

**RISK-TAKING PROPENSITY AND FEAR OF PUNISHMENT  
AS PREDICTORS OF TRAFFIC RULES VIOLATION  
AMONG DRIVERS IN OYO STATE, NIGERIA**

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**ABSTRACT:** Predictors of traffic rules violation among 240 drivers in Akinyele and Ibadan North Local Government Areas in Oyo State, Nigeria were investigated using accidental sampling technique. The variables investigated were risk-taking propensity, fear of punishment, traffic rules violation, gender, levels of education, and years of driving experience. Cross-sectional design was used for data collection while multiple regressions analysis, analysis of variance and t-test for independent samples were used for data analyses. The results indicated that risk-taking propensity and fear of punishment jointly predicted traffic rules violation among drivers. Also, levels of education and years of driving experience significantly influenced traffic rules violation among drivers. The implication of this study is that since drivers are not afraid of violation of traffic rules, the alternative explanation that many drivers feel that they can always buy their ways out when it comes to traffic rules violation should be investigated.

**Keywords:** Risk-taking propensity, Fear of punishment, Traffic rules violation, Akinyele/Ibadan, Nigeria.

## **INTRODUCTION**

Traffic is all about movement. This includes movement of vehicles and people. Due to disorderliness and accidents which results from this movement (traffic), rules guiding this movement have been enacted (Shabir et al., 2014). Hence, traffic rules are the rules governing the movement of vehicles and people on the roads. These rules aim to ensure a safe movement on our roads. Traffic violation is the disobedience to the traffic rules and laws committed by the driver of a vehicle while it is in motion (Lagos State Traffic Laws, 2019). It occurs when drivers violate laws that regulate vehicle operations on streets and highways. Traffic violations include speeding, running red lights, reckless driving, dangerous overtaking, drunk driving, non-usage of seat belt, etc. Traffic rules and regulations are usually issued and enforced by the government designated agents (e.g., the Federal Road Safety Corps, FRSC).

Because of the violation of traffic rules and regulations, the road and highway have recorded lot of accidents resulting in deaths and injuries to many commuters. For example, Ukoji (2019) analyzed the trend of road accidents in Nigeria and found that 15,090 lives were lost to fatal road accidents in 3,075 events between June 2016 and May 2018. The highest fatality occurred in 2017 (2,061 deaths), a 2.8% increase from the 2017 record of 1,652 deaths. On the national scene, Lagos recorded the highest number of fatalities (1,579 deaths from 620 accidents), while FCT (Abuja) has the highest relative number of deaths (0.6 deaths per 100,000 of the population). At the regional level, a trend analysis showed that more people

died in fatal road accidents in the South (8,288 people: 55%) than in the North (6,792 people: 45%). The majority of these deaths and injuries are preventable if drivers and other road users would have obeyed traffic rules and regulations.

One factor considered in this study as possible predictor of road traffic violation is the fear of punishment which refers to the imposition of an undesirable or unpleasant outcome upon a group or individual, meted out by an authority in response to rules violation (Lucidi et al., 2019). Punishment could include fines, impoundment of vehicles, deflation of vehicle tyres, etc., as responses to and deterrent to the violation of traffic rules when deemed to have a bottleneck on the movement of vehicles or on-road safety (Shabir et al., 2014). Studies on the fear of punishment as deterrent to traffic rules violations found that many drivers disobeyed even when they know the punishment attached to its infringements (Lucidi et al., 2019).

The second factor considered in this study as a possible predictor of drivers' violation of traffic rules is risk-taking propensity which is described as the intentional interaction with uncertainty or doing something that has a chance of a bad result. Botella et al. (2008) see risk-taking propensity as a trait characterized by an increased probability of engaging in behaviours that have some potential dangers or harms but also provide an opportunity for some benefits. Risk deals with the possibility of losing something of value such as a person's physical health, social status, emotional well-being, or financial wealth (Botella et al., 2008). On the road risk-taking reflects drivers' inherent motivation rather than their limited capacities in regards to visual cognition-motor skills (Nicholson et al., 2016).

Studies of unsafe driving have suggested that violations and errors are distinct behaviour types drivers engaged in while on the roads (Ulleberg & Rundmo, 2003). Violations are deliberate deviations from those practices believed necessary to maintain the safe operation of potentially dangerous system. Errors are the failure of planned actions to achieve their intend consequences (Ivers et al., 2009; Moller et al., 2021). Studies have shown that drivers with high violation scores demonstrated distinguishable patterns of risky driving on the roads (Zhao et al., 2012). Moreover, drivers' personality trait of sensation-seeking is a predictor of the risk-taking propensity which in turn predicts violation of traffic rules and regulations (Ulleberg & Rundmo, 2003; Rowe et al., 2013). These risky (unsafe) drivers are more likely to show lower perceived risks to the hazards in the traffic environment compared to the safe driver counterparts (Ulleberg & Rundmo, 2003).

Also, studies have identified some demographic variables such as gender, level of education, and years of driving experience as factors that predict violation of traffic rules among drivers (Elliot et al., 2007). In one study, male drivers were found to show greater risk of involvements in violation of traffic rules and then accidents than female drivers due to their risk-taking propensity (Moller et al., 2021). Also, male drivers demonstrated higher level of aggression and thrill seeking than female drivers (Lauriola et al., 2014; Onyemaechi & Ofoma, 2004) which led to traffic rules violation and possible road accidents.

Also, some studies have explored the influence of the level of education as a predictor of violation of traffic rules among drivers (Alabi, 2020; Stanojevic *et al.*, 2018). For example, in a study to determine the effect of assertiveness and substance abuse among private car owners in Ibadan, Alabi (2020) found that private car owners with primary school certificate displayed more aggression in their driving behaviours than those with degree and post-graduate certificates.

Finally, studies that have investigated the years of driving experience as a predictor of violation of traffic rules produced contradictory results (Alabi, 2020; Lucidi et al., 2019; Moller et al., 2021). For example, while Alabi (2020) found level of education as a significant predictor of aggressive driving behaviour that leads to traffic rules violation, Bello (2020) found drivers' years of driving experience to have no significant influence on traffic rules violation among long distance commercial drivers.

### **Statement of the Problem**

In Nigeria as in many others under developing countries, many people go to the emergency rooms because of trauma due to road traffic accidents that can cause deaths. The overall road traffic injury rate in Nigeria is about 41 per 1000 population and mortality from road traffic injuries is about 1.6 per 1000 population across both genders (Ukoji, 2019). This is worrisome when the majority of these injuries and deaths are preventable. The needs to reduce death through road accidents resulted in the creation of rules and regulations by the government to guide drivers and other road users on their behaviours on the roads and highways. Even with the establishment of these rules and regulations coupled with the activities of the enforcing agents, the Federal Road Safety Commission (FRSC), road traffic accidents continue unabated. Studies have shown that there has not been any significant decrease in the rate of violation of traffic rules (Audu, 2013). This has led to studying the drivers' behaviours toward their violations to the rules and regulations.

The non-adherence of drivers to road traffic rules has physical, social, emotional, and economic implications. Fatalities, physical disability, and morbidity from road traffic accidents are the possible results of traffic rules violation that predominantly affects the young and the economically productive age groups (Walker et al., 2014).

The relationship between road traffic accidents and risk-taking propensity among drivers need to be studied in order to predict the effectiveness of the rules and regulation on the use of roads, and the effectiveness of the punishments placed on the violation of these rules among the drivers.

Therefore, the purpose of this study is to investigate risk-taking propensity and the effectiveness of the fear of punishment as predictors of traffic rules violation among drivers in Akinyele and Ibadan North Local Government Area in Oyo State, Nigeria.

The result of this study will assist the traffic management agencies to determine the extent to which traffic rules are violated and the categories of the road users (drivers) who violated these rules the more. Two, the study will guide road safety authority to manage drivers with high risk-taking propensity while on the roads. Finally, the study will serve as an evaluative report to drivers in Akinyele and Ibadan North Local Government Areas on the level of compliance of drivers on the rules and regulations guiding the use of roads and highways in their Local Government Areas.

### **Hypotheses**

1. Risk-taking propensity and fear of punishment will jointly and independently predict traffic rules violation among drivers in Akinyele and Ibadan North Local Government Areas.

2. Drivers with low levels of education will significantly violate traffic rules more than those with higher levels of education.
3. Male drivers will significantly violate traffic rules more than the female drivers.
4. Drivers with ten years and below driving experience will significantly violate traffic rules more than drivers with ten year or more driving experience.

## **METHODS**

### **Participants**

The population of this study was all the private and public drivers plying all the roads in Akinyele and Ibadan North Local Government Areas (LGAs) in Oyo State, Nigeria. Purposive sampling was used to select the two LGAs while accidental sampling technique was used to select 240 participants (Akinleye: 126; Ibadan North: 114) from the two LGAs for the study. The researchers approached the motor park authorities, shops, and offices to inform them of the purpose of the study. Verbal consent of the participants was obtained before questionnaire administration. During questionnaire administration, verbal instructions for the completion of the questionnaires were given to the participants. Enough time was allowed for all the participants to complete and return the questionnaires.

### **Instruments**

Three instruments were for data collection in this study.

**General Risk-taking Propensity Scale (GRiPS)** This scale was developed by Zhang et al. (2018). It is used to measure risk-taking propensity among the drivers. This is an 8-item scale presented on a 5-point Likert's response format ranging from strongly disagree (1) to strongly agree (5). The scale has a Cronbach alpha of = 0.86. For the present study, the Cronbach alpha is = 0.88.

**Fear of Punishment Scale** This scale was developed by Aderibigbe (2020) to measure drivers' fear of punishment in the violations of traffic rules. It is a 28-item scale presented on 5-point Likert's format ranges from strongly disagree (1) to strongly agree (5). The Guttman Split-half coefficient is 0.76, and the Cronbach alpha for this study is 0.95.

**Traffic Rule Violation Scale** This was developed by Akaateba and Amoh-Gyimah (2013) to measure Driver Attitude towards Traffic Safety Violations. This is a 10-item scale presented on a 4-point Likert's format ranging from never (1) to always (4). All the items are directly scored and have no subscales. The study reports a Cronbach alpha of 0.86.

Also, socio-demographic variables of gender, educational qualification, and years of driving experience were collected.

### **Design and Statistics**

The study adopted cross-sectional survey design for data collection. Both descriptive and inferential statistics were employed in the analyses. Hypothesis one was tested with standard

multiple regressions, hypothesis two with one-way analysis of variance (ANOVA), hypotheses three and four were tested using t-test for independent samples. Data collected was analyzed using Statistical Package for Social Sciences version 22.

## RESULTS

Hypothesis one stated that risk-taking propensity and fear of punishment will jointly and independently predict traffic rules violation among drivers in Akinyele and Ibadan North Local Government Areas. This was tested with standard multiple regressions analysis and the result is presented in Table 1.

**Table 1: Multiple regressions analysis showing risk-taking propensity and fear of punishment will jointly and independently predict traffic rules violation among drivers in Akinyele and Ibadan North Local Government Areas**

Criterion	Predictors	$\beta$	t	p	R	R <sup>2</sup>	F	p
	Risk-taking propensity	.222	3.354	<.05	.216	.039	5.823	<.05
Traffic rules violation	Fear of punishment	.102	1.550	>.05				

The result in Table 1 revealed that risk-taking propensity and fear of punishment jointly predicted traffic rules violation among drivers in Akinyele and Ibadan North Local Government Areas ( $R^2 = .039$ ;  $F(2, 2377) = 5.823$ ;  $p < .05$ ). This means that risk-taking propensity and fear of punishment jointly accounted for about 3.9% of the variation observed in drivers' tendency to violate traffic rules. However, only risk-taking propensity independently predicted drivers' tendency to violate traffic rules ( $\beta = .222$ ;  $t = 3.354$ ;  $p < .05$ ). Therefore, the hypothesis was partially confirmed.

Hypothesis two states that drivers with low levels of education will significantly violate traffic rules more than drivers with higher levels of education. The hypothesis was tested using a one-way Analysis of Variance and the result is presented in Table 2a.

**Table 2a: Summary of one-way analysis of variance showing differences in level of education and violation of traffic rules among drivers in Akinyele and Ibadan North Local Government Areas**

	SS	df	MS	F	Sig.
<b>Between Groups</b>	1389.368	5	277.874	9.138	<.05
<b>Within Groups</b>	7115.795	234	30.409		
<b>Total</b>	8505.163	239			

**Table 2b: Summary of LSD multiple comparison showing differences in traffic rules violation according to level of education among drivers in Akinyele and Ibadan North Local Government Areas**

Variables	1	2	3	4	5	6	Mean	SD
1. Modern/form	-						21.83	2.85
2. Primary	9.033*	-					12.80	0.44
3. Secondary	7.649*	-1.384	-				14.18	2.90
4. OND/NCE	6.386*	-2.646	-1.262	-			15.45	5.37
5. BSc/HND	2.328	-6.704*	-5.320*	4.058*	-		19.50	6.58
6. Post-Graduate	6.106*	-2.927	-1.543	3.777*	-3.777	-	15.72	3.85

\*. $p < 0.05$

Results from Tables 2a and 2b revealed that traffic rules violation significantly varied among the six levels of education considered [ $F(5,234) = 9.138, p < .05$ ]. LSD multiple comparison in Table 3 revealed that traffic rules violation was higher among drivers with Modern/Form level of education (Mean = 21.83, S.D = 2.85), followed by B.Sc./HND level of education (Mean = 19.50, S.D = 6.58), followed by Post-graduate levels of education (Mean = 15.72, S.D = 3.85), followed by OND/NCE level of education (Mean = 15.45, S.D = 5.37), followed by secondary school education (Mean = 14.18, S.D = 2.90) and least is primary school level of education (Mean = 12.80, S.D = 0.44).

Hypothesis three states that male drivers will significantly violate traffic rules more than the female drivers. The hypothesis was tested using independent sample t-test and the result is presented in Table 3.

**Table3: T-test showing gender differences in traffic rules violation among drivers in Akinyele and Ibadan North Local Government Areas**

DV	Gender	N	M	SD	df	t	p
Traffic rules violation	Male	191	17.24	5.66	238	-.239	>.05
	Female	49	17.47	7.12			

Results in Table 3 indicated that drivers traffic rules violation was not significantly differentiated by gender ( $t(238) = -.239; p > .05$ ). However, a further analysis revealed that female drivers (M = 17.47, S.D = 5.66) have a higher tendency to violate traffic rules more than male drivers (M = 17.24, S.D = 7.12), a difference that is not statistically significant. The stated hypothesis was not confirmed.

Hypothesis four states that drivers with below ten years driving experience would significantly violate traffic rules compared to drives with more than ten year driving experience. The hypothesis was tested with an independent sample t-test and the result is presented in Table 4.

**Table 4: T-test showing years of driving experience differences in traffic rules violation among drivers in Akinyele and Ibadan North Local Government Areas**

DV	Years of Driving	N	M	SD	df	t	p
Traffic rules violation	10 years and below	138	17.94	6.1	238	0.048	<.05
	11 years and above	102	16.40	5.7			

Results in Table 4 showed that drivers' traffic rules violation is significantly differentiated by years of driving experience ( $t(238) = 0.048, p < .05$ ). A further observation of the mean revealed that drivers with 10 years and below driving experience ( $M = 17.94, S.D = 6.1$ ) have a higher tendency to violate traffic rules than drivers with 11 years and above driving experience ( $M = 16.40, S.D = 5.7$ ). The states hypothesis was confirmed.

## DISCUSSION

The purpose of this study was to investigate if traffic rule violation could be predicted by the effectiveness of punishment placed on violating traffic rules, and how risk-taking propensity of drivers affect their decisions towards traffic adherence. Four hypotheses were stated to achieve this objective.

The first hypothesis stated that risk-taking propensity and fear of punishment will jointly and independently predict traffic rules violation among drivers in Akinyele and Ibadan North Local Government Areas (LGAs). The hypothesis was tested with multiple regression analysis. Result revealed that risk-taking propensity and fear of punishment jointly predicted traffic rules violation. However, only risk-taking propensity independently predicted traffic rules violation among the study participants. This finding supported study done by Zhao et al., (2012) that drivers with high risk-taking propensity do not respect traffic rules believing that they will always settle with the law enforcing agents through back doors as the case may be. However, the fear of punishment did not independently predict traffic rules violation. This could be explained that many drivers do not fear breaking the rules on the premise that they will later bribes or cut corners with the law enforcement agents to escape justice (Nicholson, 2016; Shabir et al., 2014).

The second hypothesis stated that drivers with low levels of education will significantly violate traffic rules more than drivers with higher levels of education. Results revealed that among drivers with lower level of education, the most violators of traffic rules in both local government areas were drivers with modern school level of education, followed by drivers with OND/NCE level of education and the least among the category were drivers with primary school leaving level of education. Also, the result indicated that violation of traffic rules was not limited to only those with lower level of education as it was made evident that the second highest violators among all levels of education were drivers with graduate drivers, the third highest violators were drivers with post-graduate qualifications. This finding found supports in previous studies (Alabi, 2020; Stanojevic et al., 2018).

Hypothesis three stated that male drivers will significantly violate traffic rules more than the female drivers. Results revealed that drivers' traffic rules violation was not significantly differentiated by gender. A further analysis revealed that female drivers have a higher tendency to violate traffic rules than male drivers; a difference that is not statistically significant. These results inferred that the tendency to violate traffic rules in Akinyele and Ibadan North Local Government Areas drivers is similar among both genders, with no gender being more vulnerable than the others. This finding could be a cultural or country specific issue because other studies have found the contrary. For example, in the UK, 88% of all driving offences and 83% of speeding offences were committed by men. Other studies have also found that male drivers are more likely to exceed speed limits and commit other traffic offences than female drivers (Lauriola et al., 2014). Onyemaechi and Ofoma (2004) attributed the higher driving speeds of men and young men in particular to their higher involvement in deviant and anti-social behaviours in general. Lastly, in Germany, the Federal Statistics Office analyzed accident data reported that females were significantly less involved than males in accidents caused by speeding and by veering off road lanes.

Finally, hypothesis four states that drivers with ten years or less driving experience will significantly violate traffic rules compared to drivers with more than ten year driving experience was confirmed. Drivers with 10 years and below driving experience have a higher tendency to violate traffic rules than drivers with 11 years and above driving experience. One important factor that can contribute to the reason(s) behind this finding is experience (Alabi, 2020), which means that the drivers with ten years and less driving experiences have less experience as regards driving adventures and the consequences of which are more likely accidents, receiving huge penalties, having mechanical damage to vehicles, etc. This finding found support in the study conducted by Lucidi et al., 2019) that many inexperienced drivers were most involved in road accidents and violate road traffic rules more often than the experienced drivers. Also, Bello (2020) and Moller et al. (2021) found that inexperienced drivers were usually involved in aggressive driving behaviours violating the standard rules guiding safe highway use.

The implication of this study is that since it is established that fear of punishment is not in any way predicting drivers tendency to violate traffic rules, it therefore become pertinent to discover what factors are responsible for drivers not fearing punishment as it is evident that risk-taking propensity independently predicted traffic rules violation. The alternative explanation that many drivers feel that they can always buy their ways out when it comes to traffic rules violation weaken the effectiveness of punishment, therefore, deserve more investigation.

### **Recommendations of the Study**

Based on the findings from this study, it is, therefore, recommended that:

1. Park managers should give utmost attention to drivers whose day to day activities, conversations and action revolves around risk-taking propensity.
2. The government should look into the issue of ineffectiveness of punishment put on traffic rules violation irrespective of who the offender is.



3. The agency saddled with upholding traffic rules adherence should encourage agents to desist from gender prejudice, class (elite) immunity, and nepotism.
4. Non-government organization should be allowed to jointly own and run the agencies put in place (semi-privatization) to enforce traffic regulations.

### **Limitations of Study**

The study has the following limitations. First, many participants were reluctant to answer the questionnaire because they were always on the move, hence the researchers visited many motor parks, taxi parks, and offices several times to encourage participation. Second, the study used self-report questionnaire in which participants gave their experiences which may be overstated thereby introducing response bias. Lastly, since the study was carried out in two local government areas in Oyo State, the result cannot be generalized to other LGAs in Oyo State in particular and Nigeria in general.

### **Conclusion**

This study has empirically confirmed that risk-taking propensity and fear of punishment jointly predicted traffic rules violations among drivers in Akinyele and Ibadan North Local Government Areas in Ibadan, Oyo State, Nigeria. However, the results only confirmed risky-taking propensity as the independent predictor of traffic rules violation in this study. The study buttresses the need for the traffic rules enforcing agencies to re-strategize on how to alleviate or curb traffic rules violation while putting the significant variable into consideration.

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