

Evaluating the Relationships Between Demographic, Level of Drug Use and Self Esteem Among Female Students in Kaduna, Nigeria

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ABSTRACT

Starting the early 1990s, the prevalence of nonmedical prescription drug use in Nigeria has been increased, especially among college students. Potential adverse effects such as poor academic performance and low self-esteem are known. The research is aimed but it is not understood whether demographics (age, socioeconomic level, educational level, and history of mental illness), level of drug use and self-esteem are related to drug use for female college students. The purpose of this quantitative correlational study of a cross-sectional nature was to determine if there were predictive relationships between level of drug use (as measured by the Drug Abuse Screening Test [DAST]), and self-esteem (as measured by the Modified Rosenberg Self-Esteem Scale [MRSES]) in female students in Kaduna in Nigeria. The theoretical framework was provided by the psychology of self-esteem theory, social learning theory, and identity theory. Primary data from a purposeful convenience and snowball sample of 300 female undergraduates (age 18-25) enrolled in three colleges was used to analyze data. The results of the multiple linear regression indicated that history of mental illness ($p = .012$) and DAST score ($p = .000$) were related to the MRSES score at statistically significant levels. Because the independent variables (level of drug use) were not related to the dependent variable (self-esteem) at a statistically significant level, the null hypothesis was not rejected. The results from this study could provide justification for college administrators to plan appropriate social, health, educational programs, and policies that could assist college students at risk of nonmedical prescription drug use and guide students in making right health choices and decisions. The research recommends that these investigations could inform the development of educational materials and methods/strategies toward stemming, minimizing and possibly preventing the risk of Non-Medical Prescription Drugs (NMPDU) among college students over the lifetime of their college careers and after.

Keywords: demographic; self-esteem; drug use; relationships; female

INTRODUCTION

Drug use is a global problem and affects many individuals, including students. Johnston et al. (2012) indicated, for instance, that 49% of full-time college students in the United States had consumed an illicit drug at least once in their lifetime and 21% had done so in the last 30 days (Bennett & Holloway, 2015). The United Nations Office of Drugs and Crime (UNODC, 2015) reported that drug abuse is a rapidly growing global problem that is a threat in all nations, with students in primary, secondary, and tertiary institutions vulnerable to drug use and/or abuse (Mammon et al., 2014). According to the World Health Organization (WHO, 2016), one out of 20 persons between the ages of 15 and 65 years (approximately 246 million) has used an illegal drug.

Drugs that are abused include those that are legal such as alcohol and nicotine as well as those that are not legal such as cocaine, heroin, and cannabis (APA, 2013; Weiss, 2016). College students who use/abuse Non-Medical Prescription Drugs (NMPD) are in most cases not aware of the adverse health effects such as paranoia, suicidal ideation, induced psychosis, and cardiovascular complications (Aikins, 2011; Bennett & Holloway, 2015; Ragan et al., 2013; Reisinger et al., 2016; Setlik et al., 2009).

In Kaduna State, located in the North West zone of Nigeria (with a population slightly above 7,102,900), approximately 21.9% of college students use and/or abuse of drugs (Usman, 2015). He found that 37.47% of youths (15-24 years) in the zone abused drugs and that the negative impact had far-reaching negative health effects on the user. For female students, these negative health effects may include anxiety disorder, depression, stress disorder, schizophrenia, bipolar disorder, attention deficit disorder, and obesity (Babalola et al., 2014; Cutler, 2013; Denham, 2014; Dussault & Weyandt, 2013; Ford, 2014; Bennett & Holloway, 2015; Johnston et al., 2014). Other consequences include the spread of sexually transmitted diseases and unwanted pregnancies (Chia, 2016; Ekpo et al., 1995; Usman, 2015). In addition, researchers have found that users are involved in crimes or other unwanted activities related to sustaining their drug use such as indiscriminate sex (Attah et al., 2016; Chia, 2016; Kanafani, 2014; Usman, 2015).

PROBLEM STATEMENT

The negative impact of NMPDU encompasses the critical aspects of individual lives such as social, health, and psychological well-being (Dussault & Weyandt, 2013; Gallucci et al., 2015; King et al., 2013).

There has been a steady increase since 1992 in the prevalence of NMPDU and its consequences in Nigeria and globally, especially among college students (Adelekan et al., 1992; Babalola et al., 2013; Dussault & Weyandt, 2013; Makanjuaola et al., 2007; Odejide, 2006). Lack of proper parental care, attention, and monitoring of students away of home and the negative effects of peer pressure have been identified as contributory factors to drug use (Omaga & Omaga, 2012). Yunusa et al. (2011) reported a 52.6% lifetime prevalence of any drug use among college students in northwestern Nigeria and stated that students are more affected and have potential adverse effects such as poor academic performance and low self-esteem. According to Reisinger et al. (2016), other frequent side effects of NMPDs include insomnia; nausea; loss of appetite; headaches; dry mouth; dizziness; irritability; mood changes; and decreased quality cognitive performance, poor family, and social functioning, which ultimately leads to declining grades, absenteeism from school, and the likelihood of dropping out of school.

Although these research findings regarding poor cognitive and academic performance, self-esteem, and quality of relationships among students involved in substance are illuminating, I have found no research on demographic factors and the relationship to level of drug use in female college students (as measured by the Drug Abuse Screening Test-DAST) and self-esteem (as measured by the Modified Rosenberg Self-Esteem Scale [MRSES]). The gap to examine the relationship between drug use and self-esteem among female college students was identified.

THEORETICAL FRAMEWORK

Social Learning Theory

The social learning theory postulated by Bandura (1977) holds that people learn by observing others. The ability to learn is central to individual personality, as behavior observed can change the way a person thinks; also, the behavior of individuals may be influenced by environmental factors (Bandura, 1977). The main tenet of the theory is that an observed behavior is influenced and reproduced by the interaction of the following determinants: whether an individual has a high or low self-efficacy toward the behavior, whether an individual is able to respond to behavior observed/performed, whether the observed behavior is positive or negative, and whether the environmental factors affect individuals' ability to cognitively complete a behavior successfully or not (Bandura, 1986). This means that learning can occur to change a person's thinking without necessarily resulting in a change in behavior. The general principles of social learning state that, while a visible change in behavior is the most common proof of learning, it is not absolutely necessary at all times (Bandura, 1986). Social learning theorists contend that people can learn through observation and store information cognitively to act in the future and that their learning may not necessarily be shown in their performance (Akers, 1998; Bandura, 1986).

The version of social learning propounded by Akers (1998) involves the components peer association, definitions, imitation, and reinforcement. Peer association involves the exposure to behavior and attitudes through one's association with others, definitions refers to individuals' attitudes toward behavior, imitation occurs when individuals model their behavior after the performance of others, and reinforcement is the use of rewards to continue any behavior (Akers, 1998). Researchers have found peer association appropriate for the study of drug use and social learning, especially because findings indicate that involvement with peers who approve drug use increases the chances of using drugs (Akers, 1998). People may learn from belief systems (i.e., the behaviors of individuals learned from

from role models such as family members, close acquaintances, friends, or peer groups) and as a result of external influences in the environment may change their behavior (Bandura, 1986). According to Bandura (1986), the four mediational processing elements in social learning: attention, retention, reproduction and motivation, can illuminate understanding of human behavior. Like the learning theories of classical and operant conditioning, mediating processes occur between stimuli and responses, and behavior that is learned from the environment through the process of observational learning could help in answering the question asked in this study, especially as thought processes play an important role in determining if a behavior is imitated or not.

OVERVIEW OF SUBSTANCES

A substance (drug) is any constituent or ingredient that is not considered food but chemical taken to change mood, feelings, behavior and or the psychological state of the individual (Weiss, 2016). Substance abuse is the inappropriate use of substances that impair functioning in such areas as health, social, legal and employment resulting in problems in day to day functioning. The problems related to the use (and overuse) of alcohol, marijuana, opioids, prescription and non-prescription medications, and illicit drugs are well documented. The terms substance use and substance abuse are often used interchangeably to explain the continued use of substances like alcohol and illicit drugs such as amphetamines, cocaine, inhalants, LSD, marijuana and PCP, and the misuse of prescriptive drugs with negative consequences (APA, 2013; Johnston et al., 2014; NAFDAC, 2000; UNODC, 2013; Weiss, 2016).

RESEARCH METHODOLOGY

The work employs a correlation, cross-sectional research design in nature to measure the predictive relationships between level of drug use and self-esteem in female college students in Kaduna, Nigeria. The sampling techniques used were the convenience, and snowball sampling techniques. The instruments for data collection included Drug Abuse Screening Test DAST-20 and MRSES (Frankfort-Nachmias, et al., 2015).

OPERATIONALIZATION

The variables that were used in this study and their subcategories and values are listed in tables 1 and 2

TABLE 1: Independent Variables

Data collection instrument	Variable Name	Values within variable	Variable level
Demographic Form	Age	Actual age in year	Nominal Scale
	Annual family income (socio-economic level)	1=N18,000 - 50,000 2=N50,000 -100.000 3=N100,000-200,000 4=N200,000- 400,000 5=N400,000	Categorical
	Education level	0=Freshman 1=Sophomore 2=Junior 3=Senior	Ordinal Scale
	History of mental illness	Do you have a diagnosis of any type of mental illness (such as depression)? 0=No 1=Yes	Nominal Scale
DAST	Level of drug use	0= No drug use 1-5=Low level 6-10=Intermediate 11-15=Substantial 16-20=Severe level	Ordinal Scale

Source: Researcher’s Computation, 2021

TABLE 2: Dependent variable

Data collection instrument	Variable name	Values within Variable	Variable level
Modified Rosenberg Self-Esteem Scale	Self-Esteem	Range = 0-30 Overall score = 30	Ordinal Scale

Source: Researcher’s Computation, 2021

RESULTS AND DISCUSSIONS

Descriptive Statistics

Table 3 contains majority of the participants reported information on the DAST that indicated low-level drug use (80.7%).

TABLE 3: Sample Demographics/Independent Variables (N = 300)

Variable	Category	N	Percent
Age	18	54	18.0
	19	45	15.0
	20	80	26.7
	21	35	11.7
	22	25	8.3
	23	22	7.3
	24	14	4.7
	25	25	8.3
Socioeconomic level	N18,000-50,000	62	20.7
	N50,000-100.000	79	26.3
	N100,000-200,000	77	25.7
	N200,000-400,000	49	16.3
	N400,000+	33	11.0
Educational level	Freshman (100 level)	97	32.3
	Sophomore (200 level)	96	32.0
	Junior (300 level)	72	24.0
	Senior (400 level)	35	11.7
History of mental illness	Yes	179	59.7
	No	120	40.0

Variable	Category	N	Percent
Level of drug use (DAST) (range 0-20)	No drug use (0)	18	6.0
	Low level (1-5)	242	80.7
	Intermediate (6-10)	29	9.7
	Substantial (11-15)	10	3.3
	Severe (16-20)	1	0.3

Source: Field Survey, 2021

MRSES was collected to measure the dependent variable of self-esteem. Scores are continuous between 0-30 with a higher score indicating lower self-esteem. The majority of participants had a score that was in the 21-25 range (47.3%) (Table 4).

TABLE 4: Modified Rosenberg Self-Esteem Scale (Dependent Variable) Distribution

Score	N	Percent
Zero	0	0.0
1-5	0	0.0
6-10	2	0.7
11-15	20	6.7
16-20	88	29.3
21-25	142	47.3
26-30	48	16.0

Source: Field Survey, 2021

INDEPENDENT T-TEST ANALYSES

DAST

An independent t-Test analysis to determine if there were statistically significant differences in the Drug Abuse Screening Test (DAST) score between groups for the independent variables of education level (lowerclassmen and upperclassmen) and history of mental illness (with or without a history of mental illness).

There was no statistically significant difference on the DAST score between upper- and lowerclassmen ($p = .454$), but there was a statistically significant difference ($p = .000$) in DAST scores between those with ($M = 3.76$) and without ($M = 2.73$) a history of mental illness (Table 5).

TABLE 5: Result of Independent Sample t Test: Drug Abuse Screening Test (DAST)

Demographic	Groups	N	Mean	Std. Deviation	P-value
Education level	Lower classman	192	3.2708	2.56427	.454
	Upper classman	108	3.5093	2.78345	
History of MI	Without MI	120	2.7250	1.69012	.000
	With MI	175	3.7598	3.05260	

Source: Field Survey, 2021

MRSES

An independent sample t-Test analysis to determine if there were statistically significant differences in the MRSES score between groups in the independent variables of education level (lowerclassmen and upper classmen), and history of mental illness (with or without mental illness) (Table 6).

There was no statistically significant difference in the MRSES scores between Lowerclassmen and Upperclassmen ($p = .297$). However, there was a statistically significant difference ($p = .002$) in the MRSES scores between those with mental illness ($M = 20.09$) and those without mental illness ($M = 22.37$).

TABLE 6: Result of Independent Sample t Test: Modified Rosenberg Self-Esteem

Demographic	Groups	N	Mean	Std. Deviation	P-value
Education level	Lower classman	192	21.6771	3.64381	.297
	Upper classman	108	21.1852	4.36029	
History of MI	Without MI	120	22.3667	3.62747	.002
	With MI	175	20.0922	4.01605	

Levene's Test for Equality of Variance: all Sig.(p-value) > 0.05 level of significance

Source: Field Survey, 2021

ASSUMPTION TESTING

Multicollinearity

Prior to conducting multiple linear regression, the correlations between variables were examined using the Pearson's correlation coefficient test to determine if multicollinearity between variables existed (Creswell & Creswell, 2018). It is recommended that if two or more

variables are highly correlated (+/-) 0.8 or higher) that one or more be removed from analysis in order to minimize the potential for multicollinearity (Creswell & Creswell, 2018). Based on the correlation results there were no variables highly correlated (Table 7), hence there is no multicollinearity in the dataset and there will be no need to remove any variables from the multiple linear regression analysis.

TABLE 7: Pearson Correlation Results (Multicollinearity)

	Age	Family income	Educational level	History of MI	DASTT	MRSES2
Age		.004	.324**	.022	.011	.085
Family income	.004		.126*	-.063	-.121*	-.069
Educational level	.324**	.126*				
History of MI				-.045	.013	-.011
DASTT	.022	-.063	-.045		.202**	-.180**
MRSES2	.011	-.121*	.013	.202**		
	.085	-.069	-.011	-.180**	-.249**	-.249**

*Correlation statistically significant at the 0.05 level (2-tailed).

**Correlation statistically significant at the 0.01 level (2-tailed).

Source: Field Survey, 2021

Field (2013) recommended that further scrutiny of variable correction should be completed using additional SPSS collinearity diagnostics such as measuring the variance inflation factor (VIF) and that the VIF should be less than 10.

Table 8 shows that the VIF value of each predictor is below 10, which indicates there is no presence of multicollinearity (Mertler & Vannatta, 2013; Stevens, 2001).

TABLE 8: VIF Values

Model	Collinearity Statistics	
	Tolerance	VIF
Age	.892	1.121
Educational level	.876	1.141
1 Family income	.967	1.035
History of MI	.954	1.048
DASTT	.946	1.057

a. Dependent Variable: MRSES

Source: Field Survey, 2021

RESEARCH QUESTION RESULTS

A multiple linear regression was run using the Enter method. The coefficient of determination R² was 0.100 implying that 10% of relationship between the independent

variables and the MRSES score were jointly explained by changes or variation in the independent variables (Table 9).

TABLE 9: Results of Model Summary

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.316 ^a	.100	.085	3.74731

a. Predictors: (Constant), DASTT, Age, Family income, History of MI, Educational level

Source: Field Survey, 2021

The history of mental illness (p =.012) and DAST score (p = .000) were found to be related to the MRSES score at statistically significant levels (Table 10). Age (p =.080), education level (p =.557) and family income (p =.069) were

not related to the MRSES score at a statistically significant level. Because all of the independent variables are not related to the dependent variable at statistically significant level the null hypothesis is not rejected.

Table 10: Results of Multiple Linear Regression

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	20.463	2.246		9.110	.000
	Age	.191	.109	.103	1.758	.080
	Educational level	-.089	.152	-.035	-.587	.557
	Family income	-.316	.174	-.103	-1.823	.069
	History of MI	-1.126	.447	-.143	-2.521	.012
	DAST	-.346	.084	-.233	-4.099	.000

a. Dependent Variable: MRSES

Source: Field Survey, 2021

SUMMARY

There were statistically significant differences in the scores on the Drug Abuse Screening Test (DAST) as well as the score on the MRSES between those with and without a history of mental illness. Those with a history of mental illness scored higher on the DAST (more severe drug use) and lower on the MRSES (lower self-esteem). In relation to the research question, history of mental illness and DAST score were related to the score on the MRSES at statistically significant levels. All other independent variables were not related to the dependent variable at statistically significant levels so the null hypothesis was not rejected.

CONCLUSIONS, AND RECOMMENDATIONS**Conclusion**

The study found out that there are predictive relationships between demographic independent variables age, history of mental illness, and level of drug use as measured by the Drug Abuse Screening Test-DAST and the self-esteem score as measured by the MRSES at statistically significant levels. This indicated that, there exists a relationship between history of mental illness and self-esteem score among female college students in Kaduna in Nigeria. There was also a statistically significant difference in the MRSES mean scores between groups in the independent variables of education level of those with and without mental illness. The finding is however consistent with other researchers who found low self-esteem as a risk factor for female NMPDU college students and that those who participate in NMPDU generally, are those who have experienced previous history of non-medical use of prescription medication.

Recommendations

The study recommends that:

- (1) Qualitative studies involving in-depth interviews with female college students would be recommended to gain a deeper understanding of NMPDU and self-esteem.
- (2) The findings from this cross-sectional study indicated statistically significant relationship between demographic variable history of mental illness and self-esteem score; there is need for an in-depth study of the specific NMPDs influence on self-esteem, which is a critical and important aspect of human development.
- (3) The research should inform the development of educational materials and methods/strategies toward stemming, minimizing and possibly preventing the risk of NMPDU among college students over the lifetime of their college careers and after.
- (4) It is also recommended that college administrators would use the information in this study when implementing different strategies, and policies on campus activities to curb NMPDU among students in campuses.

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