ANGER PRONENESS, ANXIETY, AND LIFE SATISFACTION AS PREDICTORS OF DRIVING BEHAVIOUR AMONG CORPORATE DRIVERS IN IBADAN

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ABSTRACT

This study investigated anger proneness, anxiety, and life satisfaction as predictors of driving behavior among corporate drivers in Ibadan. A cross-sectional survey design was used for data collection. Purposive sampling was used to select ten corporate organizations while convenience sampling was used to select 199 corporate drivers with age ranging from 30-52 years old who responded to questionnaire items. Four instruments: Gracia's Anger Proneness Scale, Satisfaction With Life Scale, Beck Anxiety Inventory, and Pro-social and Aggressive Driving Inventory were used for data collection. The data were analyzed using multiple regressions analysis and the hypothesis tested at a 0.05 level of significance. The results revealed that anger proneness, anxiety, and life satisfaction jointly predicted pro-social driving behavior[R=0.26; R^2= 0.07; F (3, 195) = 4.53; p=.05]. However, only anxiety (β=-.21; t=-2.45; p<.05) independently predicted pro-social driving behaviour. Also, anger proneness, anxiety, and life satisfaction jointly predicted aggressive driving behavior[R=.45; R^2 = .20; F (3, 195) =16.63; p< =.05]. However, both anger proneness (β=.38; t= 4.61; p< .05) and life satisfaction   (β=-.19;t= -2.89; p<=.05) independently predicted aggressive driving behaviour among corporate drivers in Ibadan. The study concluded that anger proneness, anxiety, and life satisfaction are important predictors of pro-social and aggressive driving behaviour among corporate drivers in Ibadan. It is therefore recommended that corporate organizations should put in place a comprehensive profile screening techniques to screen prospective drivers on anger and anxiety dimensions of personality traits to avoid employing mismatched drivers into their organizations.

Keywords: *Anger Proneness, Anxiety, Life Satisfaction, Driving Behavior, Corporate Drivers*

INTRODUCTION

Driving is an important part of everyday life and it represents freedom. Many activities including production and recreational may be affected if people can no longer drive. Driver behaviour is the set of actions that a driver performs to ensure both the safety of people and compliance to the driving regulations (Zhang et al., 2015). Driving behaviour models capture drivers' tactical manoeuvering decisions in different traffic conditions. Two types of driving behaviours have been identified in literature namely aggressive (unsafe) driving behavior and pro-social (safe) driving behavior (Houston, et al., 2003; Schafer, 2015). Aggressive driving behaviour is the operation of a motor vehicle in an unsafe and hostile manner without regard for other road users (Houston, et al., 2003; Balogun et al., 2012). This includes making frequent or unsafe lane changes, failing to signal or yield the right of way, tailgating, and disregarding traffic controls. Examples of typical aggressive driving behaviours are speeding, driving too close to the car in front, not respecting traffic regulations, improper lane changing or weaving, etc. Most drivers drive aggressively from time to time and many drivers are not even aware when they are doing it.

The second type of driving behavior is pro-social driving behavior defined as a patterned of safe driving behaviours that protect the well-being of passengers, other drivers, pedestrians and thus promotes effective cooperation with others in the driving environment (Batson, 2012; Schafer, 2015). Pro-social driving behaviour includes a broad range of actions intended to benefit one or more persons other than oneself such as helping, comforting, sharing, cooperation, and philanthropy and community service (Batson, 2012). Pro-social driving involves practicing courteous and safe driving behaviour that significantly reduces the risk of road trauma (Isler, & Newland, 2017).

One factor that can predict aggressive and pro-social driving behaviour among drivers is anger proneness defines as a psychobiological emotional state characterized by the feelings of annoyance of variable intensity depending on the inference a person makes on the intentionality of another (Gonzalez-Iglesias et al., 2012). It is a response to frustration, interruption of a planned activity, violation of social rules, personal expectations, or an offense to oneself (Stephens et al., 2018). Anger proneness is a very common emotion experienced among individuals including drivers (Scherer, & Wallbott, 1994). Angry people often attribute failure to an external and controllable cause (Weiner, 1985). This emotional state is associated with physiological changes including increase in heart rate, blood pressure reactivity (Smith & Allred, 1989; Suarez & Williams, 1990), and recognizable facial expressions and postures (Ekman, 1992).

Studies have shown that anger proneness resulted in more frequent aggressive driving behaviours but did not increase driving error frequency (Feng et al., 2017). The majority of studies have dealt with anger and subsequent aggression because of its direct relationship to the driving situation. It must be argued that anger is a cause as well as a consequence of traffic violations and unsafe driving. Dahlen and White (2006) found that anger predicted aggressive driving behavior. Bachoo et al., (2013) found that drivers that scored high in anger proneness were more likely to report more aggressive driving behavior than those that scored low in anger proneness. Iversen and Rundmo (2002) demonstrated that drivers who scored high in anger proneness reported more frequent aggressive driving behavior than those who scored low on anger proneness.

The second factor considered in this study as predictor of aggressive and pro-social driving behavior is life satisfaction which is the general evaluation of one's life domain that includes financial, marriage, health, travel, etc at a certain point (Fidal et al., 2019). Life satisfaction (happiness) tends to be the ultimate goal of human beings (Diener et al., 2012). An individual with high level of life satisfaction and well-being facilitate pro-social and adaptive driving behavior that takes other road users into considerations than drivers with low life satisfaction (Isler & Newland, 2017). This attitude of well-being tends to safeguard drivers against committing deliberate traffic violations that would put them at serious risk.

And the third factor considered as predictor of aggressive and pro-social driving behaviour in this study is anxiety which is an unresolved fear-related reaction (i.e., flight). It is the absence of reaction when facing a danger that lead to a latent tension and uneasiness associated with rumination and worry (Stephens & Groeger, 2009). Ohman (1993) describes anxiety as a response to an unrecognizable threatened stimulus that interferes with processing of other tasks. Anxiety is a common phenomenon in driving behaviour. Studies have found that anxiety might be associated with a higher risk of being involved in accidents as well as a contrary effect of cautiousness on the road (Alemu & Kebu, 2019). Anxiety both deteriorates performances and promotes cautiousness (Dula & Geller, 2003). As with anger proneness, anxiety has been found to be highly correlated with driving behavior (Alemu & Kebu, 2019). Thus, anxiety is dependent on the complexity of the driving situation, traffic density, and other users' behaviour (Alemu & Kebu, 2019). Nevertheless, this negative effect of anxiety is also associated with cautiousness. Sharhar (2009) found that high anxiety Israeli drivers adopted riskier driving with a larger number of errors, lapses and ordinary violations. But in a correlational study among 163 participants, Garrity and Demick (2001) found that tension and anxiety were related to pro-social behaviour (cautiousness) in driving.

Anger, cautiousness, and anxiety have been confirmed to affect aggressive and pro-social driving behaviour. For example, Stephens and Groeger (2009) analyzed the situational specificity of anxiety and anger traits influences on driver's evaluations and behaviours. During a simulated driving task, anxiety-prone and anger-prone drivers rated the levels of danger,

calmness, and difficulty for seven different driving scenarios. They found that anxiety-prone drivers rated higher the level of difficulty for the simulated tasks, and drove more cautiously with increased speed limit compliances. Interestingly, Ulleberg and Rundmo (2003) surveyed 1932 Norwegian young drivers to predict aggressive and pro-social driving behaviour on the basis of anger proneness and anxiety level. The result indicated that those who scored high on altruism (pro-social) and anxiety (aggressiveness) were more inclined to have positive attitudes toward traffic safety and were less likely to take risks. They concluded that anxiety favoured awareness of road accidents and promoted care and defensiveness. Anger proneness and anxiety effect varied depending on the task complexity.

The drivers' anger proneness, anxiety and life satisfaction could have affected the way people drive. A driver who is easily prone to anger might let his anger influence the way he drives thereby breaking traffic rules and putting himself and other road users at risk. But this is not so in all cases. The fact that one driver allows his emotions and feelings to rule or affect his actions does not mean that all drivers are ruled by their emotions and feelings. So, a very provoking question in this study is: Do all drivers allow their emotions and feelings at a particular time to affect their driving decisions? In order words, do some drivers show pro-social driving behaviour while on the roadway, and at another end show aggressive driving behaviour? Therefore, the purpose of this study is to empirically determine whether anger proneness, life satisfaction, and anxiety will jointly and independently predict aggressive and pro-social behavior among corporate drivers in Ibadan, Oyo State, Nigeria.

The study will bring a fresh understanding to driving behavior in the area of anger proneness, anxiety and life satisfaction among drivers. Also, the findings of this study will assist in the modification of drivers' behaviour in order to reduce maladaptive (negative) driving behaviour and possible reinforcement of adaptive (positive) behavior among drivers.

Hypotheses

The hypothesis generated and tested in this study is: Anger proneness, anxiety and life satisfaction will jointly and independently predict aggressive and pro-social driving behaviour among corporate drivers in Ibadan.

Review of Related Studies

Lajunen (2001) investigated anger proneness, anxiety and life satisfaction on road traffic fatalities in 34 nations and found a positive association between anger proneness, anxiety, and life satisfaction and number of traffic fatalities. The results showed that countries with high traffic fatalities had higher scores on anger proneness than those with lower fatalities. In a study on anger proneness, anxiety and life satisfaction on driving behavior and accident involvement in a Norwegian sample of 1356 young drivers, Oltedal and Rundmo (2006) found a positive correlation between aggression, aggressive driving and accidents with fatalities. Anxiety correlated negatively with accident involvement, and life satisfaction correlated positively with both aggressive driving behavior and accidents involvement. However, these traits explained only a small proportion of the variance (Oltedal & Rundmo, 2006).

Ulleberg and Rundmo (2003) conducted a study among 1932 young Norwegian drivers in order to determine individual differences in aggressive driving behaviour and traffic accident involvement. They found that the association between personality traits (including aggression and anxiety facets under neuroticism) and aggressive driving behaviour was mediated by attitudes. Hence, they concluded that personality traits of anger, anxiety affected aggressive driving behavior.

In a meta-analysis of 47 studies of the relationship between the anger proneness, life satisfaction, anxiety, and accident involvement, Clarke and Robertson (2005) identified anxiety as a valid and generalizable predictor of traffic accidents.

In a study using 18 psychology students Benfield et al., (2007) found that high scores on anxiety were associated with more self-reported aggressive driving.

Jovanovic et al. (2011) conducted a study among 260 Serbian drivers in order to investigate the effect of the five-factor personality traits on aggressive driving behaviour. They found that anxiety predicted aggressive behaviour and that this effect was mediates by driver's anger proneness.

METHOD
Design
The study adopted cross-sectional survey design where data were collected using validated questionnaire. The study investigated anger proneness (susceptibility to anger), anxiety, and life satisfaction (happiness) as predictors of driving behavior among corporate drivers in Ibadan, Oyo state. The independent variables were anger proneness, anxiety, and life satisfaction, while the dependent variable is driving behavior which is decomposed into aggressive driving behavior and pro-social driving behaviour. The researchers did not manipulate any independent variables.

Population and sampling technique
The population for the study was all drivers in corporate organizations in Ibadan, Oyo State, South-west, Nigeria. The study used purposive sampling technique to select ten corporate organizations while convenience sampling technique was used to select participants from each of the organization to response to the questionnaire used in the study.

Participants
All the participants were male drivers (199), with the age brackets ranging from between 30-40 years 169(84.9%), 41-50 years 27(13.6%), and 51 years and above 3 (1.5%). In term of driving experience, those driving for less than 10 years were 46 (23.2%), 10 -15 years 136 (68.3%), 15 years and above 17(8.5%).

Instruments
Gracia's Anger Proneness Scales (APS-G).This scale comprises four items which are evaluated using 4-point Likert-type rating (4 = Yes; 3 = I think so; 2 = I do not think so; and 1 = No). The sum of the four items yields a total score such that a higher score means greater anger proneness. The Cronbach alpha for this study is α=0.79. **Satisfaction With Life Scale (SWLS)**
This scale was developed by Diener el at., (1985). It is a five- item scale evaluated using a 6-point Likert type format ranging from 6 = disagree strongly to 1 = agree strongly. The scale has been validated among several population and samples. The scale showed a one-factor structure and good indices of internal consistency (α = .83). For the present study, the Cronbach alpha is α=0.86. **Beck Anxiety Inventory** The scale was development by Beck et al., (1988). It is a 21-item scale which are evaluated along a 4-point Likert format ranging from 3 = it severely, it bothered me a lot to 0 = not at all. The total score is calculated by finding the sum of all 21 items. A score of 0 to 21 means low anxiety, a score of 22-25 means moderate anxiety and a score of 36 and above signifies potentially concerning levels of anxiety. For the present study, the Cronbach alpha is α =0.91. **Pro-social and Aggressive Driving Inventory (PADI)** Driving behaviour was measured using the Pro-social and Aggressive Driving Inventory (PADI). It is a

self-report questionnaire that includes two scales measuring safe (pro-social) and unsafe (aggressive) driving practices. The pro-social driving subscale is a 1-17-item which assessed safe driving behaviours that could help protect the participant, other drivers, and pedestrians from harm on the roadways. The aggressive driving subscale is a 18-27 item which assessed unsafe driving behaviours that exhibits hostility (e.g., horn honking, rude gestures) or that could harm the participants, other drivers, and pedestrians (e.g. speeding, weaving in and out of lanes). The scale is evaluated along a 7-point Likert format ranging from 7 = Always to 1 = Never. The test-retest reliability of Pro-social subscale (α=0.79) and Aggressive driving subscale (α=0.77) indicated that these two subscales are relatively stable and reliable. For the present study, the Cronbach alpha of the pro-social driving behaviour scale is α=0.95 and the Cronbach alpha of the aggressive driving behaviour scale is α=0.85.
Demographic variables including age and year of experience as drivers were also collected.

Procedure
The researchers randomly administered 220 questionnaires to corporate drivers in Ibadan North Local Government Area in Oyo State, South-west, Nigeria. Only drivers in corporate organizations participated in the study. They were assured of anonymity and confidentiality. Instructions on how to fill the questionnaire were clearly written on the questionnaire. Out of the 220 questionnaires that were administered, 199 (i.e., 90.5% response rate) were completely filled and used for the analysis.

Data Analysis
Data collected were analyzed using the Statistical Package for Social Sciences (SPSS) version 22. Demographic data were summarized using descriptive statistic while multiple regressions analysis was used to test the hypothesis at a 0.05 level of significance.

RESULTS

Hypothesis: Anger proneness, anxiety, and life satisfaction will jointly and independently predict aggressive and pro-social driving behaviour among corporate drivers in Ibadan. This hypothesis was tested using multiple regressions analysis and the result is presented in Table 1.

Table 1: Multiple regression analysis showing anger proneness, anxiety, and life satisfaction as predictors of aggressive and pro-social driving behavior among corporate driver in Ibadan

Criterion	Predictors	β	t	p	R	R^2	F	p
Pro-social driving	Anger	.01	.03	>.05	.26	.07	4.53	<.05
	Life satisfaction .13		1.79	>.05				
	Anxiety	-.21	2.45	<.05				
Aggressive driving	Anger	.36	4.61	<.01	.45	.20	16.63	<.05
	Life satisfaction -.19		-2.89	<.05				
	Anxiety	.06	.72	>.05				

Table 1 presents results on the joint and independent predictors of anger proneness, anxiety, and life satisfaction on driving behaviour (pro-social and aggressive driving) among corporate drivers in Ibadan.
With respect to pro-social driving behaviour, the results revealed that anger proneness, anxiety, and life satisfaction jointly predicted pro-social driving behaviour among corporate drivers in Ibadan [R = .26; R^2 = .07; F (3,195) = 4.53; P<.05]. Collectively, anger proneness, anxiety, and life satisfaction accounted for about 7% variance in pro-social driving behaviour among

corporate drivers. However, only anxiety (β = -.21; t = -2.45; P<.05) was found to independently predicted pro-social driving behaviour.

As with aggressive driving behaviour, the results showed that anger proneness, anxiety, and life satisfaction jointly predicted aggressive driving behaviour among corporate drivers in Ibadan [R = .45; R^2 = .20; F (3,195) = 16.63; P<.05]. However, only anger proneness (β = .36; t = 4.61; P<.05) and life satisfaction (β = -.19; t = -2.89; P<.05) independently predicted aggressive driving behavior among corporate drivers in Ibadan. This confirms the hypothesis tested.

DISCUSSION

The study investigated the role of anger proneness, anxiety, and life satisfaction as predictors of driving behaviour among corporate drivers in Ibadan, Oyo State. Four validated instruments were used to gather data from drivers in ten corporate organizations in Ibadan. One hypothesis was generated and tested in the study.

The hypothesis which states that anger proneness, anxiety, and life satisfaction will jointly and independently predict driving behaviour among corporate drivers in Ibadan was tested using multiple regressions analysis and the was confirmed. With respect to pro-social driving behaviour, only anxiety independently predicted pro-social driving behaviour. This finding supported the results by Isler & Newland (2017) who found that anxiety trigger off many components of pro-social driving behavior such as being courteous and mindful of other road users.

As regards aggressive driving behaviour, both anger proneness and life satisfaction independently predicted aggressive driving behaviour. This finding supported the work of Ulleberg and Rundmo (2003) that aggressive and pro-social driving behaviour can be predicted on the basis of anger proneness, life satisfaction and anxiety level. Finally, the result indicated that those who scored high on life satisfaction and anxiety were more inclined to have positive attitudes toward traffic safety and were less likely to take risks than those who scored low on life satisfaction and anxiety which supported the finding by Alemu and Kebu (2019).

Implications of study

The following are the implications of the study. First, this study found that anger proneness significantly predicted driving behavior (pro-social and aggressive driving behaviour) among corporate drivers in Ibadan. Drivers with high level of anger proneness reported higher level of aggressive driving behaviour than those with low level of anger proneness. Drivers with high level of anger proneness reported lower on pro-social driving behaviour than those with low level of anger proneness. Therefore, we can assert that drivers with high level of anger proneness will drive more aggressively than drivers with low level of anger proneness.

Second, anxiety had significant influence on both dimensions of driving behaviour (pro-social driving behaviour and aggressive driving behaviour) among corporate drivers. Further, drivers with high level of anxiety reported higher aggressive driving behaviour than those with low level of anxiety. Drivers with high level of anxiety reported lower on pro-social driving behaviour than those with low level of anxiety among corporate drivers. Therefore, we can conclude that drivers with high level of anxiety level will drive more aggressively than drivers with low level of anxiety level.

And finally, life satisfaction significantly predicted pro-social driving behaviour among corporate drivers. However, life satisfaction did not significantly predicted aggressive driving behaviour. Otherwise stated, drivers with high level of life satisfaction reported lower on aggressive driving behaviour than those with low level of life satisfaction.

Recommendations

Based on the findings of this study that anger proneness and anxiety significantly predicted aggressive and pro-social driving behaviour among corporate drivers in Ibadan, it is recommended that corporate organizations should screen applicants for anger proneness and anxiety levels to detect aggressive tendencies before they are employed.

And finally, as there is a strong evidence of associations between anger proneness, anxiety and life satisfaction on aggressive driving behaviour, it is important to develop strategies and drivers/employees' programmes that will help to increase job satisfaction (which is an important aspect of life satisfaction).

Limitation of the study

This study was limited to drivers that are employed by corporate organizations, meaning private commercial drivers were not included, thus, it limits the possibility of wilder generalization. In terms of scope, the study was limited to Ibadan in Oyo State, meaning the sample is too small to represent the whole Nigeria. Also, data in this study were collected using self-reported questionnaire which allows for the possibility of social desirability or response bias.

Conclusion

This study has empirically determined that anger proneness, anxiety, and life satisfaction had significantly jointly predicted driving behaviour dimensions (pro-social and aggressive driving behaviour) among corporate drivers in Ibadan. Both anger proneness and life satisfaction independently predicted aggressive driving behavior, while only anxiety independently predicted pro-social driving behavior among corporate drivers in Ibadan.

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