Psycho-active substance use and age as factors in reckless driving among Tri-Motorcycle riders in a Nigerian sample

[1]Ronald C.N. Oginyi, [1]Ofoke S.Mbam, [2]Joseph N. Edeh and[1]Chibugo M. Oketa

[1]Department of Psychology and Sociological Studies, [2]Department of Public Administration
[1-2]Ebonyi State University, Abakaliki, Nigeria
Jovitaogenyi@gmail.com, oky9992000, oky999@yahoo.com

Abstract

Background/Objectives: This research investigatedpsycho-active substance use and age as factors in reckless driving among tri-motorcycle riders in a Nigerian sample.

Methods/Statistical analysis: The non-experimental research was conducted on a sample of 2526 Tri-motorcycle riders, aged between 18 and 50 years, with a mean age of 34.64years, using psycho-active substance use questionnaire and reckless driving scale. The stated hypotheses were tested using multiple regression analysis. The multiple regression statistical analysis revealed positive prediction of psycho-active substance use and reckless driving with respect to age oftri-motorcycle riders, R = 0.564, R^2 = 0.319, Adjusted R^2 = 0.295; F (1, 2524) =12.40, P < 0.001.

Findings: Indicated that psycho-active substance use and age predicted reckless driving among tri-motorcycle riders in a Nigerian sample. It was concluded that psycho-active substance use and age might be involved in some of the reckless driving behavior associated to tri-motorcycle riders.The paper offers practical suggestions to the ministry of works and transportation, road users and management in general on how to minimize the negative psycho-active substance use and age effects arising from reckless driving/behavior.

Improvements/Applications: Increase public awareness of the potential effect of psycho-active substance use and establishing education program against psychoactive substance specially among the, youths, adults and adolescents.

Keywords: Psycho-active substances, usage, reckless driving and tri-motorcycle riders.

1. Introduction

There is no gainsaying that majority of road accidents that occur in our country, Nigeria, is as a result of high psycho-active substance intake by the road users such as Keke riders(tri-motorcycle), motor vehicle drivers, and motorcyclist's riders.According to global estimates, road accident is the second main cause of death in the world and 1.3 million people die on the roads annually [1]. Findings of some recent meta-analyses showed that human factors, including driving skills and driver's styles have a very important role in predicting road accidents.In [2]reckless driving is a major contributory factor to road morbidity and mortality [3]. Reckless driving defined as wanton disregard of traffic laws which poses a threat to traffic safety, is a significant social and public health problem in worldwide[4]. Reckless driving is often defined as a mental state in which the driver displays a wanton disregard for the rules of the road; the driver misjudges common driving procedures, often causing accidents and other damages[1]. Tri-motorcycle, motorcycle and motor vehicle crashes are the leading cause of death of people under the age of 35, and psycho-active substance use is involved in more than one-half of these fatal crashes [5]. Researchers have noted that the most important aspect of the human factor are the age of the motorcyclist, medical fitness of the motorcyclist, alcoholic consumption pattern, fatigue, mental status and educational level [6] . Every year, many people worldwide are killed or severely injured in motor vehicle driving, and motorcyclist's riding accidents [7].Driver's negligence is another major factor to accidents and these include reckless driving, wrong/dangerous overtaking and disrespect for traffic light. Such victims may have had alcohol consumption as an underlying factor [8]reported that motorcycle-related crashes accounted for the majority of

injuries and death from RTAs, contributing factors includes alcoholic consumption, invalid driver's license, inexperience and age of the drivers, as they were found to be a common characteristics in motorcycle accidents than in accidents by other vehicles.

Another important variable that was implicated in this study is psycho-active substances use. Psycho-active substance refers to as chemicals that affect human nervous system and as a result, may alter consciousness and awareness of human brain and also influence how people sense or perceive, behavior modification, feelings, emotions and thoughts of people. Also, psycho-active substance are group of chemicals that act on the central nervous system and can modify or change behavior cognition of human, psycho-active substance change synaptic transmission by modifying neurotransmitter amounts and availability or by affecting receptor activity.In [9,10] viewed psychoactive substance as drugs that can alter the consciousness, mood and thoughts of users (eg. substances include: tobacco, alcohol, cannabis, amphetamines, cocaine and heroin).[11] classified psycho-active substances into six categories which include: alcohol, cannabis, amphetamine, heroin, cocaine and tobacco. Epidemiological studies from multiple nations indicate that the strongest determinant of traffic-related deaths, injuries, and economic costs is reckless driving particularly driving while under the influence of alcohol [12].

An important factor in reckless driving is alcohol and drug use. According to [13] found that out of 37,261 individuals who were killed in traffic crashes in 2008, 32% (about 12,000) died as a result of alcohol impairment with blood alcohol concentration exceeding .08% [14]. Alcohol-related motor vehicle accidents accounted for 22% of total economic costs due to motor vehicle accidents and 46% of fatality-related costs [2]. Illicit drug use is involved in 5-25% of motor vehicle accidents; the most commonly detected drugs in impaired drivers were cannabis, followed by benzodiazepines, cocaine and other stimulants, and opioids [15].In [16]investigated, the factors influencing high rate of commercial motorcycle accidents in Nigeria using 450 commercial motorcycle riders. Result showed that demographic information has significant influence on the causes of road accidents among commercial motorcycle riders in Nigeria. Result also indicated significant increase rate of commercial motorcycle accidents due to over speeding, wrong overtaking, bad roads, sudden mechanical defects, alcoholic intake etc. [4] examined the socio-demographic, behavioral, psychiatric, and substance use correlates of three forms of reckless driving using a nationally representative sample of U.S. adults. Reckless driving was significantly associated with male gender, lower levels of income and numerous forms of antisocial behavior. Result also revealed significant effects with respect to substance use disorders across groups of reckless drivers with those having their licenses revoked or suspended being particularly more likely to be diagnosed with. Result also indicated that three of the reckless driving groups were more likely to have a family history of antisocial behavior than non-reckless drivers.Many studies have focused on the relationship between psycho-active substance use and driving behavior; alcoholic[17]-[20] Tobacco. These substances are commonly introduced into the body by drinking, smoking, snorting, eating, skin pumping, main-lining and can cause reckless behavior among drivers.The relationship between psycho-active substance and reckless driving is controversial. Studies have reported increased risk of reckless driving, injuries and crash as associated withthis psychoactive substance [21],[22].

Among demographic factors, age is another negative predictor of risky driving behavior. It has been well established by studies and accident databases from various countries that young novice drivers are more frequently involved in traffic accidents than drivers in other age groups [4].In general, a variety of factors, such as inadequate skills and/or a greater propensity to assume more risk, have frequently been indicated as the main causes of accidents in this age group [23].Some studies found that young male drivers are more involved in road accidents [9], aggressive driving [8], and violation of traffic and road laws [7].Examined gender and age differences among teen drivers in fatal crashes and found that gender differences in road safety attitudes such as negative attitude toward traffic rules, risky driving and negative attitude toward drugs and alcohol and tolerance toward speeding. Their results indicate that the level of risk perception during driving is the same for males and females. However, these two groups differed in the level of concern about this risk, with males being less concerned about the risk of a road accident. This suggests that difference between these two groups is not strictly related to judgment to the perceived risk probability but rather to the level of concern experienced about the consequences of the risk.In[24] examined age and gender differences in risky driving: The roles of

positive affect and risk perception, using phone survey of 504 teen (age 16–20) and 409 adult (age 25–45) drivers in the US state of Alabama. Results indicated that male drivers reported engaging in risky driving behavior more frequently than female drivers and teen drivers reported engaging in risky driving behaviors more frequently than adult drivers.Result also revealed that age and gender influenced risky driving behavior. Interactions of positive effect and perceived risk with gender and age showed that positive effect strongly predicted risky driving for teens and male drivers than for adult and female drivers.

In this study, the researchers made use of the following theories to guide the research study. The driving constructs theory of reckless driving [25] stated that people anticipate events by the meaning of interpretation they place on those events.In risk compensation theory of reckless driving by [26] suggests that people typically adjust their behavior in response to the perceived level of risk, becoming more careful where less careful if they feel more protected. In the same vein, risk homeostasis theory of reckless driving posits that people maximize their benefit by comparing the expected costs and the benefit of safer and riskier behaviour and which introduced the idea of the target level of risk. On the other hand, dosage, set and shifting theory of psychoactive substance[27] emphasizes on the fact that the effect of substance depend the chemical, pharmacological, psychological and physical or environmental influences. In contrast, psychological theory of psychoactive substance[28] maintains that actual consumption of alcohol is not what leads to relapse rather, the individual's interpretation of the act of drunken as a sign of loss of self-control. Socio-cultural theory of psychoactive substance propose that stress in the family, community and culture are factors that when combined with genetic vulnerability lead the individual to develop alcohol dependence which might lead to reckless driving. Moreover, psycho-dynamic theory of psychoactive substance posit that people who take excessive substance have inordinate dependent needs traceable to their early years and also states earlier fixation lead to maladaptive. Finally, alcohol myopia theory of psycho-active substance [29] maintained that people respond almost exclusively to their immediate environment and that their near sightedness limited their ability to consider future consequences of their actions as well as regulate their active impulse.Reckless driving among tri-motorcycle riders, motor vehicle drivers or motorcyclists' riders in our society today have created a lot of psychological and governmental problems or issues such as high death rate, loss of property and human displacement (internal and external displacement). As a result of the above issues, the study tends to investigate psycho-active substance use and age as factors in reckless driving among tri-motorcycle riders in a Nigerian sample.

2. Statement of problem

Psycho-active substance is becoming a serious ongoing public health issue globally. It has devastating consequences for a person, a family and a community and the society at large. It gives rise to various health effects, ranging from mental and physical injuries, reckless driving, digestive problem or respiratory infections, to potentially fatal diseases, like HIV/AIDS and hepatitis, school failure or poor academic performance, economic loss and poverty, loss of productivity, violence and aggression [25]. The negative consequences of using psychoactive drugs can be well illustrated in terms of psychological, social and health effects. Since the used psychoactive drugs induces changes in behavior and emotional status, it could cause severe psychological problems such as, loss of attention, memory and judgment, delusions, hallucinations, anxiety, and psychosis. The physical or health impacts also include loss of appetite, vitamin deficiencies, stomach ailments, skin problems, sleeplessness, tremor, sexual impotence, liver damage, heart and lung failure, respiratory failure, comma, and brain seizures. Drug abuse also undermines the social fabric of the community. Road accidents, relationship problems, rape, robbery, loss of employment, academic problems, reckless driving, assault, and homicide, are among the accompanied social impacts of drug abuse.

A significant proportion of drivers' abuse alcohol, chat/ khat, tobacco/cigarettes, cocaine, heroin, amphetamine and cannabis.This culture of psycho-active substance and other drug abuse threatens not only the present well-being of drivers, but also the future capacity of our nation to maintain its leadership in the fiercely competitive global economy, if this problem is left unstudied. Even if substance use has become a common

problem among young and old people, male and female drivers in Nigeria, only scanty information is available on the magnitude of psych-active substance and ageon reckless driving among tri-motorcycle riders in Ebonyi State. Furthermore, psycho-active substance and age as factors in reckless driving among tri-motorcycle riders in the past has not been well explored in this segment of the population in Ebonyi State,Nigeria. Therefore, the aim of this study is to assess psycho-active substance and ageas factors in reckless driving among tri-motorcycle riders. To this end, it seeks to answer the following basic questions:

1. Will there be any significant relationship between psycho-active substanceuseand reckless driving amongtri-motorcycle riders?
2. Will there be any significant relationship between age and reckless driving amongtri-motorcycle riders?

3. Objectives of study

The present study sought to fill in the gap in the literature on reckless driving by examining psycho-active substance use and age as factors in reckless driving among tri-motorcycle riders in a Nigerian sample. The primary aims were to:(1) comparing psycho-active substance use variables: alcohol, nicotine, cocaine, Manjuana, heroin and amphetamine on reckless driving among tri-motorcycle riders, and (2) to ascertain age differences on reckless drivingamong tri-motorcycle riders. Two hypotheses were tested: (1)Psycho-active substance use will significantly predict reckless driving among tri-motorcycle riders, and (2) age will significantly predict reckless driving among tri-motorcycle riders.

4. Method

The total sample (n = 2526) consisted of male participants and were all tri-motorcycle riders. The age of the participants ranged from 18 and 50 years, with a mean age of 34. The sample consisted of maletri-motorcycle riders, since there were no female riders as the period of the research conduct. All subjects volunteered to take part in the study.

5. Instruments

The participants completed the 12-item Psycho-active Substance Abuse Questionnaire [19], which contains measures alcohol, cannabis, tobacco, cocaine, heroin, and amphetamine. It assesses frequency of use of psychoactive substance on a 5 point likert scale format ranging from, 1 = never used it, 2 = have not used it more than two times, 3 = used it less than three times in one week, 4 = uses it more than three times in one week, and 5 = used it frequently in the past but has stopped. The questionnaire also includes items that elicit data on gender, age, locality and educational qualifications. The instruments has content validity, and test-retest reliability index of r =0. 61. Driver Behaviour Questionnaire, which contains four Lapses, errors, ordinary and aggressive violations.

This is a 21-item measure scored in 7-point Likert-type scale item are rated with 7-point Likert-type scale, in which 1=never, 2=very infrequently, 3=infrequently, 4= sometimes, 5=frequently, 6=very frequently, and 7=always.The internal consistency of these subscales was estimated between 0.77 and 0.86. Also, findings of test-retest reliability of DBQ ranged from 0.61 to 0.89.A pilot study test of the questionnaire was conducted using 1327 participants who were randomly selected from Enugu Metropolis, Enugu Nigeria. The pilot study was also aimed at identifying items in the questionnaire that may be ambiguous and also identify logistic issues that might constitute serious challenges to the main study.The test yielded a cronbach's alpha reliability coefficient of .87 was obtained.This high coefficient was interpreted to mean that the scale were reliable to measure reckless driving among tri-motorcycle riders in a Nigerian samples respectively.

6. Procedure

The two questionnaires were administered on two hundred and five hundred and twenty six (2526) tri-motorcycle riders selected from six (6) tri-motorcyclejunctions in Abakaliki metropolis of Ebonyi State, Nigeria during tri-motorcycle union meeting with the aid of the researcher's assistants. Of 2537 copies of the questionnaire distributed and returned, 11 were discarded because they were incompletely filled, leaving a total of 2526copies of the two questionnaires that were properly completed for the data analysis. All the respondents volunteered to participate, and they were not compensated for taking part in the study.

7. Design and statistics

The design of the study was cross-sectional survey design. Multiple regression analysis was employed to test the postulated hypotheses.

8. Results

Table 1. Showed the Mean and Standard Deviation of Psychoactive Substance Use and Age as Factors in Reckless Driving among Tri-motorcycle Riders

Variables	X	SD	N
Reckless driving	52.71	16.10	2526
Igbo/Cannabis/Weed	.020	.275	2526
Alcohol	.680	1.505	2526
Cocaine	.200	.872	2526
Tobacco/Cigarette	.190	.850	2526
Heroine	.040	.388	2526
Amphetamine	.080	.546	2526
Multiple Drug Users	1.810	1.996	2526
Non-users	.012	0.02	2526
Age	32.67	5.21	2526

Results from Table 1 above indicated that multiple drug users had the highest mean score of (M= 1.810) and followed by Alcohol with mean score of (0.680), while other psychoactive substance had lower mean score such as Cocaine(0.20), Tobacco/Cigarette(0.19),Igbo/Cannabis/Weed(0.02),Heroine(0.04),Amphetamine(0.10),Non users(0.01).The result also indicated that the age had high mean score of 32.67.The results of the multiple regression in Table 2 indicates that psychoactive use explained 31.9% of the variance F (1, 2524) = 12.40, P<0.001, R^2 = .319, R^2 adjusted = .295). The analysis further revealed that the use of Igbo/Cannabis/Weed(Beta = .021, t (2524) = .356), Tobacco/Cigarette(Beta = .046, t (2524) = .0761)and Non-User(Beta = .403, t (2524) = 5.340)did not significantly predict reckless driving and respectively, in contrast to the use of the other drugs like Alcohol(Beta = .319, t (2524) = .4.744), Cocaine(Beta = .281, t (2524) = 4.568), Heroine: (Beta = .177, t (2524) = 3.017), Amphetamine: (Beta = .163, t (2524) = .2.780), Multiple Drug Users: (Beta = .640, t (2524) = 9.084) which

all significantly predicted reckless driving among tri-motorcycle riders.It was also found that participants who used more than one psychoactive substance were more prone to reckless driving(X = 1.81). The results also indicated that age is a significant predictor of reckless driving among tri-motorcycle riders,(Beta = .403, t (2524) = 5.340).

Table 2. Shows the Multiple Regression Analysis for Psychoactive Substance Use and Age as Factors in Reckless Driving among Tri-motorcycle Riders

Variables	Beta	t	Sign. Level
Igbo/Cannabis/Weed	.021	0.356	.722
Alcohol	.319	4.744	.000
Cocaine	.281	4.568	.000
Tobacco/Cigarette	.046	0.761	.448
Heroine	.177	3.017	.003
Amphetamine	.163	2.780	.006
Multiple Drug Users	.640	9.084	.000
Non-User	.010	0.204	.601
Age	.403	5.340	.000

R=0.564, R^2 =0.319, Adjusted R^2= 0.295; F (1,2524) =12.40, P<0.001

9. Discussion of findings

The aim of this study was to investigate psycho-active substance use and age as factors in reckless driving among tri-motorcycle riders in a Nigerian sample. However, the result of the study raises some points asfood for thought. It was found that psycho-active substance users predicted reckless driving among tri-motorcycle riders.In other words, participants who used more than one psycho-active substance were more prone to driving recklessly. This study is consistent with the work of, in his study investigated on road to reckless driving, and found that alcoholism leads to reckless driving. In the same vein, examined acute cannabis consumption and motor vehicle collision and found that drivers who consume cannabis within period of driving are nearly twice as likely to cause a vehicle collision as those who are not under the influence of drugs. Other researchers supported this finding that psycho-active substance use predicts reckless driving among tri-motorcycle riders. However, this work also supports the alcohol myopia theory which maintained that psycho-active substance users respond almost exclusively to their immediate environment and that their near sightedness limits their ability to consider future consequences of their actions as well as regulate their active impulse.

Indeed, psycho-active substance leads to reckless driving because it affects human nervous system which consequently may alter consciousness and awareness of human brain and also influence how people sense, perceive, react, even their thought and its high intake as many users do in order to experience intense pleasured alertness, relaxation, surge of energy, modification of mood, perception, cognition and even to enhance the growth of muscles beyond natural capacity encourage deviant behavior especially as observes among tri-motorcycle riders, motor drivers and motorcycle in our metropolis. On the other hand, participants who did not use any psycho-active substance were least prone to reckless driving. The result also revealed that age is a factor of reckless driving among tri-motorcycle riders. This result is in agreement with the study of who examined the

relationships between drivers' age, gender, and the crash types, as well as other crash characteristics (e.g., not wearing a seatbelt, weather condition, and fatigued driving), on the crash related health care costs. Results suggest that older drivers have higher health care costs than younger drivers and male drivers tend to have higher health care costs than female drivers in the same age group. Overall, single vehicle crashes had the highest health care costs for all drivers. For males older than 64-years old sideswipe crashes are as costly as single vehicle crashes. Other researchers who supported this founding are.By and large, since psycho-active substance use young age is positively correlated to reckless driving.This study thereby suggests that psycho-active substance use and young age driving should be avoided especially when driving.

10. Implications of the study

One of the major implicationsof this study is that psychoactive substance users and young age drivers should be made to know the psychological implication of reckless driving. Findings from this work also show that clinical psychologists should be made to work with road safety corps so that those that are prone to driving recklessly as a result of being addicted to psycho-active substance, age factor and other psychological issues can be corrected. More to this, a law against taking psycho-active substance use, young drivers on driving should be adequately enforced;also driversand riders should be sensitized on the adverse effects of psycho-active substance use. Finally, the present study will also serve as an empirical study for future researchers.

11. Limitations of the study

This study did have significant limitations. Due to the cross sectional nature of the study, causal relationships may not be necessarily inferred, the use of self-administered questionnaire may not be good enough to disclose information from the participants with full honesty concerning topics related to personal issues like psychoactive substance, and the study was also restricted to include small sample size (only tri-motorcycle ridersin Abakaliki metropolis) which it may affect the generalizability of findings across the country and other countries as well.Also, participants were somewhat hard to get because they were always in haste even in their parking lots.

12. Suggestions for further studies

Similar studies from other researchers should be carried out in a larger scope to enhance more efficient external validity and generalizability of results. More so, sample size should also be expanded. There is also need for future researchers to consider other variables like gender,personality type, locus of control and self-efficacy in relation to reckless driving.

13. Conclusion and recommendations

The researchers recommended that tri-motorcycle riders misuse psychoactive substance use and need serious attention. Therefore; based on the conclusions the following recommendations were proffered.(1) Increase public awareness of the potential effect of psycho-active substance use and establishing education program against psychoactive substance specially among the, youths, adults and adolescents. (2) Chain of controlling of psycho-active substances should be extended up to grass root level and regulations concerning psycho-active substances use should be set up by the legislative bodies of government.(3) Further researches on substance use should be done on large sample, using different research design, investigating other contributory factors, in order to better address the problem of psycho-active substance use among riders and drivers generally in our country.

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