

The role of psychoactive substances and religiosity on perceived academic performance among university students in Sokoto, Nigeria

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Abstract

Background: Different factors influence academic performance. In many studies, religiosity and psychoactive substances including alcohol are factors that have been frequently reported. To the authors' knowledge, no study was reported among University students in Sokoto, north western Nigeria. This study assessed how psychoactive substances and religiosity influence academic performance among University students in Sokoto.

Methodology: A total of 1884 questionnaires were retrieved for analysis from the 2200 sampled students (84.5%). This was obtained through simple random sample designed to produce a representative sample of students of the University. Data was entered into Microsoft excel and converted to SPSS for Windows for analysis. Simple frequency tables and proportion to describe the results were made. P-value was set at less than 0.05.

Results: Mild psychoactive substances such as caffeine and Kola nitida were the most common substances used among the subjects and majority of them reported being very religious. Subjects who reported having good academic performance were less likely to report use of psychoactive substances and were more likely to report being very religious.

Conclusion: The present study suggested that academic performance is influenced by both religiosity and use of mild psychoactive substances.

Key Words: Alcohol, Religiosity, Students, Academic performance, University.

Introduction

Academic performance is relevant in predicting outcome of educational efforts among university students. However, there are a number of factors which influence this parameter such as psychoactive substances and religiosity. This has provoked interest in the study of distribution of psychoactive substances, pattern of religiosity and their role on academic performance. Anumonye in 1980

reported on the pattern of drug use among 17 secondary students from Lagos south west Nigeria.¹ The substances found were alcohol (20.9%), barbiturates (16.1%), central nervous system stimulants (5.7%), tobacco (3.9%), mandrax (3.3%) and cannabis.¹ Makanjuola *et al.*² reported on psychoactive substance use among medical students in Ilorin north-central Nigeria. They showed that prevalence of alcohol use was 13.6%. Other substances used were mild psychostimulants (33.3%), sedatives

(7.3%) and tobacco (3.2%). Factors reported to be associated with the use of these substances were male gender, living alone, study difficulty, being a clinical student, and being aged 25 years or more. They also reported that there was inverse relationship between substance use and religiosity.² A study reported that prevalence of alcohol use among University students in south east Nigeria was 78.4%³ which was higher than the findings in Ilorin² and Lagos¹ part of Nigeria. Other studies have likewise reported on pattern of substance use among medical students in south south Nigeria.^{4,5}

Studies had shown that the use of psychoactive substances have negative consequences on students' academic performance.⁶⁻¹³ For instance in Zambia, the use of cannabis was shown to have high correlation with poor academic performance.¹³ Similar pattern was observed among secondary students in Nigeria.¹⁴ In south Ethiopia, a study involving 747 subjects showed that psychoactive substances are strongly associated with poor academic performance.¹⁵

In contrast, religiosity which is the degree of dedication to religious rituals and traditions has been reported to be of benefit in two ways: high religiosity is associated with good academic performance and low prevalence of psychoactive substance.^{16,17} In fact, a study showed that not only does religiousness had

positive correlation with GPA but inversely related to substance abuse.¹⁷

To the knowledge of the authors, previous studies in Nigeria on relationship of substance use and religiosity to academic performance were from other regions of the country while there was none from north western zones. The present study from Sokoto aimed to determine the influence of psychoactive substances and religiosity on academic performance among undergraduates in a tertiary institution of learning.

Methodology

The study was carried out between January and February 2010 at the Usmanu Danfodiyo University, Sokoto. It is a federal institution which enrolls students from its government designated catchment states which includes Sokoto, Kebbi, Zamfara, Katsina and Niger although students from other parts of the country were also admitted. The sampling frame for the 2009/2010 academic year was 12,732 of 9549 (75%) males and 3151 (25%) females distributed across 10 faculties. Sampling size for each faculty was determined using Krejcie and Morgan table for determining sample size from a given population (18). A simple random sample design produced a representative of the students of Year 200 – 600 levels from the different faculties. The fresh students (100 level students) were excluded. All

students in selected classes were eligible to participate in the survey. During the 2009/2010 academic session all the faculties sampled participated. A total of 1884 from the 2200 sampled students (85.6%) completed a 68 item questionnaire. This was done after obtaining ethical approval to proceed with the study from the ethical committee of Usmanu Danfodiyo University Teaching Hospital, Sokoto. In addition, each participant was requested to give permission to proceed with the study. Subjects were made to know that they were not going to suffer any negative consequence if they chose not to participate and were free to discontinue at any time during the study.

Questionnaire relating to sociodemographic variables was designed by authors to contain age, gender, marital status and occupation if any. Religiosity was assessed using two items instrument designed by the authors. These comprised of the following questions “How will you describe yourself?” with 4 response options which included “Very religious” “Fairly religious” “Not very religious” “Not religious” and the other question was “How often was your day to day activities influenced by religion? The possible responses include “Most of the time” “Sometimes” “Rarely” Or “Not at all”.

The assessment of psychoactive substances focused on:

1. Patterns of psychoactive substance use: Previous or present use of psychoactive substances including ever used (lifetime use), or used within the past 6 months.
2. The regularity of use of psychoactive substances was assessed by asking the subjects to identify substances they regularly use.
3. Use of psychoactive substances to remain awake. This question is intended to determine subjects who use psychoactive substances for recreational purposes as there are possibilities to eventually become habitual user.

With regard to alcohol, the screening question was whether subjects had previous use of alcohol in the past even if only one or few episodes of alcohol. If subjects indicated ever using alcohol, then the subject progress to the second stage assessing for problem alcohol users using CAGE. The CAGE is 4 item instrument developed by Ewing (1984) to screen for harmful alcohol use or state of dependence (19). Two positive responses on the 4 item CAGE questionnaire were suggestive of harmful use of alcohol while all positive response on CAGE suggests dependence.

Academic performance was assessed by asking the students to rate self on an item “how would you describe your overall academic

performance” on 5 possible response scale which included “Excellent” “Above Average” “Average” “Below Average” And “Poor”. Self-assessment indicating excellent, or above average were regarded as high grade whereas those indicating average, below average or poor were regarded as low. This approach was a modified form of academic performance evaluation used by Cox et al (20) where subjects who described their academic performance as mostly As or Bs which ordinarily were above average as high grade academic performance while subjects who rated themselves as Cs, Ds, or Fs were described as poor or low academic performance (20). There was need to modify these grading system as in the institution of study, as the students were used to the method of grading utilized by this study which was similar to Cox et al (20) with As and Bs being similar to excellent and very good while Cs, Ds, and Fs of Cox et al was similar to average, below average and poor. The questionnaire was pilot tested among 20 students of the faculty of education from the same University and was found quite understandable and usable for this study. The students who were used for the pilot testing were excluded from the main study.

Data was analyzed using SPSS for windows version 16.0. Frequency tables and percentages were generated to illustrate the result.

Results

Of the 2200 questionnaires administered to the students, 1884 were filled and returned giving response rate of 85.6%. Students from northern Nigeria (mainly Sokoto, Kebbi, Zamfara, Katsina and Niger states) comprised 92.2% of the survey respondents while those from other parts of Nigeria including expatriates constituted 7.8%. Majority (80%) of the respondents was between 20 and 29 years of age while 1334 (71.2%) were males which were about 3:1 corresponding to population ratio. The percentages of the respondents in year 200, 300, 400, 500, 600 were 35.7, 31.4, 23.4, 6.3, and 3.2 in percentages respectively. Though they were all full time students some others continue to be involved in some jobs such as civil service (5.1%) and farming (1.6%) as shown in Table 1. Majority (70%) of the subjects described themselves as being very religious while 1.1% was not religious. With regard influence of the religion on day to day activities, sixty percent reported being influenced by religion in their daily activities while 11.6% were not. In addition, academic performance assessment revealed that about half of the subjects reported that they have good academic performance.

Substance Use among Respondents

As shown in Table 2 the most common substances ever used by the respondents

included coffee and kolanut. Two (0.3%) reported ever using marijuana while a slightly higher proportion had used tobacco. In the last 6 months, coffee was also found to be the common substance used followed by kolanut and other substances not specified which could be categorized as mild stimulants. When substance of regular use was assessed, coffee was found to be more frequently used than any others. Prevalence of life-time use of alcohol was 2.8% while regular use was 0.9%.

Problem Alcohol Use (CAGE)

The CAGE questionnaire revealed that 44 (2.3%) students were currently using alcohol. Of the 44 subjects who were current alcohol user, eleven (25%) of these were positive for the “cut” question of the CAGE, 9 (20.5%) was positive for the annoyed question, 8 (19.0%) for the feeling Guilty and 9 (22.0%) for the eye opener question. Three (6.8%) of those who use alcohol were positive for all the questions suggesting dependence.

With regard academic performance and alcohol, problem alcohol drinkers were overrepresented in the low grade category 31.8% while among subjects who reported high grade, fewer (19.0%) were likely to report problem alcohol drinking habits.

Religiosity and Academic Performance

When religiosity was cross tabulated against academic performance, one third of those who described themselves as being very religious reported their academic performance to be excellent when compared with 28% among those who describe themselves as not religious. The difference was also observed when assessed for how religion affects day to day activities. Thirty-two per cent of those who reported that religion affected their day to day activities were observed to have excellent academic performance when compared with 25% of those who reported that religion did not affect their day to day activities at all (Table 3).

Substance Use and Academic Performance

Substance use was also cross tabulated against academic performance. Though there was no significant difference, effects of psychoactive substances were obvious among subjects who were current user as defined by using psychoactive substances within the past 6 months. More subjects who used psychoactive substances even if mild such as tobacco or kolanut reported low grades. The deleterious effects of marijuana or cannabis were even more remarkable as all subjects who reported use also reported low academic performance (Table 3).

Discussion

This is the first study to our knowledge in Nigeria that assessed the role of religiosity and psychoactive substances on academic performance using a fairly large sample size. Although this study might appear skewed towards males in terms of sample size, the gender distribution in this study was representative of the gender distribution among the studied population which was 1:3. In addition, there was need to set the sensitivity very high by reporting history of use of psychoactive substances within the past 6 months as current users because of sociocultural bias against subjects who used or declared using psychoactive substances.

The main findings in this study were as follows: about half of the subjects reported good academic performance and use of mild psychostimulants such as coffee and kolanut (*kola nitida*) while two third reported being very religious.

As reported in previous studies, we observed that subjects were high grade academic performance were likely to report being very religious and less likely to report use of psychoactive substances.

Table 1. Characteristics of Respondents

Characteristics	Number (%)
Age	
15-19	118 (6.6)
20-24	956 (53.3)
25-29	549 (30.6.1)
30-34	105 (5.8)
35-39	38 (2.1)
40	29 (1.6)
Gender	
Male	1334 (71.2)
Female	540 (28.8)
Marital status	
Single	1603 (85.9)
Married	260 (13.9)
Divorced	2 (0.1)
Separated	1 (0.1)
Occupation	
Full time	1694 (92.8)
Civil servant	93 (5.1)
Farmer	29 (1.6)
Unskilled	4 (0.2)
Others (not specified)	5 (0.3)
Type of family of parents	
Monogamous	794 (46.3)
Polygamous	921 (53.7)
Religiosity	
Very religious	1225 (70.1)
Fairly religious	487 (27.9)
Not very religious	15 (0.9)
Not religious	21 (1.1)
Influence of religion on day to day activity	
Most of the time	1013 (59.6)
Sometime	353 (20.8)
Rarely	135 (8.0)
Not at all	197 (11.6)
Academic performance	
High grade	1004 (57.1)
Low grade	754 (42.9)

Table 2. Previous or present use of psychoactive substances among respondents

Substance use	Use regularly (%)	Ever used (%)	Used within the last 6 months (%)
Cigarette	21 (3.9)	34 (4.6)	22 (3.2)
Alcohol	5 (0.9)	21 (2.8)	14 (2.0)
Coffee	278 (52.1)	389 (52.6)	356(52.0)
Kolanut	123 (23.0)	184 (24.9)	184 (26.9)
Atahye	26 (4.9)	42 (5.7)	45 (6.6)
Cannabis	0 (-)	2 (0.3)	3 (0.4)
Others	81 (15.2)	68 (9.2)	60 (8.8)

Table 3. Religiosity, psychoactive substance and academic performance.

Characteristics	High grade (%)	Low grade (%)	²	P-value
Religiosity				
Very religious	737 (62.0)	452 (38.0)	41.52	0.000
Fairly religious	216 (45.1)	263 (54.9)		
Not very religious	6 (40.0)	9 (13.3)		
Not religious	6 (28.6)	6 (28.6)		
Religion affect my day to day activities				
Most of the time	596 (60.3)	392 (39.7)	10.17	0.017
Sometimes	179 (51.9)	166 (48.1)		
Rarely	68 (51.1)	65 (48.9)		
Not at all	107 (55.4)	86 (44.6)		
Ever used Psychoactive Substance				
Tobacco	15 (45.5)	18 (54.5)	2.294	0.891
Alcohol	11 (55.0)	9 (45.0)		
Coffee	217 (57.1)	163 (42.9)		
Kolanut	101 (56.4)	78 (43.6)		
Atahye	23 (57.5)	17 (42.5)		
Marijuana	1 (50.0)	1 (50.0)		
Others	34 (51.5)	32 (48.5)		
Used substance 6 months ago				
Tobacco	8 (40.0)	12 (60.0)	9.318	0.156
Alcohol	6 (46.2)	7 (53.8)		
Coffee	199 (57.7)	146 (42.3)		
Kolanut	89 (49.7)	90 (50.3)		
Atahye	26 (59.1)	18 (40.9)		
Marijuana	0 (0.0)	3 (100.0)		
Others	34 (57.6)	25 (42.4)		

In a longitudinal study among adolescents in South Australia, a study reported on the relationship between psychoactive substances and perceived academic performance among adolescents (21). They found that more than weekly alcohol and tobacco use was associated with perception of academic failure. This study while supporting our findings among adults and young adults, also suggested that the effects of psychoactive substances on academic performance is present even among younger people which was their studied population. Consistent with findings in the present study and that of Bergen et al (21), Cox et al reported that low academic performance during the 12 months preceding the survey, was prevalent among male gender, non-Hispanic blacks, frequent smokers, binge drinkers, and marijuana users(20). These two studies were among subjects who had problematic psychoactive habits. However, the findings in the present study suggested that even the use of mild psychoactive substances may play role in academic performance.

We noticed that subjects who have severe problem drinking habits such as alcohol dependence were more likely to report poor academic performance compared to harmful drinkers. This finding was in keeping with the study of Osain and Aleksiveec where they used MAST, AUDIT and CAGE questionnaires to assess University students who used alcohol

(22). They reported that severity of alcohol use even in moderate doses leads to decrease in academic performance.

Academic performance and Religiosity

The present study suggested that respondents who described themselves as being very religious have good academic performance when compared with those who were not religious. In addition those who responded that religion affect their day to day activities reported good academic performance when compared to those who reported religion did not at all influence their day to day activities. This finding concurred with previous studies. For example, in a national representative study comprising of 18,726 students from USA, Jeynes reported that students who were very religious achieve better academic performance than students who were not religious(23). Also Koubek found that among Christian high school students, there was a positive correlation between the degree of religious commitment and academic achievement (24). It was therefore plausible to say that a high level of religious commitment by students would benefit them academically. The mechanism by which religion provide this benefit has been suggested by different authors. Religious commitment help people deal with social situations and stress, deal with traumatic loss of loved ones, and encourage family stability (25-

28). Other hypotheses to explain these findings included religious work ethic, abstaining from behaviour that are harmful to academic achievement such as drug and alcohol abuse and having internal locus control(23, 29, 30).

Religiosity and psychoactive substances

In the present study, we observed that fewer students who reported being very religious have harmful alcohol use when compared with students who were less religious. In addition, among subjects who reported that religion influences day to day activities for most of the time, the use of alcohol was even lesser. This finding supported previous study that showed benefits of religion on preventing alcohol use and its deleterious consequences (3).

A limitation in this study was the use of self-assessment and self-reporting of key parameters including academic performance, religiosity, and alcohol use. While it could be argued that interview was a common method for assessment in research, a more objective assessment would have been urine sample for alcohol use, Santa Clara strength of faith scale for religiosity and GPA from the University for academic performance and these methods are recommended in future studies. In spite of these limitations, the sample size and being the first of such study in North Western Nigeria, could serve as a baseline for future studies.

In conclusion, this study suggested that alcohol use is associated with low academic performance while being very religious associated with good academic performance. As efforts are being made to describe social problems associated with alcohol and other psychoactive substances including the mild types, bodies of knowledge including the findings in this study appeared to be emerging to show that alcohol and other psychoactive substances even in moderate quantity have deleterious effect on academic performance. In addition, religiosity has beneficial effects.

Future studies should involve more objective means of assessing psychoactive substances, religiosity and academic performance.

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