International Journal for Multidisciplinary Research (IJFMR)
E-ISSN: 2582-2160 ● Website: www.ijfmr.com ● Email: editor@ijfmr.com

Study on Awareness of Road Safety Rules Among Various College Students in South India

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Abstract

Road safety is an important aspect in the day to day life. We travel most of the distances via roads only and to make our traveling safe and secure there given rise to safety measurements commonly known as Traffic Rules. Few people are following road safety rules strictly while many are violating these rules regardless of their safety and that is very saddening news. The main objective of this study is to evaluate the level of knowledge and awareness of road safety rules among college students in various places in South India. A questionnaire was prepared based on some road safety rules which are supposed to be known to people who have taken their driving licence. A quiz was conducted among 515 students from various colleges in South India. An analysis was done using statistical tools such as percentage analysis and chi-square tests, to find the respondent's awareness of the road safety rules. We conclude that the awareness of road safety rules was poor among both groups of respondents, those having a driving licence and those without it also. The statistical analysis was carried out by SPSS.

Keywords: Basic traffic rules, Safety Tools, Driving licence, Road users, Road safety measures.

Highlights

- Road safety education is crucial in developing students' attitudes and behaviours towards ensuring that they become responsible drivers, passengers, pedestrians, and cyclists.
- Many accidents are caused by poor driving skills, failure to follow road safety precautions, a lack of awareness, and violations of traffic laws.
- We will be able to protect everyone from the dangers of road accidents if we provide proper road safety education is given to students population who make up to a major population of two wheeler and four wheeler driving.

Novelty

- Our study focuses on the need of awareness and practice of road safety rules among college students for which any major literature is not available.

- To the best of our knowledge there were no studies available in road safety awareness among college students in South India.

Introduction

Road safety is the prevention and protection of traffic crashes by employing all available road safety measures. Its goal is to make sure everyone's safety as they use the roads. Its purpose is to ensure the safety of all road users, as well as walkers, two-wheelers, four-wheelers, multi-wheelers, and other users of transport vehicles. It is very beneficial and safe for everyone to practise road safety measures their entire life. Everyone should be considerate of others while driving or walking on the road, and take precautions to ensure their own safety.

According to the Indian Ministry of Road Transport and Highways, the cause of crashes is carelessness or a lack of road safety awareness. Thus, in order to prevent injuries and save millions of lives, it is essential to educate all relevant parties about road safety, including traffic cops, citizens, drivers, and vehicle owners.

There are many ways to raise awareness among the general public, including seminars, workshops, and adding fundamental lessons in road safety to the curriculum for students. Following all road safety precautions greatly aids in the prevention of accidents. Some effective road safety measures include basic knowledge of vehicles, defensive driving based on the climate and the terrain, and the use of vehicle lights and horns, wearing a seat belt, using vehicle mirrors, not speeding, understanding traffic lights, keeping a safe distance between vehicles on the road, and having a good understanding of how to handle a crisis situation are all important.

The need and benefits of formally evaluating road safety campaign efforts and also described some of the more typical campaign strategies and introduced a number of new approaches that showed plenty of potential for the purpose of road safety campaigns were discussed.[10] The impact of road safety education interference on university drivers' knowledge of road safety were determined.[8] The knowledge and practice on road safety rules between primary school students in rural area were assessed.[4] A generic pyramid structure approach was proposed and to assessed & improved children road safety.[5]

The Medicinal student's knowledge and attitude towards road safety, as well as their driving behaviour and its relationship to various associated elements were assessed.[9] A road safety education for higher secondary school students focused on driving under the influence and traffic hazards were evaluated.[7] A road safety perception questionnaire were designed and validated.[2] Analysed the on-going development tendency of roadside safety depending on a literature analysis from many aspects, namely the publishing year, country, and source.[3] Summarized the study status of roadside safety in terms of three features, specifically, the frequency of roadside accidents, the severity of roadside accidents, and the practise of designing road safety, and recognizes existing issues and upcoming research instructions. University students' knowledge and awareness of traffic safety were assessed.[1]

Study Sample Size (N) and Study Location

A literature study is accomplished in order to assistance the method of attaining the sample size (n) of our certain population. A sample size (n) table is provided for each population. For instance, if the population totals 25,000 college students, the appropriate sample size (n) of 515 respondents is adequate[6]. The respondent's location of this study is at various states in South India namely Tamil Nadu, Andra Pradesh, Karnataka, Kerala.

Methodology

Due to time constraints, an online questionnaire was utilized as the study tool to gather information. The questionnaire was distributed through social media, and participants were self-selected to contribute in the research. The answers are gathered using a Google form. The questionnaire was created with closed-ended true or false and multiple choice questions to assess knowledge-based truths, and the participants were required to select an answer for every question in order to determine the respondent's knowledge of road safety regulations and road safety awareness. All the data was scrutinized utilizing SPSS 22 Statistical software to attain the Cronbach's alpha, significant P-value (chi-square value) and the percentage of responses from each question.

Results and Discussions

The pilot study results showed that the Cronbach's alpha based on the standardized items for the questionnaire was 0.69, which is adequate. As a result, the questionnaire's dependability was confirmed. After having passed the reliability test, the questionnaire was distributed until more than 515 college students were recorded. The statistical analysis (Chi-square tests and percentage analysis) results were presented below.

Statistical Analysis

The final analysis for the online quiz consists of 515 students, which is adequate given the sample size n needed for this study. Preponderance of the students was from the age of 18-22 years by a proportion of 92.8%, continued by 23-27 years about 4.9%. Although, only a very lesser proportion is from age 28-32 years and above 33 years old of 1.6% and 0.4% respectively were presented in table 4.1.

Table 4.1: Age of the participants

Age	Participants	Percentage	Cumulative Percent
18-22	478	92.8	92.8
23-27	25	4.9	97.7
28-32	8	1.6	99.3
33 and above	2	0.4	100.0
Total	515	100.0	

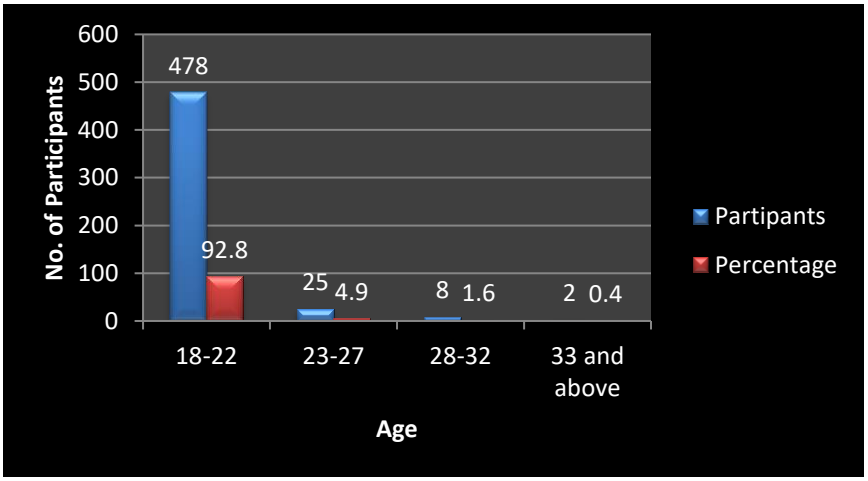

Fig. 4.2: Age of the participants

Table 4.3: Gender of the participants

Gender	Participants	Percent	Cumulative Percent
Female	281	54.6	54.6
Male	234	45.4	100.0
Total	515	100.0	

Table 4.3 reveals the gender of the participants. The result shows that out of 515 participants, 281 participants (54.6%) were females and the remaining 234 participants (45.4%) were males. Thus the majority of the participants were females.

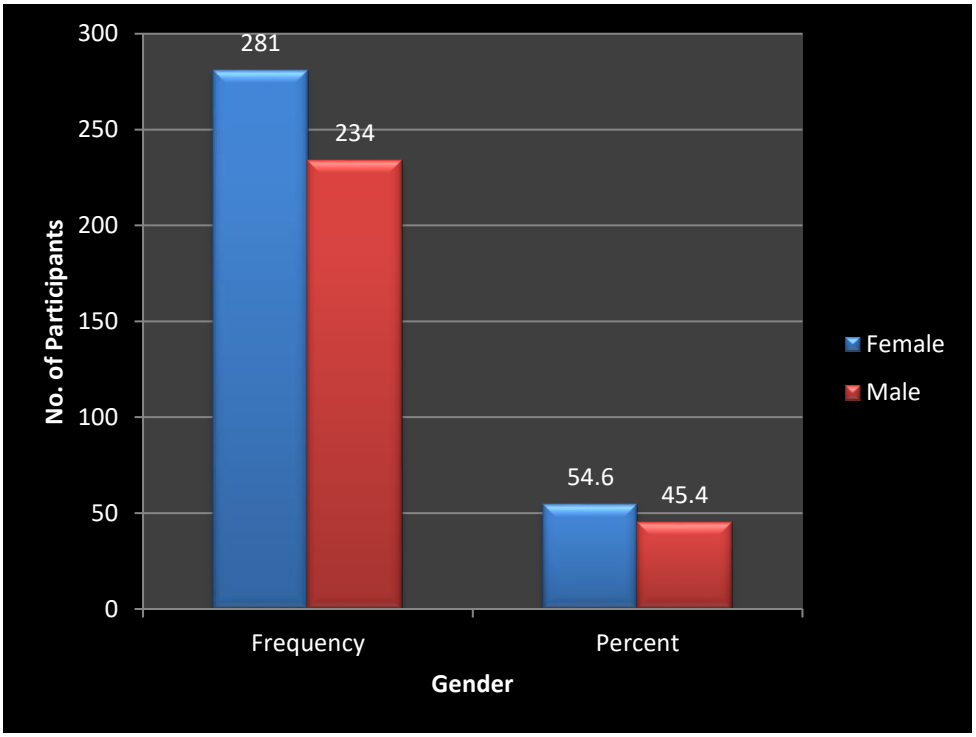

Fig. 4.4: **Gender** of the participants

Table 4.5: Driving licence status of the participants

Driving licence	Participants	Percent	Cumulative Percent
No	300	58.3	58.3
Yes	215	41.7	100.0
Total	515	100.0	

Table 4.5 exposes the driving licence status of the respondents. Out of 515 respondents, 215 respondents having a driving licence, while 300 respondents haven't a driving licence. It's clearly shows that, the vast bulk of the participants haven't driving licence.

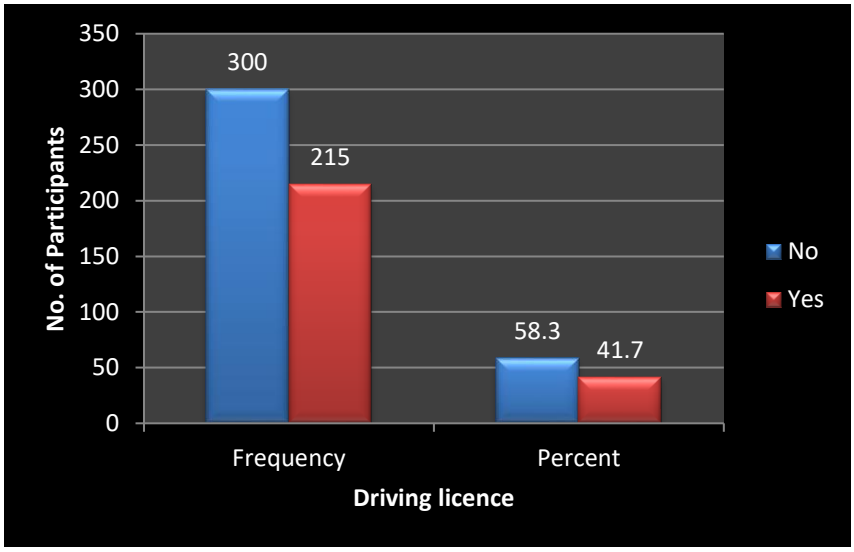

Fig. 4.6: Driving licence status of the participants

Table 4.7: Scored ratio of the participants

Scored Percentage	Participants	Percent	Cumulative Percent
Below 50%	413	80.2	80.2
Above 50%	102	19.8	100
Total	515	100	

Table 4.7 divulges the scored ratio of the respondents were recorded into two groups such as among the 515 respondents, a high of 413 respondents (80.2%) belong to the scored category of Below 50% and 102 respondents (19.8%) belong to the scored category of Above 50%.

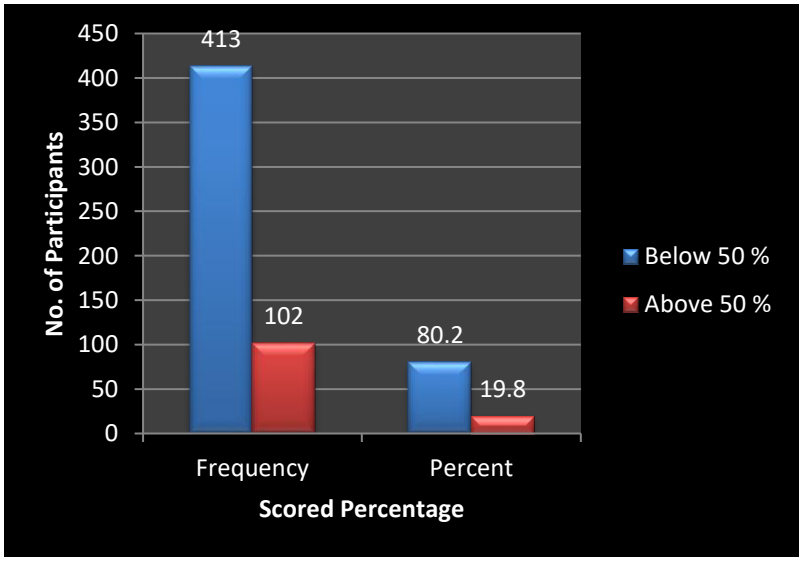

Fig. 4.8: Scored Ratio of the participants

Table 4.9: Cross tabulation for Gender * Driving licence

	Driving Licence		Total
Gender	Yes	No	

Male	118	116	234
Female	97	184	281
Total	215	300	515

Table 4.9 lists the respondents' gender and status regarding their driving licences, out of 515 respondents, 118 males and 97 females had driving licences, while the remaining 116 males and 184 females did not.

Table 4.10: Chi-Square Tests of Association

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	13.286	1	.000		
Continuity Correction[b]	12.640	1	.000		
Likelihood Ratio	13.307	1	.000		
Fisher's Exact Test				.000	.000
Linear-by-Linear Association	13.260	1	.000		
N of Valid Cases	515				

A P-value < 0.05 is statistically significant and specifies robust indication for the alternative hypothesis. This implies that we will keep the alternative hypothesis and reject the null hypothesis. Therefore, there is some association among the gender and the respondents having the driving licence and those without it.

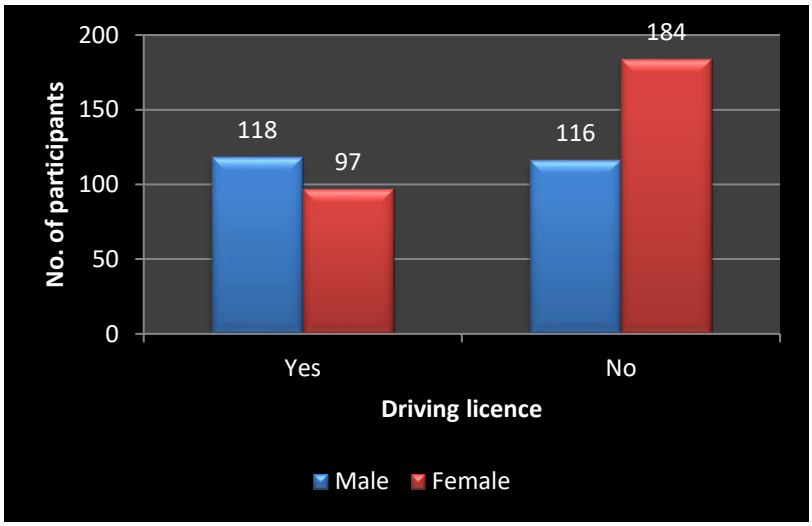

Fig. 4.11: Gender vs. Driving licence

Table 4.12: Cross tabulation for Driving licence * Scored percentage

	Scored Percentage		Total
Driving Licence	Above 50%	Below 50%	
Yes	186	29	215
No	226	74	300
Total	412	103	515

Table 4.12 expresses the driving licence status and scored ratio of the respondents. Out of 515 respondents, 215 had a driving licence. 186 scored above 50% and 29 scored below 50% among these 215 respondents. The remaining 300 respondents do not have a driver's licence. 226 scored above 50% and 74 scored below 50% among these 300. It demonstrates that the majority of respondents did not have a driver's licence, but they scored more than 50% marks on the road safety rules-based quiz.

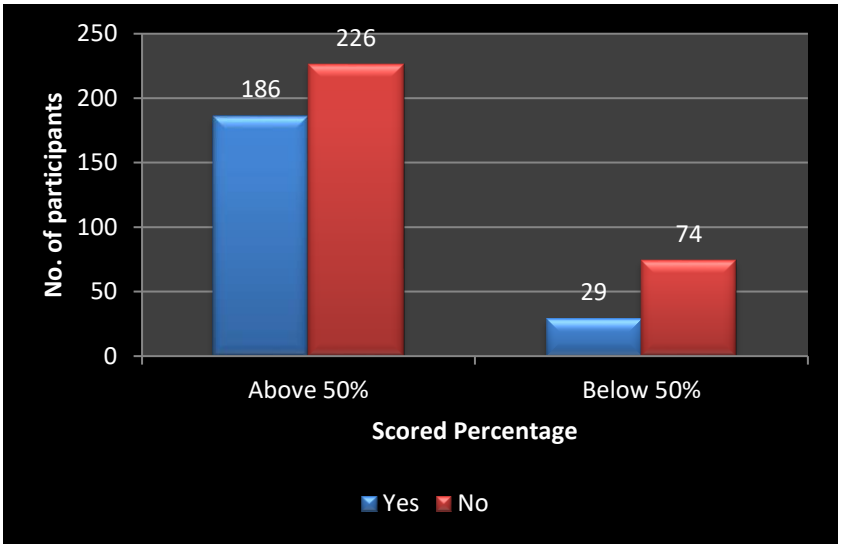

Fig. 4.13: Driving licence vs. Scored ratio

Table 4.14: Chi-Square Tests of Association

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	9.781[a]	1	.002		
Continuity Correction[b]	9.095	1	.003		
Likelihood Ratio	10.135	1	.001		
Fisher's Exact Test				.002	.001
Linear-by-Linear Association	9.762	1	.000		
N of Valid Cases	515				

A P-value < 0.05 is statistically significant and designates robust indication for the alternative hypothesis. This implies that we will keep the alternative hypothesis and reject the null hypothesis. Therefore, there is some association among the respondents having the driving licence and those without it and the respondents scored % were presented in table 8.

Table 4.15: Cross tabulation for Gender * Scored Percentage

	Scored %		Total
Gender	Above 50%	Below 50%	
Male	194	40	234
Female	218	63	281
Total	412	103	515

The gender and score percentage of the respondents are revealed in Table 9. Out of 515 total respondents, a score of above 50% was achieved by 194 males and 218 females. The remaining 40 males and 63 females scored less than 50%. It demonstrates that the majority of females scored more than 50% marks on the road safety rules-based quiz.

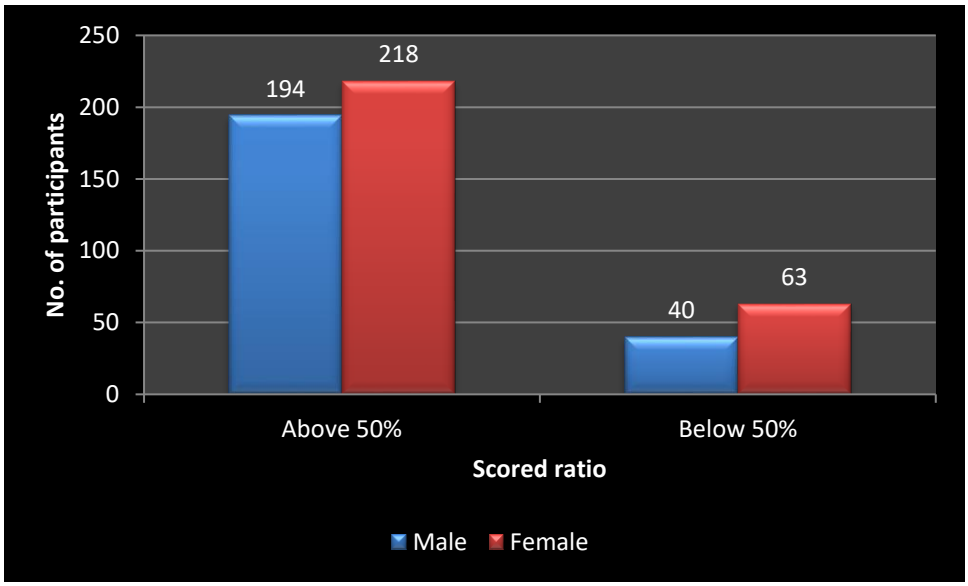

Fig. 4.16: Gender vs. Scored ratio

Table 4.17: Chi-Square Tests of Association

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	2.264[a]	1	.132		
Continuity Correction[b]	1.943	1	.163		
Likelihood Ratio	2.283	1	.131		
Fisher's Exact Test				.151	.081
Linear-by-Linear Association	2.259	1	.133		
N of Valid Cases	515				

A P-value > 0.05 is statistically non-significant and designates robust indication for the null hypothesis. This implies that we will keep the null hypothesis and reject the alternative hypothesis. Therefore, there is no association among the gender and the respondents scored above 50 % and below 50 % were offered in table 10.

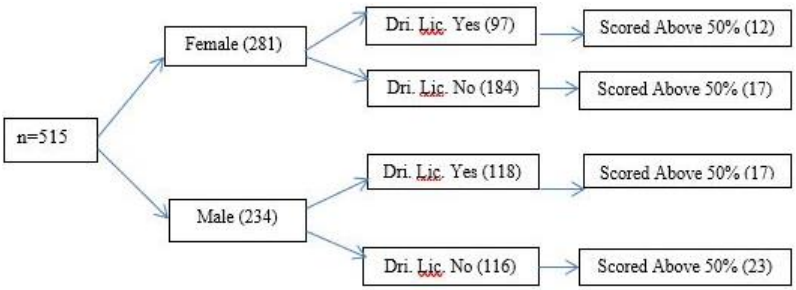

Fig. 4.18: Framework of the study

In a total of 515 respondents 281 are females and 234 are males. In these 281 females, 97 females had a driving licence and only 12 scored above 50% among 97 females. The remaining 184 females didn't have a driving licence and only 17 scored above 50% among 184 females. The proportions are 12.37% and 9.2% respectively. Out of 234 males, 118 males had a driving licence and only 17 scored above 50% among these 118 males. The remaining 116 males didn't have a driving licence and only 23 scored above 50% among 116 males. The proportions are 14.41% and 19.83% respectively. Hence, the awareness of road safety rules among college students (both male and female) was very poor looking at the scored percentages.

Conclusions

In this research, we conclude that, there is some relationship between the respondents having the driving licence (status: yes or no) and their respondents scored % & gender, while there is no relationship between the gender and the respondents scored percentages. The awareness about road signs and rules to be followed between the driving licence holders and non-holders is the same and is very poor based on the less than 50% score obtained by respondents.

Respondents of the study are college students who are youths with few years of experience on the road. They show poor knowledge on road safety regulations, road signs and road safety awareness. Hence, it is important to increase the understanding about road safety, road signs and rules and also licensing should be scrutinized better to help in creating safe drivers. Educational campaign can highlight on the significance of road safety and consequences of bad driving habits to alter their conduct and attitudes. Due to the fact that college students are more attentive online, internet usage can be used to promote road safety. Moreover, educating college students is a community practice in which teachers, traffic policies, and authorities should all work together to develop responsible drivers at a young age and rules execution, policy enhancement and implementation, educational programmes and other strategies and interventions to promote and improve road safety.

Ethical Statement

The well-structured questionnaire was circulated through online mode. The authors didn't involve any human and animal in this study.

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