

Driving Behavior and Work Stress as Predictors of Road Traffic Accidents in Borno State, Nigeria

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ABSTRACT: *Road Traffic Accident is said to be the fourth leading causes of death across the world. The number of lives being lost to Road Traffic Accident on yearly bases is incredible and often detrimental to the development of a country. Road Traffic Accident in Borno state has alarmingly increased, which has necessitated the need to investigate the phenomenon in the state. Driving Behaviour has been identified as the leading factor and causes of traffic accident in among drivers, while work stress is another factor. Using cross sectional studies, the study found that Number of accidents ($r = .03$, $M = 19.3$ $p < .05$) and age ($r = .03$, $M = 8.3$ $p < .05$) have no significant relationship with road traffic accident in Borno State. Work Stress ($r = .24$, $M = 8.3$, $p < .05$) and driving behaviour ($r = .49$, $M = 8.5$, $p < .05$) significantly predicted road traffic accident among drivers in Borno State. It is recommended that drivers should be evaluated for psychological health problems from time to time to be sure they are psychologically fit to drive and effective driving stress management skills devised.*

KEYWORDS: driving behavior, work stress, road traffic accidents, Borno State, Nigeria

INTRODUCTION

Road accident is a common case among drivers in developing countries. It has led to loss of lives and properties at several levels. Among Africans road accidents is almost a daily occurrence. About 1.25m lives are lost annually, and about 50m suffer from road accidents injuries globally (Mekonnen, Tesfaye, Moges, et al., 2019). In Borno state the number of road accidents in recent time has increased, while some might perceive it as the price of development, others see it from the angle of negligence and negative driving attitude. Studies have shown that commercial drivers are often more involve in accidents than private drivers, this might be due to the long milage they cover (Marko, Boris, Krsto, Dalibor, & Nenad, 2018). Studies suggest that road accident is the 8th leading cause of death in China, and also a leading cause of burden to African medical system (Han, Zhao, & Chang, 2021; United Nations Economic Commission for Africa, 2009).

There is great prevalence of traffic accidents in developing countries due to their perception towards it (Jafarpour & Rahimi-Movaghar, 2014). Major causes has been linked to; increase in population, motorization with poor traffic regulations, negative driving attitudes and traffic violation (Tulu, Washington, & King, 2013; Mallia, Lazuras, Violani, & Lucidi, 2015). Studies have also demonstrated that youths are more involved in road accidents than adults (Waseela, & Laosee, 2015). Marko, Boris, Dalibor, & Nenad (2017) revealed that driving time predicted road accidents, while professional drivers have lesser chances of being involved in road accidents in Serbia Non-professional drivers are more likely to be involve in road traffic accident. Other studies have linked age, driving experience, education and level of rest to road traffic accidents (Milad, Afshin, & Trond. 2018).

One leading factor that predicts road accident is driving behaviour. Driving behavior is the description of intentional and unintentional characteristics and actions a driver performs while operating a motor vehicle. There are many factors that can contribute or alter a driver`s behavior such as age, experience, gender, attitude, emotions, fatigue, drowsiness, driving conditions, etc. While some study has linked driving behaviour to traffic accidents, others have demonstrated that risky driving behaviour is a byproduct of gender and age (Waseela, & Laosee, 2015; Niezgodna, Kamiński, Kruszewski, & Tarnowski, 2013). Risky driving behaviour can be a product of socioeconomy and monthly salary, drivers` level of education, distance, smoking and alcohol drinking, drivers` physical and mental abilities, and psychological factors, like personality type, emotions, and distraction (Bazzaz, Zarifian, Emadzadeh, & Vakili, 2014; Sheriff, Forbes, Wessely, Greenberg, Jones, Fertout, Harrison, & Fear, 2015; Asefa, Ingale, Shumey, & Yang, 2015).

Work stress among commuters are also factors that could predispose commuters to road traffic accident. Azimzadeh (2019) found job stress to be an effective factor in driving accidents. Other research has concentrated on engineering and technological advancements, the modification of occupational demands, and, to a lesser extent, human factors in understanding the causes of road accident, few studies have actually investigated the place of work stress and psychological factors in the place of traffic accident (for example, Taylor, & Dorn, 2006). Psychological factors may include stress and psychological states; sleep, fatigue, alertness, and health status. Physical activity appears to influence all these human factors but has not been previously systematically considered as risk factors for driver`s accidents.

Taylor & Dorn (2006) discovered thar fatigue contributed to traffic accident among commuter drivers. It has been demonstrated that Preventive measure to prevent traffic accident include reducing work stresses, screening drivers, speed control, modal shifts, and avoiding long overnight travels (Sabbagh-Ehrlich, Friedman, & Richter, 2005). Although the major effect of driver fatigue is that he/she becomes gradually diverted from the road and road traffic, with the resultant poorer driving performance and eventually leading to loosing grip control of the driving and hence accidents (Makowiec-Dabrowska, Bortkiewicz, Siedlecka, & Gadzicka, 2011). In Nigeria, no study to the researchers knowledge has investigated the place of works stress on the Road traffic accident, which makes this study significant. This study therefore,

investigates the predictive influence of driving behaviour and work stress on road traffic accident among drivers in Borno State Nigeria.

METHOD

The research adopts a cross-sectional survey design. In cross-sectional research, you observe variables without influencing them. Cross-sectional studies collect data from many subjects at a single point in time. The choice of cross-sectional design for this research is based on the fact that Cross-sectional studies allow you to collect data from a large pool of subjects and compare differences between groups and that cross-sectional studies capture a specific moment in time of study. Data for this study is collected by records and administration of questionnaires.

A total of 87 participants were used for the study. Purposive sampling was used to collect data from accident victims in the last one year from within the state; this is based on the records from the police departments, hospitals, Federal Road Safety Commission and National Union of Road Transport Workers. All ethical clearance as regards to the study was followed strictly. Participants were allowed to participate freely and was allowed to withdraw at point they felt like opting out. The Driving Behaviour Questionnaire (DBQ) developed by Clapp, Olsen, Beck, Palyo, Grant, Gudmundsdottir and Marques (2011) was used to measure the driving behaviour of participants. While the Work Stress inventory was used to measure the work stress among participants.

Results

Table 1

Correlation Matrix Showing Relationship amongst Combat Exposure, Personality traits and Reintegration

S/No.	Variables	1	2	3	4	5	6	7	M	SD	10
1	No of Accident	-							19.3	7.0	
2	Age	.15*	-						8.3	2.9	
3	Work stress Level of	.10	.07*	-					8.3	2.4	
4	Education	.23*	-.03	-.21	-				7.7	2.5	
5	Driving Behaviour	-.15*	.03	-.09	*	-.09			8.5	2.8	
6	Traffic Accident	.03	.01	.24*	-.10	*	.49		8.2	2.8	

****Correlation is significant at .01 (2-tailed); *Correlation is significant at .05 (2-tailed)**

From the results presented on table1, No. of accidents ($r = .03$, $M = 19.3$, $p < .05$) and age ($r = .03$, $M = 8.3$, $p < .05$) have no significant relationship with road traffic accident among drivers in Borno State. This implies that, No. of accidents did not predict road traffic accident among drivers in Borno State. Level of education ($r = -.10$, $M = 7.7$, $p < .05$) had a negative relationship with Road traffic accidents, this implies that the higher the level of education the lower the

chances of being involved in Road Traffic Accident and of course the more they are likely to obey traffic rules and imbibe positive driving skills. Work Stress ($r = .24$, $M = 8.3$, $p < .05$) and Driving behaviour ($r = .49$, $M = 8.5$, $p < .05$) significantly predicted Road Traffic Accident. This implies that the higher a driver is stressed the more likely, the driver will have negative driving behaviour due to fatigue and related stress from driving activities, hence the higher the work stress or driving stress as one may term it, the more likely they could be involved in road traffic accidents. While negative driving behaviour in itself is a predictor of road traffic accident among drivers in Borno State. The Drivers who pay little attention to driving details and disregard driving instruction often end up having higher number of road traffic accidents than those who are meticulous and abiding by driving rules and ethics.

Table 2
Multiple Regression, Showing the Joint Influence of Driving Behaviour and Work Stress on Road Traffic Accident Among Drivers in Borno State

Variable	β	t	P	R	R^2	df	F	P
Driving Behaviour	.84	8.9	<.05					
Traffic Accident	.10	5.2	<.05	.28	.08	3,95	35.63	<.05
Work Stress	.09	4.5	<.05					

Result in Table 2 showed that driving behaviour and work stress jointly predicted road traffic accident among commuters in Borno State $R = .28$, $R^2 = .08$, $[F(6,2526) = 35.63, P < .05]$. The result further revealed that driving behaviour and work stress jointly lead to 8% change in road traffic accident in the state.

DISCUSSION

From the result it is evidence that road traffic accident in Borno State is dependent on several factors, Chief among them is driving behaviour and work stress. Drivers who have negative and nonchalant attitude towards the driving such as drink and drive, smoking while driving and disrespecting traffic rules are highly liable to experience road accident than those who have positive driving attitude. Further drivers who are often traffic violators are more likely to experience road traffic accident. This could be explained from the view point that they pay less attention to sacrosanct driving tips which could eventually lead to accidents while driving. Moving forward, the study further revealed that drivers who are more stress; for example, drive longer hours, travel long journey several days and experience fatigue from driving are more likely candidates of road traffic accidents. This is obviously from the fact that the stress they experience from this activity affects their functioning and optimal productivity, hence errors that could lead to road traffic accident.

CONCLUSION

The study from the fact presented above submits that driving behaviour and work stress are significant predictors of road traffic accident in Borno State. To help reduce the cases of road traffic accident in Borno, it is expedient that road users are educated on the harm of negative

driving behaviour and effective checks is created in addressing the place of work stress among drivers in the Borno state.

Recommendations

To help reduce the number of road accidents in Borno State it will be helpful if:

The Federal Road Safety Commission (FRSC) should from time to time educate road users on the negative impact of negative driving behaviour on the road traffic accident. Defaulters of traffic rules should be severely punished, while also preventing cases of traffic violations as much as possible. Drivers should be guided on driving schedules and how to effectively reduce driving stress among them. More so, drivers should be evaluated for psychological health problems from time to time to be sure they are psychologically fit to drive and effective driving stress management skills devised.

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