

Determinants of safety practices among road transport workers in West Senatorial District of Rivers State, Nigeria

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Article History	Abstract
Original Research Article	<p><i>This study investigated the determinants of safety practices among road transport workers in Rivers West Senatorial District. The study employed a descriptive cross sectional survey design. The population of this study consisted of road transport workers in Rivers West Senatorial District. A self-structured questionnaire titled; “determinants of safety practices among road transport workers was used to collect data. Instrument for data collection was subjected to a reliability test using Pearson Product-Moment Correlation Coefficient (PPMC) with a reliability index of 0.76. Data collected was analyzed using mean, standard deviation and regression model at 0.05 alpha level. The finding of the study revealed safety practices was found more among responses that indicated how often they obey speed limits and adjust speed according to road conditions ($\bar{X} = 3.22$). The findings of the study also revealed that there was a significant relationship between safety practices and safety training [$F(1,398) = 26.924, p < 0.005$], adherence to road traffic signs [$F(1,398) = 64.690, p < 0.005$] and driving hours [$F(1,398) = 3.506, p < 0.005$]. It was concluded that the determinants of safety practice among road transport workers in Rivers West were safety training, adherence to road traffic signs and driving hours. Therefore, there is need to put in place special programmes that will address the attitude of road transport workers towards consistent adoption of road safety practices. It was recommended amongst others that the government should through various federal ministries and agencies promote continuous educational campaigns targeted at road transport workers to promote safety culture among them and reduce the incidence of accidents.</i></p> <p>Keywords: Determinants, Practice, Road Transport, Safety, Workers.</p>
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<p>Copyright © 2026 The Author(s): This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International License (CC BY-NC) which permits unrestricted use, distribution, and reproduction in any medium for non-commercial use provided the original author and source are credited.</p> <p>Citation: DAGOGO-BROWN, Igirigi Deinabobo & DAGOGO-BROWN, Igirigi Precious. Determinants of safety practices among road transport workers in West Senatorial District of Rivers State, Nigeria. UKR Journal of Medicine and Medical Research (UKRJMMR), 2(6), 87-93.</p>	

Introduction

Adherence to safety practices among commercial vehicle drivers is crucial for ensuring the well-being of both the drivers and other road users. Several determinants influence adherence to safety practices in this context. Firstly, training and education play a significant role. Drivers who receive comprehensive training on safety practices, including defensive driving techniques, accident prevention, and emergency procedures, are more likely to adhere to safety protocols. Proper training equips drivers with the necessary knowledge and skills to handle different situations on the road effectively. Moreover, the enforcement of regulations and policies by authorities and

organizations greatly impacts adherence to safety practices. Strict monitoring, regular inspections, and penalties for non-compliance create a culture of accountability among commercial drivers. When drivers know that their adherence to safety practices is being closely monitored and violations will have consequences, they are more likely to prioritize safety (Poonam, et al, 2017).

Adherence to safety practices among commercial vehicle drivers is influenced by multiple factors. These include training and education, enforcement of regulations, organizational culture, vehicle condition and maintenance, external pressures, availability of safety resources, and

personal motivation. Addressing these determinants collectively and proactively can help promote a culture of safety and reduce the risk of accidents on the roads involving commercial vehicles (Nwankwo et al., 2016). Determinants in this study are those factors capable of influencing adherence to safety practices in one's occupation. Adherence to safety practice is determined by several factor, although safety practices are put in place to promote the health of an individual, even in their various occupation, occupational diseases usually develop over an extended period of time. They are slow and generally cumulative in their effects, and often become complicated by non-occupational factors (Shamsul, 2011). They result due to constant exposure to certain process, contaminations and stress producing elements. Long term exposure to whole-body vibration and impact while driving over bumps in the roads and rough road surfaces can result in musculoskeletal problems.

Commercial vehicle drivers must respond to multiple demands over which they have little control. The main tasks of a commercial vehicle driver are to drive safely and keep on schedule. Yet two of these tasks are inherently contradictory maintaining the schedule and serving the public. Adegoke, et al. (2008) added that every individual would love to adhere to safety measure and practices in their occupation, so as to maintain improved health and comfortable living. This is not too different from road traffic workers, especially the commercial vehicle drivers and conductors. It is quite unfortunate that adherence to safety practices is a huge issue among the above listed group of individuals. This could be as a result of some certain factors which can be termed as determinants of adherence to safety practice.

Driving in Nigeria (more especially as a commercial vehicle driver) you work under serious pressure and other adverse working conditions such as working long hours, too much workload as they often have too many passengers to drop and pick. Commercial vehicles in Rivers West Senatorial District are often rushed to the point that the drivers sometimes drive the vehicle in a tight situation. More so, in the face of these hazards as there may be, what mitigating actions are the employers taking so as to reduce these hazards possibly to a reasonably low extent for the drivers to enjoy their health and work? Numerous challenges limit the activities of commercial vehicle drivers on site in the discharge of their duties. Accidents that occur in road transport can lead to various consequences, including the collapse or damage of the car parts, cuts, injuries. Additionally, commercial vehicle drivers often experience frequent illnesses due to the psychological and physical stress associated with their occupation. Such illnesses may result in death. There are also security threats

such as kidnapping, harassment by criminals and sometimes security operatives as well along some of these roads. It is based on this premise that the researcher sought to assess the determinants of safety practices among road transport workers in Rivers West Senatorial District. The following research questions were postulated to guide the study;

1. To what extent does safety training determine safety practices among road transport workers in Rivers West Senatorial District.
2. To what extent does adherence to road traffic signs/safety policies determine safety practices among road transport workers in Rivers West Senatorial District.
3. To what extent does driving hours determine safety practices among road transport workers in Rivers West Senatorial District.

Hypotheses

The following hypotheses were tested at 0.05 alpha level;

1. There is no significant difference in safety practices among road transport workers in Rivers West Senatorial District based on safety training
2. There is no significant difference in safety practices among road transport workers in Rivers West Senatorial District based on adherence to road traffic signs/safety policies
3. There is no significant difference in safety practices among road transport workers in Rivers West Senatorial District based on driving hours

Methodology

This research adopted a descriptive survey design. The target population for this study consisted of all commercial vehicle drivers operating within the Rivers West Senatorial District of Rivers State. The sample size for the study was 400 which was determined using the Taro Yamane formula $n = N/1+N(e)^2$, where N is the population, estimated to be 9,380, and e is the margin of error (0.05). A multistage sampling procedure was used to take the samples in smaller units. The major motor parks across the 8 Local government areas that make up the district were selected for this study because they most likely had more transport workers. Also 50 copies of the questionnaire were distributed to each Local government area, summing up to 400. Data collection was carried out using a specially developed questionnaire titled Questionnaire on Determinants of Safety Practices among Road Transport Workers (QDOSPART). The instrument was validated by experts and test re-test method of reliability measured using Pearson Correlation which yielded 0.76 reliability index.

The administration of the questionnaire was carried out over a two-week period. During this time, research assistants were responsible for visiting different motor parks across the Rivers West Senatorial District. The visits were conducted randomly to allow for broad coverage of the study area and to give every group of commercial vehicle drivers a fair chance of participation. A key feature of the data collection process was that the questionnaires were completed on the spot and immediately retrieved by the research assistants. This approach reduced the likelihood of misplaced forms or delayed responses and

ensured that the data gathered was both accurate and timely. The data generated from the field survey were systematically coded and subjected to statistical analysis using the Statistical Package for the Social Sciences (SPSS), version 31. Statistical tools such as mean, standard deviation and regression model at 0.05 was used for the analysis.

Results

The results of the study were shown below:

Table 1: Safety training determine safety practices

S/N	Items	Training			
		Yes		No	
		<u>X</u>	SD	<u>X</u>	SD
1	Do you wear a seat belt while driving?	2.54	0.81	1.00	0.00
2	Do you regularly inspect the vehicle for mechanical issues (brakes, lights, tires etc.) before driving?	2.84	0.74	2.33	0.75
3	Do you obey speed limits and adjust speed according to road conditions	3.01	1.00	3.77	0.41
4	Do you avoid alcohol, drugs, phones and other distractions while driving?	2.63	0.66	1.83	0.37
5	Do you take breaks and adequate rests when needed?	2.83	1.00	4.00	0.00
6	Do you practice defensive driving techniques?	2.75	0.55	2.03	1.07
7	Do you carry necessary safety equipment (fire extinguishers, first aid kits, etc.) for emergencies?	2.31	0.85	3.83	0.37
8	Do you report safety concerns, incidents or accidents promptly to the management?	2.83	0.97	2.55	0.83
	Grand total	2.71	0.82	2.66	0.47

Criterion mean = 2.50.

Table 1 shows the extent safety training determine safety practices among road transport workers in Rivers West Senatorial District. The result showed that safety practices among road transport workers in Rivers West Senatorial District based on safety training was found more among those who had training (2.71±0.82) compared to those who never had training (2.66±0.47).

Table 2: Adherence to road traffic signs/safety policies and safety practices

S/N	Items	Adherence to road traffic signs/safety policies			
		Yes		No	
		<u>X</u>	SD	<u>X</u>	SD
1	Do you wear a seat belt while driving?	2.55	0.80	1.00	0.00
2	Do you regularly inspect the vehicle for mechanical issues (brakes, lights,tires e.t.c) before driving?	2.85	0.73	2.32	0.74
3	Do you obey speed limits and adjust speed according to road conditions	3.05	1.11	3.77	0.42
4	Do you avoid alcohol, drugs, phones and other distractions while driving?	2.64	0.66	1.82	0.38

5	Do you take breaks and adequate rests when needed?	2.82	1.00	4.00	0.00
6	Do you practice defensive driving techniques?	2.75	0.54	2.81	1.00
7	Do you carry necessary safety equipment (fire extinguishers, first aid kits, etc.) for emergencies?	2.30	0.84	3.83	0.37
8	Do you report safety concerns, incidents or accidents promptly to the management?	2.83	0.97	2.54	0.84
	Grand total	2.76	0.83	2.72	0.46

Criterion mean = 2.50.

Table 2 shows the extent enforcement of safety policies determine safety practices among road transport workers in Rivers West Senatorial District. The result showed that safety practices among road transport workers in Rivers West Senatorial District based on adherence to road traffic signs/safety policies was found more among those who adhered (2.76±0.83) followed by those who did not (2.48±0.66).

Table 3: Driving hours and safety practices

S/N	Items	Driving Hours			
		< 5 hours		> 6 hours	
		<u>X</u>	SD	<u>X</u>	SD
1	Do you wear a seat belt while driving?	2.21	0.41	2.19	0.96
2	Do you regularly inspect the vehicle for mechanical issues (brakes, lights,tires e.t.c) before driving?	3.15	0.36	2.61	0.77
3	Do you obey speed limits and adjust speed according to road conditions	4.00	0.00	2.99	1.04
4	Do you avoid alcohol, drugs, phones and other distractions while driving?	3.00	0.00	2.29	0.69
5	Do you take breaks and adequate rests when needed?	2.68	0.72	3.21	1.00
6	Do you practice defensive driving techniques?	3.00	0.00	2.70	0.70
7	Do you carry necessary safety equipment (fire extinguishers, first aid kits, etc.) for emergencies?	2.00	0.00	2.84	0.99
8	Do you report safety concerns, incidents or accidents promptly to the management?	4.00	0.00	2.41	0.95
	Grand total	3.00	0.18	2.65	0.88

Criterion mean = 2.50.

Table 3 shows the extent driving hours determine safety practices among road transport workers in Rivers West Senatorial District. The result showed that safety practices among road transport workers in Rivers West Senatorial District based on driving hours was found more among those who worked for < 5 hours (3.00±0.18) compared to those who worked for 6 hours and above (2.65±0.88).

Table 4: Regression analysis on significant relationship between safety training and safety practices among road transport workers in Rivers West Senatorial District

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	3.659	1	3.659	26.924	.000
Residual	54.091	398	.136		
Total	57.750	399			

p<0.05

Table 4 revealed the regression analysis on significant difference in safety practices among road transport workers in Rivers West Senatorial District based on safety training. The findings of the study revealed that there was a significant difference in

safety practices among road transport workers in Rivers West Senatorial District based on safety training [$F(1,398) = 26.924, p < 0.005$]. Therefore, the null hypothesis which states that there is no significant difference in safety practices among road transport workers in Rivers West Senatorial District based on safety training was rejected.

Table 5: Regression analysis on significant relationship between adherence to road traffic signs and safety practices among road transport workers in Rivers West Senatorial District

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	14.194	1	79.045	64.690	.000
Residual	43.556	398	.110		
Total	57.750	399			

$p < 0.05$

Table 5 revealed the regression analysis on significant difference safety practices among road transport workers in Rivers West Senatorial District based on adherence to road traffic signs/safety policies. The findings of the study revealed that there was a significant difference safety practices among road transport workers in Rivers West Senatorial District based on adherence to road traffic signs/safety policies [$F(1,398) = 64.690, p < 0.05$]. Therefore, the null hypothesis which states that there is no significant difference safety practices among road transport workers in Rivers West Senatorial District based on adherence to road traffic signs/safety policies was rejected.

Table 6: Regression analysis on significant relationship between driving hours and safety practices among road transport workers in Rivers West Senatorial District

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	3.506	1	3.506	25.721	.000
Residual	54.244	398	.136		
Total	57.750	399			

$P < 0.05$

Table 6 revealed the regression analysis on significant difference in safety practices among road transport workers in Rivers West Senatorial District based driving hours. The findings of the study revealed that there was a significant difference in safety practices among road transport workers in Rivers West Senatorial District based driving hours [$F(1,398) = 3.506, p < 0.005$]. Therefore, the null hypothesis which states that there is no significant difference in safety practices among road transport workers in Rivers West Senatorial District based driving hours was rejected.

Discussion of findings

The findings of the study revealed that there was a significant relationship between safety training and safety practices among road transport workers. This shows that training determine safety practices among road transport workers. The observed positive relationship between receipt of safety training and better safety practices is consistent with many intervention and observational studies. Where studies have failed to detect training effects, common explanations include ineffective training design (lecture-only formats with no practical components), lack of reinforcement at the workplace, short follow-up windows that miss delayed behavior change, or

measurement that captures self-reported intent rather than observed behavior. In short, alignment with our results depends on training quality, frequency, and organizational support; divergent findings usually reflect variation in these implementation factors (ILO, 2019).

The findings of the study revealed that there was a significant relationship between adherence to road traffic signs and safety practices among road transport workers. This shows that adherence to road traffic signs/safety policies. determine safety practices among road transport workers. The present finding that adherence to traffic signs and organizational policies is strongly associated with safer self-reported practices is supported by literature highlighting the central role of enforcement, supervisory monitoring, and safety climate in shaping compliance (WHO, 2018). Studies that corroborate this relationship often measure observed behavior or link adherence to lower incident rates. However, some studies report weak associations when relying solely on self-reported compliance (social desirability bias) or in settings where policy exists on paper but enforcement is minimal; in these environments, nominal policies do not translate to real practice. Therefore, differing results typically arise from

how adherence is operationalized (objective observation vs. self-report), the strength of enforcement mechanisms, and the broader safety culture within transport firms.

The findings of the study revealed that there was a significant relationship between driving hours and safety practices among road transport workers. This shows that work hours determine safety practices among road transport workers. The significant association between longer driving hours and poorer safety practices in the present study is consistent with experimental and epidemiologic work connecting extended work hours and insufficient rest to fatigue, impaired attention, and elevated crash risk (Federal Road Safety Corps, 2022). Studies that align with this finding tend to use objective exposure measures (logbooks, electronic on-board records) and link hours to near-misses or crash outcomes. Conversely, some studies find weaker relationships; reasons include measurement error in self-reported hours, healthy-worker or selection effects (drivers with tolerance for long hours remain employed), and compensatory behaviors (drivers who work long hours may adopt safer practices such as more conservative driving to manage fatigue). Differences also stem from regulatory environments where hours-of-service rules are enforced, the raw relation between hours and unsafe practices may be attenuated. Taken together, the literature implies that reducing excessive driving hours and ensuring adequate rest opportunities are critical, but effects are mediated by measurement, enforcement, and compensatory behaviors.

Conclusion

Based on the findings of the study, it was concluded that safety training, adherence to road traffic signs/safety policies and driving hours are important determinants of safety practices among road transport workers. Therefore, there is need to put in place special programmes that will address the attitude road transport workers towards consistent adoption of road safety practices.

Recommendations

In view of the findings of this study, the following recommendations were made.

1. The Federal Road Safety Corps should design programs that simplify safe road use and policies through standardization of processes and procedures among road transport workers. This will enhance the adoption of safety practices
2. The Federal Road Safety Corps and stakeholders should provide certified compulsory trainings for road transport workers before they are licensed to drive on any Nigerian roads
3. Institutions through ministry of trade and investments should engage industry stakeholders, such as road

transport associations and unions, in promoting better use of road traffic standards and practices.

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