

Correlation between Driver Behaviour and Road Safety: A Review

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Abstract: Road safety has become a major concern for all of us. Driver behaviour is one of the major problems that indulge in road accident. While driving performing another task, such as use of mobile phones, running of red lights, drink and drive driving on a restricted path, all these are related to driver behaviour. In the previous studies, many relations are formed between driver behaviour and road safety or accidents but there are some parameters which are need to be added to make healthy relation between driver behaviour and road safety. Regression analysis needs to be done by collecting data with the help of a questionnaire survey. The main aim of this paper is to find the best relation between the driver behaviour and road safety by adding more parameters such as road side advertisement, driving for an extra hours. Taking driver behaviour as an independent variable and road safety as a dependent behaviour a model can be formed.

Keywords: Regression analysis, dependent and independent variables.

Introduction: Driver behaviour is important factors on roads socially as well as economically, but also provide significant risks to various lives, which include injury and death. According to previous research, many people die every year due to road accidents which occurred sometime due to drivers fault, but due to improvements in technologies such as ITS AND GPS has been used in the vehicles to improve the road safety. Many researches has been done using technology for finding the different accident causing drivers behaviour. In this study, it was notable that drivers experience, driver mind set and perception of risk all these are the major factor which can increase or decrease the accident risk. Human behaviour has the most high impact on accident risk. Most of these are aware of traffic rules, while others are the result of errors due to inexperienced drivers, lapse of concentration, inactive or not able to perform well, in the end age is also an important factor. These drivers behaviours often cause road accidents. Apart from unskilled drivers and lack of knowledge along with disobey of the road and safety rules are the bigger problems. There are many factors related to driver behaviour which are main cause of road accidents. So, to identify them and making a combination of those factor and correlate them with road accidents and safety is the main motive. The aim is to know about drivers' behaviour based on a questionnaire, to find various road sides distraction which may cause traffic accidents and highlight their effect on traffic safety. The analysis is based on the questionnaire by using mini tab software to predict accident rates. The data for this study was collected from a survey questionnaire and some photographs and videos will also be taken and the available accidental data also included in it. In conclusion, the aggressive behaviour increases the chance of accidents. Through this, it was concluded that injuries and traffic accidents are directly relates to driver behaviour. Preventive countermeasures were recommended to improve traffic safety.

Literature review

- Pope.CN-et-al() they found the relationship between age, behaviour of driver as related to self-control. In this study they included 59 young, middle and older adults. Correlation between the different age drivers had been done and they concluded that the older age drivers were mostly affected by the self-control, and there were no significant difference between middle and young adults.
- Row.R-et-al() in this study they address their issue with the help of bifactor modelling in which they found the correlation between violation on roads and its other component with road crashes. They had taken road crashes as dependant variables and violation had been taken as independent variables. The equation they formed suggests that overtaking and aggressive behaviour is the major cause of road accidents.
- Runschlagi-et-al in this paper they found the relation between the changing of car lane with mobile texting. Changing of road lane either it is opposite lane or the shoulder, effect of texting had been noticed. They perform test on different age people i.e., how the texting on mobile while driving effect the drivers concentration. They conclude that effect of texting is worse for older age driver.
- Trespalaciaos-et-al(2019) studied the impact of advertisement which are found on the road side also its impact on driver nature and road safety. In this research, 90 documents were taken, which confirmed that the model known as TCI is a good software which can be used to find the relationship between drivers behavior and roadside

advertisement. On the basis of available data, it is not possible to say that there is a relation between road accident and road side advertisement, while most studies remain suggesting that roadside advertising can increase road accidents, especially for digital advertisements and digital boards alongside the roads. So, this topic requires more study due to fast change in transport system. Consequently, there is a need for more research in this area, given that roadside technology and the transport system are changing rapidly.

- Baralla-et-al(2016)in this study they did comparison between male and female driver. They perform this test on 2681 young driver to find their attitude towards road safety. The younger age driver had been focused to get the better result and the result showed consistency in all drivers. In the end final result told that, risk taking abilities is consistent for males and females, but males has taken more risk than females.
- Trogola-et-al (2014) in this study they tested on how tough to control emotions, control and style of driving. This test was done by themselves by One-hundred and thirty seven drivers. In which they measures how tough to control emotions while driving. The result of this test showed that anxiety, anger, lack of control and risky driving. By contrast, due to careful driving, it was easy to control the emotion. Multiple regression analysis gave the result about the role of different drivers' behaviour on road safety. This test suggested that role of interviews giving driving license is important. Some problems and what need to be studied in future are also discussed.
- Farooq-et-al (2018) in this study research has been done on the young driver. Comparison has been done between Budapest and Islamabad drivers that which city drivers are more loyal to the traffic rules. For this they prepare a questionnaire to get the proper information about the behavior of the drivers. The purpose of this study to know about driver's point of view about the traffic rules and road safety. From this study they concluded that Budapest drivers are obeying the rule more than Islamabad drivers. But there are some drivers in each region those who do not obey the traffic rules.

Conclusion

This study is simply related to traffic related problems, different kind of men behave differently and different behaviour has different impact on roads. Driver behaviour also changes with the time gap so, different age people show different characters on road. Relation between drivers behaviour and road safety has been shown in this paper. In the previous paper various methods has been used to co relate drivers behaviour and road safety by taking different parameters but the combination of the parameters was different in each paper. Each paper introduced different regression analysis on different parameters and it gives different equation related to collection of data. It is helpful for some extent but there is still some parameters which are important and has important impact on driver behaviour. To make a healthy relation between driver behaviour and road safety some parameters are need to be added.

By collecting more data and with the help of adding different parameters making of more healthy relation is possible. It will be more useful to enhance public transport and to find different problems related to road safety.

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