



Personality Traits, Mental Health and Driving Anger among Commercial Drivers in Lagos Metropolis, Nigeria

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Abstract

Driving anger has led to the alarming rate of road traffic crashes among commercial drivers. However, there is paucity of information linking personality traits and mental health to driving anger especially in Nigeria. The present study examined the role of personality traits and mental health on driving anger among commercial drivers. A cross sectional survey research design was used to select 326 (Mean = 38.76 years, SD = 2.24) drivers using a two-stage sampling technique in Lagos Metropolis. Data collection was through a self-reported questionnaire that measured personality traits, mental health and driving anger. Results indicated that there was significant positive association between mental health and driving anger. Result suggested a significant positive association between personality dimensions of humility, emotionality, extraversion, agreeableness, conscientiousness and openness to experience with driving anger. There was also a significant joint prediction of mental health and personality (humility, emotionality, extraversion, agreeableness, conscientiousness, and openness to experience on driving anger. Therefore, the study recommended that psychologists should assist the Federal Road Safety Corps in the screening of personality domains and unstable mental health responsible for anger driving.

Keywords: Anger driving, personality, mental health, drivers

Introduction

In recent times, driving anger has continued to attract profound attention among behavioural scientists across the globe and in developing countries like Nigeria (Disassa & Kebu 2019; Oluwadiya, et. al 2020; Ansar et.al 2021). This is due to the high rate of population growth and accelerated urbanization, which have resulted in more vehicles plying the world's big cities and urban centres (World Bank Group, 2000).

However, Nigeria is known to be the most populous country in Sub-Saharan Africa (Mefoh, Ugwu, Ugwu & Samuel, 2013). According to Mefoh et al. (2013), Nigerian cities are characterised by high population growth and rapid urbanisation that has created persistent road rage incidents. As a result, there has been a significant upsurge in road traffic congestion which has predisposed many commercial drivers to driving anger while driving especially in Lagos metropolis, which is the busiest city in terms of

population and automobile usage in Nigeria. Evidence has shown that motorists are exposed to a lot of environmental stressors such as congestion, noise, pollution, crowding and unfavourable temperatures (Mefoh et al., 2013). These situations trigger anger, anxiety and frustration, bringing about intense desires to found an escape route from the stressful stimuli (Mefoh et al., 2013).

Driving anger, aggressive driving and road rage are often used interchangeably in the literature (Balogun, Shenge, & Oladipo 2012; Oyeleke, Bada & Ajibewa, 2016). The construct denotes a wide variety of anti-social or aggressive behaviors that exist on the road. Driving anger has been defined as a grossly disproportional outburst of aggression by a driver of a motor vehicle in response to a perceived transgression by another road user (Coleman 2003). A typology of traffic crimes have been associated with driving anger, however, this study limit itself to a driver's basic disposition for anger, such as swearing or making rude utterances, putting up rude gestures, screaming verbal abuses, cursing at another driver or passenger, and blaring the horn unnecessarily in particular road circumstances. These negative behaviours over the years have contributed to a large percentage of road accidents across different countries (Wang, Rau & Salvendy, 2010). This is because it is a behaviour that is directed to one or large number of people on the road which ultimately puts the lives of driver as well as its passengers in danger. Researchers have also agreed that individual who exhibit anger behaviour and aggressive driving have the high tendency to engage in road traffic accident (Adeyemi-Doro, 2003; Balogun, Shenge & Oladipo, 2012; Matovic, Jovanoic, Plijakic & Stanojevic, 2020). The World Health Organization (WHO, 2015), on average estimated that road accidents claim lives of about 1.25 million people globally every year, also contributing to another 20–50 million injuries globally (WHO, 2015). For instance, in Malaysia, 7,438 people have died and 24,786 people were injured in year 2017. (Bukit Aman Traffic Investigation and Enforcement Department, 2017). Overall, the trend of road accidents in Malaysia including death and injuries are very high in the last five years. The number of road

traffic deaths and accidents in Ethiopia is found to be high (WHO, 2016; Disassa & Kebu 2019).

Nigeria has repeatedly been ranked among countries with highest rate of road accidents in the world (Agbonkhese, Yisa, Agbonkhese, Akanbi, Aka & Mondigha, 2013; Ojiakor, Etodike & Nkwam-Uwaoma, 2019). Specifically, in 2015, there were 12,077 road crashes (accidents) which resulted in 5,400 deaths nationwide; although the figure decreased by 25.8% in 2016 to 4005 deaths in 7657 road crashes. Recently, Kazeem (2020) confirmed that the Federal Road Safety Corps (FRSC) recorded 3,947 road crashes and 1,758 deaths in the first quarter of 2020 in Nigeria. According to Kazeem (2020), 6,448 vehicles were involved in road crashes while 11,250 sustained injuries. The World Health Organization (WHO, 2016) affirmed that road crashes remain next to insurgency as the highest source of violent deaths in Nigeria (WHO, 2016; Nigerian Pilot, 2016). These disturbing figures need urgent attention from policy-makers. Despite the effort of the Nigeria Government through the establishment of Federal Road Safety Corps (FRSC) and other related road safety agencies aimed at maintaining safety on the road and prosecuting of road offenders, it is still worrisome to know that the menace of anger driving (road rage) still persists; causing frequent reported incidents of road accidents in the country.

Also, some studies have affirmed that human causes are responsible for about 85 percent of all traffic deaths worldwide. This is because road accidents are usually dependent on the driver's characteristics, feelings, attitudes and driving styles while driving on the road (Ismail et.al., 2016; Sabir & Nizam, 2017). However, there is little evidence available regarding the relative importance of personality and mental health on anger driving. Previous studies in Nigeria have identified various factors predicting driving anger which include extraversion and openness, demographic variables, personality, locus of control, age, years of driving experience, marital status and educational status, cognitive effects of dialogic in-vehicular music communication (Mefoh, et al, 2013; Balogun, Shenge & Oladipo, 2012; Ojiakor, Etodike & Nkwam-Uwaoma,

2019; Akinniyi, Akinnawo, Akpunne & Oyeleke, 2019). The study conducted by Akinniyi, Akinnawo, Akpunne and Oyeleke (2019) only examined the influence of personality and demographic variables on risky driving behaviour among traffic offenders in Osun State, Nigeria while the one done by Oyeleke, Bada and Ajibewa (2016) examined the role of socio-demographic factors, job stress and extraversion as the only personality trait investigated. This present study differs from previous research as it aimed to investigate the joint influence of personality traits (honesty-humility, extraversion, agreeableness, conscientiousness and openness to experience) and mental health on anger driving among commercial drivers in Lagos state, Nigeria.

Personality traits, according to Chahau (2016) are a dynamic trend in which people, their behaviour, and their environment are constantly influencing each other. Personality has been found to affect how people treat and respond in some driving conditions (Najeeb, 2012). Openness, conscientiousness, extraversion, agreeableness, and neuroticism are personality characteristics that may influence a driver's individual behaviors in rage driving. According to studies, drivers with poor agreeableness and conscientiousness but high neuroticism are more likely to break traffic laws and operate when intoxicated (Ucho, Terwase & Ucho, 2016). In another vein, Oyeleke, Bada, and Ajibewa (2016) found that drivers with high extraversion showed substantially more driving rage activity than those with low extraversion in a similar survey. In addition, Mefoh et al (2013) in an empirical investigation revealed that personality traits (extraversion and openness) predicted road rage among Nigerian commercial drivers.

The state of mental health has been implicated to influence driving anger of drivers (Possis et.al 2013; Abdoli et. al 2015). Therefore, mental health is given cursory attention in this study. Mental health is a state of well-being in which each person realizes their full potential, is able to cope with everyday pressures, works productively and fruitfully, and contributes to their society (WHO, 2017). Positive mental wellbeing, which is synonymous with

autonomous self-management of health and resistance to adversity, is described as optimum emotional, social, and psychological well-being in the literature (Ryan & Deci, 2017). Drivers who are suffering from a psychological state like depression or trauma may be classified as more susceptible to road traffic accidents. Abdoli et. al (2015) found that general health status concerns are associated with reckless driving behaviour. Similarly, in a study of 1,324 heavy goods truck drivers, Hilton, Staddon, Sheridan, and Whiteford (2009) discovered that moderate and very severe self-reported depressive symptoms were linked to an elevated risk of being involved in an accident. In another related study, Pourabdian and Azmoon (2013) findings suggest that poor driving behaviour is significantly related to higher trait anxiety scores among Iranian drivers.

Present Study

In the present study, we examined how personality traits (honesty-humility, extraversion, agreeableness, conscientiousness and openness to experience) and mental health may play a predictive role in respect of anger driving among commercial drivers in Lagos Metropolis, Nigeria. We hypothesized that there are significant relationships between personality traits (humility, emotionality, extraversion, agreeableness, conscientiousness and openness to experience), mental health and driving anger behaviour among commercial drivers. Also, there are significant joint and independent predictions of mental health and personality on driving anger.

Methods

Research design

The research was conducted using a cross-sectional survey research design. Since data was gathered at a particular point in time, from different individuals (participants), the design was found to be adequate. The predictor variables are personality traits and mental health while the criterion variable is driving anger.

Participants and settings

The study used 326 commercial drivers from two motor parks in Lagos Metropolis, South-western,

Nigeria. A two-stage sampling technique was used. In the first stage, purposive sampling technique was used to select two inter-state parks in Ikeja, Lagos metropolis. The convenient sample which was the second stage was used to select participant at the two locations. The inclusion criteria involve that the drivers must be a commercial inter-state driver. The sample comprised 327(97.3%) males and 9(2.7%) females (Mean = 38.76 years, SD = 2.24). As regard religion affiliation, vast majority of 218 (66.9%) were Christians, 104 (31.9%) were Muslims while only 4 participants (1.4%) were traditional worshippers. Lastly, in term of participants' driving experience, 199(61.0%) have less than five years driving experience, 71(7.1%) have more than 10 years driving experience, 23(6.6%) have more than 15 years driving experience, 11(3.4%) have more than 20 years driving experience, while a total of 22 (6.7%) have more than 25 years driving experience.

Measures

The data was gathered using a three-section questionnaire. The first segment of the questionnaire asked about sex, age, religion, and driving experience. The second, third and fourth sections contained measures of driving anger, mental health and personality traits respectively. *Anger driving* was assessed using the 14-item Driving Anger Scale (DAS) developed by Deffenbacher, Oetting and Lynch (1994). Sample of the items includes "Someone speeds up when you try to pass" and "You are stuck in a traffic jam". The response options were on a five-point Likert-type scale ranging from 1 = "not at all"; 5 = "very much". In this study, the Cronbach of 0.79 was reported for this scale.

Mental health was measured using the 28 item General Health Questionnaire developed by Goldberg and Hillier (1978). The scale is designed for detection and assessment of individuals with an increased likelihood of current psychiatric disorder. The scale was scored on a four-point scale ranging from 1-not at all, 2-no more than usual, 3-rather more than usual, 4-much more than usual). In this study, the Cronbach's alpha of 0.85 was reported.

Personality was measured using the 24-item Brief HEXACO Inventory developed by De

Vries (2014). The scale has five domains of honesty-humility (H), extraversion (X), agreeableness (A), conscientiousness (C) and openness to experience (O). Items 6, 12R, 18R, 24R; 5, 11R, 17R, and 23 measured the domain of honesty-humility, item 4R, 10, 16, and 22R measured the domain of extraversion Item 3R, 9R, 15, and 21 measured agreeableness. Item 2, 8R, 14, and 20 measure Conscientiousness while item 1, 7R, 13, and 19 measures openness to experience. Sample of items include "I can look at painting for a long time". The items were rated on a five-point scale from 1= strongly to 5 = strongly agree. The author reported a reliability of .81 for the composite score of the scale while in the present study we reported a reliability of .84

Procedure

The researchers sought research permission from the Academic and Research Committee of the Obafemi Awolowo University, Ile-Ife, Nigeria before embarking on the study. Two research assistants were pre-trained in the study's methods and helped with data administration and collection. Participants were duly informed of the aim of the study on individual basis. Participants were also assured of utmost confidentiality. Only participants who gave their verbal consent either in English or Yoruba language were allowed to participate in the study. Two parks and garages in Ikeja axis were selected for the study settings. The leadership of the National Union of Road Transport Workers (N.U.R.T.W.) assisted the researchers through mass mobilisation of their members within the garages. Each participant was given a copy of the questionnaire to read and complete honestly after deciding to participate. A total of three hundred and fifty questionnaires (350) copies of the questionnaire were distributed and after preliminary data screening, 326 (93% return rate) were found to meet the conditions for statistical analyses. Data collection lasted for almost four weeks.

Data Analysis

The data in this study was analysed using the IBM Statistical Package for Social Sciences (IBM Corp, Chicago IL) version 24. Demographics were described using descriptive statistics, while inferential statistics such as zero order correlation

and multiple regressions were used to test the hypotheses in the study.

Results

Descriptive statistics

Table 1 presents the descriptive statistics indicating the minimum, maximum, mean and standard deviation scores on the variables of study.

Table 1: Descriptive statistics for personality traits, mental health and anger driving (N= 326)

Variables	Minimum	Maximum	Mean	S.D
Driving anger	14.00	63.00	36.79	9.63
General health	30.00	76.00	55.61	12.47
Humility	1.00	20.00	11.87	3.03
Emotionality	1.00	20.00	11.16	3.24
Extraversion	1.00	20.00	11.21	2.85
Agreeableness	1.00	20.00	11.56	3.19
Conscientiousness	5.00	20.00	12.31	3.01
Openness	4.00	20.00	11.97	3.48

Table 1 shows the minimum and maximum score as well as the mean and SD that respondents score on each variable in the study. For driving anger, the minimum score that the respondent have is 14.00 while the maximum score is 63.00 with a mean of 36.79 and SD of 9.63. For general health, the minimum score of a respondent is 30.00 while the maximum score is 76.00 with a mean of 55.61 and SD of 12.47. For the dimension of personality, humility as a sub scale has a minimum score of 1.00 and a maximum score of 20.00 with a mean of 11.87 and SD of 3.03. For emotionality, the minimum score of 1.00 was also scored and a maximum score of 20.00 with a mean of 11.16 and SD of 3.24. For extraversion

trait, a minimum score of 1.00 was reported while maximum score of 20.00 with mean of 11.21 with SD of 2.24. For Agreeableness trait, a minimum score of 1.00 and maximum of 20.00 with mean of 11.56 and SD of 3.19 was also ascertained. Furthermore, conscientiousness traits also have a minimum score of 5.00 and maximum score of 20.00 with mean of 12.31 and SD of 3.0. Finally, the minimum score of 4.00 and maximum of 20.00 with mean of 11.97 and SD of 3.48 was also reported for openness to experience trait.

Hypothesis 1: There will be significant relationship between personality trait, mental health and driving anger.

Table 2: Mean, standard deviation, and correlation matrix of the variables in the study

Variables	1	2	3	4	5	6	7	8	Mean	SD
1 Mental health	-								55.35	12.62
2 Humility	.24**	-							11.84	3.06
3 Emotionality	.30**	.56**	-						11.15	3.27
4 Extraversion	.34**	.52**	.52**	-					11.19	2.94
5 Agreeableness	.15**	.54**	.59**	.43**	-				11.49	3.30
6 Conscientiousness	.20**	.54**	.53**	.52**	.62**	-			12.28	3.13
7 Openness	.24**	.51**	.57**	.45**	.65**	.63**	-		11.99	3.58
8 Driving anger	.37**	.24**	.19**	.31**	.13*	.21*	.22**	-	36.69	9.78

* $p < .05$. ** $p < .01$.

Result in Table 2 show that there was significant positive correlation between mental health and driving anger ($r = .37, p < .01$). This implies that respondents with high mental health significantly exhibit high driving anger. The result also revealed a significant positive correlation between humility and driving anger ($r = .24, p < .01$). This also means that increase in humility that driver exhibit tends to more driving anger in them. It was also found that there was a significant positive relationship between emotionality and driving anger ($r = .19, p < .01$). This implies that increase in participants' emotionality tends to increase tendency to display driving anger among commercial drivers. Furthermore, there was a significant positive relationship between extraversion and driving anger ($r = .31, p < .01$). This indicates that an

increase in extraversion tends to higher tendency of driving anger. There was also significant positive relationship between agreeableness and driving anger ($r = .13, p < .05$). This implies that increase in agreeableness tends to increase in driving anger. There was also significant positive relationship between conscientiousness and driving anger ($r = .21, p < .05$) signifying that the more conscientiousness a driver has the tendency to increase their driving anger. Finally, there was also significant positive relationship between openness to experience and driving anger ($r = .22, p < .01$). This implies that increase in openness to experience tends to increase in driving anger.

Hypothesis 2: There will be significant joint and independent prediction of mental health and personality traits on driving anger.

Table 3: Summary of Multiple Regression of mental health and personality on driving anger

Variables	β	t	Sig	R	R ²	F	P
Mental health	0.29	5.09	<.05				
Humility	0.09	1.25	>.05				
Emotionality	-0.05	-0.67	>.05	0.43	0.19	10.78	<.05
Extraversion	0.17	2.46	<.05				
Agreeableness	-0.08	-1.02	>.05				
Conscientiousness	0.04	0.51	>.05				
Openness to experience	0.07	0.98	>.05				

Results in Table 3 show that there was significant joint prediction of mental health and personality (humility, emotionality, extraversion, agreeableness, conscientiousness, and openness to experience) on driving anger ($F(7, 280) = 10.78, R^2 = 0.19; p < .05$). The $R^2 = 0.19$ indicate that the independent variables mental health and personality (humility, emotionality, extraversion, agreeableness, conscientiousness, and openness to experience) explained 19% variation in driving anger. Specifically, results show that mental health ($\beta = 0.29; t = 5.09; p < .05$), and extraversion

($\beta = 0.17; t = 2.46; p < .05$) independently predicted driving anger of commercial drivers

Discussion

The study examined the predictive role of personality traits and mental health on anger driving among commercial drivers in Lagos metropolis. As hypothesized, our findings revealed that commercial drivers with high deficiencies in their state of mental health significantly reported high tendency of exhibiting driving anger. The study findings partly support the works of Abdoli et. al (2015) who found that

general health status concerns are associated with poor driving behavior. Findings suggest a significant positive correlation between personality dimensions of humility, emotionality and extraversion, agreeableness, conscientiousness, openness to experience and driving anger behaviour. The finding affirmed studies of Oyeleke et al. (2016) that showed that drivers with high extraversion significantly reported higher driving anger behavior than those with low extraversion. This study outcome also collaborates with studies of Mefoh et al. (2013) that established the crucial role of personality traits (extraversion and openness) in predicting road rage among a sample of Nigerian commercial drivers. According to Mefoh, et al, (2013) such individual aggressive driving led to more hostile behaviour from other road users just like the common say that every action brings a reaction. The study was also in line with Ucho, Terwase and Ucho (2016) who found that drivers with poor agreeableness and conscientiousness but high neuroticism are more likely to break traffic laws and operate when intoxicated. The justification for this finding is because personality dispositions of drivers vary and the mental state, they are presently at could go a long way to determine how they will behave on the road.

Findings also revealed a significant joint prediction of mental health and personality (humility, emotionality, extraversion, agreeableness, conscientiousness, and openness to experience) on driving anger. Furthermore; it was only mental health and extraversion that independently predict driving anger behaviour. The study was not in line with Hilton, Staddon Sheridan and Whiteford (2009) who found heavy goods vehicle drivers with severe and very severe self-reported symptoms of depression correlates with the increased risk of being involved in an accident. The study findings did not support the works of Ucho Terwase and Ucho (2016) who found that drivers with low agreeableness and conscientiousness but high neuroticism tend to violate road traffic rules and drive under the influence of alcohol. The rationale why the study finding was so is because drivers with personality traits of extraversion are likely to see driving as pleasure and competition with other road users.

Individuals with these dispositional traits are involved in reckless driving especially when their mental state has been affected.

Conclusion and Implication of the study

We concluded that mental health and personality especially extraversion traits predict anger driving behaviour among commercial drivers in Lagos Metropolis. This implies that the personality characteristics of drivers interfere with their judgmental decision when driving on the road. Therefore, it becomes imperative for psychologists and other behavioural scientists to develop a comprehensive personality assessment in order to screen and identify commercial drivers who possess personality traits such as extraversion, which could predispose them to anger driving. However, this category of drivers should be exposed to psycho-educational training programmes on aggressive driving reduction. This would motivate them on how to manage their frustrations and anger on the road. Study findings also imply that driver must be in a good state of mental health devoid of anxiety, fear depression, and social dysfunction. Thus, there should be periodic psychopathology evaluation of drivers by psychologists in collaboration with the Federal Road Safety Corps (FRSC) to ascertain if such drivers are mentally fit and emotionally capable to drive.

Limitation and Suggestions for Further Studies

Data for this study came from commercial drivers in Lagos Metropolis, Nigeria. Thus, a note of caution when generalizing our findings to other part of the country which may not necessarily meet the conditions under which this present study was carried out. The study used a cross sectional survey design, which may be difficult to establish a causal and effect among the variables of interests in the study. The use of a self-reported questionnaire could create room for some form of faking or bias by the participants. Also, the study examined personality and mental health on anger driving behaviour. These factors jointly contributed only 19% variance in anger driving behaviour among commercial drivers, indicating that other variables, not measured in this study, may contribute the remaining 81%. More psychosocial factors such as (impulsivity, family dysfunction, attitude to road safety and

resilience) serving as mediating variables could be considered for future studies. It is therefore suggested that future studies on anger driving should be conducted in all the geo-political zones in Nigeria with auto drivers of motorcycles, tricycles. Lastly, a mixed-method approach (involving both quantitative and qualitative) of data gathering can also be incorporated by any researchers that want to replicate this study for more robust findings.

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Competing interests

The author declares that there are no competing interests.

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