



INFLUENCE OF SUBSTANCE USE ON ROAD TRAFFIC VIOLATION AMONG COMMERCIAL MOTORCYCLISTS IN KEFFI, NASARAWA STATE

Nehemiah Bala Audu¹, Amos Gabas Kyuni², Tanko Enuyi¹ and Etim Bassey Nyong¹

¹Department of Public Health, Faculty of Health Sciences, Taraba State University Jalingo.

²Nasarawa State University Keffi.

ABSTRACT

This study examined the influence of substance use on road traffic violation among commercial motorcyclists in Keffi, Nasarawa State. The study adopted a cross-sectional survey research design and data were collected from a randomly selected sample of 92 commercial motorcyclists in Keffi. Data were collected through questionnaires administered to the participants. Two research hypotheses guided the study and these were tested using Pearson product moment correlation and results of the analyses showed that there is a significant positive relationship between substance abuse and road traffic violation among commercial motorcycle riders in Keffi ($r = 0.52, p < .05$) and there is a significant negative relationship between age and road traffic violation among commercial motorcycle riders in Keffi ($r = -.21, p < .05$). The study recommends that relevant government road law enforcement agencies should employ the use of psychoactive substance detectors such as breath analysers and urine drug tests among commercial motorcycle operators to forestall violation of traffic rules and also to safeguard lives of the people.

Keywords: Substance Abuse, Motorcyclists, Road Traffic Violation

*Author for correspondence: Email: balanehemiah91@gmail.com; Tel: +234-814-333-2321

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Introduction

The use of motorcycles as means of transportation in cities and villages across Nigeria has increased over the years. This is occasioned by several factors especially increasing unemployment and economic challenges (Al-Hasan *et al.*, 2015). In Keffi, Nasarawa State, these commercial motorcyclists, known locally as ‘Achaba,’ are the major means of transportation, with over 1,500 riders serving the residents in Keffi metropolis and its environs (Umaru, 2013).

Ajibade and Adefolaju (2017) observed that many commercial motorcyclists consume psychoactive substances like alcohol and marijuana to cope with their job demands. Substance abuse which can be defined as the harmful use of psychoactive substances is linked to various physical, psychological, and social harms, including increased risky behaviours and traffic accidents (Adadu *et al.*, 2012; Okpataku, 2016). This is a significant public health issue globally, with a high rate of substance use reported among commercial motorcyclists affecting road safety (Gudaji & Dankishiya, 2016; Ndikom, 2014).

Substance use among these commercial motorcyclists is driven by factors like the need to stay awake, work long hours, and peer pressure (Degenhardt *et al.*, 2016; Gudaji & Dankishiya, 2016). Common substances include alcohol, tobacco, marijuana, and local stimulants, varying regionally within Nigeria (Gudaji & Habib, 2016; Yunusa *et al.*, 2017). The violation of traffic regulations by commercial motorcyclists, often under the influence of drugs, significantly contributes to road accidents (Obadeji *et al.*, 2020; FRSC, 2012; Sumaila, 2013).

Literature on the influence of substance use on road traffic violations among commercial motorcycle riders consistently points to a troubling relationship between substance use and increased risk of traffic violations and accidents among these riders. Studies from different parts of Nigeria - including Kano, Lagos, Oyo State, and the South-East all highlighted the dangers of substance use among commercial riders (Olaniyi, 2020; Owoaje *et al.*, 2005; Mefoh *et al.*, 2018.) For instance, the work of Gudaji and Dankishiya (2016) in Kano showed a significant association between substance use and both traffic violations and accidents. Similarly, research in Ado-Ekiti and Zaria revealed high rates of accidents among riders who used psychoactive substances (Obadeji *et al.*, 2020; Alti-Muazu & Aliyu, 2008).

The types of substances used by these motorcyclists varied across regions, but alcohol emerged as a common trend. In the South-East, Mefoh and colleagues found alcohol to be the most prevalent substance used by commercial drivers, significantly predicting road rage behaviour. Similar

patterns have been reported in studies conducted abroad. A study in Norway by Jørgenrud *et al.* (2018) further emphasised the link between substance use and road traffic crashes, particularly noting the impact of cannabis use.

In addition to substance use, age is another crucial factor in traffic violations. Younger riders consistently showed a higher propensity for risky behaviours and traffic violations (Yakubu, 2015). This trend is not limited to Nigeria; studies from Taiwan and Malawi echoed these findings, showing that young riders were more likely to engage in risky behaviours and commit traffic offences (Kashona & Pazvakawambwa, 2014; Chang & Yeh, 2007).

In Keffi, motorcycles, primarily ridden by youths, pose significant risks due to their open nature and the riders' propensity for risk-taking, exacerbated by drug abuse (Alti-Muazu & Aliyu, 2008). Road traffic accidents are a major public health issue in Nigeria, with motorcycle accidents being particularly prevalent and severe (Adogu *et al.*, 2009; Ozdemir *et al.*, 2005). Reckless driving and traffic law violations are common among these motorcyclists, often linked to substance use (Gudaji & Dankishiya, 2016; Umaru, 2013). Understanding the effect of psychoactive substance use among commercial motorcyclists is crucial for developing interventions to enhance road safety. Hence, this study was conducted to examine the relationship between substance abuse and road traffic violation among commercial motorcyclists in Keffi.

Materials and Methods

This cross-sectional survey research was conducted among commercial motorcycle operators in Keffi Local Government Area. Due to a lack of association registration, exact numbers of operators are unknown. A convenient sample of 100 male participants, aged 19 to 62, was selected using simple random sampling. Over half (55.4%) were married, 65.2% practised Islam, and nearly half (47.8%) had only primary school education.

Data were collected using a self-structured questionnaire that included demographic information and two measures: the World Health Organization's Alcohol Smoking and Substance Involvement Screening Test (ASSIST) and a modified version of the Chinese Motorcycle Rider Driving Violation Questionnaire (CMRDV).

The Alcohol Smoking and Substance Involvement Screening Test (ASSIST) is a validated structured interview by the World Health Organization (WHO, 2002) that identifies lifetime and current use of substances. It includes eight items covering ten substances: tobacco, alcohol, cannabis, cocaine, amphetamines, inhalants, sedatives, hallucinogens, opioids, and other drugs. Items assess lifetime use, frequency of use in the past three months, and impacts aligned with ICD-10/DSM-IV criteria. The test has shown good reliability, with internal consistency ranging from 0.66 to 0.89, and has been validated in Nigeria with consistency ranging from 0.77 to 0.94 (Onifade *et al.*, 2014).

The Chinese Motorcycle Rider Driving Violation Questionnaire (CMRDV),

developed by Cheng and Ng (2010), is a 19-item questionnaire measuring driving violations among motorcyclists. For this study, an 11-item modified version was used. Respondents indicated the frequency of committing different violations on a 5-point Likert scale. The CMRDV has demonstrated good validity and reliability, with test-retest reliability correlations from 0.729 to 0.891 and Cronbach's alpha for subscales between 0.876 and 0.914 (Cheng & Ng, 2010).

The researcher obtained an introduction letter from the Head of the Department of Psychology, Nasarawa State University Keffi. Permission was sought from the heads of selected motorcycle stands in Keffi, after which the researcher explained the study's purpose to the operators and administered the questionnaires.

Data were analysed using the Statistical Package for the Social Sciences (SPSS). Descriptive statistics summarised demographic characteristics, and Pearson correlation tested relationships between variables.

The research adhered strictly to ethical standards guiding the conduct of psychological research. Participation was voluntary, with informed consent obtained from all participants. They were informed of their right to withdraw at any time. Data were collected anonymously and handled confidentially.

Table 4.1: Demographic Characteristics of the Participants

Variable	Frequency (n)	Percentage (%)
Age		
19-28 years	22	23.9
29-38 years	36	39.1
39-48 years	30	32.6
59 years and above	4	4.3
Marital status		
Single	40	43.5
Married	51	55.4
Divorced/Separated	1	1.1
Religion		
Islam	60	65.2
Christianity	32	34.8
Highest Grade Completed		
Primary School	44	47.8
Secondary School	39	42.4
Polytechnic Diploma/NCE	7	7.6
HND/Degree or Higher	2	2.2

Table 1 shows the socio-demographic profile of the respondents. The current age of the respondents shows that most (39.1% percent) of the respondents were within age 29-38 years, 32.6% were within ages 39-48 years, 23.9% were age 19-28 years while the remaining 4.3% were of age 49 years and above. This result indicates that most of the respondents are young and they are in their productive age. Respondents' marital status revealed that most (55.4%) of them are married, 43.5% were single and 1.1% were divorced. Respondents' religious affiliation shows that most (65.2%) of them were Muslim while Christians constitute the remaining 34.8%. On respondents' educational level, most (47.8) of them have the primary school certificate, 42.4 have completed secondary school, 7.2% National Diploma (ND) or Nigeria Certificate in Education (NCE) while 2.2% Higher National Diploma (HND) or University degrees.

Test of Hypotheses

The study postulated two research hypotheses which are tested in this section.

Hypothesis 1: The first research hypothesis states that there will be a significant relationship between substance abuse and road traffic violation among commercial motorcycle riders in Keffi. The hypothesis was tested using Pearson Product Moment Correlation and the results presented in Table 2.

The summary results of Pearson product moment correlation presented in Table 2 indicates that there is moderate positive correlation between substance abuse and road traffic violation. The result further indicates that the relationship between the two variables is significant ($r = 0.52$, $p < .05$). The stated hypothesis is thus accepted.

Hypothesis 2: The second research hypothesis states that there will be a significant relationship between age and road traffic violation among commercial

motorcycle riders in Keffi. Table 3 shows the result of a test of this hypothesis which

was performed using Pearson Product Moment Correlation.

Table 2: Summary Results of Pearson Product Moment Correlation between Substance Abuse and Road Traffic Violation

Variable	\bar{x}	SD	r	df	P	Remark
Substance Abuse	3.45	2.46	.52	90	0.03	Significant
Road Traffic Violation	17.41	2.00				

Table 3: Summary Results of Pearson Product Moment Correlation between Age and Road Traffic Violation

Variable	\bar{x}	SD	r	df	P	Remark
Age	32.40	8.47	-.21	90	.00	Significant
Road Traffic Violation	17.41	2.00				

Table 3 shows the Pearson product moment correlation results computed to determine the relationship between age and road traffic violation among commercial motorcycle riders. It indicates that there is a weak negative and significant relationship between age and road traffic violation ($r = -.21, p < .05$). Hence, the stated hypothesis was accepted.

Discussion of Findings

This study was carried out to examine the influence of substance abuse on road traffic violation among commercial motorcycle riders in Keffi. This chapter deals with the discussion of the findings of the study, the conclusions drawn from the findings and the limitations of the study. Recommendations are also made based on the findings of the study and suggestions for further research highlighted. In the course of this study, the researcher formulated and tested two hypotheses. These hypotheses were derived from the research questions of the study and the results are discussed below.

The first research hypothesis states that there will be a significant relationship between substance abuse and road traffic violation among commercial motorcycle riders in Keffi. The results of the analyses performed using Pearson Product Moment Correlation showed that substance abuse correlated positively and significantly with road traffic violation. This result suggests that commercial motorcycle riders who abuse substances are more likely to violate road traffic rules and regulations compared to riders who do not abuse substances. This finding agrees with Mefoh *et al* (2018) and Gudaji and Dankishiya (2016) who also found significant association between substance abuse and road traffic violation among commercial road users. Also in agreement with this finding, a similar study carried out by Obadeji *et al* (2020) among motorcyclists in Ekiti State found that motorcyclists with history of alcohol use or those with current use of any substance were significantly more likely to have a history of road traffic accident than those without such history. The link between

substance abuse and road traffic violation may be explained by the impairment caused by these substances which can lead to decreased awareness, slower reaction time, and decreased judgement all of which can lead to an increased risk of road traffic violation.

The second research hypothesis states that there will be a significant relationship between age and road traffic violation among commercial motorcycle riders in Keffi. The analysis performed using Pearson Product Moment Correlation showed that there is a significant negative relationship between age and road traffic violation. The negative relationship suggests that road traffic violation reduces with increase in age. The finding is corroborated by findings from similar works by researchers (Jørgenrud *et al.*, 2018; Yakubu, 2015; Kashona & Pazvakawambwa, 2014). Yakubu (2015) noted that as the age of the commercial motorcyclist increases, the probability of violating road traffic rules such as the one passenger per trip regulation reduces. The decrease in traffic violation with age may be as a result of the fact most younger motorcyclists in Nigeria taught themselves how to ride motorcycles and as such, they lack appropriate driving education or training, but as they grow older they may accumulate their experience via trial-and-error process and tend to overlook the importance of safe riding concepts. This may explain why younger riders tend to violate traffic rules. It is possible that over time, older riders have accumulated riding experience and as such are less prone to traffic violations.

Conclusion

This study has highlighted the influence of substance use among commercial motorcycle operators in Keffi. Based on the findings, the study concludes that substance abuse has significant positive influence on road traffic violation and that younger motorcyclists are more prone to road traffic violation. The study recommends that relevant government road law enforcement agencies should employ the use of psychoactive substance detectors such as breath analysers and urine drug tests among commercial motorcycle operators to forestall violation of traffic rules and also to safeguard lives of the people. Also, it may be helpful to consider providing incentives for motorcycle operators who do not use psychoactive substances. This may help them sustain their abstinence state and perhaps encourage others to consider not to use psychoactive substances. Lastly, it is recommended that Government at all levels (federal, state and local) should intensify campaign through print and electronic media as well as by organising seminar and workshop for motorcyclists and other commercial road transport workers not only in the study area but also in Nigeria generally, on the risks (social, psychological and health) of psychoactive substance usage.

REFERENCES

- Adadu, P.M.A., Akpama, E.G & Ekanem, R.S. (2012). The challenges of socio-psychological factors as correlates of adolescent students' cigarette smoking in Cross River, Nigeria, *African Research Review: An International Multidisciplinary Journal*, 6(1),393-401,
- Adogu P.O.U., Illika A.L., & Asuzu A.L., (2009). Predictors of Road Traffic

- Accidents, Road Traffic Injury and death among commercial motorcyclists in an Urban Area of Nigeria. *Nigerian Journal of Medicine*, 18 (4), 393-397.
- Ajibade, D., & Adefolaju, T. (2017). Rationale and implications of psychoactive substances use among commercial road transport workers in Lokoja, Nigeria. *Mediterranean Journal of Social Sciences*, 8(5), 143-157.
- Al-Hasan, A. Z., Momoh, S., & Eboeime, L. (2015). Urban poverty and informal motorcycle transport services in a Nigerian intermediate settlement: A synthesis of operative motives and satisfaction. *Urban, Planning and Transport Research*, 3(1), 1–18.
- Alti-Muazu, M., & Aliyu A.A., (2008). Prevalence of psychoactive substance use among commercial motorcyclists and its health and social consequences in Zaria, Nigeria. *Annals of African medicine*, 7, 67-71.
- Chang, H., & Yeh, T. (2010). Motorcyclist accident involvement by age, gender, and risky behaviours in Taipei, Taiwan. *Transportation research part F: traffic psychology and behaviour*, 10(2), 109-122.
- Cheng, A.S., & Ng, T.C. (2010). Development of a Chinese Motorcycle Rider Driving Violation Questionnaire. *Accident Analysis and Prevention*, 42, 1250–1256.
- Degenhardt, L., Stockings, E., Strang, J., Marsden, J., & Hall, W. D. (2016). Illicit Drug Dependence. V. Patel, D. Chisholm, T. Dua, R. Laxminarayan, & M. E. Medina-Mora (Eds.), *Mental, Neurological, and Substance Use Disorders: Disease Control Priorities, Third Edition (Volume 4)*. The International Bank for Reconstruction and Development / The World Bank.
- Federal Road Safety Corps (2012). Operational Guidelines.
- Gudaji, M. I., & Dankishiya, F. (2016). Relationship between road traffic law violation, accident and psychoactive substance use among commercial motorcycle operators in Kano, Northwestern Nigeria. *International Journal of Medicine and Science*, 8(2), 15–21.
- Gudaji, M. I., & Habib, Z. G. (2016). Prevalence of psychoactive substance use among registered commercial motorcycle operators in Kano, North Western Nigeria: A community study. *International Journal of Medicine and Science*, 8(10), 105–111.
- Jørgenrud, B., Bogstrand, S. T., Furuhaugen, H., Jamt, R., Vindenes, V., & Gjerde, H. (2018). Association between speeding and use of alcohol and medicinal and illegal drugs and involvement in road traffic crashes among motor vehicle drivers. *Traffic injury prevention*, 19(8), 779–785.
- Kashona, P., & Pazvakawambwa, L. (2014). Statistical analysis of traffic offences around the city of Windhoek: A management perspective. *Journal of Economics and International Business Management*, 2(2), 36-41.
- Mefoh, P.C., Ugwu, J.I., & Eze, T.E. (2018) Psychoactive substance use as a predictor of road rage behaviour in a sample of commercial drivers in Enugu, South-Eastern Nigeria. *African Journal of Drug & Alcohol Studies*, 17(2),
- Ndikom, C. (2014). Substance Use and Perceived Consequences on Health

- and Safety among Commercial Motorcyclists in Ibadan North Local Government, Ibadan, Nigeria. *International Journal of Tropical Disease & Health*, 4(5), 555–567.
- Obadeji, A., Kumolalo, B.F., Bamidele, J.O., & Olasehinde, T.F. (2020). Road traffic accidents among commercial motorcyclists: Relationship with substance use and psychosocial factors. *Social Health and Behavior*, 3:43-9.
- Olaniyi, D.T. (2020). Substance abuse and criminal behaviours among commercial vehicle drivers in Lagos state. *Forensic Research and Criminology International Journal*, 8(1):42–50.
- Onifade, P.O., Bello, A.O., Abiodun, O., Sotunsa, J.O., & Ladipo, O.A. (2014) Psychometric Properties of Alcohol Smoking and Substance Involvement Screening Test (Assist V3.0) Among University Students. *Journal of Addiction Behaviour, Therapy and Rehabilitation* 3:3.
- Owoaje E.T., Amoran O.E., & Osemeikhain O.E. (2005). Incidence of road traffic accidents and pattern of injury among commercial motorcyclists in a rural community in south western Nigeria. *Journal of community medicine and primary health care*, 17, 7 – 12.
- Ozdemir C., Ozel E.T., & Dogan Y.B. (2005). Investigation of Alcohol Use disorders in a group of driving-while-intoxicated offenders. *Annals of Emergency Medicine*, 40(6), 529-536.
- Sumaila, A.F. (2013). Road crashes trends and safety management in Nigeria. *Journal of Geography and Regional Planning*, 6(3): 53-62.
- Umaru, I.G. (2013). Commercial motorcycle activity, value creation and the environment in the developing world: The case of Nasarawa State, Nigeria. *International Journal of Social Science Research*, 1(1), 122-139.
- WHO ASSIST Working Group. (2002). The Alcohol, Smoking and Substance Involvement Screening Test (ASSIST): Development, reliability and feasibility. *Addiction (Abingdon, England)*, 97(9), 1183–1194.
- Yakubu, A.T. (2015). Determinants of passenger capacity compliance among commercial motorcyclists in Kwara State Nigeria. *The Nigerian Journal of Economic and Social and Social Studies*, 57(1), 171-181.
- Yunusa, U., Bello, U. L., Idris, M., Haddad, M. M., & Adamu, D. (2017). Determinants of Substance Abuse among Commercial Bus Drivers in Kano Metropolis, Kano State, Nigeria. *American Journal of Nursing Science*, 6(2), 125–130.