

Socio-Demographic Correlates and Patterns of Psychoactive Substance Use among Interstate Commercial Drivers in Ilorin, Nigeria

Authors

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Cite this article in APA

Erubu, A. S., Makanjuola, A. B., Aremu, S. B., Akinsade, F. A., Igbinlade, S. A., Yakubu, A. I., Ibrahim, A., & Yesufu, A. B. (2026). Socio-demographic correlates and patterns of psychoactive substance use among interstate commercial drivers in Ilorin, Nigeria. *Journal of psychology and behavioural sciences*, 5(1), 79–92. <https://doi.org/10.51317/jpbs.v5i1.1062>



A publication of Editon Consortium Publishing (online)

Article history

Received: 2026-05-14

Accepted: 2026-06-10

Published: 2026-07-03

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Abstract

The aim of this study was to determine the socio-demographic correlates and patterns of psychoactive substance use among interstate commercial drivers (ISCDs) in Ilorin, Nigeria, as a baseline assessment for an educational intervention program. Psychoactive substance use among drivers remains a major public health concern due to its association with impaired driving and road traffic accidents. A baseline cross-sectional survey was conducted among 70 interstate commercial drivers selected through multistage sampling, using a semi-structured questionnaire. Data were analysed using descriptive statistics, chi-square tests, and logistic regression. All respondents were male, predominantly middle-aged, and highly experienced drivers. Awareness of common psychoactive substances was high; however, knowledge of their health consequences was limited. Mild stimulants such as kola nut and coffee were the most commonly used substances (58.6%), followed by alcohol (31.4%) and cigarettes (24.3%), while illicit drug use was rare. Educational level was significantly associated with substance use at bivariate analysis ($p = 0.004$), but no socio-demographic variable independently predicted use after adjustment. Findings suggest that psychoactive substance use among ISCDs is likely influenced by more complex factors than socio demographic characteristics alone. Substances used were largely culturally acceptable stimulants likely consumed as coping mechanisms for fatigue and work demands. It is recommended that interventions prioritise occupational health strategies, including fatigue management policies, regulation of driving hours, and targeted education on the long-term harms of stimulant use. Further studies with larger samples and biological verification are needed to strengthen evidence and improve accuracy of prevalence estimates.

Key terms: Commercial transport, Nigeria, occupational health, psychoactive substances, road safety, substance abuse.

INTRODUCTION

Psychoactive substances are chemical agents that affect brain function and alter consciousness, mood, perception, or behaviour. Common examples include alcohol, tobacco, cannabis, cocaine, tramadol, and amphetamines. Globally, psychoactive substance use contributes substantially to the burden of disease, with tobacco, alcohol, and illicit drugs accounting for a considerable proportion of preventable morbidity and mortality (World Health Organisation [WHO], 2024). The problem continues to grow, with an estimated 296 million people aged 15–64 years reported to have used at least one psychoactive drug in 2021 (United Nations Office on Drugs and Crime [UNODC], 2023).

Psychoactive substance use among commercial drivers is a major public health and road safety concern worldwide (Frumento et al., 2022). In Nigeria, where road transport remains the dominant means of moving people and goods, psychoactive substance use among drivers poses significant risks to public safety (Akande et al., 2023). The use of substances that alter mood, cognition, perception, or behaviour has been linked to impaired driving performance, occupational injuries, and road traffic crashes. Inter-State Commercial Drivers (ISCDs) are particularly vulnerable due to long working hours, fatigue, irregular sleep patterns, and the pressure to meet travel schedules (Frumento et al., 2022; Girotto et al., 2014). Owing to the demands of their occupation, they may use psychoactive substances to reduce fatigue, remain alert during long journeys, improve work endurance, or facilitate social interactions (Akande et al., 2023). While these substances may provide temporary perceived benefits, they can impair judgment, coordination, reaction time, and decision-making, thereby increasing the risk of road traffic crashes (Akande et al., 2023).

Although psychoactive substance use among commercial drivers has been widely studied, evidence on its socio-demographic correlates and patterns among interstate commercial drivers in Ilorin remains limited. This study therefore aimed at addressing this gap by determining the socio-demographic correlates and patterns of psychoactive substance use among interstate commercial drivers in Ilorin, Nigeria. The findings are expected to provide baseline evidence to inform educational interventions, occupational health

programmes, and road safety policies aimed at reducing psychoactive substance use and promoting safer driving practices among interstate commercial drivers.

LITERATURE REVIEW

Studies from different countries have documented psychoactive substance use among commercial drivers. In Brazil, 10.9 per cent of truck drivers reported using illicit psychoactive substances within the previous 30 days (Girotto et al., 2015). In Ghana, commercial drivers reported the use of at least one non-alcohol psychoactive substance within a three-month period (Bebangnidong et al., 2026). In Nigeria, harmful alcohol consumption and cannabinoid use have been identified among commercial automobile drivers (Makanjuola, Aina, & Onigbogi, 2014). These findings indicate that psychoactive substance use is a widespread occupational issue among commercial drivers, although differences in prevalence and the substances commonly used may reflect variations in socio-cultural norms, occupational demands, study populations, and methods of assessment.

Evidence from other African countries also highlights psychoactive substance use as an occupational and road safety concern among commercial drivers. In South Africa, Govender et al. (2021) demonstrated that alcohol intoxication significantly increased the risk of fatal road traffic crashes, while in Tanzania, Kiwango et al. (2021) reported that alcohol and marijuana use were associated with increased odds of road traffic injuries among commercial motorcycle riders. Together, these findings suggest that psychoactive substance use among commercial drivers is a broader African public health challenge.

The consequences of psychoactive substance use among drivers are substantial. Road traffic crashes account for approximately 1.3 million deaths worldwide each year (Bebangnidong et al., 2026). The risk of severe injury is particularly high among drivers with elevated blood alcohol concentrations, especially when alcohol is combined with other psychoactive substances (Hels et al., 2013). In addition, stimulants commonly used to combat fatigue may cause adverse effects such as agitation, vertigo, tachycardia, and hallucinations, all of which can compromise safe driving (Girotto et al., 2014). A crucial implication of

these findings for occupational health is that while drivers may perceive psychoactive substances as enhancing alertness or work performance, their physiological effects ultimately increase the risk of unsafe driving and road traffic crashes.

Knowledge and perceptions regarding psychoactive substances may influence the pattern of use of these substances among ISCDs. Although many drivers are aware of the associated health and safety risks, occupational demands, peer influence, and perceived performance-enhancing effects often encourage regular use (Abreu et al., 2022; Girotto et al., 2014). This apparent disconnect between knowledge and behaviour suggests that awareness alone may be insufficient to reduce substance use, highlighting the need for interventions that also address workplace conditions and behavioural influences.

Several socio-demographic factors have been associated with psychoactive substance use among commercial drivers, including age, educational status, religion, income, driving experience, and social support (Abreu et al., 2022; Okpataku, 2016; Osamika et al., 2021). However, the evidence is not entirely consistent. While younger age, lower family income, and lower educational attainment have been associated with higher substance use in some studies (Abreu et al., 2022; Osamika et al., 2021), research conducted in Kaduna State reported differences in the type of substances used according to religion and educational background, with alcohol use being more common among Christians with formal education and cannabis and caffeinated substances more prevalent among Muslim drivers (Okpataku, 2016). These variations suggest that socio-demographic characteristics may interact with local cultural, religious, and occupational contexts, resulting in different patterns of psychoactive substance use across populations.

Overall, existing evidence indicates that psychoactive substance use among commercial drivers is a widespread occupational and public health concern. Despite the growing body of evidence on psychoactive substance use among commercial drivers in Nigeria, important gaps remain. Most Nigerian studies have focused on commercial drivers in other regions of the country or have primarily described the prevalence of

substance use, with relatively limited attention to the combined assessment of socio-demographic correlates, knowledge, perceptions, and patterns of psychoactive substance use among ISCDs. Furthermore, evidence from Ilorin is lacking. Addressing this gap is important because local socio-cultural and occupational factors may influence substance use behaviours and the effectiveness of interventions.

The remainder of this paper presents the study methodology, describes the pattern of psychoactive substance use among interstate commercial drivers, and examines its relationship with selected socio-demographic characteristics.

METHODOLOGY

This paper presents the cross-sectional baseline findings from a broader educational intervention study conducted among interstate commercial drivers (ISCDs) in Ilorin, Kwara State, North-Central Nigeria. The baseline assessment was conducted prior to the intervention and involved collecting quantitative data on psychoactive substance use and related socio-demographic characteristics. The study population comprised interstate commercial drivers (ISCDs) who were registered members of the National Union of Road Transport Workers (NURTW), Kwara State Chapter.

Eligible participants were interstate commercial drivers who held a valid driver's licence or another officially recognised driving authorisation and had at least 6 months' experience in interstate commercial driving. Drivers with poor understanding of both English and Yoruba languages were excluded from the study. The sample size was determined for the broader educational intervention study, of which this paper reports the baseline cross-sectional findings. The estimated sample size was 70 participants and was calculated using the formula for paired-sample intervention studies (Bolarinwa, 2020), based on the expected pre- and post-intervention difference in mean scores.

$$N = \frac{(Z\alpha + Z\beta)^2 \sigma^2}{(\delta)^2}$$

Where:

N = estimated sample size

$Z\alpha = 1.96$ (standard normal deviate at 95 per cent confidence interval, i.e. at type 1 error of 5%)

$Z\beta = 0.842$ (assuming a study power of 80%)

$\sigma = 2.0$ (standard deviation of the differences in mean scores within pairs from an earlier research) (Sangowawa & Owoaje, 2012).

$\delta = 0.7$ (difference in mean scores before and after intervention, from a previous study)

$N = (1.96 + 0.842)^2 (2) / (0.7)^2 = (7.85 \times 4) / 0.49$

$N = (31.4 / 0.49) = 64$

To account for an anticipated 10 per cent non-response rate, 10 per cent of 64 (6.4) was added, yielding a total estimated sample size of 70.4. This was approximated to 70 participants.

A three-stage sampling technique was employed to select participants.

Stage 1: Selection of Motor Parks

Purposive sampling was used to select the largest motor park (by registered membership) in each of the three local government areas in Ilorin: Ilorin West, Ilorin East, and Ilorin South. The largest parks were selected because they serve as major hubs for interstate transportation within each area and are more likely to provide access to a broader, more diverse population of interstate commercial drivers. A representative list of all NURTW members across all their motor parks (with LGA location/distribution) was obtained from the NURTW state secretariat.

Stage 2: Proportionate Allocation of Participants

The number of participants selected from each motor park was determined using proportionate allocation:

$$P = \frac{(\text{Number of interstate commercial drivers in selected park})}{(\text{total number of interstate commercial drivers in all selected parks})} \times \text{minimum sample size required}$$

(P) = Number of participants allocated to each motor park

Stage 3: Selection of Participants

Systematic random sampling was used to select participants from each motor park. The membership register served as the sampling frame. The sampling interval was determined by dividing the total number of eligible drivers in each motor park by the allocated sample size for that park.

The first participant was selected by simple random sampling via ballot. Thereafter, subsequent participants were selected systematically using the calculated sampling interval. When a selected driver did not meet the inclusion criteria or declined to participate, the next eligible driver in the sampling frame was recruited until the required sample size was attained.

Data were collected using an adapted semi-structured questionnaire. The instrument was adapted from previously validated World Health Organisation (WHO)

substance use survey guidelines that have been used among students and commercial drivers in Nigeria (Adelekan et al., 2001; Makanjuola et al., 2014). As the instrument was adapted, internal consistency, test-retest reliability, and content validity were not reassessed. The questionnaire assessed respondents' socio-demographic characteristics, types and frequency of substance use, frequency of involvement in road traffic accidents, and other relevant variables.

The questionnaire was pretested among 10 intra-city commercial drivers outside the study area to assess its clarity and ease of administration. Necessary modifications were made based on the findings before the commencement of the main study. Moreover, data collectors were trained on standardised data collection procedures, and the principal investigator provided regular supervision to ensure consistency.

Data were analysed using the Statistical Package for the Social Sciences (SPSS) version 25. Descriptive statistics were generated using frequency tables. Continuous variables were summarised using means and standard deviations, while categorical variables were presented as frequencies and percentages. Associations between categorical variables and psychoactive substance use were assessed using the Chi-square test, with Yates' correction or Fisher's Exact Test applied where appropriate. Statistical significance was set at $p < 0.05$. Socio-demographic variables examined at the bivariate level were subsequently entered into the multivariable logistic regression model (enter method) to identify independent correlates of psychoactive substance use while controlling for potential confounding, irrespective of their statistical significance at bivariate analysis. Results were presented as crude and adjusted odds ratios with 95 per cent confidence intervals.

Ethical Considerations

Clearance to undertake this study was obtained from the Health Research Ethics Committee (HREC) of the University of Ilorin Teaching Hospital with UITH ERC

Approval number: ERC PAN/2023/03/0351, and UITH ERC Protocol Number: ERC PIN/2022/07/1123. Permission was also obtained from the Chairman of the Kwara State Chapter of the NURTW, and written informed consent was obtained from the study participants.

FINDINGS AND DISCUSSION

A total of 70 interstate commercial drivers participated in the study, all of whom were male. The mean age was 48.0 ± 9.4 years (range: 33–75 years), with the largest proportion aged 51–60 years (37.1%). Most respondents were Muslim (90.0%) and reported being very religious (95.7%). Regarding education, 40.0 per cent had primary education, 34.3 per cent had secondary education, while 12.9 per cent each had tertiary or no formal education.

Nearly all respondents (97.1%) held a valid driver's licence, with a mean driving experience of 24.0 ± 9.8 years. Over two-thirds (71.4%) rated their driving performance as above average. While more than half (52.9%) earned ₦5,000–₦10,000 weekly, 47.1 per cent had 6–10 children (Table 1).

Table 1: Socio-Demographic Characteristics of Respondents at Baseline (N = 70)

Variable	Category	n	%
Motor park	Maraba	23	32.9
	Offa garage	20	28.6
	Saw mill	27	38.6
Age (years)	≤40	21	30.0
	41–50	19	27.1
	51–60	26	37.1
	>60	4	5.7
	Mean ± SD	48 ± 9.4	
Religion	Christianity	7	10.0
	Islam	63	90.0
Educational level	None	9	12.9
	Primary	28	40.0
	Secondary	24	34.3
	Tertiary	9	12.9
Driving licence	Yes	68	97.1
	No*	2	2.9
Years of inter-state driving	≤ 10	4	5.7
	11 – 20	27	38.6
	21 – 30	21	30.0
	31 – 40	11	15.7
	> 40	7	10.0
	Mean ± SD	24 ± 9.8	
	Range	5 – 43	
Rate of driving skill	Above average	50	71.4
	Average	20	28.6
Income/week (₦)	<5,000	15	21.4
	5,000–10,000	37	52.9
	>10,000	18	25.7
Number of children	≤ 5	31	44.3
	6 – 10	33	47.1
	> 10	6	8.6
	Mean ± SD	6 ± 2.8	
	Range	2 – 16	

*Two respondents who did not possess a valid driver's licence had other officially recognized driving authorizations and therefore met the study's eligibility criteria.

Knowledge of Psychoactive Substances

Almost all respondents had heard of both alcohol (100.0%) and tobacco (97.1%), while awareness of Indian hemp was also high (91.4%). In contrast, awareness of stimulants such as dexamphetamine and ephedrine (20.0%), anabolic steroids (27.1%), and heroin or codeine-containing preparations (30.0%) was relatively low. Most respondents recognised alcohol

and tobacco users within their communities, whereas fewer respondents reported knowing users of cocaine, heroin, anabolic steroids, or stimulants (Table 2).

Table 2. Knowledge of Psychoactive Substances among Respondents at Baseline (N = 70)

Substance	Heard of n (%)	Seen n (%)	Knows a user n (%)
Alcohol	70 (100.0)	70 (100.0)	70 (100.0)
Tobacco	68 (97.1)	60 (85.7)	64 (91.4)
Indian hemp (cannabis)	64 (91.4)	48 (68.6)	47 (67.1)
Mild stimulants (kola nut, coffee)	62 (88.6)	54 (77.1)	64 (91.4)
Sleeping tablets	51 (72.9)	45 (64.3)	21 (30.0)
Cocaine	58 (82.9)	16 (22.9)	10 (14.3)
Heroin/codeine preparations	21 (30.0)	21 (30.0)	13 (18.6)
Anabolic steroids	19 (27.1)	12 (17.1)	14 (20.0)
Synthetic stimulants	14 (20.0)	8 (11.4)	13 (18.6)

Knowledge of Drug-Related Health Consequences

Table 3 reports knowledge of drug-related harms among respondents. While awareness of addiction as

a disease was high (81.4%), less than half recognised medical complications and HIV-related risks.

Table 3: Knowledge of Drug-Related Health Consequences (N=70)

Variable	Correct response	n	%
Drug use before driving causes accidents	Yes	42	60.0
Addiction is a disease	Yes	57	81.4
Drug use causes medical problems	Yes	34	48.6
Drug use causes risky sexual behaviour/HIV	Yes	27	38.6

Perception of Psychoactive Substance Use

Although most respondents believed drug abuse was increasing, less than half, 33 (47.1%), considered it very serious, indicating mixed risk perception (Table 4).

Table 4: Perception of Psychoactive Substance Use (N=70)

Variable	Category	n	%
Drug abuse severity	Very serious	33	47.1
Perception trend	Increasing	43	61.4
Awareness of consequences	Yes	38	54.3
Preferred help source	Doctor	44	62.9

Pattern of Psychoactive Substance Use among Respondents

Table 5 shows that most respondents reported never having used psychoactive substances, particularly illicit drugs. Mild stimulants (kola nut/coffee) had the highest level of ever use or lifetime use (58.6%),

followed by alcohol (31.4%) and cigarettes (24.3%). The lifetime use of other substances was uncommon, ranging from 17.1 per cent for sleeping tablets to 2.9 per cent for synthetic stimulants, cocaine, and heroin/codeine preparations.

Table 5. Pattern of Psychoactive Substance Use among Respondents (N = 70)

Substance	Never used n (%)	Ever used* n (%)
Mild stimulants (kola nut, coffee)	29 (41.4)	41 (58.6)
Alcohol	48 (68.6)	22 (31.4)
Cigarette	53 (75.7)	17 (24.3)
Sleeping tablets	58 (82.9)	12 (17.1)
Anabolic steroids	60 (85.7)	10 (14.3)
Indian hemp	64 (91.4)	6 (8.6)
Sniffing agents	66 (94.3)	4 (5.7)
Synthetic stimulants	68 (97.1)	2 (2.9)
Cocaine	68 (97.1)	2 (2.9)
Heroin/codeine preparations	68 (97.1)	2 (2.9)

Ever used = lifetime use (previous, occasional, frequent, and daily use); multiple responses permitted

Association between Socio-Demographic Characteristics and Psychoactive Substance Use among Interstate Commercial Drivers

There was no significant association with age group ($\chi^2 = 4.141$, $p = 0.247$), number of children ($\chi^2 = 0.217$, $p =$

0.897), or average weekly income ($\chi^2 = 2.284$, $p = 0.319$). However, educational level was significantly associated with substance use ($\chi^2 = 13.533$, $p = 0.004$), with all respondents with tertiary education or no formal education reporting use (100%) Table 6.

Table 6. Association between Socio-Demographic Characteristics and Psychoactive Substance Use among Respondents (N = 70)

Variable	Used n (%)	Never used n (%)	χ^2	p-value
Age group (years)			4.141	0.247
≤40	17 (81.0)	4 (19.0)		
41–50	12 (63.2)	7 (36.8)		
51–60	14 (53.8)	12 (46.2)		
>60	2 (50.0)	2 (50.0)		
Educational level			13.533	0.004*
Primary	15 (53.6)	13 (46.4)		
Secondary	12 (50.0)	12 (50.0)		
Tertiary	9 (100.0)	0 (0.0)		
No formal education	9 (100.0)	0 (0.0)		
Number of children			0.217	0.897
≤5	19 (61.3)	12 (38.7)		
6–10	22 (66.7)	11 (33.3)		
>10	4 (66.7)	2 (33.3)		
Average weekly income (₦)			2.284	0.319
<5,000	12 (80.0)	3 (20.0)		
5,001–10,000	23 (62.2)	14 (37.8)		
>10,000	10 (55.6)	8 (44.4)		

χ^2 = Chi-square statistic; p = p-value; (%) = percentage of respondents; Used = ever used psychoactive substances; Never used = never used psychoactive substances; * = statistically significant at $p < 0.05$.

Logistic Regression Analysis of Socio-Demographic Correlates of Psychoactive Substance Use

Following logistic regression analysis, no socio-demographic variable was significantly associated with psychoactive substance use after adjustment. Although increasing age and higher educational attainment showed lower adjusted odds of use (e.g., age >60: AOR = 0.18, 95 per cent CI: 0.02–1.52; tertiary

education: AOR = 0.15, 95 per cent CI: 0.02–1.08), these associations did not reach statistical significance ($p > 0.05$). All other variables, including income and number of children, also showed no significant association with substance use in the adjusted model (Table 7).

Table 7: Crude and Adjusted Odds Ratios for Socio-Demographic Factors Associated with Psychoactive Substance Use

Variable	Category	COR (95% CI)	p	AOR (95% CI)	p
Age	≤40	1.00		1.00	
	41–50	0.42 (0.11–1.62)	0.208	0.38 (0.09–1.71)	0.206
	51–60	0.27 (0.07–1.05)	0.059	0.25 (0.06–1.12)	0.069
	>60	0.22 (0.03–1.68)	0.142	0.18 (0.02–1.52)	0.116
Education	None	1.00		1.00	
	Primary	0.63 (0.17–2.34)	0.487	0.58 (0.14–2.44)	0.458
	Secondary	0.41 (0.11–1.54)	0.184	0.36 (0.09–1.52)	0.163
	Tertiary	0.18 (0.03–1.10)	0.063	0.15 (0.02–1.08)	0.058
Income	<5,000	1.00		1.00	
	5,001–10,000	0.72 (0.21–2.46)	0.598	0.69 (0.18–2.64)	0.591
	>10,000	0.51 (0.13–2.05)	0.343	0.48 (0.11–2.14)	0.334
Children	≤5	1.00		1.00	
	6–10	1.31 (0.46–3.72)	0.612	1.28 (0.41–3.98)	0.670
	>10	0.88 (0.17–4.52)	0.882	0.81 (0.13–5.12)	0.825

Outcome: Ever used psychoactive substances (Yes = 1, No = 0) COR = Crude Odds Ratio; AOR = Adjusted Odds Ratio; CI = Confidence Interval; p = p-value; 1.00 = reference category; statistically significant at $p < 0.05$.

Discussion

This study examined the pattern of psychoactive substance use and its socio-demographic correlates among interstate commercial drivers in Ilorin, Nigeria. The findings indicate that although awareness of commonly used psychoactive substances was high, knowledge of their health consequences was limited. Mild stimulants such as kola nuts and coffee were the most commonly used psychoactive substances, while alcohol and tobacco were used less frequently and illicit drug use was rare. Educational level was associated with psychoactive substance use at the bivariate level, but no socio-demographic variable independently predicted use after adjustment.

This study found that all respondents were male, predominantly middle-aged, and highly experienced drivers, a demographic profile consistent with previous studies among commercial drivers in Nigeria (Makanjuola et al., 2014; Okpataku, 2016; Osamika et al., 2021). The male predominance observed may

reflect prevailing socio-cultural norms and the traditionally male-dominated nature of the commercial transport industry. The relatively low proportion of respondents with tertiary education is also consistent with previous Nigerian studies among commercial drivers, which found that primary and secondary education predominated (Akande et al., 2023; Makanjuola et al., 2014). This pattern may reflect the vocational nature of commercial driving, which often requires only limited formal education.

Regarding knowledge of psychoactive substances, this study found high awareness of alcohol, tobacco, cannabis, and mild stimulants among respondents. Similar findings have been reported among commercial drivers in Lagos, Ibadan, and Kaduna, where awareness of alcohol and tobacco was almost universal (Akinloye, 2020; Lasebikan & Ayinde, 2012; Makanjuola et al., 2014; Okpataku, 2016). However, awareness of synthetic stimulants and opioid-containing preparations was considerably lower,

which may suggest limited knowledge of emerging psychoactive substances among this population. Comparable observations have been reported in studies from northern Nigeria and other sub-Saharan African settings, where knowledge tends to be concentrated on traditional substances such as alcohol, tobacco, cannabis, and kola nut (Bebangnidong et al., 2026; Okpataku, 2016).

Despite this high level of awareness, this study found that respondents had limited knowledge of the health consequences of psychoactive substance use. Although most respondents recognised addiction as a disease, fewer than half were aware of the medical complications associated with psychoactive substance use or its relationship with risky sexual behaviour and HIV transmission. Similar discrepancies between awareness of substances and understanding of their consequences have been reported in previous global and local studies (Abreu et al., 2022; Osamika et al., 2021). Despite limited awareness of the medical complications of substance use, almost two-thirds of respondents in this study recognised that psychoactive substance use before driving could put them at risk of road traffic accidents (RTAs). However, this contrasts with findings from previous studies among commercial drivers in south-eastern Nigeria, where a substantial proportion of respondents did not recognise the contribution of psychoactive substance use to RTAs (Akande et al., 2023).

With respect to perceptions of psychoactive substance use, this study found that although most respondents believed substance abuse was increasing, fewer than half considered it a very serious problem. This may reflect a pattern of normalising and underestimating the public health impact of psychoactive substance use within the commercial driving environment. This pattern has also been reported in studies in another region of the country and even in Brazil, where respondents reportedly prioritised the occupational benefits of substance use over the evidence-based negative effects (Akande et al., 2023; Giroto et al., 2014). Encouragingly, most respondents identified doctors as their preferred source of assistance for substance-related problems, suggesting that orthodox interventions may be easily acceptable within this population.

Regarding patterns of psychoactive substance use, this study found that mild stimulants were the most commonly used psychoactive substances, followed by alcohol and cigarettes. This finding is consistent with studies among commercial drivers in Nigeria, Ghana, and Italy, where stimulants were reported to be commonly used to combat fatigue and sustain alertness during long-distance travel (Bebangnidong et al., 2026; Frumento et al., 2022; Okpataku, 2016). Notably, the predominant psychoactive substances used by respondents were those that are culturally, socially, and legally acceptable within the study region. Therefore, any prevention or intervention programme directed at this population should focus more on socio-culturally acceptable and licit substances, as well as address the occupational need for these substances to cope with the demands of interstate commercial driving.

This study found that the prevalence of alcohol use (31.4%) was lower than that reported in other Nigerian studies, which ranged from approximately 40% to 65% (Akande et al., 2023; Okpataku, 2016). The predominantly Muslim composition of the study population may partly explain this finding, given the religious prohibition of alcohol consumption, which has been shown to influence perceptions and use of alcohol and alcohol-based substances such as Paraga among commercial drivers in Nigeria (Akande et al., 2023; Kehinde & Olusegun, 2012).

Regarding socio-demographic correlates, this study found that educational level was significantly associated with psychoactive substance use in the bivariate analysis, but this association did not persist after adjustment for potential confounders.

The significant effect of educational level at the bivariate level may have been influenced by other related factors, more so that this effect was no longer apparent after adjustment. It is expected that education will independently influence substance use behaviour by improving health literacy, increasing knowledge and awareness, shaping risk perception, and, consequently, promoting healthier behavioural choices, as postulated by the Health Belief Model (Rosenstock, 1974). However, it is possible that drivers with different educational backgrounds are, over time, exposed to similar workplace conditions, occupational

demands, and social environments that encourage substance use, thereby diminishing the independent influence of education on behaviour.

Similarly, this study found that age, income, and family size were not independently associated with psychoactive substance use. While some studies have identified age, educational status, and income as determinants of substance use among commercial drivers (Abreu et al., 2022; Okpataku, 2016), the absence of significant predictors in the adjusted model suggests that psychoactive substance use among interstate commercial drivers may be influenced more strongly by occupational and environmental factors. Long working hours, fatigue, work-related stress, peer influence, and easy access to substances within motor parks may exert greater influence on behaviour than socio-demographic characteristics alone (Aminu, Afolayan, & Esan, 2026). In all, this finding suggests that psychoactive substance use among interstate commercial drivers is influenced by multiple factors and highlights the need for interventions that address workplace conditions and social influences, in addition to individual socio-demographic characteristics.

Strengths and Limitations

The findings of this study provide valuable, context-specific baseline data for a high-risk occupational group in north-central Nigeria. However, these findings must be interpreted in light of certain limitations. The relatively small sample size limits the statistical power of the adjusted regression models. Additionally, the reliance on self-reported data introduces social desirability bias, likely resulting in the underreporting of illicit substance use due to fear of penalisation.

CONCLUSION AND RECOMMENDATIONS

Conclusion: Interstate commercial drivers (ISCDs) in Ilorin demonstrated high awareness of common

psychoactive substances but reported limited knowledge regarding their long-term medical consequences. Mild stimulants such as kola nut and coffee were the most commonly used psychoactive substances, while alcohol, tobacco, and illicit substances were less frequently reported. The predominant use of legally and culturally acceptable mild stimulants most likely serves primarily as an occupational coping mechanism to manage fatigue.

Although educational level was associated with psychoactive substance use at the bivariate level, no socio-demographic factors independently predicted substance use. These findings suggest that psychoactive substance use behaviour among ISCDs may be influenced by more complex factors than socio-demographic characteristics alone.

Recommendations: Road safety and transport union policies should shift from purely punitive measures to comprehensive occupational health strategies. Agencies must prioritise fatigue management by enforcing mandatory rest periods, regulating shift lengths, and improving rest facilities at motor parks.

Furthermore, occupational health education campaigns should move beyond basic awareness to target the specific long-term medical complications associated with sustained stimulant use. This mental health promotional strategy must be integrated within an organizational culture that values employees and supports occupational mental health (Erubu et al., 2026). To build on these findings, future research should employ larger, multi-regional cohorts and incorporate objective biological screening, such as toxicology tests, to mitigate self-reporting bias and provide a more accurate estimate of substance use prevalence.

REFERENCES

- Abreu, Â. M. M., Costa, R. M. F. da, Jomar, R. T., & Portela, L. F. (2022). Factors associated with psychoactive substance use among professional truck drivers. *Revista Brasileira de Enfermagem*, 75(Suppl. 3), e20210187. <https://doi.org/10.1590/0034-7167-2021-0187>
- Adelekan, M. L., Makanjuola, A. B., Ndom, R. J., Fayeye, J. O., Adegoke, A. A., Amusan, O., & Idowu, A. I. (2001). 5-yearly monitoring of trends of substance use among secondary school students in Ilorin, Nigeria, 1988–1998. *West African Journal of Medicine*, 20(1), 28–36. <https://pubmed.ncbi.nlm.nih.gov/11505884/>

- Akande, R. O., Akande, J. O., Babatunde, O. A., Ajayi, A. O., Ajayi, A. A., Ige, R. O., Saliu, A. S., Akande, A., & Olatunji, M. B. (2023). Psychoactive substance abuse among commercial bus drivers in Umuahia, Abia State, South-Eastern Nigeria: An uncontrolled “epidemic” with attendant road traffic crashes. *BMC Public Health*, 23(1), 250. <https://doi.org/10.1186/s12889-023-15039-6>
- Akinloye, A. (2020). Factors of alcohol consumption among commercial motorcyclists in Lagos State, Nigeria. *Lagos Education Review*, 19(1), 283–294. <https://ir.unilag.edu.ng/handle/123456789/11009>
- Aminu, I., Afolayan, J., & Esan, D. T. (2026). Impact of psychoeducation in curbing the menace of substance abuse among commercial drivers in Nigeria. *Journal of Mental Health*, 1–3. <https://doi.org/10.1080/09638237.2026.2672346>
- Bebangnidong, J., Norvivor, F. A., Umar, A., Bautsi, D. A., & Gmayinaam, V. U. (2026). Road safety threats and occupational health risk associated with psychoactive substance use and dependence risk among commercial drivers: WHO ASSIST evidence from Ghana. *BMC Public Health*, 26, 1261. <https://doi.org/10.1186/s12889-026-26972-7>
- Bolarinwa, O. A. (2020). Sample size estimation for health and social science researchers: The principles and considerations for different study designs. *Nigerian Postgraduate Medical Journal*, 27(2), 67–75. https://doi.org/10.4103/npmj.npmj_19_20
- Erubu, S. A., Nguh, M. N., Oluwasanmi, M. M., Amos, F. C., & Buhari, O. I. N. (2026). A two-year descriptive evaluation of World Mental Health Day–aligned education programs in a tertiary hospital in Nigeria. *ABUAD Journal of Biomedical and Clinical Sciences*, 1(1), 16–26. <https://doi.org/10.53982/ajbcs.2026.0101.02-j>
- Frumento, S., Bufano, P., Zaccaro, A., & Poma, A. M. (2022). A systematic review on the role of substance consumption in work-related road traffic crashes reveals the importance of biopsychosocial factors in prevention. *Behavioral Sciences*, 12(2), Article 23. <https://doi.org/10.3390/bs12020023>
- Giroto, E., Andrade, S. M. de, Mesas, A. E., González, A. D., & Guidoni, C. M. (2015). Working conditions and illicit psychoactive substance use among truck drivers in Brazil. *Occupational and Environmental Medicine*, 72(11), 764–769. <https://doi.org/10.1136/oemed-2015-102868>
- Giroto, E., Mesas, A. E., Andrade, S. M. de, & Birolim, M. M. (2014). Psychoactive substance use by truck drivers: A systematic review. *Occupational and Environmental Medicine*, 71(1), 71–76. <https://doi.org/10.1136/oemed-2013-101452>
- Govender, R., Sukhai, A., Roux, D., & Van Niekerk, A. (2021). Driver intoxication and risk for fatal crashes in South Africa: A 3-year review. *South African Medical Journal*, 111(10), 968–973. <https://doi.org/10.7196/SAMJ.2021.v111i10.15057>
- Hels, T., Lyckegaard, A., Simonsen, K. W., Steentoft, A., & Bernhoft, I. M. (2013). Risk of severe driver injury by driving with psychoactive substances. *Accident Analysis & Prevention*, 59, 346–356. <https://doi.org/10.1016/j.aap.2013.06.003>
- Kehinde, O. S., & Olusegun, F. F. (2012). Taking alcohol by deception II: Paraga (alcoholic herbal mixture) use among commercial motor drivers in a south-western Nigerian city. *BMC Research Notes*, 5, 301. <https://doi.org/10.1186/1756-0500-5-301>
- Kiwango, G., Francis, F., Moshiri, C., Möller, J., & Hasselberg, M. (2021). Association between alcohol consumption, marijuana use and road traffic injuries among commercial motorcycle riders: A population-based, case-control study in Dar es Salaam, Tanzania. *Accident Analysis & Prevention*, 160, 106325. <https://doi.org/10.1016/j.aap.2021.106325>
- Lasebikan, V. O., & Ayinde, O. O. (2012). Rapid situation assessments of alcohol and substance use among commercial vehicle drivers in Nigeria. *East African Medical Journal*, 89(11), 363–371. <https://pubmed.ncbi.nlm.nih.gov/26852448/>
- Makanjuola, A. B., Aina, O. F., & Onigbogi, L. (2014). Alcohol and other psychoactive substance use among tanker drivers in Lagos, Nigeria. *European Scientific Journal*, 10(15), 545–559. <https://eujournal.org/index.php/esj/article/view/3480>

- Okpataku, C. I. (2016). Sociodemographic correlates of substance use among long distance commercial vehicle drivers. *Journal of Medicine in the Tropics*, 18(1), 6–11. <https://doi.org/10.4103/2276-7096.176053>
- Osamika, B. E., Adeshina, A., Folorunso, S. O., Osamika, A. E., Ogundipe, E., Tomoloju, B., & Akingbade, R. (2021). Substance use, social support and socio-demographic factors among commercial drivers in Ibadan. *African Journal of Drug and Alcohol Studies*, 20(1), 33–51. <https://doi.org/10.4314/ajdas.v20i1.3>
- Rosenstock, I. M. (1974). Historical origins of the Health Belief Model. *Health Education Monographs*, 2(4), 328–335. <https://doi.org/10.1177/109019817400200403>
- Sangowawa, A. O., & Owoaje, E. T. (2012). Building capacity of drivers in Nigeria to provide first aid for road crash victims. *Injury Prevention*, 18(1), 62–65. <https://doi.org/10.1136/injuryprev-2011-040134>
- United Nations Office on Drugs and Crime. (2023). *World drug report 2023*. <https://www.unodc.org/unodc/en/data-and-analysis/world-drug-report-2023.html>
- World Health Organization. (2024). *Global status report on alcohol and health and treatment of substance use disorders*. World Health Organization. <https://iris.who.int/bitstream/handle/10665/377960/9789240096745-eng.pdf>