



Pattern of Psychoactive Substance Use among Undergraduate Students of Faculty of Engineering in a Nigerian University

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Abstract

Psychoactive substance use among undergraduate students has become an increasing public health and social problem in both developed and developing countries, with mood changing effects, intoxication, or altered self-image as the potential side effect. The study set out to identify the pattern of use, the sources of influence and reasons for, psychoactive substance use among undergraduate students of faculty of Engineering, Bayero University Kano. A cross sectional study design was used. A total of 379 students were recruited using a multi-staging sampling technique. A questionnaire was adopted from model student questionnaire. Data obtained were organized and analyzed with SPSS Version 20. Spearman's ranked order Correlations was used to test age, ethnic group and pattern of psychoactive substance and age with reasons for psychoactive substance use. The results indicated that; majority (90.0%) of the respondents were males with 50.8% within 21-25 years of age (mean age of 24 ±2 years). Most pattern used in abusing drugs were drinking (68.6%), smoking (67.5%), chewing (38.0%) and inhaling (33.0%). The major source of influence included friends (85.6%), parties (78.1%) and truancy (63.1%) although, relief of hunger, cold (n=355, 98.6%), curiosity (n=350, 97.2%), enjoyment (n=316, 87.8%), socialization (n=314, 87.2%), enable prolonged reading (n=311, 86.4%), acceptance (n=217, 60.3%), and relief of psychological stress (n=211, 58.6%) were identified as the most reasons for abusing drugs. Positive correlation was identified between age, ethnic group and pattern of psychoactive substance and age with the reasons for psychoactive substance use. Universities in collaboration with National Agency for Food and Drugs Administration and Control (NAFDAC) and National Drug Law Enforcement Agency (NDLEA) should embark on grassroots awareness and sensitization campaign on the risks and effects of substance abuse.

Keywords: *Pattern of psychoactive use, reasons for use, sources of influence, Undergraduate student, Nigerian university*

1. Introduction

Psychoactive substance use has greatly result in social and public health-related issues to students undergoing undergraduate programmes world-(Vernic *et al.* 2010). It was estimated that about one fourth of a billion individuals aged 15-64 years engaged in psychoactive use in 2014. Thus, over 29 million people in the world



suffer from drug use disorders (United Nations Office on Drugs and Crime (UNODC), 2016). Today, drug abuse is among the leading danger facing Nigeria as a nation (Namadi, 2016). Onofa *et al.* (2016), reaffirmed that, in recent time, there has been a rise in the use of substances abuse and the associated consequences among Nigerian students in tertiary institutions.

In Nigeria, the challenge related to of substance use is a recognized phenomenon in universities (Whichstrom & Hegna, 2003). Students in university experience self-dependence, and lack of supervision from family members, self-decision-making, and rigorous academic pressures, share living quarters with strangers, form new social groups, balance social engagements with academic and other life responsibilities, and may be exposed to normative values valued by the youth culture that differ from parental values while studying (Tesfaye *et al.* 2014). Thus, can make the students prone to abuse drugs. The most common reason reported for abusing drugs among students was relief from psychological stress (n=34, 72.4%) and occasion celebration (n=34, 72.4%) followed by to reduce tiredness (n=22, 46.8%), peer pressure (n=20, 42.6%), easy availability (n=20, 42.6%), experimental use (n=17, 36.2%) and community acceptance (n=16, 34.1%) (Arora *et al.* 2016).

A study conducted by Festus *et al.* (2014) in Northern Nigeria shows that youth are being manipulated and influenced to carry out numerous crimes under the influence of drugs. About 3 years later, Donald (2017) shows that, globally, there is considerable public health concern associated with increase substances abuse. Recently, in universities of North India, Kaur *et al.* (2019) proposed that age group, gender and society are the background reasons for psychoactive drug abuse which varies from one parameter to another. Whereas, Balarabe *et al.* (2019) reported that parent (n=1, 0.6%), friends/peer (n=142, 86.6%) and media (n=17, 10.4%) as introducing factor to substance abuse and to keep awake/alert (n=19, 11.6%), curiosity (n=43, 26.2%), to overcome tiredness (n=21, 12.8%), to relieve stress (n=28, 17.1%), enable prolonged reading (n=13, 7.9%), to feel among friends (n=34, 20.7%) as the reasons for substance abuse. Although, Balarabe *et al.* (2018) added, most (70.0%) of the students perceived that the factors responsible for drug abuse were peer groups influence, experimentation/curiosity, availability of drugs, mental/ emotional/personal factors, social and environmental influence, academic stress, examination tension, students psychological effect of students, Broken home, low economic status of the family and poor background. Joseph *et al.* (2019) reported that curiosity (55%), peer group (25.0%), feels high and bold (40.0%) and socialization (25.0%), of the total of respondents got involved in substance abuse.

It was noted that, young individuals are destroying their future through the misuse of drugs (Fareo, 2012). In comparison with other world countries, Nigeria was believed to be among the highest substance abuser (Degenhardt *et al.* 2008). Thus, the tendency of use of psychoactive substance has become a world crisis that requires desperate measures to cut back. This study is an effort to further emphasize this urgency.

2. Materials and Methods

2.1 Setting: The study was conducted at faculty of Engineering, Bayero University Kano (BUK). The university is a Public university situated in Kano, it is made up of several faculties, institutes, research centers and academic departments and centers. The faculty comprises of Agricultural Engineering, Civil Engineering, Electrical Engineering, Mechanical Engineering, Mechatronics Engineering, and Chemical and Petroleum Engineering departments (Bayero University Kano, history, facts & figures, 2018).

2.2 Study Design: Cross-sectional descriptive survey design was employed to identify the pattern of use, sources of influence, reasons of Psychoactive Substance use, correlations between age, ethnic group and pattern of psychoactive substance and age with reasons for psychoactive substance among undergraduate students of Faculty of Engineering, Bayero University Kano.



2.3 Study Population and Sampling: The study population consisted of all the 2483 undergraduate students of Faculty of Engineering, Bayero University Kano. The sampled population were grouped into age, gender, level of study, ethnic group, place of residence, marital status and religion. Yamane (1973) formula for sample size estimation was used and yielded 379 respondents as the sample size appropriate for the study. Multi-stage sampling technique was used for the study. In the first stage the engineering departments were clustered, in which we have seven (7) departments. Second stage involved selecting two departments using balloting. However, in third stage convenient sampling was employed to administer the instrument to the respondents.

2.4 Instrument and method of Data collection: The Data was collected using structured questionnaire adapted from model student questionnaire (United Nations Office on Drugs and Crime, 2003). The instrument was designed to conduct school surveys on drug Abuse. It is divided into two sections, A and B. Section A contains 10 questions on demographics variables while section B contains 22 Questions on psychoactive used and related items. Relevant items from structured questionnaire was adopted and modified to suit the objectives of the study. The researchers met the students in their respective lecture venue where the purpose of the study was explained to the respondents and allowed them to asked questions and were answered appropriately, after which the instrument was given to the available and willing students for self-administration and retrieved thereafter. This was done for the period of two weeks.

2.5 Data analysis: Data were analyzed using Statistical Package for Social sciences (SPSS) software version 23. The data were summarized using frequency distribution tables and percentages. Mean and standard deviation were used for continuous variables, while frequencies and percentages were employed for discrete variables. Spearman's ranked order Correlations was used to test age, ethnic group and pattern of psychoactive substance and age with reasons for psychoactive substance.

2.6 Ethical Consideration: Ethical clearance was obtained from Research Ethics committee of Bayero University Kano. Consent of the respondents was sought by explaining the aims and objectives of the study to them as well as the fact that their responses will be handled confidentially and will be used only for the purpose of the study. Names and any form of identification of the respondents were not requested in order to ensure that the respondents remained anonymous and hence confidentiality was ensured.

3. Results

Respondents' Socio-demographic characteristics

The findings from the study revealed that more than half of the respondents (50.8%) were between the ages 21-25 years with mean age of 24 ± 2 years. It also reveals that 324(90%) respondents were male, 211(58.6%) respondents were Hausa students, and 247(68.6%) were Muslims (See Table 1).

Pattern of psychoactive substance use

Table 2 indicates that most (68.6%) respondents abused substances by drinking. This is followed by smoking (67.5%), chewing (38.0%) and inhaling (33.0%). However, the least method adopted was bagging (11.9%).

Sources of Influence of Psychoactive Substance Use

Table 3 shows that 308(85.6%) and 281(78.1%) of the respondents reported that, friends and parties respectively are the major source of influence to psychoactive substance use, while 227(63.1%) of the respondents reported truancy as the source of influence to psychoactive substance use.

Table 1: Socio-Demographic Characteristics of the Respondents (n=360)

Variable	Frequency	Percentages (%)
Age		
16-20	62	17.2
21-25	183	50.8
26-30	99	27.5
31-35	16	4.4
Gender		
Male	324	90.0
Female	36	10.0
Ethnic group		
Fulani	55	15.3
Hausa	211	58.6
Igbo	28	7.8
Yoruba	25	6.9
Others	41	11.4
Religion		
Christianity	113	31.4
Islam	247	68.6
Marital status		
Single	309	85.8
Married	51	14.2
Level		
100	44	12.2
200	115	31.9
300	80	22.2
400	69	19.2
500	52	14.4
Place of residence		
Campus	213	59.2
Off campus	147	40.8

Table 2: Pattern of psychoactive substance use (n=360)

Variable	Yes	No
Drinking	247 (68.6%)	113 (31.4%)
Smoking	243 (67.5%)	117 (32.5%)
Chewing	137 (38.0%)	223 (62.0%)
Inhaling	119 (33.0%)	241 (67.0%)
Sniffing	90 (25.0%)	270 (75.0%)
Eating	74 (20.6%)	286 (79.4%)
Bagging	43 (11.9%)	317 (88.1%)

Table 3: Sources of Influence of Psychoactive Substance Use (n=360)

Variables	Yes	No
Friends	308 (85.6%)	52 (14.4%)
Parties	281 (78.1%)	79 (21.9%)
Truancy	227 (63.1%)	113 (36.9%)
Drug pushers	158 (43.9%)	202 (56.1%)
Health care provider	143 (40.8%)	217 (59.2%)
Family	126 (35.0%)	234 (65.0%)
Stealing	97 (26.9%)	263 (73.1%)
Casual acquaintance	91 (25.3%)	269 (74.7%)
Mobiles phones	91 (25.3%)	269 (74.7%)
Smell from other student	80 (22.2%)	280 (77.8%)

Reasons of Psychoactive Substance Use

As Table 4 shows on the reasons for psychoactive substance use, the respondents submitted that they use substances for relief of anger, cold (n=355, 98.6%), curiosity (n=350, 97.2%), enjoyment (n=316, 87.8%), socialization (n=314, 87.2%), enable prolonged reading (n=311, 86.4%), acceptance (n=217, 60.3%), and relief of psychological stress (n=211, 58.6%).

Table 4: Reasons of psychoactive substance use (n=360)

VARIABLE	Yes	No
Relief of anger or cold	355(98.6%)	5(1.4%)
Curiosity	350(97.2%)	10(2.8%)
Enjoyment	316(87.8%)	44(12.2%)
Socialization	314(87.2%)	46(12.8%)
Enable prolonged reading	311(86.4%)	49(13.6%)
Acceptance	217 (60.3%)	143(39.7%)
Relief of psychological stress	211(58.6%)	149(41.4%)
Sexual Enhancement	174(48.3%)	186(51.7%)
Treatment of disorder	149(41.4%)	211(58.6%)
Religious customs	11(3.0%)	349(97.0%)

Correlation Between Age and Pattern of Psychoactive Substances

Correlation analysis of age and pattern of psychoactive substance use revealed r-values, r= 0.872 for smoking (p<0.0001), drinking (r =0.870, p<0.0001), eating (r=0.687, p<0.0001), chewing (r =0.674, p<0.0001), sniffing (r =0.670, p<0.0001), inhaling (r =0.665, p<0.0001) and bagging (r =0.583, p<0.0001) were found to be significant at level of 0.01.

Table 5: Correlation Between Age and ethnic group with pattern of psychoactive substances

Variable	Age	P-Value
Smoking	0.872**	<0.0001
Drinking	0.870**	<0.0001
Eating	0.687**	<0.0001
Chewing	0.674**	<0.0001
Sniffing	0.670**	<0.0001
Inhaling	0.665**	<0.0001
Bagging	0.583**	<0.0001

** . Correlation is significant at the 0.01 level (2-tailed) ($p < 0.01$)

Correlation Between Ethnic Group with Pattern of Psychoactive Substances

As shown in the Table, correlation analysis yielded r-values, $r=0.785$ for drinking ($p<0.0001$), smoking ($r=0.772$, $p<0.0001$), eating ($r=0.649$, $p<0.0001$), sniffing ($r=0.628$, $p<0.0001$), chewing ($r=0.618$, $p<0.0001$), inhaling ($r=0.615$, $p<0.0001$), and Bagging ($r=0.615$, $p<0.0001$) showing strong positive relationship at significant level of 0.01.

Table 6: Correlation between Ethnic Group with Pattern of Psychoactive Substances

Variable	Ethnic Group	P-Value
Drinking	0.785**	<0.0001
Smoking	0.772**	<0.0001
Eating	0.649**	<0.0001
Sniffing	0.628**	<0.0001
Chewing	0.618**	<0.0001
Inhaling	0.615**	<0.0001
Bagging	0.615**	<0.0001

** . Correlation is significant at the 0.01 level (2-tailed) ($p<0.01$

Correlations between Age with Reason for Psychoactive Substances use

The table shows the existence of a strong positive correlation between age and various reason for psychoactive substance use identified by respondents; enjoyment ($r=0.530$, $p<0.0001$), socialization ($r=0.540$, $p<0.0001$), enable prolonged reading ($r=0.566$, $p<0.0001$), acceptance ($r=0.794$, $p<0.0001$), relief of psychological stress ($r=0.780$, $p<0.0001$), sexual enhancement ($r=0.711$, $p<0.0001$) and treatment disorder ($r=0.682$, $p<0.0001$) and age of the respondent, in general the correlation is significant at 0.01.

Table 7: Correlations between Age with Reason for Psychoactive Substances use

VARIABLE	Age	P-Value
Acceptance	0.794**	<0.0001
Relief of psychological stress	0.780**	<0.0001
Sexual Enhancement	0.711**	<0.0001
Treatment of disorder	0.682**	<0.0001
Enable prolonged reading	0.566**	<0.0001
Socialization	0.540**	<0.0001
Enjoyment	0.530**	<0.0001
Curiosity	0.305**	<0.0001
Religious customs	0.277**	<0.0001
Relief of anger or cold	0.214**	<0.0001

** . Correlation is significant at the 0.01 level (2-tailed) ($p<0.01$

4. Discussion

Over half of the respondents reported that they were drinking or smoking psychoactive substances. Generally, this is not startling as alcoholic beverages and cigarette are legally allowed in Nigerian societies although variations in social acceptance exist between various sociocultural and religious groups in the country but yet, the substances are freely served and sold across the country. This is consistent with findings from studies by Idowu *et al.* (2018) who reported drinking as common and Balarabe *et al.* (2019) that identified drinking and smoking as the most common way of abusing psychoactive substances.



Friends/peers, parties and truancy were identified by majority of the respondents as sources of influence for psychoactive substance use. This is consistent with findings of several studies conducted in Nigeria by Okwaraji and Fe (1996), Jibril *et al.* (2008), Yusuf (2010), Ahmed (2012), Dankani (2012) and Mohammad (2014) who identified peers, attending parties/clubs and truancy as major influencers for psychoactive substance use among Nigerian youth. The findings are also in agreement with those from other studies conducted in India (Gaidhane *et al.* 2008) and Saudi Arabia by Al-Haqwi (2010) which further revealed the pervasive nature of substance abuse across the globe and the overarching influence of peers, social clubs and truancy in propagating the practice. Furthermore, this bring to light why parents/guardian and school teachers should monitor the peers of their wards and watch out for the manifestation of truant behavior among the school going which may translate to psychoactive substance use. This position was echoed too by Balarabe *et al.* (2018); Balarabe *et al.* (2019) in their studies where they detailed teachers and parental responsibilities in the control of psychoactive substance use.

This study also revealed that relief of anger/cold, socialization, enjoyment, curiosity, enable prolonged reading and psychological stress were the major reasons for psychoactive substance use by the students and this finding is not congruent with those reported from previous studies by Herman-Stahl *et al.* (2007), Franke *et al.* (2014), Franke *et al.* (2015). Bennett & Holloway (2012) and Pustovrh & Mali, (2014) who found that substances were abused by students with the intension to boost cognition and academic performance. Another contrasting feature is that, although these studies were conducted in an education setting such as colleges and universities, they did not seek to identify other reasons other than enhancing cognition that influence students to use substance as done in this study. Another study in the general population of northern Nigeria found an entirely different reason that influence the use of substance as majority of the respondents (61.2%) abuse substances due to reasons related to political activities (Siro, 2014). This study also found coping with stress as one of the reasons for indulgence in substance abuse which supports the studies by Oshodi *et al.* (2010), Yusuf (2010), Al-Haqwi, (2010), Ahmed (2012), Gonzales, *et al.* (2012) and Puljević and Learmonth (2014).

Positive correlation was found between respondents' age and pattern of psychoactive substance use which partly support what Gupta *et al.* (2013) reported in a study where it was argued that pattern of substances use among students is related to their socio-demographic characteristics like age [OR 0.76, 95%CI (.443-1.317) which is further supported by Pordanjani *et al.* (2018) who also found significant relationship between drinking psychoactive substances and age. Furthermore, positive correlation was also found between students' ethnicity and pattern of psychoactive substances use which is in agreement with what was discovered in previous studies by Olashore *et al.* (2018) and Pordanjani *et al.* (2018) who reported that drinking was positively correlated with ethnicity of students. When examined in the light of social realities in Nigeria, although alcoholic beverages are legally permissible in the country, a student from Northern Nigerian extraction is less likely to be exposed to it or use it as it is generally regarded as a taboo with strong religious prohibitions unlike a student who come from any other ethnic extraction outside the Northern region.

Like what was reported by Boys *et al.* (2001) in a study where they examined the relationship between age and reasons for substance use where they found the reasons such as relax (96.7%), become intoxicated (96.4%), keep awake at night while socializing (95.9%), enhance an activity (88.5%) and alleviate depressed mood (86.8%) to differ by age, this study also found an association between age and reason for psychoactive substance use among students with strong positive correlations on enjoyment, socialization, enabling prolonged reading, relief of psychological stress, sexual enhancement and treatment of disorder.

5. Conclusion

It can be deduced from the study findings that, major patterns of psychoactive substance use among undergraduate students are drinking smoking, and chewing. Thus, it is attributed to be influenced by friends, parties and some relatives in their effort to be sociable, quench their curiosity, relieved psychological stress and enable prolonged reading. This show a huge gap in awareness campaign on substance abuse effects, laxity of law enforcement agencies in enforcing law and order and inadequate teacher-parent monitoring roles. There is need to improve awareness and sensitization campaign on the dangers and effects of psychoactive substance use and ensure psychoactive substances are included in school curriculum at all level to boost students' knowledge.



Teachers and parents should monitor the kind of friends their children interact with and their behavior for prompt action.

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Reference

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