

Original article

Sensation seeking and peer passenger influence on risky driving among novice drivers in Udupi Taluk, India

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ARTICLE INFO

Keywords:

Boredom susceptibility
Disinhibition
Novice drivers
Risky driving
Sensation seeking

ABSTRACT

Background: Sensation Seeking is one of the complex behaviors among novice drivers, which leads to road traffic injuries. Globally, road traffic crashes are a leading cause of death among young people, the main cause of death among those who fall in the age group of 15–29 years. Road traffic injuries are currently estimated to be the ninth leading cause of death across all age groups globally and are predicted to become the seventh leading cause of death by 2030. As per the World Health Organization (WHO) report, low and middle-income countries lose approximately 3% of GDP as a result of road traffic crashes.

Objective: To assess the sensation-seeking behavior among novice drivers in Udupi Taluk.

Methodology: The cross-sectional study was conducted to assess the sensation-seeking behavior among novice drivers with an estimated sample size of 150. The study participants were selected by using the Sensation Seeking Scale (SSS) form V questionnaire developed by Zuckerman. The questionnaire includes 40 questions which are divided into four sub-scales which include boredom susceptibility, disinhibition, experience-seeking, thrill and adventure-seeking. Each sub-scale contains ten items and scoring is given with two options as High and Low. Data collected is analyzed by using Microsoft Excel, SPSS and presented as descriptives i.e., frequency and percentage.

Results: The results were examined according to the levels of sensation seeking scale. Sensation seeking for boredom susceptibility is 22.3% (High), disinhibition is 27.27% (High), experience seeking is 28.6% (High), thrill and adventure-seeking is 60.6% (High). Cross-tabulating the questions with age, gender, education was statistically significant ($p < 0.05$) associated with risky driving behavior among novice drivers.

Conclusion: Thus, this study reveals that most of the participants are showing a high percentage of thrill and adventure-seeking compared to the remaining three sub-scales, which calls for localized intervention targeting it.

1. Introduction

Sensation seeking is defined as “one's preference for varied, novel and complex situations and experiences and the willingness to take physical and social risks for the sake of such experience”.¹ The term Risky driving behavior “a pattern of driving behavior including but not limited to legal infringements like speeding, tailgating, improper passing, and lane usage, right of way violations, illegal turns, and control signal violations that place drivers and other peoples at risk of morbidity and mortality”.² Novice drivers, by definition “are inexperienced and therefore yet to develop specific abilities, habits or an in-depth understanding of safety that are typically gained with increased independent driving experience in real-world conditions”.³ A road traffic injury is a fatal or non-fatal injury incurred as a result of a collision on a

public road involving at least one moving vehicle. The WHO Global Status report on road safety in 2015, a total number of road traffic deaths have reported at 1.25 million per year. During 2011, a total of 4,97,686 road accidents were reported by all states/UTs.⁴

Globally, road traffic crashes are a leading cause of death among young people, the main cause of death among those who fall in the age group of 15–29 years. Road traffic injuries are currently estimated to be the ninth leading cause of death across all age groups globally and are predicted to become the seventh leading cause of death by 2030. As per the World Health Organization (WHO) report, low and middle-income countries lose approximately 3% of GDP as a result of road traffic crashes.⁵

According to the Ministry of Road Transport and Highways (MoRTH), the Government of India reports statistically, during the

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Received 2 July 2019; Received in revised form 26 December 2019; Accepted 31 December 2019

Available online 03 January 2020

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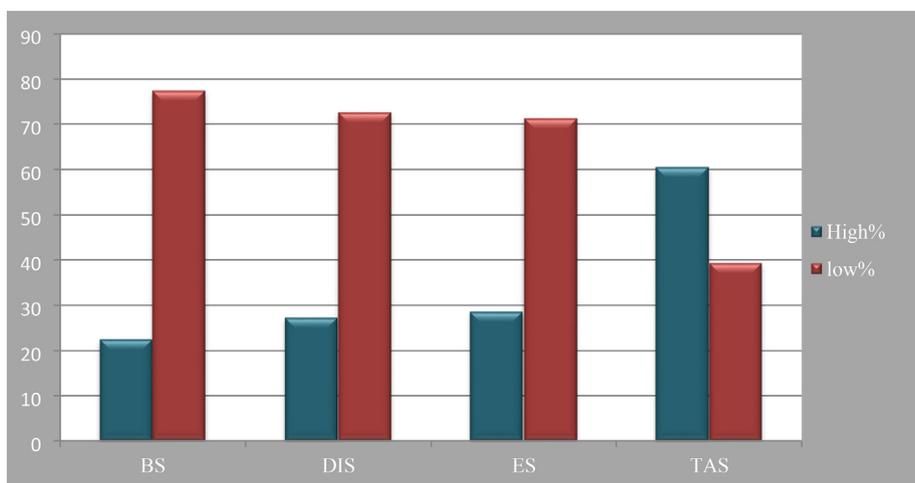


Fig. 1. Overall sensation seeking.

Table 1 Demographic distribution.

Age (years)	n	%
18–20	65	43.3
21–25	85	56.7
Gender	n	%
Female	38	25.3
Male	112	74.7
Education	n	%
Student	91	60.7
Working	59	39.3

calendar year 2016, the total number of RTA is reported at 4,80,652 causing injuries to 4,94,624 persons and claiming 1,50,785 lives in the country. This would translate, on an average, into 1317 accidents and 413 accident deaths taking place on Indian roads every day; or 55 accidents and 17 deaths every hour. As compared to 2015, the numbers of road accidents and injured victims have declined in 2016 by 4.1% and 1.1% respectively. However, the number of persons killed in the road crash has increased by 3.2% since 2015. The number of fatal accidents has increased consistently since 2005 and seen a sharp rise from 1,31,726 in 2015 to 1,36,071 in 2016. Consequently, accident severity expressed in terms of several persons killed per 100 accidents, has gone up from 29.1% in 2015 to 31.4% in 2016. The age profile of RTA victim for the year 2016 reveals that the youth of age group 18–35 years accounted for 46.3% (69,851 persons) and age group of 18–45 accounts for 68.6% (1,03,409) fatalities.⁶

In Udupi district, as per statistics are given by the District Police Authorities, in 2012 the total number of accidents was 1194 whereas among them 152 were fatal and remaining were non-fatal. In 2014, a total number of accidents was 1181, whereas fatal were 199 and non-fatal was 982. As compared to 2014, there is a declining trend in 2015 where total numbers of accidents were 787. Even though there is a declined report, there is a chance of increasing the severity of accidents in the coming years.⁷ Characteristics of risky driving behaviors among the novice drivers are speeding, non-usage of the helmet, a distraction from the peer groups, non-adherence to the traffic rules.

2. Methodology

The study was a cross-sectional study conducted in the Regional Transport Office (RTO), Udupi Taluk, Udupi district. The study was

conducted for a period of 6 months, i.e., from December 2017 to May 2018. The study was approved by the Institutional Ethics Committee of Manipal Academy of Higher Education, Manipal, India. The estimated sample size for this study is 150 (Considering 50% as the anticipated prevalence, CI-0.95, power of the study-0.8) which is calculated by considering the proportion obtained in a study conducted by Zuckerman. Participants who visited the RTO office between 10 a.m. to 4 p.m. were selected by using convenient sampling method. The participants were explained about the purpose of the study, and written informed consent was obtained. Data regarding sensation seeking was collected by administering a standard questionnaire. The data collected was entered by using Epi-info software and analyzed by using Microsoft Excel and SPSS v 15. Analyzed data is represented in the form of descriptive, i.e., frequency and percentage, mean and median. Chi-Square test was to determine the association between the variables with significant *p* value < 0.05.

3. Results

The study involved 150 participants, 112 (74.7%) were males, and 38 (25.3%) were females ranging in the age group of 18–25 years (See Table 1). Demographic characteristics revealed that the majority were students from the age group 21–25 years (56.7%) followed by 18–20 years (43.3%) (Tables 3 and 1). The majority of the participants in the RTO office were students were 91 (60.7%) followed by those who were employed 59 (39.3%) (see Table 1). As per descriptive statistics, boredom susceptibility low as 77.5% followed by high as 22.5% (Table 2). This shows that novice drivers are less affected by the boredom susceptibility but chances of getting into risky driving behavior, disinhibition low as 72.7% followed by high as 27.27%. Low levels of disinhibition are involved in minor risky behavior whereas high levels of disinhibition 27.27% were likely to be affected, experience seeking low as 71.4% and followed by high as 28.6% because novice drivers are new and inexperienced for risky driving, so the results show fewer chances of getting into risky driving (see Table 2). Thrill and Adventure are seeking where participants with extreme levels high as 60.6% and followed by low as 39.4%. High levels of sensation seeking

Table 2 Overall sensation seeking scale.

SSS	High%	Low%
BS	22.5	77.5
DIS	27.3	72.7
ES	28.6	71.4
TAS	60.6	39.4

Table 3
Cross –tabulations.

Age and Disinhibition				
DIS(Q1)	18–20yrs	21–25yrs	Total	p-value
High	7 (10.8%)	20 (23.5%)	27	0.05
Low	58 (89.2%)	65 (76.5%)	123	
Total	65	85	150	
Education and Boredom Susceptibility (BS)				
BS (Q15)	student	Working	Total	p-value
High	7 (7.7%)	12 (23.5%)	19	0.042
Low	84 (92.3%)	47 (76.5%)	131	
Total	65	85	150	
Age and Experience Seeking (ES)				
ES (Q4)	18–20yrs	21–25yrs	Total	p-value
High	31 (47.7%)	25 (29.4%)	56	0.02
Low	34 (52.3%)	47 (70.6%)	94	
Total	65	85	150	
Age and Experience seeking (ES)				
ES (Q37)	18–20yrs	21–25yrs	Total	p-value
High	20 (30.8%)	25 (14.1%)	32	0.01
Low	34 (69.2%)	47 (85.9%)	118	–
Total	65	85	150	–
Gender and TAS				
TAS (Q11)	Female	Male	Total	p-value
High	21 (55.3%)	25 (22.3%)	46	0.042
Low	17 (44.7%)	87 (77.7%)	104	
Total	38	112	150	
Education and TAS				
TAS (Q38)	Student	Working	Total	p-value
High	64 (70.3%)	50 (84.7%)	114	0.05
Low	27 (29.7%)	9 (15.3%)	36	–
Total	38	112	150	–

will be more prone to risky driving, and in most of the participants' results showing high thrill and adventure seeking. Overall sensation shows that Boredom susceptibility high as (22.5%), low as (77.5%) followed with Disinhibition high as (27.3%), low as (72.7%) whereas Experience seeking shows high as (28.6%), low as (71.4%) and with Thrill adventure-seeking high as (60.6%), low as 39.4%.

4. Discussion

The study found that there is an association with higher scores to Sensation Seeking Scale, particularly with subcomponents TAS. Our results show that there is a relationship between risky driving behavior and sensation-seeking behavior, which is mediated by the trait of sensation seeking. Boredom Susceptibility (BS) results show that 'low levels' of sensation seeking is pursued among novice drivers. A study conducted by Verma A et al.⁸ reveals that person with 'low levels' of boredom susceptibility usually found to have high sensation behavior. Therefore, risky driving among novice drivers is found to have high in both 'high' and 'low' boredom susceptibility. This plays a crucial role in novice drivers who are more prone to road crashes/injuries. Consequences related to boredom susceptibility are an aversion to repetitive actions, tedious tasks.⁹

Disinhibition (DIS) results show that 'low' levels of Sensation seeking followed by 'high' levels. Disinhibitions among novice drivers are 'low' means that persons are afraid of driving with consumption of alcohol and after partying because they are new to driving experiences compared to experienced people in driving. Experience Seeking (ES) results show that 'low' levels of sensation seeking, which are not likely affected by road crashes. A study conducted by Senserrick shows that novice riders and their likelihood of experiencing crash are high relative to older and experienced drivers. Crashes are involved due to lack of confidence and unable to balance the driving, particularly in traffic.

Thrill and Adventure Seeking (TAS) results show 'high levels' of sensation seeking, which are more prone to road crashes. Zuckerman study revealed that TAS is an unusual seeking behavior, involving in risky activities and exciting.¹⁰ Novice drivers are most likely to indulge in risk-taking adventures and feel so excited to drive the vehicle as this enhance the chances of RTAs. Studies by Hatfield et al.¹¹ and Vingilis et al.¹² shows that high levels of thrill and adventure seeking can be associated with the persons who need to seek unusual experiences through exciting and risk-taking activities like speeding, overtaking.

5. Conclusion

The study results show that the Zuckerman Sensation Seeking Scale is used to identify and also to assess the sensation-seeking behavior among novice drivers. The findings of the study from the Sensation Seeking Scale reveal that most of the participants are showing the high percentage of Thrill and Adventure Seeking compared to remaining subscales. The results suggest that awareness programs and education related to road safety and need to conduct further research regarding sensation seeking and influence of peer groups.

Declaration of competing interest

There is no conflict of interest.

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