



STUDY OF HEAVY VEHICLES' DRIVER BEHAVIOR IN ROAD ACCIDENTS OF BANGLADESH

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ABSTRACT

Every year road accidents take a heavy toll of life in Bangladesh. Heavy vehicles like large buses and trucks account for nearly 61% of all fatal single-vehicle accidents and 58.5% of total fatal accidents involving two or more vehicles. Preliminary studies identify that improper overtaking tendency, over speeding, and unreasonable competitive and aggressive attitudes of heavy vehicles' drivers are a few of the most prevalent causes of road accidents in Bangladesh. Thus, it is become a great cause of concern that why drivers, especially of heavy vehicles', drive aggressively. Is there a way to identify aggressive characteristics before any dangerous behavior can result? And are there any ways to solve or lessen these problems? Aggressive driver behavior of highways and its underlying causes are critically examined in this paper. In order to gather factual information to serve as a basis for this study, a well-conceived questionnaire survey was conducted on the attitude and behavior of heavy vehicles' drivers. The research also investigates the knowledge of the Heavy vehicles' drivers about the Traffic rules and inspects the condition of the vehicles. The study focuses on the striking findings of the research with a view to assessing the need for taking appropriate countermeasures for improving driver behavior and hence reducing road accidents in Bangladesh.

1. INTRODUCTION

With the continual increase in population and the concomitant increase in the number of vehicles, the quantum of road accidents has remarkably increased on road in Bangladesh. Due to reckless driving, lack of proper knowledge of drivers of conscientious road use, lack of consciousness on the part of heavy vehicles operators at one hand and inadequate traffic control and management on the part of concerned authorities, road accident situation in Bangladesh has taken a dangerous shape. In addition to the loss of many invaluable human lives, the country is experiencing huge economic loss, which might amount to around 850 million US Dollar annually. A recently published report reveals that as many as 5000 people die

every year in this country due to vehicular accidents. The report also surmises that the degree of under-reporting exceeds nearly 50 percent. According to the report, around fifty percent of the persons killed were pedestrians and the people responsible for being involved in fatal accidents with enormous loss of invaluable human lives, are the drivers of heavy vehicles like trucks and buses. The objective of this research was to glean information on the knowledge of the heavy vehicle (Buses & Trucks) drivers regarding driving, the reasons and effects of accident and the necessity and scope of drivers' training. This research also investigated the working environment of the drivers as well as the condition of the vehicles.

2. METHODS OF THE STUDY

A detailed questionnaire was prepared to collect data related to the drivers' demographic and personal information, level of training and experience as well as owning of driving license. The data also included information of the level of understanding, driving techniques, attitude, driving period and conditions in a day, the drivers' opinion and attitude towards overtaking manoeuvre, tendency of over-speeding, vehicular overloading involvement in specific accident situations. A vehicle condition survey was also conducted simultaneously in to assess the level of compliance with ideal vehicular conditions.

The study was conducted on a total random sample of 350 drivers with 200 bus drivers and 150 truck drivers. Ten major terminals at different areas in Bangladesh were randomly selected. These survey locations are such that remarkable quantum of road trips originated and destined to various destinations throughout Bangladesh. Drivers having experience from 1 year to 30 years were interviewed in the survey. The study was designed to reflect the opinion of all classes of drivers.

3. RESULTS AND FINDINGS

3.1. DEMOGRAPHIC AND PERSONAL INFORMATION

According to findings of the questionnaire survey, about 40 % of the interviewed drivers do not have any kind of formal education, 40% studies Class V level of primary school and the rest continued up to Class X of secondary school. Only a few have had the opportunity to pass the Secondary School Certificate examination. The average income of the drivers interviewed was found to be around Taka 6000.00 (US\$100) per month while the average number of family members was six. It is discerned from the study that there is a common feeling of dissatisfaction prevailed among the drivers and their family was in a state of worried of the economic conditions. Almost 70% of the drivers admitted that their attitude toward driving was significantly influenced by their economic conditions but the rest disagreed with this.

A small proportion of the drivers were found to get salary on a regular monthly basis. Most of them receive their wages on trip basis and therefore their jobs were temporary. Most importantly, about 95% drivers were employed on the basis of verbal agreements. In the absence of any formal document specifying their job, conditions, basic salary and fringe benefits, they were obviously in a state of job insecurity and social dissatisfaction. About 50% of the drivers worked either as a helper or a conductor of heavy vehicles before starting their driving profession, 45% worked in vehicle repair garage and the rest 5% were not doing anything. While only

3% of the drivers admitted that they have the habit of drinking, but they acknowledge that 10-15% of the drivers have had the habit of drinking. Almost everyone told that a driver never drives vehicle after drinking.

3.2. TRAINING, EXPERIENCE AND POSSESSION OF LICENSE

Many interesting findings were revealed in this section of the study. About 99% of the drivers did not learn driving from any formal training centre. A senior and experienced driver trained them privately while working with him as a helper/conductor or while working in a vehicle-repairing garage.

Regarding the possession of the driving license by individual, it was found that most instances the drivers have to pay extra money to get a valid license. The majority (nearly 70%) of all the drivers were found to carry fake licenses. Many of them know about it while others were not even aware of this. A major percentage (about 40%) did not even take any driving test while the rest took the test but passed the test by offering money to corrupt personnel of the license issuing authority. According to the information provided by the drivers, they were victimized and subjected to unnecessary harassments for not paying bribes.

3.3. LEVEL OF UNDERSTANDING

In general, it was found that experienced and educated drivers show better level of understanding to driving situations while on the road and they showed better driver behaviour. Most of the drivers could identify the major and important signs, but due to lack of institutional training 90% of the drivers failed to state the basic difference between the triangular and the circular signs. 75% of the drivers could not identify important road markings. About 80% of the drivers did not know that there is a relationship between the safe trailing distance and vehicular speeds. Most of them considered the safe trailing distance is same for any vehicular speed. About 90% of the drivers opined that there should not be any market or public gathering within 50 ft of the highway right-of-way. Moreover, they opined that as non-motorized vehicles reduce the usages of shoulders and roadside recovery areas while overtaking and in case of any out-of control situations, they should not be allowed to operate in the highways. They advocated for the provision of separate lanes for smaller sized motorized vehicles. As regards sitting arrangement within a bus, 80% of the drivers stated that women should not occupy front seats, as it tends to distract their attention. Also the sit of the drivers should be so secured that the highway robbers cannot suddenly attack them.

3.4. ATTITUDE

Though all of the drivers think they should follow driving laws and instructions to avoid accidents, many of them opined that they disobey the instructions only when as they are not warranted and such practices include driving at a high speed and changing the lane when the road is free, disobeying of the signal indication at night, racing with other vehicles etc. Most drivers identified overtaking and over-speeding as the main causes of road accidents.

About 60% of the heavy vehicles' drivers interviewed feel that the larger sized vehicles should get the highest priorities on the highway. Informally they candidly

confess that due to sheer size of their vehicles and strong hydraulic horn they get all the undue driving advantages and they consider it as "might is right". They hardly cooperate with the smaller sized motorized vehicles, non-motorized vehicles and as well as with pedestrians.

3.5. DRIVING PERIOD AND CONDITION

About 50% of the drivers told that they drive 6-8 hours per day on the average, while about 40% of the drivers told that they drive 9-12 hours a day at a stretch. Almost 95% of the drivers have to drive more than 12 hours under pressure when conditions arise or their employer ask for it. About 25% of the drivers admit that sometimes they are forced to drive knowing fully well that there is a fault in the vehicle. In any case the drivers strongly urged that there should be suitable places for resting and waiting after a maximum driving length of four hours.

3.6. OPINION ABOUT OVERTAKING, OVER-SPEEDING, OVERLOADING AND ACCIDENT INVOLVEMENTS

About 95% of the truck drivers stated that overloading is practiced according to the desire of the owner of the vehicles. 32% of truck drivers said that they carry passengers on top of the freight to generate extra income. They also admitted that it is very dangerous to do so, since unprotected passengers often fall-down from the unshielded freight top especially while going through sharp bends at high speed and in case hard brake is applied suddenly. They also expressed that while driving the overloaded vehicle, most of the accidents occur due to wrong perception of vehicle speed, particularly at sharp roadway turns.

Overtaking usually results from the competitive attitude among the drivers population. 75% of the drivers told that they overtake other vehicles even unlawfully in order to reach the destination within the schedule times, which is set by owners of the vehicles. They also consider seriously the fact that if they could reach the destinations earlier than the stipulated timetable, they will be able to make more trips. In that case the owners of the vehicles will be pleased and the drivers will also be able to earn more money. About 15% drivers told that they make overtaking manoeuvre due to provocation from the passengers and 5% told they overtake other vehicles to reach their destinations earlier so that they can get more time to rest.

All of the drivers interviewed in questionnaire survey identified the need for professional training as one of the top priority requirement. According to 70% of the drivers, if a franchise of two or three companies does manage bus trips, scheduled service will be ensured and as a result the competitive attitude would be reduced. But the rest of the drivers disagreed, stating that there is a possibility that a fewer number of large companies would monopolize the transport industry. 40% of the drivers told that if they were allowed profit sharing with the vehicle owners, they would have been driving the vehicle more responsibly. But the remaining 60% of the drivers told that they always try to drive carefully irrespective of any profit motivation.

About 95% of the drivers admitted that they have fear of being beaten by the public after any accident event. For this reason, immediately after any accident almost all the drivers tend to leave the place of accident as early as possible, which unfortunately results in even more casualty. For the same reason 60% of the drivers denied to possess a separate set of dress while driving heavy vehicles. They also

opined that the imposition of higher punishment would not improve the situation. In the case of an accident, about 95% of the drivers told that it is better to be caught by the police rather than by the public, because the police will not beat them to death and also they can be managed easily through bribing.

According to the drivers, while telling their personal experience, the accidents in which they were involved directly, were due to aggressive overtaking maneuver, vehicular failure and more importantly due to the unexpected behaviour of the pedestrians. In general the reasons which they identified as major factors for road accidents were, in order of their importance, reckless driving, fast driving which actually accrue pressure from the owner of the vehicles, lack of education and experience of the drivers, competitive attitude, presence of market places within the road right-of-way and undue toll or bribe taking attitude of the police personnel which ultimately seriously affect and disrupt the psychology of the poor drivers.

3.7. VEHICLE CONDITION SURVEY

In the vehicle condition survey it was revealed that the speed meters in about 75% of vehicles were non-functioning and out of order. About 40% of the vehicles did not have any workable windshield wiper, which made driving in rains very risky. Moreover, it is found that the servicing of the vehicles was not done regularly.

4. CONCLUSIONS AND RECOMMENDATIONS

The results of this study have shown that drivers are not the only group involved in road accidents. Other groups including the owners of the vehicles, pedestrians, police personnel and passengers are also playing significant role in road accidents. Due to the involvement of other groups besides vehicles' drivers, accidents survey shall also be conducted on owners, passengers and pedestrians independently. Such studies shall be augmented by comprehensive field observational surveys in order to factually substantiate the findings of the questionnaire survey results.

It was found that, immediately after any accident almost all the drivers tend to leave the place of accident as early as possible in fear of Public wrath, which unfortunately results in even more casualty. Therefore public awareness needs to be grown about not taking the law in one's own hand. The imposition of more rigorous punishments will not substantially reduce the number of accidents; rather strategic and participatory approach need be taken. A way should be devised to get the comment of the passengers about the driving attitude of the driver. Therefore the drivers will remain more alert.

Roadside activities will have to be restricted along the highways. The markets should be situated far away from the highway. Wherever appropriate highways should be divided so that overtaking cannot result in head on collisions.

In order to get safe driver population, license issuing process need to be more user friendly and transparent. Most importantly all Heavy vehicles' driver should be given extensive and professional training with emphasis on safe driving qualities. They will learn about the Traffic Signs, rules of driving in a conflicting situation, rules for overtaking and other important rules. The information revealed about the condition of the vehicle was really alarming. A driver cannot drive safely without a safe vehicle.

Therefore in addition to a transparent License issuing process, there should also be a transparent fitness certificate issuance process.

In order to induce cooperative mentality among the driver population, forming large bus company and involving drivers in profit sharing with the company could be a solution of reducing aggressive driving behaviour. In this way a scheduled service will also be ensured and therefore drivers will not be compelled to drive faster.

5. REFERENCES

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