

Psycho-Active Substances Use as a Predictor of Reckless Driving Among Keke Riders in Ebonyi State, South Eastern, Nigeria.

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Abstract

The study examined psycho-active substances use as determinants of reckless driving among keke riders in Ebonyi State, South Eastern Nigeria. The participants were 211 males selected through purposive sampling technique, whose ages ranged from 18-50 years, with a mean age of 34.20years. Psycho-active substance abuse questionnaire developed by Eze (2006) was used to measure participants psycho-active substance use and reckless driving scale (RSS) developed by the researcher was used to measure reckless driving of participants. The stated hypotheses were tested using multiple regression analysis. The results revealed that there was relationship between psychoactive substance use and reckless driving among Keke riders ($F(1, 204) = 13.626$ $P < 0.001$, $R^2 = .319$, $R^2 \text{ adjusted} = .295$). It was concluded that psychoactive substance might be involved in some of the reckless driving habit or behaviour linked to keke riders.

Keywords: *Psycho-active substances use, reckless driving, keke riders.*

There is no gain saying that majority of road accidents that occur in Nigeria is as a result of high psycho-active substance intake by the road users such as Keke riders, motor vehicle drivers, and motorcyclists riders (Okada) (Mustapha & Faisal, 2016; Alti-Mu'azu & Aliyu, 2008; Ozdemir, Ozel, & Dogan, 2005). This results to a lot of problems such as high death rate, mental problem, physical dysfunctioning, reckless driving, aggressive driving and dangerous driving and loss of properties. Max (2013) defines reckless driving as driving behaviour that knowingly or unknowingly endangers others or oneself, and falls more in line with the legal misdemeanor offenses of reckless driving. Recklessness is disregard for or indifference to the dangers of a situation or the consequences of one's actions as in deciding to act without stopping to think beforehand. He also classified four driving styles as defined by the Multidimensional Driving Style Inventory (MDSI) which includes: reckless and careless driving style, anxious driving style, angry and hostility driving style and patient and careful driving style.

Also, reckless driving is also seen as the operation of an automobile in a dangerous manner under the circumstances including speeding (or going too fast for the conditions even though within the recommend limit). James (1999) defines reckless driving as a criminal offense of operating a vehicle in a manner that shows conscious indifference to the safety of others. He describes reckless as behaviour characterized by the creation of a substantial and unjustifiable risk of harm to others and by a conscious (some time deliberate) disregard for or indifference to that risk. This behaviour could be considered headless or rash. Reckless conduct

is much more than mere negligence. It is a gross deviation from what a reasonable person would do.

Finally, he considered recklessness to be conduct whereby the actor does not desire a harmful but nonetheless foresees the possibility and consciously takes the risks. He also stated that recklessness is the state of mind in which a person does not care about the consequences of his or her actions which is influenced by psycho-active substance. Florida (2014) view reckless driving as anybody who drives any form of vehicle in a willful or unwanted manner without due regard for the safety of person's or property. Mohammed, Imran, Bilal and Junaid (2012) define reckless driving as socially unacceptable behaviour with the potential for negative consequences without precautions taken during the acts of driving.

Another important variable in this study is psycho-active substances use. Accordingly, Plotnik and Kouyoumdjian (2008) define psycho-active substance 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, behaviour 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 behaviour cognition of human, psycho-active substance change synaptic transmission by modifying neurotransmitter amounts and availability or by affecting receptor activity. Carson, Butcher & Mineka (2000) define psycho-active substance as those substances that affect mental functioning of people. Such psycho-active substance include: alcohol, nicotine, cocaine, Manjuana, heroin and amphetamine.

According to John (2006) psychoactive substances modify tissue functioning when taken into the body and therefore are normally used to restore disrupted tissue functioning. Substances may be abused in order to experience intense pleasure increased alertness, relaxation, surge of energy, modification of mood, perception, cognition and even to enhance the growth of muscles beyond natural capacity, hence encourage/enhance abnormal behaviour among users especially as observed among Keke riders, motor drivers and motorcycle riders.

Richard and Susan (2009) define psycho-active substance as a chemical that alters a person's mood or behaviour when it is smoked, injected, drunk, inhaled, snorted or swallowed in a pill form. Morris and Chapman (2015) define psychoactive substance as drugs that can alter the consciousness, mood and thoughts of users. Examples of such substances include: tobacco, alcohol, cannabis, amphetamines, cocaine and heroin. Charles (2015) defined psychoactive substances as chemical substances that act primarily upon the central nervous system where it alters brain function, resulting in temporary changes in perception, mood, consciousness and behaviour. Voyer (2004) defines psycho-active substances as substances that act directly on the central nervous system affecting mood, cognition and behaviour. Irwin and Barbara (2005) define psycho-active substances as drugs that affect thoughts, emotion and behaviour.

Vetulani (2001) classified psycho-active substances into six categories which include: alcohol, cannabis, amphetamine, heroin, cocaine and tobacco. Ofoke and Nweke (2011) define alcohol as colourless liquid consisting of ethanol. It is made up of two major forms, ethanol (ethyl alcohol) and methanol (methyl alcohol). Alcohol can as well be referred to a colourless liquid possessing inflammable water-soluble molecule of the two forms, ethyl alcohol which is edible can be available as palm wine, beer, stout and local and imported varieties or spirit and wines. Bouza, Richard and Susan (2009) view cannabis as a tobacco-like greenish or brownish material made up of dried flowering tops and leaves of the cannabis (hemp) plant. Cannabis has three varieties which include: cannabis ruderalis, cannabis indicia and cannabis sativa. Avois, Robinson and Saugy (2013) observe that cocaine is a bitter, addictive pain blocker that is extracted from the leaves of erythroxy ion coca, also known as the coca scrub.

Amphetamines are a group of synthetic psycho-active substance called Central Nervous System (CNS) stimulants. The collective group of amphetamines includes amphetamine, dextroamphetamine, and methamphetamine (Brand, Sproule, & Marshman; 1998). Heroin is a substance made from morphine which is extracted from the opium poppy (Marlow, 1999). Tobacco is a plant whose brown-coloured leaves are cured and dried (Avoise, Robinson & Saugy; 2013). These substances are commonly introduced into the body by smoking, snorting, eating, skin pumping, and main-lining. The other mode of administration is through, the hypodermic injection. Skin pumping refers to injecting the drug beneath the skin; main lining refers to injecting the drug into the blood stream. These substances could also be administered by applying directly to the muscles lining of the mouth, rectum or regina, example cocaine. The relationship between psycho-active substance and reckless driving is controversial. Studies have reported increased risk of reckless driving, injuries and crash as associated with psychoactive substance (Lasebikan, 2010). Studies show that the effects of psychoactive substances on the brain could lead to emotional instability, poor impulse control and poor intellectual functioning among drivers (Makanjuola, Oyeleke & Akande (2007).

Mustapha and Faisal (2016) in their study on relationship between psycho-active substance use and road traffic violations reported frequent accidents among motorcycle operators in Kano, Northwestern Nigeria. A total of three hundred and ninety-four subjects participated in the study. The results showed that motorcycle operators who used psycho-active substances were more likely to violate traffic laws and to have road traffic accidents compared to those who did not use substances. Results also revealed that there were positive correlation between road traffic violations, road traffic accidents and substance use status at 99% confidence interval. The results indicated that there was also significant relationship between specific substance use, road traffic violations and accidents. Also, psycho-active substance use increases the risk of road traffic violations and road traffic accidents among motorcycle operators.

Makanjuola, Aina and Onigbogi (2014) carried out a study on alcohol and other psycho-active substance use among tanker drivers in Lagos, Nigeria. A total of 550 tanker drivers were selected through a cross sectional weighted proportionate simple random sampling. The respondents were interviewed using the modified version of the WHO student drug survey questionnaire. The results showed a relatively high level of information and knowledge concerning the presence, availability and use of alcohol, tobacco, caffeine and cannabis. Lifetime use prevalence of alcohol was 71.6%, tobacco 69.8% and caffeine 50.9%, while the current use prevalence of alcohol was 57.6%. Predictive factors for current drug use were presence of multiple sex partners and previous involvement in road traffic accidents. The use of non-commercial alcohol, either alone or together with commercial alcohol, was quite prevalent.

Mohammed, Imran, Bilal and Junaid (2012) carried out a study on alcohol and marijuana use while driving—an unexpected crash risk among Pakistani commercial drivers. The study was cross-sectional survey and a sample of 857 commercial bus and truck drivers were interviewed in October 2008 at the largest commercial vehicle station in Rawalpindi and Islamabad, Pakistan. Using time location cluster sampling to select the subjects and a structured questionnaire was used to assess the basic demographic profile, substance abuse habits of the drivers while on the road, and reasons for usage of illicit substances while driving were recorded. Self-reported information was collected after obtaining informed consent. Chi square and fisher exact tests were used to assess differences between groups and logistic regression was used to identify significant associations between driver characteristics and alcohol and marijuana use. Results revealed that almost 10% of truck drivers use alcohol while driving on

Pakistani roads. Marijuana use is almost 30% in some groups. Regression analysis shows association of alcohol and marijuana use with road rage and error behaviours. Results also showed an increased risk of being involved in road crashes. The reported reasons for using alcohol or marijuana showed a general lack of awareness of the hazardous nature of this practice among the commercial driver population.

Soderstrom, Ballesteros, Disch, Inger, Kerns, Flint and Smith (2001) in their study investigated the relationship between alcohol/drug abuse diagnosis, driving convictions (speeding, reckless driving, impaired driving, license violations and risk-taking dispositions among a series of injured drivers admitted to a trauma center. The driving records of 778 patients were linked to diagnoses of psycho-active substance use Disorders (PSUDs), Blood Alcohol Concentration (BAC), mode of injury, and results of a risk taking disposition survey. 29% of patients had one or more convictions in the 3 years before injury. Types of violation were not related to mode of injury. Result revealed positive association between prior impaired-driving convictions, current alcohol dependence, and a BAC + status, a consistent pattern relative to other violations, PSUDs, and BAC status were not apparent on risk-taking behaviour than patients with PSUDs and with convictions.

Max (2013) investigated road accidents and reckless driving and also investigated whether parent alcoholism and anti-social behaviour affected reckless driving among children. A total of 737 participants of the Michigan University participated in longitudinal study comprising 180 from families with no parents of alcoholism records .A total of 442 participants had at least one parent with alcoholism but neither parent with anti-social behaviour and alcoholism and 115 participants had at least one parent with anti-social behaviour and alcoholism, while 216 of the participants were females and 521 were males. The MLS is an ongoing project started over 25years ago, and is a collaborative effort between the University of Michigan and Michigan state university. The participants in the MLS were Caucasian families within the east causing area, target for a male head of family with alcoholism and control families in the community who were not alcoholics. In order to be recruited, the participants also were required to have a son between the ages of 3-5. Only families with children of driving age were included in the study. Using information from the Michigan traffic citation records of the subjects, which were separated into civil infrastructure offenses, misdemeanor offenses and felony offenses and also Diagnostic and Statistical Manual (DSM) IV lifetime to diagnose alcoholism of the parents of the subjects to determine alcoholism in parents, as well as Diagnostic Interview Schedule (DIS) to determine DSM diagnoses of antisocial personality disorder as baseline. Results showed statistically significant relationship between parent alcoholism and child sum of misdemeanor offenses less surprising, given the empirical support that alcoholism leads to reckless driving and parent driving style affects child driving style (Taubman, Mikulincer & Gillat, 2005).

Pawlowska et al. (2014) in their study examined psychoactive substances use experience, and addiction or risk of addiction among polish adolescents living in rural and urban areas. The participants consisted of 1860 People (1320 girls and 540 boys) and their average age being 17 years. Results indicated that there was statistically significant differences as regards the prevalence of psycho-active substances use in urban and rural areas and as regards, the intensity of internet addiction symptoms in adolescents from the urban and rural areas, who use and do not use illegal drugs significantly more adolescents living in urban areas as compared to their peers in rural areas use psycho-active substances mainly Marijuana.

Studies have shown increased risk associated with cannabis use by drivers, other studies have not found increased risk cannabis usage has been shown in some studies to have a negative effect on driving ability. Bridge and Mark (2012) examined acute cannabis consumption and

motor vehicle collision and found that drivers who consumed cannabis within periods of driving are nearly twice as likely to cause a vehicle collision as those who are not under the influence of drugs or alcohol.

Magnus, Anna, Forsman, Carina, Gunnel Woxler and Robert (2012) in their study investigated effects of de-amphetamine on stimulated driving performance before and after sleep deprivation. Using a double-blind, placebo-controlled experiment including 18 healthy male volunteers and found that the participants felt more alert when taking a dose of de-amphetamine than when taking placebo, and the effect was stronger for the higher dose. However, the data did not show any evidence that taking de-amphetamine prevented the subjects from becoming successively sleepier during the night. A significant main effect of the dose was found for three out of the five primary indicators where the lower dose led to improved driving. These indicators were crossing-car reaction time, and coherence and delay from a car-following event. Regarding sleep deprivation, a main effect was found for four of the primary indicators and three of the secondary indicators. The results showed overall impaired driving with respect to standard deviation of lateral position and delay in reaction time when the sleep-deprived conditions were compared to the alert condition. They found no interactions between doses and sleep deprivation for any of the performance indicators.

Elvik (2013) examined risk of road accident associated with the use of drugs. He extensively reviewed 66 studies regarding crash risk and drug use and found that cannabis was associated with minor accidents, but not statistically significant increased odds of injury or fatal accident. The estimated fatal crash odds for cannabis (1.26) were lower than opiates (1.68), anti-anxiety medication (2.30), Zopiclone (sleep medicine) (2.60), cocaine (2.96), and amphetamines (5.17). The estimated injury odds for cannabis (1.10) were lower than anti histamines (1.12), penicillin (1.12) anti-anxiety meds (1.17), anti-depressants (1.35), anti-asthmatics (1.31), Zopiclone (sleep medicine) (1.42), cocaine (1.66) and opiates (1.91). The study concluded by and large, the increase in the risk of accident involvement associated with the use of drugs must be regarded as modest as compared to the huge increase in accident risk associated with alcohol, as well as the high accident rate among young drivers, the increase in risk associated with use of drugs was surprisingly small.

Movia and Accid (2004) investigated the association between psychoactive drug use and motor vehicle accidents requiring hospitalization. A prospective observation case-control study was conducted in the Tilburg region of the nether lands from May 2000 to August 2001. Cases were car or van drivers involved in road crashes needing hospitalization. Demographic and trauma related data was collected from hospital and ambulance records. Urine sample, if no urine sample could be collected, a blood sample was requested. All blood and urine samples were tested for alcohol and a number of drugs. The main outcome measures were odds ratios (OR) for injuring crash associated with single or multiple use of several drugs by drivers. The risk of road trauma was increased for single use of benzodiazepines and alcohol (blood alcohol concentration of High relatives risks were estimate for drivers using combination of drugs. Result revealed no statistically significance between drivers using amphetamines, cocaine or opiates. No increased risk for road trauma was found for drivers exposed to cannabis. The study concluded that drug use, especially alcohol, benzodiazepines and multiple drug use and drug-alcohol combinations, among other valued drivers increases the risk for a road trauma accident requiring hospitalization.

Lasebikan and Baiyewu (2009) carried out a study on problems associated with psychoactive substance-use among long distance commercial automobile drivers. A total of 422 commercial drivers were selected through a multi-stage stratified sampling technique from four motor parks in Ibadan, there were interviewed using alcohol and drug section of the CIDI.

The CIDI auto program was used to generate psychiatric diagnosis. Focus group discussion and direct observation were also conducted in each of the study parks. The result indicated that 76.8% were maimed, 50% had no formal education and alcohol was the most prevalent currently used substance, 324 (76.8%). The most prevalent current single ICD 10 diagnosis was harmful use of alcohol 61 (14.5%), while the most prevalent current multiple ICD10 diagnosis were harmful use of alcohol/harmful use of cannabinoids, 33 (9.8%). In all, 124 (29.4%) respondents had single ICD 10 diagnosis, while 46 (10.9%) had multiple ICD 10 diagnosis. Current ICD 10 diagnosis was significantly most reported among young drivers. By and large, the study concluded that psycho-active substance use was common among long distance automobile drivers with consequent social and physical health consequences.

Fergusson, Lynskey and Horwood (2006) examined the association between cannabis use and traffic accident risk among those who reported driving a motor vehicle between the age of 18 and 21 years. Participants were a birth cohort of 907 new Zealanders, and data were collected on annual frequency of cannabis use over the period from 18 to 21 years, annual rates of traffic crashes during the period 18-21 years and measures of driver behaviour and characteristics. Results indicated that there were statistically significant relationships between reported annual cannabis use and annual rates of crashes in which driver behaviour contributed to the crash. Results also revealed that those using cannabis more than 50 times per year had estimated rates of crashes that were those using 6 times higher than the rate for non-users. However when the crash rates were adjusted driver behaviours and characteristics related to cannabis use (drink driving behaviour, risky or illegal driving behaviours, driver attitudes and driver sex) the association disappeared. The researchers then concluded that although cannabis use is associated with increased risks of traffic accidents among members of this birth cohort, these increased risks appear to reflect the characteristics of the young people who used cannabis rather than the effects of cannabis use on driver performance.

Bogstrand, Halloard, Normann, Rossow and Ekeberg (2012) investigated the prevalence of alcohol and psycho-active substances among drivers. Using drivers admitted to hospital for treatment of injuries after road traffic accidents with that in drivers in normal traffic and calculated risk estimates for the substances and combination of substance discovered in both groups. Results indicated that in 21.9% of the injured drivers substances were found; most commonly alcohol (11.5%) and stimulants e.g cocaine or amphetamines (9.4%). This compares to 3.2% of drivers in normal traffic where the most commonly found substances were 2-hypnotics (0.9%) and benzodiazepines (0.8%). The greatest increase in risk of being injured was for alcohol combined with substance (231.9, 95%), for more than three psychoactive substances of 38.9, 95% and for alcohol alone (36.1, 95%). Single use of non-alcohol substance was not associated with increased accident risk. In this study, the researchers made use of the following theories to guide the research. The driving constructs theory of reckless driving (Kelly, Erin, Darke, Share, Ross, & Joanne, 2014) states that people anticipate events by the meaning of interpretation they place on those events. In risk compensation theory of reckless driving. Vrolix (2006) suggests that people typically adjust their behaviour 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 sifting theory of psychoactive substance (Leary, Metzner & Alpert 1964) 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 (O'Brien, Children, Ehrman & Robbins, 1998) maintained 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 proposed 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 (Steele & Joseph 1990) 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 Keke 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 dead 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 as the determinant of reckless driving among keke riders in Ebonyi State, South Eastern Nigeria.

Statement of Problem

Psycho-active substance is becoming a serious ongoing public health issue. 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, reckless, 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 (Wegayehu, 2009). 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 behaviour 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 driver's 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 wellbeing 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 drivers in Nigeria, only scanty information is available about the magnitude of psych-active substance on reckless driving among Keke riders in Ebonyi State. Furthermore, psycho-active substance as determinant of reckless driving among Keke riders was not well explored in this segment of the population. Therefore, the aim of this study is to assess psycho-active substance as determinant of reckless driving among Keke riders. To this end, it seeks to answer the following basic questions:

1. Will there be any significant difference among Keke riders who do not use psycho-active substance?
2. Will there be any significant difference among Keke riders who use psycho-active substance?

Objectives of Study

The objective of this study is to assess psycho-active substance as determinant of reckless driving among Keke riders. More specifically, the study intends to:-

1. Assess whether non psychoactive substance use will determine reckless driving among Keke riders.
2. Determine whether psycho-active substance use will play a significant role on reckless driving among Keke riders.

Significance of the Study

The results of the study will give insight to the Keke riders and drivers about the influence of psychoactive substance on the risk of substance abuse, which in turn may affect their psychosocial and psychological wellbeing. The result can also provide base line information for the responsible bodies like counselors, governmental, nongovernmental bodies and policy makers to design appropriate strategies for prevention and intervention of illegal and legal psychoactive substance abuse. Furthermore, it will also be an input for mental health professionals in developing behavioural treatment that specifically target on the effects of psycho-active substance user on reckless driving.

In view of the related literature on psychoactive substance as determinants of reckless driving among Keke riders, the following research hypothesis were postulated and tested.

- (1). Psycho-active substance use will not statistically significantly predict reckless driving among Keke riders.
- (2). Psycho-active substance use will not statistically significantly predict reckless driving among Keke riders

Method

Participants

Two hundred and eleven (211) participants were purposively selected from six (6) junctions comprising College of Health Science Campus Junction (CHS), College of Agricultural Sciences Campus Junction (CAS), Nkaliki Junction, Meat Market Junction, Ogoja Road Junction and Kpiripiri Junction in Abakaliki metropolis of Ebonyi State, South-Eastern Nigeria. The junction area is the place where various kinds of keke and the riders are found and converged for picking up commuters. Seventy- seven (77; 36.49%) participants were drawn from college of Health Science Campus junction (CHS), twenty six (26;12.32%) participants were drawn from Ogoji road junction, sixteen (16;7.58%) participants were drawn from Kpiripiri junction, thirty two (32;15.17%) participants were drawn from meat market junction, thirty nine (39;18.48%) participants were drawn from Nkaliki junction; while twenty one (21;9.95%) participants were drawn from College of Agricultural Sciences(CAS) junction. Their age ranges from 18-50 with the mean age of 34.20. The minimum educational qualification of the participants was senior school certificate examination (SSCE). All the participants that volunteered to participate in the study were all males Keke riders.

Instruments

Two instruments were used for this study:

1. Psycho-active substance abuse questionnaire (Eze, 2006).
2. Reckless driving scale (as developed and validated by the researchers).

The psychoactive substance abuse questionnaire (Eze, 2006) assesses frequency of use of psychoactive substance on a scale of four (4) degrees: never used it, have not used it more than two times, used it less than three times in one week, uses it more than three times in one week, and used it frequently in the past but has stopped. Specific substances included in the questionnaire were alcohol, cannabis, tobacco, cocaine, heroin, and amphetamine. These were substances known to be abused in Nigeria by people of similar age range as those participating in this study, and which cause significant modification of mood, cognition or behaviour at the dosage in which they are normally taken (Eze & Omeje, 1999). The questionnaire also includes items that elicit data on gender, age locality and educational qualifications. Instructions in the questionnaire required a participant to give a rating between 1 and 4 to each of the substances according to the degree of their use of each of items. The instruments has content validity, and test-retest reliability index of $r = .61$ ($N=55$).

Reckless driving scale was developed and validated by the researcher. It was designed to measure reckless driving among Keke riders. It is a 21 item questionnaire with four point likert format responses ranging from strongly agree (1) agree to (4) strongly disagree. A pilot study test of the questionnaire was conducted using 112 participants who were randomly selected from kpirikpiri Keke stop, Abakaliki, Ebonyi State. 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 .697. A total of 5 items were dropped from the reckless driving scale because it failed to reach up to .3 (Nunnally, 1970). After which the analysis was re-run, obtaining a cronbach's alpha reliability of .772. All the remaining nine (21) items yielded inter-item correlation of .3 and above with a mean of 0.456. This high coefficient was interpreted to mean that the scale were reliable to measure reckless driving among Keke riders respectively.

Procedure

The two questionnaire were administered on two hundred and eleven (211) keke riders selected from six (6) keke junctions in Abakaliki metropolis of Ebonyi State during the working hours with the aid of the researcher's assistants. Of 247 copies of the questionnaire distributed and returned, 36 were discarded because they were incompletely filled, leaving a total of 211 copies of the two questionnaire 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.

Design/Statistics

The design of the study was cross-sectional design, involving the assessment of the participant's degree of psycho-active substance and recognizing their differences on the reckless driving behaviours. Multiple regression analysis was employed to test the hypothesis.

Results

Table 1: Showed the Mean and Standard Deviation of Psychoactive Substance Determinants of Reckless Driving Among Keke Riders

Variables	X	SD	N
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Reckless driving	52.71	16.10	211
Igbo/Cannabis/Weed	.020	.275	211
Alcohol	.680	1.505	211
Cocaine	.200	.872	211
Tobacco/Cigarette	.190	.850	211
Heroin	.040	.388	211
Amphetamine	.080	.546	211
Multiple Drug Users	1.810	1.996	211
Non-users	.000	.000	211

Results from Table 1 above indicated that multiple drug users had the highest mean scores of (M= 1.810) and followed by Alcohol with mean score of (0.680), while other psychoactive substance had lower mean scores such as Cocaine(0.20), Tobacco/Cigarette(0.190),Igbo/Cannabis/Weed(0.020),Heroin(0.04),Amphetamine(0.080),Non users(0.00).

Table 2: Shows the Multiple Regression Analysis for Determinant of Psychoactive Substance on Reckless Driving Among Keke Riders

Variables	Beta	t	Significance level
Igbo/Cannabis/Weed	.021	0.356	.722
Alcohol	.319	4.744	.000
Cocaine	.281	4.568	.000
Tobacco/Cigarette	.046	0.761	.448
Heroin	.177	3.017	.003
Amphetamine	.163	2.780	.006
Multiple Drug Users	.640	9.084	.000

$R = 0.564$, $R^2 = 0.319$, Adjusted $R^2 = 0.295$; $F(7,204) = 13.63$, $P < 0.001$

The results of the multiple regression indicates that psychoactive use explained 31.9% of the variance $F(1, 204) = 13.63$, $P < 0.001$, $R^2 = .319$, R^2 adjusted = .295). The analysis further revealed that the use of Igbo/Cannabis/Weed and Tobacco/Cigarette did not significantly predict reckless driving (Beta = .021, $t(211) = .356$) and (Beta = .046, $t(211) = .0761$) respectively, in contrast to the use of the other drugs like Alcohol: (Beta = .319, $t(211) = 4.744$), Cocaine: (Beta = .281, $t(211) = 4.568$), Heroin: (Beta = .177, $t(211) = 3.017$), Amphetamine: (Beta = .163, $t(211) = 2.780$), Multiple Drug Users: (Beta = .640, $t(211) = 9.084$) which all significantly predicted reckless driving behaviour. It was also found that participants who used more than one psychoactive substance were more prone to reckless driving ($X = 1.81$).

Discussion of Findings

The aim of this study was to determine whether psychoactive substance predicts reckless driving among Keke riders. However, the outcome of the study raises some points for consideration. It was found that psycho-active substance predicted reckless driving among Keke 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 Max (2013) in his study investigated on the road to reckless driving, and found that alcoholism leads to reckless driving. In the same vein, (Ask, Bridge & Mark 2012) 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.

Also Kelly et al (2004) found that cannabis caused impairment in tracking, attention, reaction time, short time, hard eye co-ordination, vigilance time and distance perception, decision making and concentration.

Stig, Hallvard, Per-Trygve, Ingeborg and Qivind. (2012) examined the prevalence of alcohol and psychoactive substances in drivers admitted to hospital for treatment of injuries after road traffic accidents with that in drivers in normal traffic, and calculate risk estimates for the substances, and combinations of substances found in both groups. In this methods, injured drivers were recruited in the hospital emergency department and drivers in normal conditions were taken from the hospital catchment area in roadside tests of moving traffic. Substances found in blood samples from injured drivers and oral fluid samples from drivers in moving traffic were compared using equivalent cut off concentrations, and risk estimates were

calculated using logistic regression analyses. Results indicated 21.9% of the injured drivers, substances were found most commonly alcohol (11.5%) and stimulants example, cocaine or amphetamines (9.4%). This compares to 3.2% of drivers in normal traffic where the most commonly found substances were z-hypnotics (0.9%) and benzodiazepines (0.8%). The greatest increase in risk of being injured was for alcohol combined with any other substance for more than three psychoactive substances and for alcohol alone. Single use of non-alcohol substances was not associated with increased accident risk.

Seyed, et al. (2016) investigated the prevalence of alcohol and substance abuse (ASA) and its relationship with other risky driving behaviors among motorcycle drivers. A total of 414 drivers with a mean and standard deviation (SD) age of (27.0 ± 9.3) years participated in the study. The study employed cross sectional survey design. Data from motorcycle riders were collected using a standard questionnaire in eight major streets at different times of the day. Results indicated that alcohol or substance consumptions two hours before driving was significantly associated with risky driving behaviors such as using mobile phone during driving, poor maneuvering, and driving over the speed limit and reckless driving (both $p < 0.001$). It was also associated with carelessness about safety such as driving with technical defects ($p < 0.001$) and not wearing a crash helmet ($p < 0.008$).

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 behaviour especially as observed among keke 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.

By and large, since psycho-active substance is positively correlated with reckless driving, this study thereby suggests that it should be avoided especially when driving.

Implications of the Study

One of the major implications of this study is that not taking psychoactive substance can minimize 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 and other psychological issues can be corrected. More to this, a law against taking psychoactive substance and driving should be adequately enforced. And drivers 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.

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 Keke riders in 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.

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 personality type, locus of control and self-efficacy in relation to reckless driving and Keke riders

Summary and conclusion

This study examined psychoactive substance in relation to how they resulted to reckless driving. A total of 163 participants were used. Two scales for psychoactive substance and reckless driving respectively were also used for the study. The result of a multiple regression analysis revealed that psychoactive substance predicts reckless driving. In other words, participants who used more than one psychoactive substance were more prone to reckless driving when compared to those who did not use any psychoactive substance were least prone to reckless driving. Findings were discussed in relation to literature reviewed and recommendations for further studies were also made.

Whenever Keke riders drive recklessly, one of the first explanations to occur to road safety members is that they are under the influence of psychoactive substance. Indeed, the study confirmed this assumption. However based on the findings from this study, it was observed that psycho-active substance predicts reckless driving among Keke riders in Ebonyi State, South Eastern Nigeria.

Recommendations

The findings of this study indicated that Keke riders are using psychoactive substance that needs due 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 research on substance use should be done on large sample, using different research design, investigating other contributing 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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