

# Prevalence Pattern of Road Rage across Traffic Routes in Port Harcourt Metropolis, Rivers State, Nigeria

**Amamilo, Chukwunenyne Augustus<sup>1</sup>, Sampson Ugochi Sylvia<sup>2</sup>, Ukusowa, Mizaitul May Prince<sup>3</sup>**

<sup>1, 2</sup>Department of Geography & Environmental Management, University of Port Harcourt, Port HarcourtChoba

<sup>3</sup>Department of Geography and Natural Resources Management, University of Uyo, Uyo

**Abstract:** The study investigated the prevalence pattern of road rage across traffic routes in Port Harcourt Metropolis, Rivers State, Nigeria with view to identifying the types of road rage attitude and their effects on drivers, environment and vehicle. The study sampled a total of 352 drivers across the major motor parks/loading points in the study area. The obtained data was analysed descriptively using frequencies, percentages, tables and charts. Results showed that road rage behaviours such as tailgating, rude gestures, unsafe lane changes, verbal insult, bumper to bumper driving, running late, high speed chase, impatience were considered the most road rage in Port Harcourt Metropolis. Findings also showed that causes of road rage included driving behaviour such as tailgating (46.3%), gridlocks (15.3%), poor road condition (13.15), poor traffic control (11.3), and lack of public mass transit (14.2) and amongst others. Ikwerre Road recorded a high level of road rage manifestation, followed by Aba road and East-west road respectively. Therefore, the research recommends that, drivers should undergo adequate training and sensitisation on driving skills, and other related road traffic signs and its dangers, while relevant government agencies should ensure proper implementation and monitoring of various road traffic laws, etc.

## 1. Introduction

The increased value of time has made mankind to be more aggressive on the road especially during commuting hours. Some drivers only see the vehicle ahead of them as an obstacle to overtake at all cost. When we link this with the society becoming comfortable to instantaneous communication, the problem of road rage becomes clearly more evident (Emenike, 2002). The concept of Road rage, has caught the public eye and has overran the vocabulary of the common man. It generally refers to a variety of behaviours, from specific incidents of roadside assault to any exhibition of driver aggression. In today's world which is perceived as more aggressive and violent, the man behind the wheel is no exception. According to Prakash and Kansal, (2007) Road rage originated in the United States. Around late 1980s, drivers in the United States are apparently frustrated by increasing congestion on the roads, fighting and shooting at each other occurs on a regular basis. The victims of these were called commonly by the local press as "road rage." The term road rage has often been used incoherently with varying meaning. Though it refers to display of aggression by a driver, it has often been referred to the more extreme acts of aggression, such as a physical assault. At times Road rage and aggressive driving have been used synonymously. Road rage as an incident in which an angry or impatient motorist or passenger intentionally injures or kills another motorist, passenger, or pedestrian, or attempts or threatens to injure or kill another motorist, passenger, or pedestrian road rage is uncontrolled anger that results in violence or threatened violence on the road; it is criminal behaviour (Prakash and Kansal, 2007).

The concept is relatively new; it gained recognition in the 1990's when media began to focus on the road rage incidents. Today it has become a global phenomenon and used to define a whole range of bad driving behaviour behind

the wheel. Road rage is defined as a range of anti-social behaviours/or acts of aggression which occur on the road. The range of these anti-social behaviours include: Minor instances such as rude gestures and the use of car horn to more serious violent acts such as assault or even murder. Any unsafe driving behaviour, performed deliberately and with ill intention or disregard for safety, can constitute road rage leading to aggressive driving.

Road rage is an aggressive or angry behaviour by a driver while driving. There are two types of road rage; Habitual road rage-is acknowledgementable behaviour, such as drivers who have learned to drive in an aggressive manner. Situational road rage- is based on the situation that surrounds the driver, such as the driver receiving bad news and unintentionally driving aggressively. According to Emenike (2014), she opined that road rage involves behaviours like rude gesture, verbal insult, deliberately driving in an unsafe manner, yelling, screaming, sudden acceleration, tailgating, unsafe lane changing, driving at high speed to prove a point, confrontational driving, wrongful overtaking and slowing suddenly, cutting other drivers off, impatient honking of the horn and gesticulating to threaten or physically assaulting another driver, impulsive dissonant driving, flashing headlights, chasing offending drivers, exhibiting anxiety, intentionally causing a collision between vehicles, exhibiting descriptive behaviour on the road, verbal condemnation, and flashing headlights excessively at oncoming traffic.

Road rage can cause three types of harm, firstly direct harm between the driver and other motorist, secondly damage on the mental health of other drivers who are eye witnesses of the incident, thirdly accidental harm towards the victims or other persons nearby. Further harm caused by road rage include car crashes, injuries, deaths, creating an atmosphere of inactivity on the roads, heightening driver anxiety, anger, impulsive driving etc., (Ayer, 2006).

Indeed, in the course of our daily city life, we are confronted with incessant and mind-blowing exhibitions of aggression on our roads by the different road users – truck Drivers, other Vehicle Drivers, Motor Cyclists and of course Pedestrians. Road rage is increasingly prevalent and dangerous in the urban driving environment like the city of Port Harcourt. Driver's frustration in traffic congested areas may lead to an increase in aggressive driving, a less intentionally spiteful and more common subset of road rage. There are some roadway factors and characteristics of the congested driving environment that induce irritation and perhaps contribute to the frequency of aggressive driving. For instance, some regular features may allow (or even invite) aggressive drivers to exacerbate an already difficult congested driving environment by driving on shoulders, cutting in line, weaving unsafely, or performing other erratic driving manoeuvres. Likewise, drivers may perceive some recurrent congestion problems to be unnecessary, requiring only slight linear or signing/striping modifications to resolve. Frustration that the condition is not being fixed may also contributes to driver impatience. Non-recurrent congestion, unexpected by definition, may be an even greater contributor to driver stress, especially if advance information about construction zones comes too late to choose an alternate route or if there seems to be slow progress in clearing freeway incidents, Walters et al (2000).

The way and manner motorist and people alike act on the road leave much to be desired. Road rage in Port Harcourt city has been on the increase with many motorist committing varying degrees of traffic offences within the city thereby resulting to either death or injuries to the victims. With man-hour lost, accidents and congestion, death, injuries, mob assault, wilful destruction of property or even murder caused by a single act of rage by motorist, it is therefore time to address the issue. Around Port Harcourt city victims of road rage include truck drivers, commercial drivers, motorcyclist operators, pedestrians, private vehicle owners and most vulnerable children.

According to Emenike(2014) most drivers will best be described as an offensive and aggressive driver that is, one who operates a vehicle in selfish bold or pushy manner without regard to the right and safety of other road users. These are the clear attributes of a true driver in Port Harcourt metropolis, and the challenges arising from the various display of road rage in Port Harcourt city include; tailgating, unsafe lane changing, blaring of horns, high speed, confrontational driving, rude gestures, sudden acceleration, scratching of brakes and sudden braking, impulsive driving, excessive flashing of head light, yelling and screaming, verbal insult, and driving in an unsafe/threatening manner. Dula and Ballard (2002) proposed three major classes of dangerous driving that have often referred to aggressive (a) Intentional acts of bodily/psychological aggression toward other drivers, passengers or pedestrians, which could be verbal in nature or physical gestures (b) Negative emotion felt while driving such as dejection, sadness etc. (c) Risk-taking behaviour like dangerous behaviours without intent to harm self or others. Tasca, (2000) indicated that the highest scores of aggression on the road were associated with male drivers aged 17 to 35. Their average aggression scores were twice

those recorded for middle-aged males. Females aged 17 to 35 had average aggression scores comparable to those of middle-aged drivers. The lowest scores were associated with increased collision risk. The collision analysis, however, is based on self-report data which were not verified by checking respondents driving records.

Shaily et al (2014) defined four levels of aggressiveness, first is non-threatening gestures such as yelling, second is aggressive driving such as using obscene language or excessive horn honking /light use, third is mild road rage is an event on road ways where an angry or impatient vehicle driver, passenger or pedestrian in response to a traffic dispute, altercation or grievance. It includes verbal nuisance, threats, obscene gesturing, flashing headlights or high beams, malicious braking, blocking other vehicle, threatening with weapons, firing gunshot, hitting vehicles with object, chasing a vehicle, and trying to run a vehicle off the road and is considered a criminal offence. According to the AAA Foundation report, the majority of aggressive drivers are relatively young, poorly educated men between 16 and 26 who have a history of crime or violence and who also have problems with drugs or alcohol (Paige, 2016). Chris and Scott (2003) stated that drivers stress is a collection of feelings of aggression, irritation, anxiety, worry, impatience and concern about the behaviour of other drivers and about personal issues. They attempted to define aggressive driving as the driving under the influence of a negative emotional state. They establish three main categories of impaired emotions (a) Impatience and inattentiveness (b) Power struggles and (c) Recklessness. Among this type of definition, a wide variety of driving behaviour could be considered as aggressive, but only if the emotional state of the driver is known. Shaikh et al (2011) opined that the common types of road rage experiences reported were being verbally abuses and having someone in another vehicle make rude gestures, while being threatened with physical violence or being physically threatened by someone in another vehicle was rare but respondents reported less than 3% agreed to have done that. Road rage like any other form of anger, usually results from stress is triggered by "stressors" events that disturb equilibrium and demand an adaptive response. Stress cause physical changes in the body that induce fight and fight response. Our biochemistry changes to increase strength reduce blood supply to our extremities and increase our aggressive potential (McDonald, 2002). Since fight is not an option for someone driving a car, the fight response predominates.

A study by Hauber (1980) revealed a negligible gender effects with a substantial age-related differences. He observed that 966 drivers approaching pedestrian crossings and conducted a follow-up survey to measure driver perception of aggression on the road. Driver behaviour was coded as aggression if the driver failed to stop, the driver forced pedestrian to increase their walking speed, the driver gesticulates or shouts at the pedestrians and at times honks their horn. ToGoehring (2000), aggressive driving is a traffic offence and road rage to be criminal offence, where road rage is defined as an assault by the operator or passengers of one vehicle on the operator or passengers of another vehicle precipitated by an incident which occurred on a road way. Driving is often viewed as a male dominated activity

that creates a sense of power and control over a big machine involving adventure, risk taking and speeding. Greame (2007) also found that men are higher risk-takers than women. And male drivers are more competitive while women tend to be more careful and take fewer chances. They are also more considerate to pedestrians, passengers and other motorists. Men are more likely to be rude and lack self-control. Women are more likely to respect authority and traffic regulation. Yagil (1998) and Prakash and Kansal (2007), supported the assertion that women tend to be more tolerant and less prone to anger. Generally they revealed that number of times drivers reported experiencing road rage in the previous 12 months was significantly greater for males. They also outlined ways of reducing stress and fatigue on the road that can lead to road rage and aggression; before beginning a journey, make sure that you know how to get to your destination, plan for an unconventional route in mind or at least a map in the car, make sure your car is regularly checked, adjust your seat and rear view mirrors, and take journeys in simple steps and never remain behind the wheel of a car for more than three hours without a break.

Bethesda, Matthew & Connell (1997) proposed solution for road rage and advised that drivers must pay attention to their own level of emotion. Research has shown that drivers who allow their emotions to get out of hand behind the wheel represent a greater risk to themselves than to those around them. Several studies indicate that prevalence of aggressive driving is likely to increase during certain traffic situations. The most common ones are situations where a driver's progress in traffic is slowed down due to unexpected obstruction such as queue outside rush hour or unexpected behaviour of other road users as slowing driving when it is difficult to overtake (Ulleberg, 2004).

For instance, women are less likely to speed even in situations where they believe it was safe to speed. Whereas men on the other hand tend to overestimate their driving ability and feels more confident in complying selectively with traffic laws. Young males are more likely to violate traffic negatively, that is they see them as annoying and waste of time. And they are more likely to underestimate the risk associated with traffic violations, (Tasca, 2000). Moreover the problem is set to increase as more people use vehicles to travel. The Federal Road Safety Corps (FRSC), State Traffic Management Agencies and other volunteer groups have put in place penalties on varying degree of traffic offences yet road rage is on the increase and spreads across the state like wild fire. It is in view of these that the study was conceived, therefore, the study examined the prevalence of road rage across traffic routes in Port Harcourt metropolis. With specific objectives to include; To identify the types of road rage behaviours exhibited by commercial drivers in Port Harcourt metropolis, to identify the causes and impact of road rage and to identify the traffic routes most prone to road rage behaviour by road users.

## 2. Materials and Methods

The study was carried out in Port Harcourt metropolis, capital of Rivers state and port city in southern Nigeria. Port Harcourt has a Geographic Coordinate of Latitude 4°46'N, Longitude 7°01' E with a rise of 468m above mean ocean

level. It is situated in the Niger Delta district lying along the Bonny River (an eastern distributary of the Niger), 41 miles (66 km) upstream from the Gulf of Guinea. The region is customarily possessed by the Ijaw individuals; it serves as a port city and has long been a critical vendor port. It is today been alluded to as the middle of Nigeria's oil industry. Its fares incorporate petroleum, coal, tin, palm items, cocoa, and groundnuts. Among the businesses of the zone are timber preparing, auto assembling, sustenance and tobacco handling, and the production of elastic, glass, metal, and paper items, concrete, petroleum items, paint, earthenware, bikes, furniture, and cleanser. Port Harcourt is the biggest city in southern Nigeria after Lagos. It is alluded to as the greenhouse city due to its various boulevards and decorations and may at times be called PH by neighbourhood occupants.

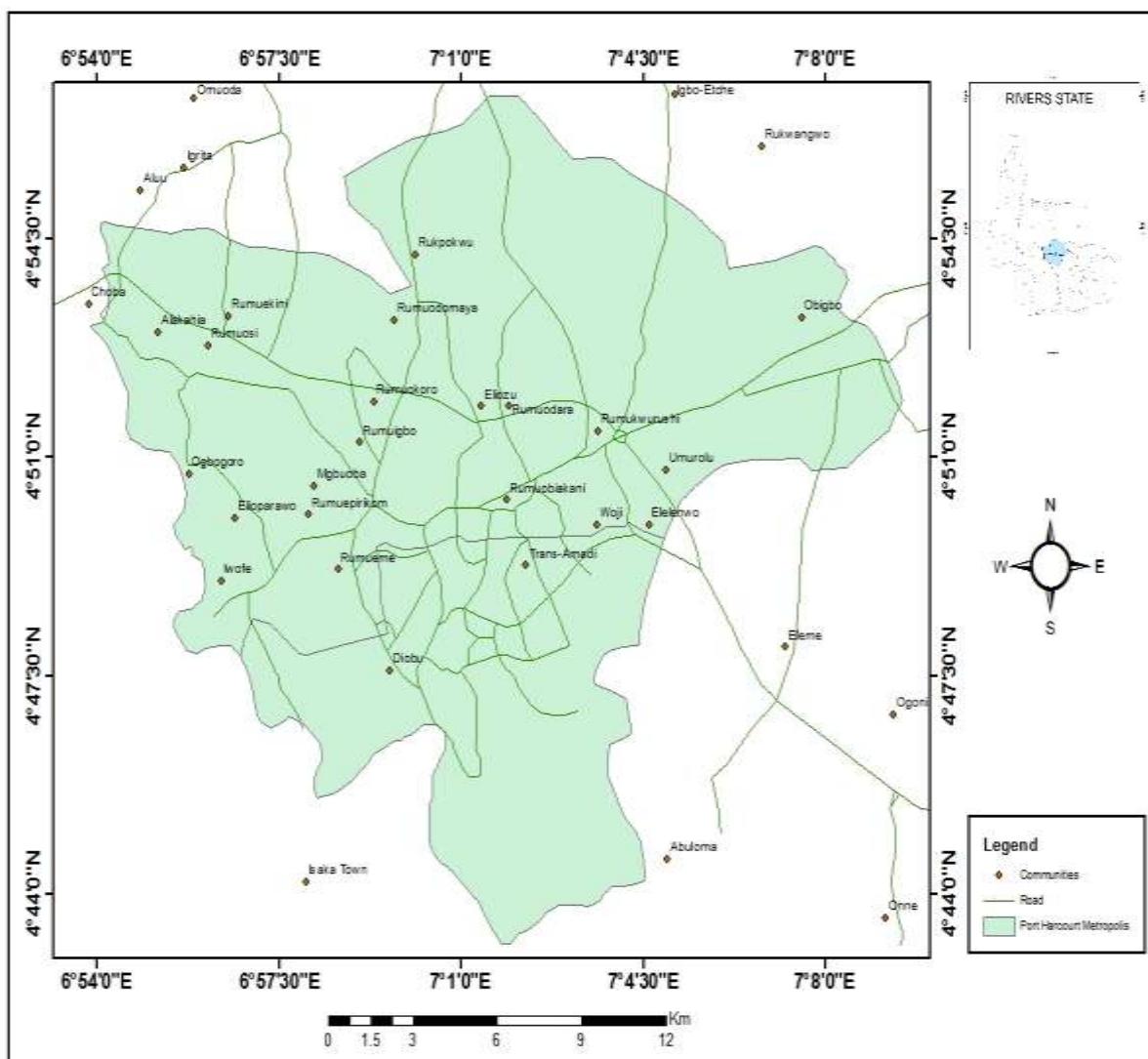
To every research, there is a reliable source from which data are collected. Therefore, the tools used for primary data collection in this study include reconnaissance survey carried out to identify the total number of drivers operating within and outside the motor parks, and the number of registered commercial drivers operating directly from the motor parks. Oral interviews were held with the officials of the National Union of Road Transport Workers (NURTW). One set of questionnaire was administered to commercial drivers at their various motor parks within the study area. Personal observations were made to have an empirical knowledge of the situation under study. The secondary data used for this study were obtained from existing literatures, published and unpublished research materials, articles and internet resources were used in the study. Cartographic map of the study area was of great assistance in determining different road network of the study area. The population used in this study were registered drivers from the various major motor parks and loading points across the city. A total of 2942 drivers formed the population of interest, out of which 352 respondents were randomly sampled and arrived at using the Taro Yamane (1967) formula. The study adopted a descriptive analysis such as percentage and frequency distribution tables, and charts, to analyse data generated from the field. Spearman Rank Correlation Coefficient was used to test for a correlation between Age, Gender, Education and road rage manifestation. All the analysis was carried out with SPSS version 20.0

Port Harcourt metropolis has three major motor parks namely; The Abali Motor Park in mile 1, Mile 3 Motor Park, and the Rumuokoro Motor Park, including the Choba Motor Park. There are three unregistered road side loading points sampled in the course of this research include; Rumuola, Waterlines and Garrison loading points. Intra city transport drivers operating from these motor parks plies the following routes:

**Major Roads:** - Aba road, Ikwerre road, East-West road and Aggrey road

**Feeder Roads:** - Rumuolaroad, Elekohia/market road, Woji/old Aba road, Olu-Obasanjo road, Trans-Amadi road.

**Minor Roads:** - These routes connect traffic with the feeder roads. Psychiatric Hospital Road, Okporo Road, Nkpogu road, Eleparanwo road, Ogbunabali road, Illabuchi road.



Source: (Digitised map of Author, 2016)

**Plate 1:** Road Map of Port Harcourt Metropolis

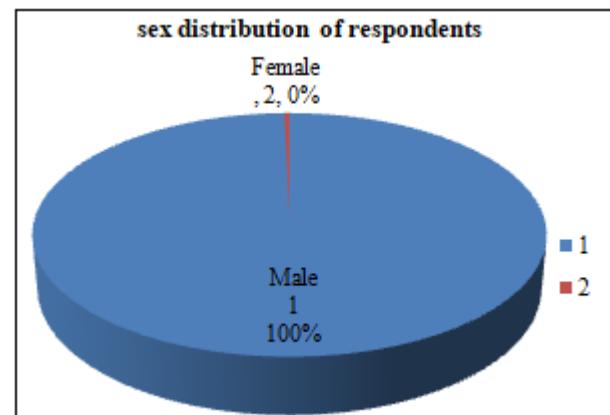
### 3. Results and Discussion

### **3.1 The prevalence of Road Rage across Traffic Routes in Port Harcourt Metropolis**

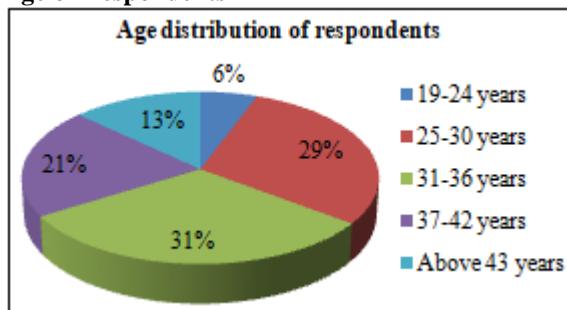
This section deals with the analysis of the data generated from the field, items on perception as well as test of hypotheses. Comparison was made between slated variables; this was expected to reveal whether there is a relationship between the demographic variables (Age, Gender and Education) and road rage.

### **3.2 Demographic characteristics of respondent**

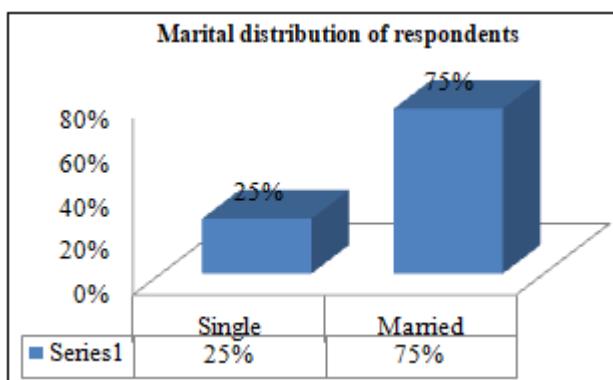
### a) Sex distribution of Respondents



The total sampled respondents were 100% male (352), and which all were drivers plying the entire road network of Port Harcourt city and do operate from the various motor parks and loading points. Despite observing female drivers on the road, none of them were operating from any of the motor parks. The research revealed that male drivers exhibit more road rage attitudes than their few female counterparts.

**b) Age of Respondents**

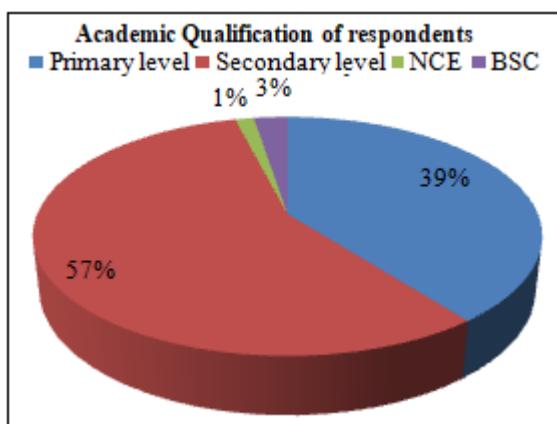
There is a variation in the age of sampled drivers among them. 6% of the drivers were between 19-24 years, 29% accounted for 25-30 years, 31% for 31-36 years, while 37-42 years, and above 43 years accounted for 21% and 13% respectively.

**c) Marital Status of Respondent**

The distribution of marital variable indicate that 75% and 25% of the respondent accounted for the married drivers and singles respectively.

**d) Annual income of respondent****Table 1:** Academic Qualification of Respondents:

Academic Qualifications	Frequency	Percentage
Primary level	139	39.4
Secondary level	199	56.5
NCE	5	1.4
BSC	9	2.5
Total	352	99.8



Source: Author's work, 2016

58% of the sampled respondent accounted for an annual income of #750, 000 - #950,000. While 30.6% and 11.3% earns #350, 000 - #550,000 and above 950, 000 annually.

This section deals with the analysis of the data generated from the field, and other relevant variables.

**3.2 Types of Road Rage Display across Traffic Routes in Port Harcourt Metropolis**

Exhibition of road rage in Port Harcourt metropolis connotes the ways drivers'(road users) exhibits these unlawful attitude. Which include;

- Excessive use of horn, rude signs/gestures,
- Bumper to bumper driving,
- Sudden acceleration and braking,
- Lane blocking,
- Deliberately driving in unsafe,
- Unsafe lane changing,
- Screaming /shouting,
- verbal insults,
- Confrontational driving, and
- Wrongful overtaking.

The following are other common forms of road rage observed;

General aggressive driving including lane blocking or deliberately preventing others from moving, blocking other from leaving their parking lot, chasing other motorist. Driving at high speed in the middle of a highway to terrify other drivers or to prove a point, intentionally causing a collision between vehicles, hitting other vehicle, assaulting other motorist, passengers, motor cyclist or pedestrians, exiting the car to attempt to start confrontational including striking other vehicles with an object, threatening to use or using a firearm or other deadly weapon and throwing object at a moving vehicle with the intention of damaging other vehicles.

Therefore, in view of the above, road rage is a relatively a serious act: it may be seen as an act that endangers public safety. It is, however not always possible to judge intent by external observation, so road ragers who are stopped by police may be charge with other offences such as careless or reckless driving and many resolve in fines. But the reverse is the case where motorists who engage in such acts go scot-free within Port Harcourt and its environs.

**3.3 Causes of Road Rage in Port Harcourt Metropolis**

Road rage is simply seen as an uncivilized behaviour by motorists on the road. An aggressive or angry behaviour by a driver while driving. The causes of road rage can be viewed in two ways, which are human related and environmental related causes as derived from sampled respondents. See table 2 and 3 below

**Table 2:** Human Related Causes of Road Rage/Aggressive Driving

Human related causes of road rage	N (%)
Driving behaviour (e.g., tailgating)	137 (46.3)
Drivers actions (gestures)	17 (4.3)
Time constraints	23 (8.3)
Bad day/anger	19 (4.7)
Human nature	12 (4.3)
Frustration	15 (3.6)
Stress	9 (3.2)
Male aggressiveness	46 (13.1)
Cell phones	8 (1.4)
Lack of enforcement/speed limits	36 (1.0)
Mental problem	2 (0.7)
Pain/discomfort	2 (0.7)
Worried	1 (0.3)
Hunger	1 (0.3)
Longer work day	2 (0.7)
Drugs/alcohol/coffee	5 (1.8)
Family obligations	2 (0.7)
Running late	13 (1.0)
Noise (e.g., playing of loud music)	1 (0.3)
Flashing of head light	1 (0.3)
Total	N = 352

Source: Author's work, 2016

**Table**

**3:** Environmental Related Causes of Road Rage/Aggressive Driving

Environmental related causes of road rage	N (%)
Traffic/congestion	31 (7.6)
Poor engineering/road design	18 (3.6)
Weather	9 (3.2)
Road construction	36 (9.4)
Poor traffic control	51 (11.3)
Gridlock	42(15.3)
Lack of public mass transit	39 (14.2)
Road conditions	36 (13.1)
Inadequate roads	14 (5.1)
Sprawling neighbourhood	2 (0.7)
Immigration	2 (0.7)
Tolls (illegal toll collection)	2 (0.7)
Rush hours	29 (3.2)
Pedestrian	12 (4.3)
Increase in vehicle ownership (many vehicles on the road)	29 (6.9)
Total	N = 352

Source: Author's work, 2016

Responses from the sampled drivers showed that majority of about 88.3% never stopped on a flowing traffic to pick passengers while 11.6% agreed that at one point or the other they have disrupted traffic flow by stopping to pick passengers. The interview conducted by the researcher to beef up further information revealed that majority of the commercial drivers who ply the city routes are not making use of the various motor parks provided, while the constantly load and offload passengers at major junctions, roundabout and trip generating axis like the rumuokoro roundabout, roadside at mile 3 and mile 1, Choba junctions, rumuola, waterlines, garrison etc. In turn these acts contribute to high level of road rage, traffic congestion, and violation of traffic laws within the city.

### 3.4 Impact of Road Rage

Road rage is aggressive or angry behaviour by a driver of an automobile or other road vehicle. Road rage can lead to altercation, assaults and collision that result in injuries and even death. It can be thought of as an extreme case of aggressive driving. And its impact can be felt either to a driver (other commuters as well), vehicle and the environment.

#### a) Impact of road rage on drivers:

Drivers who engage in road rage tend to vent their stress or frustration on the other motorists who share the road. The sampled drivers identified some of the unruly behaviour they have experienced from their colleagues which ranges from rude signs/gestures, been physically assaulted, been blocked deliberately and verbal abuses rank the highest among other. The study also observed that 72.2% of the drivers have experienced near crash resulting from their poor driving attitude or habit and that of other drivers, while 27.2% have been involved in actual crash. The sampled respondents also identify that some of the drivers who have in one way or the other involved in road rage -aggressive driving have been hit with series of injury and death in some serious cases. These injuries range from paralysis, brain damage, amputation and other seriously disabling injuries.

#### b) Impact of road rage on vehicle

Road rage dramatically or stirs up aggressive driving. Road rage involves more criminal actions that knowingly endanger other drivers and passengers. Road rage can lead an aggressive driver to use weapons in their vehicle on other motorists such as knife, club stick, fist, feet, wheel spanner, jack handles even their own vehicle to cause harm to another motorist or vehicle. Another effect of road rage is accident. When the driver is being aggressive, they tend to lose sight of safety and often this leads to traffic accident.

#### c) Impact of road rage on the environment

Road rage can lead to damage of property and the environment. An angry motorist could drive into a building to seek revenge on the establishment or its owner. Some drivers may wish to wage a vendetta against the owner of the property or attempts to gain attention through the act. Drivers use their vehicles as weapons to cause damage to properties such as government buildings, schools or place of residence. The various acts of road rage which definitely transforms to aggressive driving have contributed negatively to the increased in traffic issues witnessed in Port Harcourt city. The figure below shows the frequency of police / traffic personnel on the road.

**Table 4:** Frequency of Police/Traffic Personnel on the road

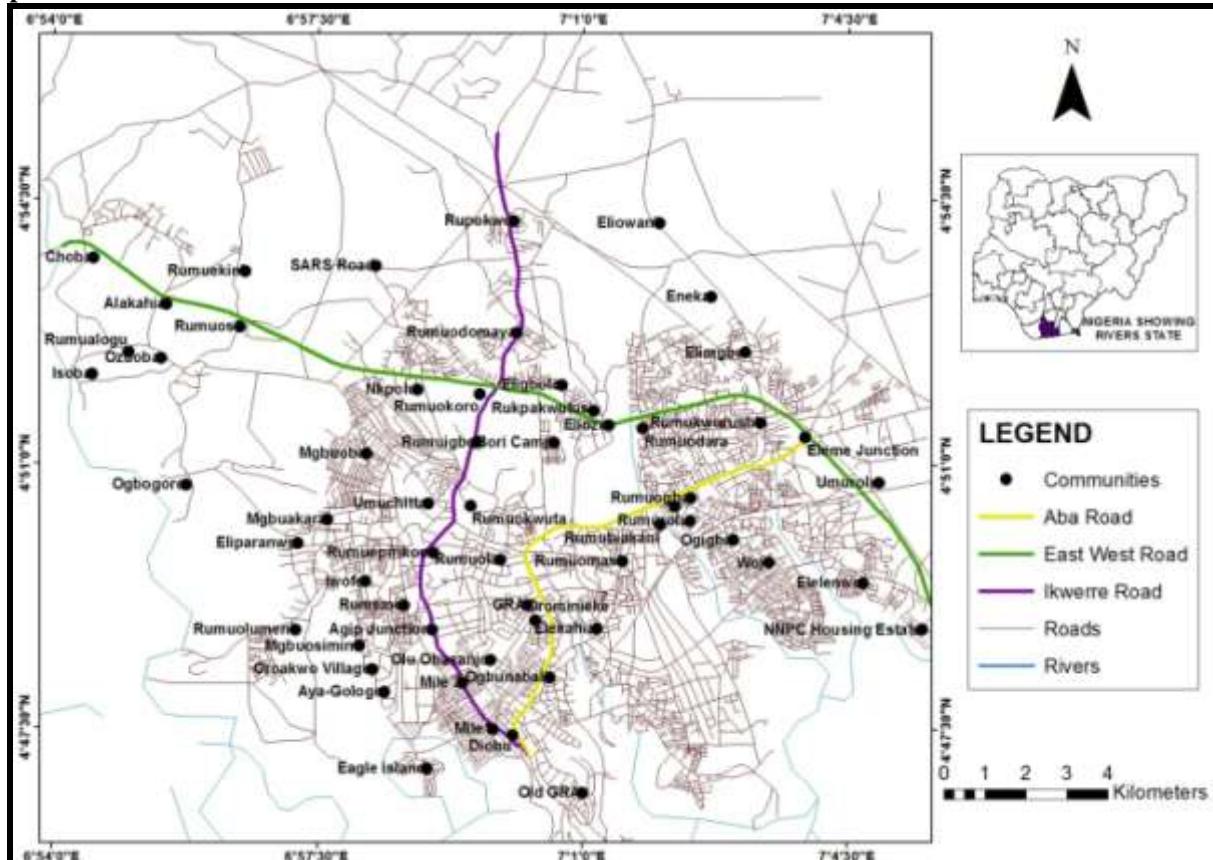
Presence of Police/traffic on the road	Frequency	Percentage %
Always	136	38
Sometimes	76	21.5
Rarely	109	30.9
Not at all	31	8.8
<b>Total</b>	<b>352</b>	<b>99.8</b>

Source: Author's field work, 2016

From the sampled drivers, it is clear that the absence of police patrol and other traffic agencies in the city has

contributed to the problem of road rage in the city. 98.1% of the sampled drivers gave their opinion of the law enforcement agencies not doing enough to curb this trending traffic challenge, while a minute fraction of 1.8% taught otherwise.

### 3.5 Traffic Routes Prone to Road Rage in Port Harcourt Metropolis



**Figure 1:** Study Area showing the traffic routes prone to road rage

Source: Author's digitised map (2018).

**Table 5:** Traffic routes most prone to road rage according to its incidents

	Routes	Types Of Road Rage
1 <sup>st</sup>	Ikwerre road (Rumuokoro -mile 1)	Aggressive driving, sudden acceleration, sudden brake. Lane blocking, unsafe lane changes, verbal insult, Unsafe tailgating.
2 <sup>nd</sup>	Aba-Road (ElemeJunction - Mile 1	Aggressive driving, sudden acceleration and sudden brake, lane blocking, Impulsive dissonant driving, tailgating, Impatience, over speeding, confrontational driving, rude gestures, verbal insults.
3 <sup>rd</sup>	East-west road (Eleme Junction – Choba)	Over speeding, tailgating, unsafe lane changes, aggressive driving, Rude gestures and verbal abuses, Impulsive dissonant driving, impatience.
4	Garrison/Trans Amadi	Tailgating, unsafe lane changes, rude gestures, verbal abuse, impulsive dissonant driving, impatience.
5	Rumuola/Rumuokuta	Over speeding, sudden acceleration, aggressive driving, rude gestures, impatience, impulsive dissonant driving.
6	Waterlines/Olu Obasanjo	Aggressive driving, sudden acceleration and sudden brake, lane blocking, Impulsive dissonant driving, tailgating
7	Rumuokuta /Choba	Impatience, over speeding, impulsive dissonant driving, rude gestures, verbal insults, Tailgating, unsafe lane changes.

Source: Author's field work, 2016

The routes that are prone to road rage behaviour by commercial motorist include the following; Rumuokoro – Rumukwuta-Mile 3-Mile 1, Rumuokoro - Eleme junction, Rumuokwuta - Rumuola, Choba-Rumuokwuta - Rumuola, Choba – Rumuokoro.

The entire transport network of Port Harcourt metropolis experiences one form of road rage or the other. The major road network of the state includes the Ph-Aba express way, East-West road and Ikwerre road.

**Table 6:** Frequency of road rage along traffic routes

Traffic routes	Frequency	Percentages
PH/Aba express way	103	29
Ikwerre road	129	36.6
East-west road	74	21
Garrison/Trans-Amadi	32	9
Waterlines/OluObasanjo	14	3.9
Total	352	99.5

Source: Author's field work, 2016

These routes were identified by commercial drivers and the researcher observation throughout the survey period. The study revealed that Ikwerre road recorded a (47.8%) high range of road rage behaviour and that majority of these commercial motorists that contribute highly to this traffic issue (road rage) were un-registered drivers, who do not operate from the various motor parks located across the state to either load or off-load their passengers. This has been identified as the major cause of traffic congestion at various roundabout and traffic intersections which also led to the increasing rate of road rage and aggressive driving across the city.

Spearman Rank Correlation of table 7; since the  $r = -.464$ ,  $p=.000$ , the null hypothesis which states that there is no statistical significant relationship between drivers age and their attitude to driving is accepted at 0.05 significance. This means that there is a highly negative relationship between the two variables. Therefore, the driver's age does not have a relationship with their attitude to driving. If it occurs, it will be by chance.

**Table 7:** Spearman Rank Correlation Analysis

			Drivers Education	Frequency of road rage
Spearman's rho	Drivers age	correlation coefficient	1.000	-.646
		Sig. (2 tailed)		.000
		N	352	352
	Attitude to driving	Correlation coefficient	-.464	1.000
		Sig.(2-tailed)	.000	
		N	352	352

Accept Null  $r^2 = -.464$   $P=.000$

From the spearman rank correlation test of table 8;  $r = -.240$ ,  $p = .000$ . The null hypothesis which states that there is no statistical relationship between drivers' gender and the frequency of road rage is accepted at 0.05 level of significance. This means that the level at which road rage occur is not necessarily been caused by gender differentials.

**Table 8:** Spearman Rank Correlation Analysis

			Drivers Gender	Frequency of Road Rage
Spearman's rho	Drivers Gender	correlation coefficient	1.000	-.240
		Sig. (2 tailed)		.000
		N	352	352
	Frequency of Road Rage	Correlation coefficient	-.240	1.000
		Sig.(2-tailed)	.0020	
		N	352	352

Accept Null  $r^2 = -.240$   $P=.000$

The spearman's correlation analysis carried out on the test on table 9, shows that  $r = .181$ ,  $p = .003$ . This test means that the null hypothesis which states that there is no statistically significant relationship between the level of driver's education and road rage manifestation is therefore rejected and the alternate accepted. This test shows the positive relationship between the two variables tested. This implies that when a driver is adequately educated, it will reduce the

level of road rage occurrence and when not educated to the required level there is a chance that it will trigger road rage.

**Table 9:** Spearman Rank Correlation Analysis

			Drivers Education	Attitude to Driving
Spearman's rho	Drivers Education	correlation coefficient	1.000	.181
		Sig. (2 tailed)		.003
		N	352	352
	Attitude behind the wheel	Correlation coefficient	.181	1.000
		Sig.(2-tailed)		
		N	352	352

Reject Null  $r = .181$   $P = 0003$

## 4. Conclusion and Recommendations

Surveys suggest that the majority of drivers/commuters have experienced at least one form of road rage, often minor but occasionally serious. This study on road rage has identified various causes seen in two factors that are human related and environmentally related factors. The continuous lingering of this problem of road rage - aggressive driving as a form of road traffic concern faced and exhibited by drivers and commuters is capable of crumbling a city transport system-couple with a fast growing of vehicular influx into the study area. Therefore I urge for the under listed recommendations to be followed as addressed.

The state government should provide adequate and functional motor parks across the city centres. Proper enforcement of traffic rules/laws and clear-off all roadside parks where loading and offloading takes place, Appropriate government road traffic agencies should be committed to carryout series of sensitization relating to road usage, traffic rules and road signs. Therefore new entrant drivers to attend relevant training that warn of the consequences of road rage act, aggressive and inconsiderate driving since this is a serious uproar. Road traffic personnel's like the Federal Road Safety Corps (FRSC) and other relevant agencies should institute a team to monitor motorist and enforce road traffic laws. Adequate road expansion and flyovers should be constructed to ease traffic, thereby limiting or eliminating road rage of any form, traffic psychologists have also suggested technical ways of reducing road rage, for example, by designing cars/vehicles that stop drivers from flashing their headlights or sounding the horn. Some have even been designed to include a sensor located in the front grill that detects the distance between a car and the car in front and modifies speed accordingly.

## References

- [1] Ayer (2006) Controlling Road Rage [www.journal.co.uk/papers/RJASS01\\_07](http://www.journal.co.uk/papers/RJASS01_07).
- [2] Bethesda L. Matthew J; & Connell D., (1997) Aggressive-driving: Three studies. AAA Foundation for traffic safety
- [3] Chris S, D, & Scott E.G., (2003) risky, aggressive, or emotional driving: Addressing the need for consistent communication in research. *Journal of safety research* 34 (2003) 559-566.

- [4] Dula C. S., & Ballard M.E., (2002) Development and Evaluation of a measure of dangerous, aggressive, negative emotional, and risky driving. *Journal of Applied social psychology*.
- [5] Emenike G. C. (2002) Persistent Mobility Crisis in Nigeria cities: Implication of Urban Planning in Arokoyo S.D and Adeyemo A.M (eds) Perspective Urban development vol.4 pp17.
- [6] Emenike G. C. (2014) road rage: a serious threat to motorists on Port Harcourt city roads. *Ikogho; a multi-disciplinary Journal* vol. 11 Nos. 3&4, 2014
- [7] Goehring J. B (2000) aggressive: Background and overview report, national conference of state legislatures. Retrieved April 25, 2016 Google:[www.ncsl.org/programs/esnr/aggrdriv.htm](http://www.ncsl.org/programs/esnr/aggrdriv.htm)
- [8] Greame S., (2007) The Psychology of Road Rage; A discussion of psychosocial explanation of road rage and policy implications
- [9] Hauber A.R., (1980) the social psychology of driving behaviour and the traffic environment: research on aggressive behaviour in traffic; International Review of Applied Psychology, Vol. 29, pp.461-474. Retrieved 12/02/2016:04:05pm.
- [10] Marshall E. and Thomas, N (2000) Traffic calming: The reality of road rage; London Home Office briefing Note 12/00
- [11] McDonald S. (2002) Psychology of aggressive driving and road rage. HHP: //www.Thinkingdrivers.com/driverpsychology.pdf.
- [12] Paige B. (2016) Road Rage: When stress hits the highway.
- [13] Prakash J. and Kansal M. (2007) Road Rage: psychosocial perspectives. *DELHI Psychiatry Journal* Vol.10 No1.
- [14] Shaily M., Rohit V., Tatan P.S.B and Shiraz U., (2014) Road Rage: Prevalence pattern and web Based Survey Feasibility. *Psychiatry Journal, volume 2014 (2014), Article ID 897493, 7 pages*
- [15] Tasca, L. (2000) a review of the literature on aggressive driving research. Aggressive driving issues conference. Retrieved: 28/3/16, <http://www.aggressive.drivers.com/papers/Tasca/Tasca.pdf>.
- [16] Ulleberg P. (2004) Aggressive driving- a literature review. Institute of transport economics, Oslo, 36 pages Norwegian Language
- [17] Walters C, Valmon J. P., Katie N., Scott A. C., Beverly T. K., (2000) Understanding road rage: Summary of first-year project activities. November 2000. Texas transportation institute the Texas a & m University System College Station, Texas 77843-3135
- [18] Yagil, D., (1998) Gender and age-related differences in attitudes towards traffic laws and traffic violations, transportation. Research part F I, pp. 123-135. Retrieved 20/2/2016 06:00pm