot study was conducted using 50 participants randomly selected from Government Science Secondary School New-Karu to validate the instrument. The study reported a Cronbach alpha reliability coefficient of .77 for the *Modified N-SLCS*.

In order to measure self-esteem, the *Rosenberg Self-Esteem Scale* (1965) - a self-report scale for measuring global self-esteem, was used. The scale consists of 10 items that measures self-worth and self-acceptance, using a 4-point Likert response scale ranging from STRONGLY AGREE to STRONGLY DISAGREE.

After permission has been sought, these scales were administered on the participants.

RESULTS

The results of data analysis and corresponding interpretations are presented below:

Hypothesis 1: There will be a high prevalence of substance use among adolescents across age and gender in public senior secondary schools in Nyanya and Mararaba suburbs.

This hypothesis was tested using Chi-Square.

Table 1: Summary of Chi-Square Results of Participants Response on Use and Abuse of Alcohol, Cigarette, Marijuana and Other Drugs (Tutoline, Codeine, Tramadol, Sniff) According to Age and Gender

Variables	Values (X^2)	Df	Sig.
Gender*Alcohol*Age	8.106	1	0.004
Gender*Cigarette*Age	3.781	1	0.049
Gender*Marijuana*Age	7.326	1	0.007
Gender*Other drugs*Age	7.259	4	0.123

Sig. Level: @ $P < .05$

Table 1 table shows the summary results of the Chi-Square analysis used for the test of significance of the prevalence of substance use across age and gender. Statistically, this result indicates a significantly high prevalence rate for alcohol use (X^2 (1) = 8.106, $P< .05$), cigarette (X^2 (1) = 3.881, $P< .05$) and marijuana (X^2 (1) = 7.326, $P< .05$). However, prevalence rate for use of other drugs was not significantly high, statistically.

This implies that there is a high prevalence rate of substance (alcohol) use among senior secondary school students across age and gender. Therefore, Hypothesis 1 is confirmed.

Hypothesis 2: There will be a significant relationship between locus of control and substance use among public senior secondary school students in Nyanya and Mararaba suburbs.
This hypothesis was tested with Pearson Product-Moment Correlation in Table 2.

Table 2: Pearson Correlation between Locus of Control and Self-Esteem on Response to Substance Use/Abuse

Variables	Mean	SD	1	2	3
Substance Use	8.50	1.143	1		
Locus of Control	15.12	2.530	.226**	1	
Self-Esteem	9.02	1.476	.077	-.141	1

**Sig. Level: *****P* < .01, df=177

Table 2 shows the results of the Pearson correlation of substance use, locus of control and self-esteem among senior secondary school students where substance use (M= 8.50; SD= 1.143) and locus of control (M= 15.12; SD= 2.530).
This indicates a statistically significant positive relationship between locus of control and substance use [r(177) = 0.226, *P*< 0.01]. This implies that locus of control has a significant positive relationship with substance use. Hypothesis 2 is therefore confirmed.

Hypothesis 3: There will be a significant relationship between self-esteem and substance use among public senior secondary school students in Nyanya and Mararaba.
This hypothesis was tested with Pearson Product-Moment Correlation. Table 2 indicates the relationship between with self-esteem (M= 9.02; SD= 1.476) and substance use (M= 8.50; SD= 1.143). This indicates that there is no statistically significant relationship between with self-esteem and substance use [r(177) = 0.077, *P*> 0.05]. Therefore, Hypothesis 3 is not confirmed. This means that locus of control is the major psychological factor influencing students' involvement in substance use compared to students' self-esteem

Hypothesis 4: Gender, age, family background, locus of control and self-esteem will independently and jointly predict substance use among public senior secondary school students in Nyanya and Mararaba. This hypothesis was tested with Multiple Regression analysis and results are displayed in the tables below:

Table 3a: Inter-Correlational Matric on Substance Use

Variables	1	2	3	4	5	6
Substance use	1					
Gender	-.243**	1				
Age	-.100	-.073	1			
Family Background	-.016	.078	-.268**	1		
Locus of Control	.266**	-.362**	-.038	-.086	1	
Self-Esteem	.077	.235**	-.008	-.057	-.141*	1

**Sig. Level: ****P* < .05 *******P* < .01

Table 3a shows the inter-correlational analysis to examine the extent to which the variables of study were related to each other. The summary of the inter-correlation among the variables of study: Gender, Age, Family Background (Social factors); Locus of Control, Self-Esteem (Psychological factors) and Substance Use.

Results show that substance use was significantly related with gender (r= -.243; *p*< .01) and locus of control (r= .266; *p*< .01) but not significantly related with age (r= -.100; *p*> .05), family background (r= -.016; *p*> .05) and self-esteem (r=.077; *p*> .05). Gender was significantly related with locus of control (r= -.362; *p*< .01), and self-esteem (r=.235; *p*< .01) but not significantly related with age and family background, whereas age was significantly related with family background (r= -.268; *p*< .01) but not significantly related with locus of control and self-esteem. Therefore, locus of control was significantly related with self-esteem (r= -.141; *p*< .01). This means that gender and locus of control of the students are the major influencing factors for substance use. Meanwhile, other mediating factors like family background and self-esteem play a minor role in influencing student's substance use.

In addition, the analysis in Table 3b shows that a combination of the predictor variables jointly predicted substance use (*R*= .359; *F*= 5.129, *p*< .01) and accounted for about 12.9% variance for Substance use among school students. Independently, gender (*β*= -.212; t= -2.713, *p*< .05) and locus of control (*β*= .207; t= 2.700, *p*< .05) significantly predicted substance use but age (*β*= -.107; t= -1.443, *p*> .05), family background (*β*= -.001; t= -.015, *p*> .05), and self-esteem (*β*= .155; t= 2.106, *p*> .05) do not predict substance use among senior secondary school students. This implies that the individual component of social and psychological factors predicted substance use as well as the combination of the factors.

Table 3b: Multiple Regression Analysis on Substance use

Variables	B	T	R	R^2	F
Gender	-.212	-2.713*			
Age	-.107	-1.443			
Family Background	-.001	-.015	.359	.129	5.129**
Locus of Control	.207	2.700*			
Self-Esteem	.155	2.106*			

Sig. Level: *P < .05, **P < .01 (df=5,173)

DISCUSSION

The results in this study are discussed based on the prevalence rate of substance use across age and gender, the relationships between and among the social and psychological factors influencing substance use and, the extent to which these factors predicted the use of substance among public senior secondary school students in Nyanya and Mararaba. The social factors include age, gender and family background while the psychological factors include self-esteem and locus of control. The substances used were alcohol, cigarette, marijuana and other drugs [cough syrup (Tutolin/Refnol, Codeine), Tramadol and sniff (Solution, fuel, glue)]. Therefore, the discussion of findings focuses on the stated hypotheses in line with previous studies.

The prevalence of substance use across age and gender among public senior secondary school students in Nyanya and Mararaba was confirmed in this study. Findings show that among of the substances studied (alcohol, cigarette, marijuana and other drugs), the prevalence of alcohol use among students was significantly high. This finding is in line with previous studies in Nigeria (WHO, 2009; Awoyinfa, 2012; UNODC, 2013; Awosusi, 2013; Adamson 2015 & NDLEA, 2016) which affirmed that alcohol use had a higher prevalence rate among adolescents than other substances. However, Hamdi, et al., 2016 and Afolabi, et al., 2014 indicated that cannabis and tobacco have high prevalence usage rate among adolescents. This finding is ascribed to the fact that alcohol and tobacco are major gateway substances among adolescents living in suburban areas.

Findings in this study also indicate that students between ages 14-16 years have a higher rate of prevalence in cigarette and marijuana use than students between ages 17-20 years. On the other hand, students between ages 17-20 years have a high rate of prevalence in the use of alcohol and other substances such as tramadol. Negm and Fouad (2014) reported that tramadol is a significant gateway substance for adolescents that are developing the habit of drug abuse. These findings also support previous studies: Akindale (2001) reported that middle adolescents aged 13-16 years start thinking abstractly and developed concern to associate with their age group behaviour which involved substance experimentation; Majirade and Olusola (2015) found out that adolescents between the ages of 11-15 years are significantly influenced into drug use; and Anyanuwu et al. (2016) reported that adolescents between the ages of 15-19 years had higher prevalence rates for use of alcohol, cigarette and kolanut but less prevalence in cannabis and cocaine.

Based on the findings in this present study, it is evident that availability and accessibility of these substances are common within the suburban areas and are affordable by students.
In terms of gender, this study reveals that male students have a higher prevalence than female students on substance use. This in support of previous studies that reported male adolescents with more prevalence rate of substance use than female adolescents over the years (Dang 1988; Lamptey, 2002; Igwe et al., 2009; Oshodi et al., 2010; Afolabi, et al. 2016; Adeyemo, 2016). These studies also noted that gender is a major factor influencing substance use / abuse. Hypothetically, from the Chi-Square results, it can be inferred that there is a statistically significant high prevalence rate of substance use across age and gender among students from public senior secondary schools. Thus, there is a need for more attention to be focussed on public school students, the younger male and female students for preventive intervention programmes on substance use and abuse.

The result on the relationship between psychological factors and substance use among public senior secondary school students was confirmed in this study. Locus of control was found to be significantly and positively related to substance use among students. This is line with findings from previous studies (Webster et al., 1994; Karatzias, et al., 2001; Adalbjarnardottir & Rafnsson, 2001) that perceived personal control influenced adolescents' substance use. This is in agreement with Abikoye and Fusigboye (2010) who reported the significant influence of locus of control on smoking habit, with internal locus of control reported significantly and relatively higher on smoking habit. Also, Holt, Roth, Huang and Clark (2015) found out in their study among African-Americans that spiritual health locus of control (SHLOC), or beliefs about the role that God plays in a person's health is strongly associated with alcohol use, including heavy drinking. Also, more external LoC is associated with hazardous drinking (Lassi, et al., 2019). However, a study by Adekeye, et al. (2017) presents a contrary view as findings showed that there was no

significant difference in the health-related locus of control between substance users and non-substance users.

In this study, there is no statistically significant relationship between self-esteem and substance use among public senior secondary school students. This finding contrasts with previous studies that reported significant relationship between substance use and self-esteem (Uba et al., 2013). Akhter (2013) reported that low self-esteem is associated with high substance use while high self-esteem is associated with low substance use. Previous studies indicate significantly negative correlation between self-esteem and substance use among adolescents (Liem et al., 2010; Withya et al., 2007; Taylor & Delpilar, 1992). The divergent finding in the present study could be due to the fact that adolescents from the public senior secondary schools from which the sample was drawn, are from highly densely populated areas, and they tend to be exposed to other factors that probably lower their self-esteem and further influenced their use of substance differently from other studies in this domain.

The findings on gender, age, family background, locus of control and self-esteem as predictors of substance use were confirmed in this study. Findings show that gender has a significant relationship with substance use. This is support of Igwe et al. (2009) who reported in their stud that alcohol and kolanut were significantly associated with gender. Also, Majirade and Olusola (2015) found that gender correlated with drug use, while Akinbi et al. (2015) reported that there was a significant gender difference among student substance users. Therefore, this study largely supports previous findings of gender being a significant predictor of substance use among public senior secondary school students.
Age was found as insignificant predictor of substance use in this study. This is in line with Okpataku (2016) who reported insignificant relationship between psychoactive substance and the factor of age having no influence on an individual's involvement with substance use. However, our finding contrasts with previous studies which stipulate that age is a significant predictor of substance use (Majirade, & Olusola, 2015; Anyamwu, et al., 2016). The study also found family background as insignificant predictor of substance use and abuse among students. This result contrasts with previous studies which stipulate that family background is associated with substance use and abuse (Akanni & Adoyonfo, 2017), pathological home (Anyanwu et al., 2016; Mankike et al., 2016).

Finally, results of this study show that gender, age, locus of control and self-esteem jointly significantly predicted substance use among senior secondary school students. The findings are in line with previous studies that examined the extent to which these factors predict substance use (Igwe et al. 2009; Majirade & Olusola, 2015; Uba et al., 2013). This is also in agreement with findings from the study by Okpataku (2016) who concluded that sociodemographic factors influence substance use and that these characteristics can be explored as the focus in directing drug use control intervention. Results from this study have been found to be fundamental in understanding the factors associated with substance use among senior secondary school students from public schools.

Conclusion

The school environment is characterised by children from various social settings in terms of family, lifestyle, income status and so on. Basically, public schools are largely populated with children of low-income earners residing in densely populated areas with myriads of negative influences inherent in overcrowded settings. Therefore, examining the social and psychological factors associated with substance use as well as the prevalence rate was considered critical. The results of this research effort have reinforced the need to examine and address student's substance use behaviours. Consequently, the findings have demonstrated that: (a) There is a high prevalence rate of substance use among

public senior secondary; (b) There is a significant relationship between locus of control and substance use among public senior secondary school students in Nyanya and Mararaba; (c) Gender and locus of control significantly predicted substance use among public senior secondary school students in Nyanya and Mararaba; (d) There is no significant relationship between self-esteem and substance use; (f) Self-esteem and family background are mediating factors that influenced students' substance use; and (g) Age did not significantly predict students' substance use in public senior secondary schools in Nyanya and Mararaba.

Recommendations

Based on the outcome of this study, it is recommended that:

1. Schools should regularly engage students and parents on the dangers and consequences of drug / substance use and abuse through seminars, peer group interventions, dramas, debates, etc.
2. Parents and guardians should pay more attention to their children / wards, and watch out for negative influences in the environment, irrespective of their age and gender.
3. Parents and guardians should encourage children to build self-confidence and train them to be assertive enough to resist negative influences and develop strategies to overcome odd feelings and negative peer pressure.
4. Nigerian Government at all levels (Federal, State and Local) should work out effective policies to guide against easy availability and accessibility of alcohol and other psychoactive substance abuse in the society.
5. Government and other relevant stakeholders (including NGOs) should develop well-articulated preventive and intervention programmes in schools and environs to educate adolescents against self-defeating behaviour with the aim of curbing the menace of drug / substance abuse and use.

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