Factors Associated with Substance use among Adolescents in Command Secondary Schools in South Eastern Nigeria

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Abstract
This study investigated the prevalence of substance use and associated factors among a cohort of 350 adolescents (Male=103: Female=247) randomly selected from Command Secondary Schools in Southeastern Nigeria. Four self-report questionnaires were utilised to collect data, while Perason Product Moment Correclation and Multipe regression were used for data analysis. The hypotheses were tested at.05 probability level. The result showed a significant difference in substance use between male and female respondents (Crit-t 1.65, Cal.t 2.67, df=349, P<0.05). The outcomes suggest that the male students have greater ($\bar{x}$=6.33) tendency to use substance than their female counterpart ($\bar{x}$=1.62). There was also a significant negative relationship between the three independent variables and substance use. The combination of the three independent variables accounted for 83.1% (adjusted R^2=0.831) of the total variance in the prediction of substance use among the respondents. It was , therefore, recommended that counselling psychologists and other stakeholders in the school setting should use peer tutoring and teacher mentoring to foster school connectedness among the students, while seminars and workshops should be organised to boost students' capacity to accept their body image.

Keywords: Adolescents, substance use, school-connectedness, body image, emotional maturity

Introduction

Substance use among adolescent continues to be a major public health issue in Nigeria. This concern is largely due to the fact that substance use has negative outcomes on individuals, families, communities and nations. Despite the efforts of the Nigerian tiers of Government and the National Drug Law Enforcement Agency (NDLEA) to stem its tide in Nigeria, there has been a consistent spate in the number of cases especially among adolescents (10-25 years of age) (Soremekun, Folorunso, & Adeyemi, 2020). Anyanwu, Ibekwe and Ojinnaka (2016) reported in a sample of adolescents in Abakiliki, Nigeria a prevalence of substance use to be 32.9%. Further, Idowu, Aremu, Olumide and Ogunlaja (2018) found in a survey carried out in Ogbomoso in South West Nigeria that majority of adolescents who participanted in their study were substance abusers, with tramadol as their major abused substance. In a similar study conducted by Soremekun, Folorunso and Adeyemi, (2020) using sample of 1048 students from Lagos State, Nigeria reported lifetime drug prevalence rate of (29.1%). Mbachu, et al, (2020) also reported that 22.5% out of 494 samples in their study used psychoactive substances.

The effects of substance use are cumulative, significantly contributing to costly social, physical, mental, and public health problems. For instance, there is plethoral of evidence to show that taking drugs when young can interfere with developmental processes occurring in the brain (Nock, Minnes, & Alberts, 2017; Gray & Squeglia, 2018). Substance use is also reported to be associated with with other risky behaviors, such as unprotected sex (Yu, et al., 2019) dangerous driving (Dhingra Ahmed, Shin, Scharaga Magun, 2015). Studies show that ingestion of harmful substances, particularly drugs and alcohol, may be associated with deterioration in the health of the heart and/or blood vessels and impacts on overall health and longevity (Gray & Squeglia, 2018: Tice Lipari & van Horn, 2017; Nock, Minnes, & Alberts, 2017). More worrisome, is that the ealy young people start using drugs, the greater their chances of continuing to use them and become addicted later in life (Centers for Disease Control and Prevention, 2017).

A concen is that majority of studies on substance use have targeted adolescents at facility centres (Speed, Gehring, Launier, O'Brien, Campbell, & Hyshka,2020) out of school youths (Owoyomi, 2018), adolescents at remeidtaion centres (Ugwuoke & Mfon, 2018) and motor parks (Olaniyi,2020). However, adolescents are not a homogeneous population. Their needs vary with their sex, stage of development, life circumstances among others. Social Cognitive Theory (Bandura,1986) suggests that key factors in the school and community environment influencing adolescent alcohol and drug use are norms, social support, role models, as well as opportunities and barriers in those settings (Perry & Jessor, 1985; Perry & Kelder, 1992). This theory highlighted the fact that growing up in the environment of military barracks can make the students vulnerable to subatace use. Yet, these key population has been neglected in both intervention and research. There is empirical evidence for the associations of neigborhood with adolescent alcohol and drug use (Onya, Tessera, Myers, 2012: Fagan, Wright & Pinchevsky, 2015). Currentily, there is a serious dearth of information on factors associated with substanceuse use among adolecents growing up in military barracks. Identification of the factors associated with substance use among this susceptible population would assist health educators and prevention strategists to design messages and intervention appropriate to this specific audience.

Weatherson, Gainforth and Jung (2017) opined that school connectedness is an important correlate of health-related behaviours among adolescents. School connectedness is the belief held by students that adults and peers in the school care, accepted, and supported their learning as well as about them as individuals (Ripperger-Suhler & Loukas, 2016: Akinmoju, et al, 2020). There is preliminary evidence to suggest that students who feel connected to their school are less likely to engage in many risky behaviours including early sexual initiation, alcohol, tobacco/ drug use, and gang involvement (Akinmoju, et al., 2020). However, the relationship between school connectedness and substance use is yet to be be fully understood.

Another factor that may play a protective factor against substance use is body image acceptance (Bucchianeli, Arikian, Hannan, Eisenberg, & Neumark-Sztainer, 2013). Body image in general refers to an individual's subjective thoughts, perceptions, and attitudes about his or her body, while body image acceptance is accepting one's body regardless of not being completely satisfied with all aspects of it (Buki, Reich, & Lehardy, 2016). While body image dissatisfaction is an individual's unfavorable or negative thoughts and opinions about their body (Greenhill & Nikki, 2015). Body image dissatisfaction indicates that a discrepancy exists between a person's perception of his or her actual body and their ideal body. The degree to which body image acceptance is associated with substance use has not been well researched, but has been theorized as playing a role in risky behaviours according to the problem behavior theory (Walsh, Carey & Carey, 2013) and social comparison theory (Morrison, Kalin, & Morrison, 2004).

Literature suggest that at adolescence emotions play a vital role in effecting their behaviours, motivations and cognitive perspectives (Pastey & Aminbhavi 2006). Emotional maturity is a ongoing continuous process through which adolescent struggles ceaselessly to gain better health within emotional domain of psychic and personality formation and development. An adolescent with matured and well regulated emotions is said to have the ability to adjust himself or herself in every environment efficiently and effectively (Sabatier, Cervantes, Torres, Rios & Sañudo, 2017). An adolescent who is emotional matured is expected to think and comprehends the circumstances and not to react impulsively (Pastey & Aminbhavi, 2006). Emotional immaturity is documented to be highly related to social maladjustment (Johns, Mathew & Mathai,2016) and other behaviour problems like eating disorders, delinquency (Piquero, Jennings, Farrington, Diamond, & Gonzalez, 2016). The relationship between emotional emotional maturity and substance use is yet to be fully explored.

Purpose of Study

This study examined the prevalence of substance use and associated factors among adolescents in Command Secondary schools in South Eastern Nigeria. Specifically, it was designed to proffer answers to the folloing research questions.

Hypotheses

Three null hypotheses were tested at 0.05 level of significance.

Ho_1: There was no significant gender difference in substance use among adolescents in Command Secondary schools in South Eastern Nigeria

Ho_2: There was no significant relationship between the independent variables (school connectedness, body image acceptance, emotional maturity) and substance use among adolescents in Command Secondary schools in South Eastern Nigeria

Ho3: There was no significant joint contribution of the independent variables (school connectedness, body image acceptance and emotional maturity) on substance use among adolescents in Command Secondary schools in South Eastern Nigeria.

Materials and Methods

The study adopted a cross-sectional survey to measures the prevalence and factors associated with substance use. Self-administered questionnaires were used to obtain data. The four standardized instruments divided were serilaized into one questionnaire with five sub sections: Section A contains information on their dempgraphic profile such as age, gender, class. While section B, C, D and E contains items on the constructs of the study namely, Alcohol and Drug Involvement Scale (α =0.88) adapted from Moberg and Hahn (1991). Emotional Maturity Scale (α =0.75) adopyed from Singh and Bhargava (1991), Body Image Acceptance and Action Questionnaire (α =0.92) adopted from Sandoz, Wilson, Merwin and Kelllum (2013), **School Connectedness Questionnaire** (α =0.80) adopted from Lohmeier, Jill Lee and Steven (2011). **The** Multi-stage sampling procedure was used to select eligible respondents over a period of six months (July, 2018- anuary, 2019). In the first stage, three Command schools in 82 Divisions were selected by balloting from the 8 Command secondary/science/children schools within the 82 Division. The selected schools include; Command Science School,Orba Udena Enugu State, Command Secondary School,Ohafia Abia State, and Command Children School Onitsha. In the second stage, classes were selected from Junior Sseconday 1 to Senior Secondary 11 (JSS1-SS2)

Stage two involved selection of respondents from the selected classes using the proportion allotted to the school a representative sample size of 350 were drawn using probability proportional sampling, in which the probability of selection of each student in the target school is proportional to the sample size(350). The male to female ratio in each class was also considered during the selection such that a fair proportion of both sexes were selected. The sample was representative of the population with regards to gender, age, socio economic status, and parents. Data were analysed using Perason Product Peasrson Moment Correlation, t- test and Multiple regression at 0.05 level of significance

Results

Hypothesis One

There is no significant gender difference in substance use among adolescents studying in the South Eastern Nigerian Army Barracks Secondary Schools. T-test for independent samples was used to test this hypothesis at 0.05 level of significance. The result of this hypothesis is presented on Table 1

Table 1: Gender differences in substance use among adolescents' living in Army Barracks in South East Nigeria

Variable	N	X	SD	DF	T-cal	T-Crit	Decision
Male	103 (29.4%)	6.33	2.26	349	2.67	1.65	Reject Ho
Female	247 (70.6%)	1.62	1.72				

Table 1 was used to display the result of the first hypotheseis. From the result it was evident that there was significant difference (Crit-t 1.65, Cal.t 2.67, df=349, P<0.05) level of significance) between male and female in substance use. The null hypothesis was therefore, rejected. This result suggests that the males have greater ($\bar{x}$=6.33) tendency to use substance than their female counterpart ($\bar{x}$=1.62).

Hypothesis Two

The result of the second hypothesis is presented on Table 3. It stated that there is no significant relationship between the independent variables (school connectedness, body image acceptance, emotional maturity) and substance use among adolescents in Command Secondary school in South Eastern Nigeria. Pearson Product Moment Correlation (PPMC) was used to test this hypothesis at 0.05 level of significance.

Table 2 : Mean, Standard Deviation and Inter Correlation Matrix of the Independent and Dependent Vari ables

Varable	Mean	Std Deviation	1	2	3	4
Substance use	43.14	7.11	1.000			
School connectedness	85.22	7.19	0.510**	1.000		
Body image acceptance	34.12	7.09	0.212**	-.041	1.000	
Emotional maturity	37.10	7.32	0.425**	.082	-.146	1.000

** Correlation significant at 0.01 level

Table 2 reveals there was significant negative relationships between each of the independent variables: school connectedness (r = 0.510, p < 0.05); Body image acceptance (r = 0.212, p < 0.05); Emotional maturity (r = 0.425, p < 0.05) and substance use among adolescents in Command Secondary Schools in South East Nigeria. This inverse linear relationship suggests that the higher the independent variables (school connectedness, body image acceptance and emotional maturity) the less the likelihood of the adolescents using substance. The lesser these variables are present, the higher the likelihood of using substance.

Hypothesis Three

The third hypothesis predicted no significant joint contribution of the independent variables (school connectedness, body image acceptance and emotional maturity) on substance use among adolescents in Command Secondary schools in South Eastern Nigeria. The result analysed with Multiple Regrssion (MR) is presented on Table 3.

Table 3: Multiple Regression Analysis on joint contribution of the variables

Multiple R = 0.913
Multiple R2 = 0.833
Multiple R^2(Adjusted) = 0. 831
Standard Error of Estimate = 3. 71435

Source of Variation	Sum of Squares	df	Mean of Squares	F-Ratio	P
Regression	23761.043	3	5940.261	430.579	.000
Residual	4759.746	346	13.796		
Total	28520.789	349			

Table 3 shows that there was joint effect of the independent variables (school connectedness, body image acceptance, emotional maturity) on the substance use among adolescents in Command Secondary schools in

South Eastern Nigeria. The multiple R is = 0.913, p<.05 while the multiple R adjusted was = 0.831. This implies that the combination of the independent variables accounted for 83.1% (adjusted R2 = 0.831) of the total variance in the prediction of substance abuse among adolescents in Command Secondary schools in South Eastern Nigeria. The analysis of variance of the multiple regression data yielded an F-ratio value which was found to be significant at 0.05 Alpha level (F = 430.579, p < 0.05). This shows that the independent variables jointly contributed to substance use among the respondents. It implies that the independent factors satisfactorily predicted substance use among the respondents.

Discussion

This study examined examined if school connectedness, body image acceptance and emotional maturity are associated with substance use among a cohort of adolescents in Command Secondary schools in South Eastern Nigeria. The result reveal a significant difference between male and female in substance use. This result suggests that there is a difference in substance use based on sex. The analysis provided further evidence to suggest that the males have greater tendency to use substance than their female counterpart. This outcome is in agreement with McHugh, Votaw, Sugarman and Greenfield (2018) who reported that of the 763 studentsused in their study more males used substances compared to females ($\chi 2 = 10.6$, $p<0.01$). It was collaborated by report of Center for Behavioral Health Statistics and Quality (2017) who noted men were more likely than women to use almost all types of illicit drugs. It was however, cautioned that women though men were more likely to use substances but women were more likely to have substance disorder (Wilhelm, Fuller, Huckans, & Loftis, 2017). In addition, women may be more susceptible to craving (Fox, Morgan & Sinha, 2014) and relapse (Kennedy, Epstein, Phillips & Preston, 2013) which are key phases of the addiction cycle. This finding supports the argument of some scholars that females metabolize substances more rapidly than males (Benowitz, Lessov-Schlaggar, Swan, & Jacob, 2006; Berlin, Gasior & Moolchan, 2007) which may be modulated by ovarian hormones. Sex differences (Cooper & Haney, 2014) in the rewarding effects of substances and oxycodone (Middleton, Lofwall, Nuzzo, Siegel & Walsh, 2012) have also been documented.

The result of the second hypothesis show that there was a negative linear relationship between school connetedness and substance use. This implies that when the adolescent feel personally accepted, respected, included, cared for, close to, and supported by adults, and peers in the school environment, the less likely that they will use substances however, when school connectedness is low, the adolescents will use subtances. This finding is comparable with the findings of previous researchers (Martinez, Kawam, Marsiglia, Salas-Wright, Ayers & Porta, 2016; Ripperger-Suhler & Loukas, 2016; Joyce & Early 2014). The probable reason for this finding could be because students who feel connected would be more likely to be actively involved in school programme and would invest cognitively in learning. School engagement has been found to decrease risky behaviours such as substance use because the adolescent will be engaged in school-related activities for purpose of achievement of high grades (Dolzana, Sartoria, Charkhabia & De Paolaa, 2015).

Another important finding of this study is that there was negative linear relationship between body image acceptance and substance use. This suggests that adolescents who acceptes their body regardless of not being completely satisfied with all aspects of it will not likely use substances (Buki, Reich, & Lehardy, 2016). While those who have unfavourable or negative thoughts and opinions about their body (Greenhill & Nikki, 2015) will be involved in use substance. This finding is plausible because individuals who do not accept their body image will make every efforts to change it or distort their shape perception (Nayir, Uskun, Yürekli, Devran,Çelik, & Okyay, 2016).

There was also negative relationship between emotional maturity ssunstance use This suggests that the more the adolescent is matured the less the likelihood of using substance. This is comparable to what was reported by Kopera, Jakubczyk, Suszek, Glass, Klimkiewicz, Wnorowska, Brower and Wojnar (2015). They argue that adolescent who are emotionally immature, will find it much harder to control their own behavior and are more prone to have behaviorual problems including substance use and abuse. The possible explanation for this finding could be as a result of deficit in emotional processing in emotionally immature individuals (Volkow,Wang, Fowler, & Tomasi,2012).

The joint contribution of school connectedness, body image acceptance and emotional maturity to substance use is an empirical evidence supporting the theoretical proposition of the Ecological theory of Bronfenbrenner (1979: 1988) which suggests that many risk factors for adolescent substance use are both internal and external. This therorist emphasisze the interrelationship among the four contextual systems namely; micro, meso, exo, and macro on human behaviour. Relevant to the current study is the microsystem, which Bronfenbrenner (1979) defines as "the complex of relations between the developing person and environment in an immediate setting containing that person (e.g., home, school, workplace, etc.)" (p. 514).

Conclusion

The conclusion from this study is that school connetedness, body image acceptance and emotional maturity could act as protective factors against substance use.

Recommendations

On the basis of the outcomes that emanate from this study, the following recommendations are profferered;

- School counsellors should solicit teacher and staff input in all efforts to prevent substance use among students by creating school climate that will give the students' sense of connectedness
- Counselling psychologists and other stakeholders should egage students, parents, school staff, and community members in teams to develop school policies and plan school-wide

activities in such a way that the students will have a sense of belonging and have the least likelihood of taking substances.

- The students should be empowered to communicate openly with school staff and parents by providing a mechanism for students to give in-depth evaluations of their teachers, and hold student-led parent-teacher conferences to actively involve students in the discussions.
- The school authorities should provide opportunities for parents to increase their own skills and competence in areas that will help them be more involved in their children's school life.
- The school management should Implement counselling psychologist led training workshops that will provide parents with skills of positive parenting to better manage their children's behaviour.
- Provide parent workshops that teach academic support skills, such as how to talk with teachers about ways parents can help their children develop academic skills.
- Communicate the school's behavioral and academic expectations to families, and encourage them to reinforce those expectations at home. Expectations can be communicated through newsletters, parent– teacher–student conferences, and school websites.
- Teachers should use incidents in the classroom as "teachable moments" to educate students on self-control, self acceptance, emotional intelligence, empathy, cooperation, conflict resolution skills etc. These non cognitive skills are reported to increase school connectiveness, emotional maturity and body image acceptance
- School authorities should employ teachers who have been trained in child development, and demonstrate effective implementation of student-centered pedagogy, a variety of classroom management techniques, and teaching methods (e.g., cooperative learning w) which have been found to improve school connetedness and body image acceptance.

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