

A Study on Factors Influencing Road Accidents in Kerala

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ABSTRACT

This paper has tried to review various gaps in research along with future scope of study on major factors influencing road accidents in Kerala, the southernmost part of India in Asia continent. The traffic accidents and injury to persons are of utmost concern in this area, where the life standard and general behavior of people is different from other neighboring states. In this paper, some important factors were studied for traffic safety along with researches done on the topic are studied and are reviewed thoroughly. It aims at to identify a Profile of the Respondents, to analyze the contributory factors influencing the road accident while driving, to explore the driver behavior such as drink and drive. For this study the sample size taken is 110. It used the tools such as percentage analysis, factor analysis and weighted average. This research work shall help to identify the factors where influence the road accidents in Kerala and to check the factors to reduce the accidents, leading towards a scientific traffic control to reduce accident rates.

Keywords: Road Accident, Risk behavior, safety level

INTRODUCTION

The increasing rate of road accidents in Kerala is a grave concern. The loss of life of person and the financial loss due to each accident is a big negative impact to the economy of the country. The involvement of person in their most productive years make this impacts still worse. Hence, the study of traffic accidents and their avoidance is a major area of research. In this paper, some important models developed for traffic safety along with research works done on the topic are studied and are reviewed. Apart from passengers in vehicles, the behavior of pedestrians, where they are relatively unprotected road users interact with traffic. Road safety education (RSE) adopts that psychological factors predict risk behavior, and successively that risky road behavior expects change envelopment. In this paper, some points developed for traffic safety along with studies done on the topic are thoroughly reviewed.

Factors responsible for accidents

Generally, the factors responsible for road accidents can be classified as below..

1. Personal or human behavioral factors
2. Road and Environmental factors
3. Vehicle factors

Personal or human factors mainly include the age of driver or victim, gender of the victim, was he drunk while driving, etc. Similarly, environmental factors include the general factors of climate and environment, lighting conditions of road, time of accident, i.e. day or night, pavement conditions, etc. Road geometric factors include the type of junction or intersection, then horizontal slope, curves, etc. present on the road, due to faults of which, accidents may occur. At the end come traffic factors. This mainly includes the speed, density, traffic flow parameters that may lead to accidents. (Malaya Mohanty, Apr.2015)

REVIEW OF LITERATURE

Maximum number of people die, and many of them remain physically injured while some of them are compelled to suffer the whole life as they cannot be brought into normal life. In course of data collection, the researcher himself visited to the Police Headquarters, Operation Department, Traffic Directorate, Naxal, Kathmandu and Metropolitan Traffic Police

Division, Kathmandu. The data collected from available documents have been presented and analyzed under several themes like: road traffic accident of Kathmandu Valley in 2072/73, types of vehicles involved in traffic accidents in Kathmandu Valley, traffic accidents and its effects, trend of road traffic accidents of five years. To sum up, Road Traffic Accident (RTA) has been really a serious problem in Kathmandu valley. Every year the number of casualties is increasing. The standard of road should be maintained and there must be coordination among the government bodies, vehicle owners, and civil society for the honest observation of traffic rules and regulations. The government should pay attention to improve the quality of roads by giving emphasis on infrastructure building. (Dhakal, June 2018)

A road traffic injury is a fatal or non-fatal injury incurred as a result of a collision or incident involving at least one road vehicle in million on a public road or private road to which the public has right of access reasoning in at least one injured or a killed person. Road traffic injury take the lives of nearly 1.3 million people every year and at the same time injure 20-50 million people. According to World Health Organization (WHO), it is the leading cause of death for people aged 15- 29 years. It is projected that road traffic injuries will be among the top have leading cause of death by the year 2030. Road traffic accident results from a combination of factors related to the components of the system comprising roads, the environment, vehicles and road users, and the way they interact. Road traffic injury take the lives of nearly 1.3 million people every year and at the same time injured 20-50 million people globally. India, being a rapidly developing country has one of the highest motorization growth rate which is accompanied by rapid expansion in road networks and urbanization. Consequently the country is faced with various issues and impacts on road traffic accidents and road safety level. It takes a heavy financial toll on the economy over and above the mortality and morbidity associated with road traffic accidents. Road traffic accidents are predictable and preventable. (Thokchom Shantajit, Oct 2018)

OBJECTIVE OF THE STUDY

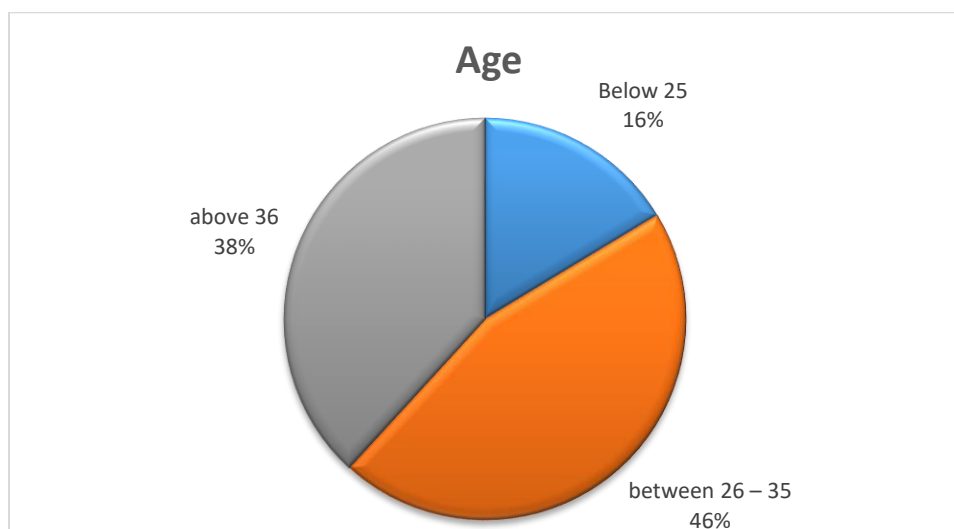
- To Identify a Profile of the Respondents
- To identify the contributory factors influencing the road accident while driving
- To Explore the Driver behavior while drink and drive

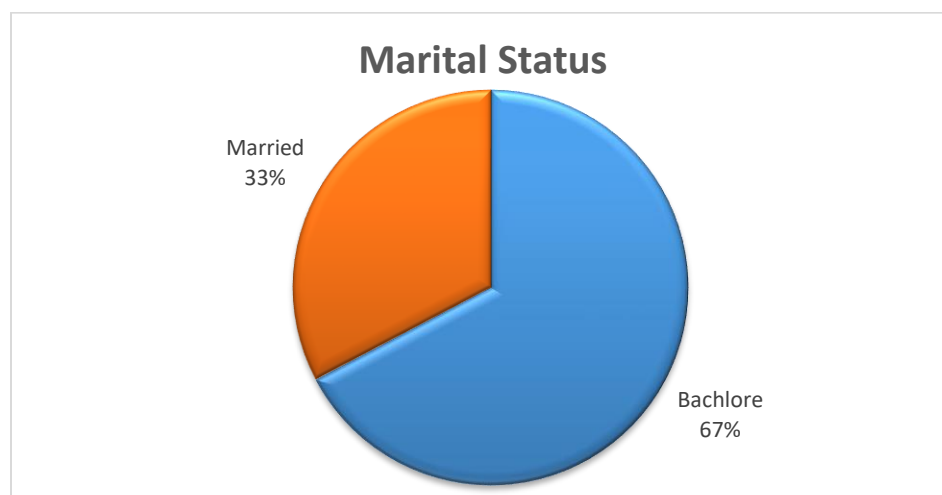
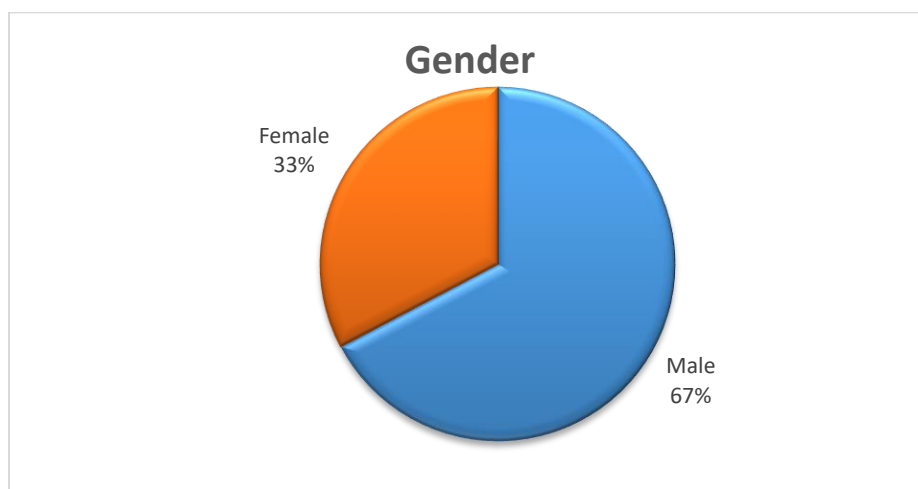
RESEARCH DESIGN AND METHODOLOGY

Thus this study discuss about the road accidents in Kerala among all districts of the state, it was 110 sample were used as primary data and also using secondary sources of data in the study area. Using this study examined the analytical part of covering table, percentages, and Techniques used in Factor Analysis and Weighted Average.

ANALYSIS OF THE STUDY

PROFILE OF THE RESPONDENTS





DRIVING BEHAVIOUR OF THE DRIVER

Factor I										
Variables	I occasionally take risks to impress my passengers	Speed limits are often set too low	There is a risk of being trapped by the seatbelt in case of an emergency.	Free to choose if they wear a seatbelt or not.	I am sometimes surprised by an approaching driver or rider.	Exceeding the speed limit is just a part of everyday driving for me.	I enjoy talking about cars and driving.	I know don't always wear a seatbelt while driving.	Eigen Value	Percentage of Variance
Values	0.899	0.899	0.899	0.890	0.890	0.890	0.890	0.557	10.751	16.188

Factor II						
Variables	I use my own judgement, not speed limits, to decide my speed on the road.	Few of my friends are interested in cars and driving.	I feel excited when I get behind the wheel.	I feel vulnerable when I am not wearing a seatbelt.	Eigen Value	Percentage of Variance
Values	0.908	0.908	0.908	0.811	5.978	10.048

Factor III						
Variables	It is okay to speed, if traffic conditions allow you to do so.	The majority of collisions occur by chance or bad luck.	Breaking speed limits is not an acceptable behavior in most circumstances.	I sometimes cannot be bothered to wear a seatbelt.	Eigen Value	Percentage of Variance
Values	0.905	0.905	0.884	0.842	4.468	10.041

Factor IV						
Variables	If there are airbags in a car, seatbelts are not necessary.	It is okay to drive faster than normal if you have a high performance car.	Even driving slightly faster than the speed limit makes you less safe as a driver	Most drivers can eat or drink while driving without being distracted from the road.	Eigen Value	Percentage of Variance
Values	0.960	0.960	0.960	0.857	2.815	9.923

Factor V								
Variables	People should drive slower than the speed limit when it is raining.	I think taking the occasional risk whilst driving is exciting.	Some people can read text messages while driving along, without being too distracted.	Even at night-time on quiet roads it is important to keep within the speed limit.	I would like to own a fast and powerful car one day.	I would not normally go out for a drive just for enjoyment.	Eigen Value	Percentage of Variance
Values	0.817	0.786	0.756	0.690	0.684	0.683	2.104	9.567

Factor VI						
Variables	It is fine to break the speed limit, as long as I know that I am safe and in control of my vehicle.	When driving, I insist that every passenger fastens their seatbelt.	Seatbelts are always necessary, even if you drive carefully.	The best drivers are skilful drivers.	Eigen Value	Percentage of Variance
Values	0.886	0.886	0.833	0.818	2.007	9.156

Factor VII						
Variables	The best drivers are safe drivers.	I like to test out the limits of my car.	It is just too difficult to stick to the speed limit.	Seatbelts can be dangerous.	Eigen Value	Percentage of Variance
Values	0.852	0.852	0.802	0.685	1.563	8.365

Factor VIII				
Variables	I will have my car regularly serviced by a qualified mechanic.	One or two minor collisions in the first few years of driving are inevitable.	Eigen Value	Percentage of Variance
Values	0.745	0.686	1.314	4.524

Factor IX				
Variables	Penalties for speeding should be more severe.	If you drive carefully seatbelts aren't really necessary.	Eigen Value	Percentage of Variance
Values	0.677	0.568	1.128	3.723

S.No	Variables	5 - Very high extend	4 - High extend	3 - Medium extend	2 - Little extend	1 - Very little extend	Weighted Score	Weighted Score	Rank
	Drink Driving							3.83	Agree

S.No	Variables	5 - Very high extend	4 - High extend	3 - Medium extend	2 - Little extend	1 - Very little extend	Weighted Score	Weighted Score	Rank
1	Most drivers will drive after drinking alcohol if they think that they are under the limit	85	216	102	8	1	412	3.75	8
2	Having one or two alcoholic drinks doesn't make drivers more likely to crash	170	224	54	2	1	451	4.10	1
3	People I know sometimes drive when they might be over the limit	50	228	111	6	3	398	3.62	15
4	It is difficult to know how much alcohol you can drink and be safe	120	220	66	12	3	421	3.83	6
5	Drivers should not drink any alcohol before driving	70	236	90	12	1	409	3.72	14
6	People should be free to judge how much they can safely drink	90	228	87	10	1	416	3.78	7
7	People who drink and drive should lose their driving licence	70	224	111	4	1	410	3.73	13

S.No	Variables	5 - Very high extend	4 - High extend	3 - Medium extend	2 - Little extend	1 - Very little extend	Weighted Score	Weighted Score	Rank
8	People who drink and drive should receive a prison sentence	85	264	69	8	0	426	3.87	5
9	It is okay to drink and drive, as long as you don't get caught	70	276	81	0	0	427	3.88	4
10	Everyone drinks and drives once in a while	45	264	99	4	0	412	3.75	8
11	The dangers of drink driving are exaggerated	85	216	102	8	1	412	3.75	8
12	The police spend too much time hassling drink drivers	170	224	54	2	1	451	4.10	1
13	It is okay to drive after drinking, as long as you are not drunk	45	264	99	4	0	412	3.75	8
14	Most of my friends think it is okay to drink and drive	85	216	102	8	1	412	3.75	8
15	My friends would think I was really stupid if I drove after drinking alcohol	170	224	54	2	1	451	4.10	1

CONCLUSION

In this study the researcher frame three objectives, the first objective of the study is find the profile of the respondents, it have majority of the respondents are 26-35 Age group, Male respondents are mostly answered the Questionnaire, and finally bachelors are highly involved the Questionnaire.

The second objective of the study to identify the contributory factors influencing the road Accident while driving. It is a result on some of the variables are correlated and it reduced into create 9 factors.

Finally, the third objective of the study, to explore the driver behavior while drink and drive. In this objective based on the respondent's behavior gave an agree statement. So, the drunk drive is a contributory factor in road accidents happening in Kerala.

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