PSYCHOSOCIAL FACTORS INFLUENCING RISKY SEXUAL BEHAVIOUR AMONG UNDERGRADUATES OF NIGERIAN ARMY UNIVERSITY, BIU.

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Abstract

Risky sexual behaviour has become highly prevalent among university students, posing serious psychosocial and physical health consequences. However, despite its escalating prevalence and imminent consequence to the students, parents, university management and society in general, little is known about salient psychosocial risk factors, especially in Nigeria. This study, therefore, examined personality traits and substance use as factors influencing risky sexual behaviour amongst students of Nigerian Army University, Biu (NAUB). The design was a cross-sectional survey that employed a multi-stage sampling technique to recruit 150 students across all the Departments of the University. Standardized instruments measuring personality traits, substance use and risky sexual behaviour were administered to eligible participants. Three hypotheses were generated and tested using linear and multiple regression at $p<.05$ level of significance. Results did not confirm hypothesis one, which postulated a significant independent influence of personality traits on risky sexual

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behaviour. However, substance use (β = .57, t= .80<.05) emerged as a significant factor in risky sexual behaviour. Jointly, personality traits and substance use significantly influenced students' risky sexual behaviour [R = .60, R^2 = .37, [F (6,143) = 13.703 P<.05], accounting for 37% of its variance. These findings have shown that substance use has a significant influence on undergraduate indulgence in RSB. The study recommends that NUAB management provide counselling and education as intervention measures to help students become aware of the psychosocial risks and associated consequences of risky sexual behaviour in the university and beyond.

Key Words: Risky Sexual Behaviour, Personality, Substance Use**.**

Introduction

Risky Sexual Behaviour (RSB) is currently recognized as one of the major public health problems globally (Mamo et al., 2016; Tekletsadik et al., 2022). RSB refers to any sexual activity that increases the risk of acquiring sexually transmitted infections (STIs) and unwanted pregnancies (Eaton et al., 2010). Characteristically, RSB includes sexual activities that involve having multiple sexual partners, not using or inconsistent condom use and intercourse under the influence of alcohol (Tilahun & Mamo, 2020). Unfortunately, RSB has repeatedly been shown to increase both medical and psychosocial consequences, including but not limited to HIV/AIDs, gonorrhoea, cervical cancer, infertility, unwanted pregnancies, low self-esteem, depression, suicidality in both the general population and university students (Hong & Paunonen, 2009; Mamo et al., 2016).

Worldwide, young people (15-35 years of age) are the most susceptible groups to RSB and account for an estimated 45% of new HIV infections (Dadi &Teklu, 2014). Incidentally, university students who mostly fall within this age bracket are the most vulnerable population to RSB and the most at-risk for HIV and other sexually transmitted infections (Jibril & Kibru, 2020). Although university education offers students with vast knowledge opportunity and awareness of risk and preventive mechanisms, empirical research has revealed that,

paradoxically, this group constitute one of the most prevalent rates of risky sexual behaviour (Musiime & Mugisha, 2015). Studies on risky sexual behaviour among university students in many African countries have indicated an alarming rate, with statistics showing 26% in Uganda (Musiime & Mugisha, 2015), 63.9% in Botswana (Hoque, 2012) and 45% in Ethiopia (Derese, Seme & Misganaw, 2014) respectively.

In Nigeria, young people represent one of the country's largest groups, comprising more than 45% of the population, and university students form a significant part of this population (Fagbamigbe *et al*., 2012). The prevalence of risky sexual behaviour among this physically and sexually active group has become alarming and a serious source of concern. Previous reports have reported a prevalence rate of about 63% (Omoteso, 2006). According to Fagbamigbe, Adebowale and Olaniyan (2012), RSB among Nigerian university students is a very serious but common occurrence, as manifested through reported low rates of condom use, having four or more sexual partners and drug-induced sex. Similarly, Oranu, Woruka and Nonye-Enyindah (2020) reported that 4.8% of male respondents and 6.5% of female respondent undergraduates from the University of Port Harcourt were engaged in risky sexual behaviour, with 14.1% of the students having inconsistent use of a condom. As a result of increasing RSB, many students have been compelled to drop out of school, and experience family and peer rejection, which further escalated economic problems and crime in the country. Therefore, it has become imperative to factors perpetuating risky sexual behaviour, especially in the university setting, so that appropriate preventive measures can be taken.

RSB can be aggravated by low income, job insecurity, lack of awareness about sexual and reproductive health issues and harmful traditional practices (Muche, 2017). Previous research has also implicated age and the need to explore life, financial benefit, substance use, peer pressure and absence of preventive strategies and living independently away from home as risk factors (Shore & Shunu, 2017). However, in the Nigerian university context, there is still a paucity of empirical knowledge regarding risks, especially on the influence of personality traits and substance use in RSB. Personality differences

have been found to influence many undesirable behaviours, including unsafe sex, drug addiction and aggression. Oyedun (2015) in a study among secondary school students in Abeokuta indicated that openness to experience is linked with RSB. In addition, several investigators have found that extraversion is positively associated with risky sexual behaviours (Ingledew & Ferguson, 2007; Miller et al., 2004; Raynor & Levine, 2009). In their longitudinal study, Miller (2004) found that extraversion maintained a positive predictive influence on three patterns of risky sexual behaviours (i.e., number of sexual partners, substance-induced sex, and early sexual debut). Furthermore, based on his analysis of archival data, Lahey (2009) indicated that neuroticism contributes immensely to predicting physical health and other health-related problems such as smoking cigarettes, alcohol use and unprotected sex. It is worth knowing however that, most of these studies are foreign and may not suitably explain risky sexual behaviour in Nigeria, due to socio-cultural and other disparities; which is a clear indication that more research is needed.

Another crucial factor that may increase vulnerability to substance use, but which has received minimal research attention in university research, is substance use. It has been observed that many university students indulge in hazardous substance use. This may be facilitated by express social freedom and a lack of stringent measures on substance consumption in many institutions. This excessive substance use could impair judgment, decision-making and moral reasoning on sexuality and safe sex, while also increasing students' risk of having multiple sexual partners and unprotected sexual interactions. Accordingly, the United Nations Office for Drugs Control (2018) report indicated that both casual and chronic substance users are more likely to engage in high-sexual risk behaviours such as unprotected or having sexual intercourse with multiple sexual partners. Although previous research in Nigeria has linked various forms of risky sexual behaviours to excessive substance use (alcohol use), most of these studies are focused on the college population; and to the best of our knowledge, there is a paucity of research examining risks in university population-a population with high prevalence. Thus, considering the lack of

research albeit the increasing prevalence of RSB, this research examined personality traits and substance use as factors influencing risky sexual behaviour among undergraduates of Nigerian Army University, Biu. Our research is guided by three objectives, which are to (1) examine the influence of personality traits on RSB; (2) examine the influence of substance use on RSB and (3) examine the joint influence of personality traits and substance use on RSB among undergraduates of Nigerian Army University, Biu. Consequently, the following hypotheses were proposed: (1) personality traits will significantly and independently influence RSB, (2) substance use will significantly and independently influence RSB, and (3) personality traits and substance use will jointly influence RSB among undergraduates of NAUB.

Methods

Design and Setting

This study adopted a cross-sectional survey design to elicit information from participants on the influence of personality traits and substance use on risky sexual behaviour. Participants were recruited at Nigerian Army University Biu. The Nigerian Army University Biu is a conventional military-owned institution established in 2018 with the mandate to provide academic and moral training to civilian and military students. The setting is chosen for accessibility, convenience and proximity purposes. Also, its choice is informed by the researchers' observations and anecdotal pieces of evidence of risky sexual behaviour among a significant number of students in the institution.

Participants and Procedure

Participants comprised 150 undergraduates who were recruited through snowballing. The exact population of students who indulge in RSB at the institution is unknown; however, using unofficial sources, we utilised the Taro Yamane formula to arrive at the sample. Thus, available students who met the research criteria for participation were assessed. Inclusion criteria were incorporated into the study by sampling the participants that possess key features of the study. Eligibility criteria required participants to be undergraduates of the

institution who are above 18 years and duly provided informed consent for participation. Due to the sensitivity of the research and the desire to gather valid data from the students, we adopted the snowball sampling method where one knowledgeable source related the instrument to the other.

The age range of participants in the current study is from 18-34 years. Concerning participants' demographic information on religious affiliation, the majority of them 101(67.3%) were males, while 49(32.7%) were female students. Also, the majority 86(57.3%) were Christians, 56(37.3%) were Muslims, and 8 (5.3%) professed other religions. A total of 40(26.7%) were Hausa, 37(24.7%) Yoruba, 20(13.3%) Ibo, while 53(35.4%) were from other ethnic groups. On level of education, 35(23.3%) were in 100L, 54(36.0%) in 200L, 34(22.7%) 300L, while 27(18.0%) were students at 400L. 70 out of the total participants (46.7%) reside in the Abogo Lagoma barracks, while 80(53.3%) are residing in the town.

The research adhered strictly to the ethical declaration of Helsinki. Approval was granted by the Students' Affairs Division and Research Committee of the University before we began the process of data collection. We also obtained consent from each respondent and ensured voluntary and anonymous participation. The information provided was treated with the utmost confidentiality. Study participants were informed that their involvement was voluntary and that they could back out from the study at any stage if they felt uncomfortable. Eligible participants (who were recruited through snowballing), were then administered a questionnaire which measured demographic characteristics, personality traits and substance use. The questionnaire also assessed risky sexual behaviour, focusing on whether they have had multiple sexual partners, indulged in unprotected sex or used drugs to achieve enhanced sexual performance in the past days.

Each questionnaire took approximately 15 minutes of the respondent's time. In all, data collection lasted for three weeks beginning from the 8th to the 31st of December 2022. At the end of the approximately three-week data collection period, (150) questionnaires

out of 185 (originally administered to students) were returned with usable data. Correctly filled questionnaires were then sorted out, screened and analysed.

Measures

Personality traits of the students were measured using the Big Five Personality Inventory (Donahue & Kentle, 1991), which is a 44-item inventory that assesses personality from a five-dimensional perspective: extraversion, agreeableness, conscientiousness, neuroticism and openness. Participants rated their personality disposition on a 5- 5-point Likert scoring format which ranged from 1 = 'strongly disagree' to 5 = 'strongly agree'. The higher the score in each subscale the more the respondent seems to consider the personality characteristics of him or herself. The average current reliability study for the Big Five inventory was .75, while the current reliability of each of the subscales was Extraversion = .69, Agreeableness = .70, Conscientiousness = .72, Neuroticism = .75 and Openness =.74 (Yen, Huang, Yen, Cheng, 2006). The 44-item scale has also been widely used in Nigeria and found to have acceptable reliability and validity (Okwaraji *et al,* 2015).

Substance use was assessed using the Drug Abuse Screening Test. The DAST-10 is a 10-item self-report instrument that was copyrighted in 1982 by Harvey Skinner to provide a brief, self-report instrument for population screening, clinical case finding and treatment evaluation research. The DAST-10 yields a quantitative index of the degree of consequences related to drug abuse. The instrument takes approximately 5 minutes to administer and may be given in either a self-report or interview format. The DAST may be used in a variety of settings to provide a quick index of drug abuse problems. In the DAST-10, each question answered "yes" is scored 1 point. The resulting score plus '1' (coming from the positive answer to question number 1 in the introductory section of the questionnaire screening for marijuana, illegal and/or prescription drug use in the recent year) arrives at the total score. A total score of 1-2 is considered "at risk" and requires brief

intervention; a total score of 3-5 refers to "moderate" drug abuse and requires brief treatment; and a total score of ≥ 6 indicates "severe" drug abuse and requires referral for treatment. The scale has been widely used and found to be a valid and reliable measure of substance abuse (Peymaneh, et al., 2020)

Sexual Risk Behaviours were assessed using the Sexual Risk Behaviours Scale (Fino, et al., 2021). This is a 6-item scale that measures the frequency of sexual risk behaviours in a 5-point Likert scale. There are no reversed items and the higher the scores, the more frequent engagement in sexually risky behaviours. Items' descriptors included: "How often have you had vaginal sex without a condom?", "How often have you had anal sex without a condom?" "How often have you performed oral sex without protection?" For all items, we devised a response format based on a 5-point Likert scale, measuring the frequency with which students had engaged in those sexual risk behaviours in the past month (0 = "Never"; 1 = "Rarely"; 2 = "Sometimes"; 3 = "Often"; 4 = "Very often";). Studies conducted among university students in the UK have reported acceptable psychometric properties, with a reliability coefficient of 0.82 (Basen-Engquist *et al*., 2013). In our study, we found a reliability coefficient of 0.78, suggesting that the items are a reliable measure of RSB among Nigerian University students.

Data Analysis

We utilised Statistical Package for Social Sciences (SPSS Version-23) for data analysis. Demographic data were analysed with the use of simple percentages and frequencies. Pearson Product Movement Correlation (PPMC) statistics were used to establish the degree of association amongst variables, while linear and multiple regression was used to analyse data for hypotheses 1, 2 and 3, which examined independent and joint influences of personality traits and substance use on risky sexual behaviour among the participants.

RESULTS

Table 1: Summary of Inter-Variable Correlation Showing Relationship between Personality Traits, Substance Use and Risky Sexual Behaviour among Participants.

Variable	**1**	**2**	**3**	**4**	**5**	**6**	**7**
$\bar{X}$ SD							
1 Openness							
2 Conscientiousness	.31	-					
3 Extraversion	.60*	.41*	-				
4 Agreeableness	.46*	.40*	.52*				
5 Neuroticism	.17*	.26*	.32*	.45**			
6 Substance abuse	-.31	.02	-.15	.82	-.04	-	
7 **RSB**	**.20***	**.11**	**-.04**	**.02**	**.10**	**.19***	**-**

RSB=Risky Sexual Behaviour; P<.05=**

As shown in Table 1, there is a significant inverse relationship between openness personality traits and risky sexual behaviour among students of Nigerian Army University, Biu (r=-.20; p<.0.05). However, conscientiousness (r= 0.11; p>.05), extraversion (r= -.04; p>.05), agreeableness (r= .02; p>.05) and neuroticism (r= 10; p>.05) have no significant relationship with RSB. Substance use has a significant and positive relationship with risky sexual behaviour (r=.19*; p<.05). These results have shown that students with a high disposition for social interaction and substance use would more likely indulge in risky sexual behaviour.

Table 2: Summary of Multiple Regression showing Significant Independent and Joint Influences of Personality Traits and Substance Use on Risky Sexual Behaviour among Participants.

Variables	β	t	P	R	R^2	df	F	P
Openness	-.08	-1.89	>.05					
Conscientiousness	.11	1.57	>.05					
Extraversion	.06	.66	>.05	60	.37	6/143	13.703	<.05
Agreeableness	-.02	-.22	>.05					
Neuroticism	-.03	-.35	>.05					
Substance use	.57	8.0	<.05					

The results as shown in Table 2 indicate no significant influence of personality traits on risky sexual behaviour among students of Nigerian Army University, Biu. Specifically, there is no significant independent influence of openness to experience (β=-.08, t= -1.89, P>.05), conscientiousness (β=-.11, t= 1.57, P>.05), extraversion (β=-.06, t=.66, P>.05) agreeableness (β= -.02, t= -.22, P>.05) and neuroticism (β=-.03, t= -.35, P>.05) on risky sexual behaviour. This result did not confirm hypothesis one.

However, analysis of multiple regression statistics (as presented in Table 2) confirmed hypothesis two, as results showed a significant influence of substance use on risky sexual behaviour among the students (β=-.57, t= 8.0, P<.05). This result implies that substance use is a significant factor influencing students' indulgence in risky sexual behaviour in the university. It means when students indulge in substance use, such as taking cannabis, tramadol and alcohol, they are more likely to perpetrate unsafe sex.

In a similar vein, hypothesis three was also confirmed. The result of multiple regression (as presented in Table 2) showed a significant joint influence of personality traits and substance use on risky sexual behaviour among students at Nigerian Army University, Biu [R = .60, R^2 = .37, [F (6,143) = 13.703 P<.05], with the two variables accounting for 37% in explaining students' risky sexual behaviour. This result implies

that, although personality traits may not influence students' indulgence in risky sexual behaviours when students with these traits indulge in substance use, it will have a significant joint influence in their involvement in risky sexual behaviour.

Discussion

The purpose of this study was to examine the influence of personality traits and substance use on risky sexual behaviours among Undergraduates of Nigerian Army University, Biu. A total of 150 eligible students were recruited into the study and assessed using standardised instruments. The study was guided by three hypotheses. The first hypothesis did not confirm personality traits as factors influencing risky sexual behaviours among the participants. However, substance use emerged as a significant factor influencing students' indulgence in risky sexual behaviours, thus confirming hypothesis two. Further results indicated a significant joint influence of personality traits and substance use on risky sexual behaviour. Therefore, hypothesis three was confirmed.

This result implies that personality traits alone do not influence students' risky sexual behaviour. Whether students are fun-loving, adventurous, cautious, disciplined or anxious would not influence their RSB. The finding is inconsistent with what is reported in most previous research. For example, the finding varies with the findings of Miller et al. (2004); and Ingledew and Ferguson (2007) who found a significant influence of openness and extraversion traits on risky sexual behaviours. Similarly, the finding contradicts Oyedun's (2015) findings in a study among secondary school students in Abeokuta which linked openness personality traits with RSB. The variations between the results of this research and previous ones may be due to methodological, cultural or social desirability problems.

On the result which revealed the significant influence of substance use on RSK, the implication is that students' substance use behaviour has a significant role in their indulgence in risky sexual behaviours that have become very common in the university. This result is expected because many students in the institution currently

indulge in substance use. This might increase their sexual energy and cravings and eventually risky sexual interactions that have become a common occurrence. The result thus aligns with the works of Cooper (2006), Derese et al., (2014) and the United Nations Office for Drugs Control (2018) report which indicated that both casual and chronic substance users are more likely to engage in high-risk behaviours such as unprotected sex, and having sexual intercourse with multiple sexual partners.

Our research findings showing a significant joint influence of personality traits and substance use on RSB implies that even though personality traits may not be significant factors predicting risky sexual behaviour of the students, having these traits while also indulging in substance use increases students' risk for RSB. Therefore, the result is consistent with Oyedun (2015) who conducted a study among the undergraduate population in Abeokuta and reported that personality traits and substance use significantly and jointly influence risky sexual behaviour among the students.

In all, this research has shown that substance use is a major factor influencing students' indulgence in risky sexual behaviour at the Nigerian Army University, Biu. That means, what has consistently increased incidences of unsafe sex among students of the institution is principally due to their involvement in substance use. Therefore, to tame the problem of RSB, University management and other stakeholders must quickly make efforts to control substance use. This can be achieved through counselling, awareness campaigns on the dangers of substance and the use of punitive measures. Despite its impressive findings, we acknowledged the limitations of this research, such as its cross-sectional design nature, limited sample size and scope. Due to these limitations, which have the potential to affect the validity of our results, we implore that the results should be interpreted with caution. Nevertheless, our research implies policy as its recommendations can help the university formulate good policies that curb the twin problems of substance use and risky sexual behaviour ravaging Nigerian universities and beyond.

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