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# Review on: Accidents Caused by Driver Laziness

Garnipudi Siva Sai Kiran, Shaik Yasin Basha,
Gajula Pavan Ganesh, Chegu Poornagopi Chandu and
Jamal Akhtar Khan



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Garnipudi Siva Sai Kiran, Shaik Yasin Basha, Gajula Pavan Ganesh, Chegu Poorna Gopi Chandu, Jamal Akhtar Khan

**Lovely Professional University, Punjab, India.**

## Abstract

***The focus of this paper is to find out literature on accidents caused by driver laziness and identifies factors that contribute to this problem. The study found that driver laziness is a significant factor in many road accidents, often leading to severe injuries and fatalities. The factors contributing to driver laziness include fatigue, distraction, lack of motivation, and complacency. The paper concludes by offering recommendations to mitigate the impact of driver laziness on road safety.***

***Keywords: Driver laziness, Fatigue, Fatalities, Mitigate, Complacency, Distraction***

## Introduction

Road accidents are a major cause of concern around the world. While there are many causes of road accidents, driver behavior is a significant contributing factor. One of the most common forms of driver behavior that contributes to road accidents is driver laziness. Driver laziness refers to a state in which the driver is not fully focused on driving and is instead distracted by other things. This paper aims to review literature on accidents caused by driver laziness and identify factors that contribute to this problem market like India add a new field of study.

## Literature review

### 1. Driver Laziness

Driver laziness has been identified as a major factor in road accidents. Many studies have explored the causes of driver laziness and found that it is often the result of fatigue, distraction, lack of motivation, and complacency. Fatigue is one of the leading causes of driver laziness [1]. Drivers who are tired and have not had enough rest are more likely to be distracted and less focused on the road. This can lead to accidents, particularly if the driver falls asleep at the wheel [2].

### 2. Distraction

Distraction is another factor that contributes to driver laziness. Drivers who are distracted by their phones, music, or other passengers are less focused on driving and more likely to make mistakes [3]. Lack of motivation is also a contributing factor, particularly among professional drivers who are required to drive for long periods. These drivers may become complacent and less focused on the road, which can lead to accidents [3].

### 3. Complacency

Complacency is a significant contributing factor to driver laziness. Drivers who have been driving for a long time may become complacent and less focused on the road [3]. They may assume that they know the road and the risks involved and become less attentive, leading to accidents [3].

# Data and variables

### Study period and sample

The study period says that there is an article by Dr. Sibasish Dey, Head – Medical Affairs, South Asia, ResMed. This article is by THE TIMES OF INDIA on Jan 19, 2023[1]. Road Safety is a significant public health issue, and a cause of injuries and fatalities. According to a report by the Ministry of Road Transport and Highways transport Research Wing, road accidents claimed 1,53,972 lives and harmed 3,84,448 people in 2021[1]. Unfortunately, the age range that is most severely hit by road accidents is 18 to 45 years old, which accounts for almost 67 percent of all accidental deaths.

A crucial problem that causes numerous car accidents annually is driver fatigue. Driving fatigue can be triggered by a variety of circumstances, such as prolonged work hours, or in the late afternoon, are when driver drowsiness would be most likely to happen [2]. Sleep-deprived drivers remain responsible for about 40% of the road accidents, according to enforcement officers patrolling the highways and major roads here [2].



# Analysis of Contributing Factors

Road accidents are a major cause of concern around the world. While there are many causes of road accidents, driver behavior is a significant contributing factor [4]. One of the most common forms of driver behavior that contributes to road accidents is driver laziness.

Driving fatigue can be triggered by a variety of circumstances, such as prolonged work hours, or in the late afternoon, are when driver drowsiness would be most likely to happen [1]. Drivers who are tired and have not had enough rest are more likely to be distracted and less focused on the road. This can lead to accidents, particularly if the driver falls asleep at the wheel. Lack of motivation is also a contributing factor, particularly among professional drivers who are required to drive for long periods [3]. These drivers may become complacent and less focused on the road, which can lead to accidents.

### Dependent variable

This study considers 3 factors that which are contributing to driver laziness include fatigue, distraction, lack of motivation, and complacency.

### Independent variable

This study considers two major structure measures such as driver's concentration and driver's health as independent variables [2]. Two measures such as concentration and health that includes drivers to get into sleep or they can't drive properly without their concentration on road [4].

**Control variables**

The specific factors based on previous studies are considered to control the accidents on driver's laziness. This study includes Incorporate detectors and AI to recognize driver sleepiness [6].

# Overview on Road Accidents

This study shows an overview of road accidents of total number of 4,12,432 road accidentshave been reported by States and Union Territories (UTs) during the calendar year2021, claiming 1,53,972 lives and causinginjuries to 3,84,448 persons [3]. The numberof road accidents in 2021 increased by 12.6 percent on an average compared to previous year 2020.

Similarly, the number of deaths and injuries on account of road accidents increased by 16.9 percent and 10.39 percent respectively (**refer to Table 1.1**) [3]. These figures translate, on an average, into 1130 accidents and 422 deaths every day or 47 accidents and 18 deaths every hour in the country [3].

During the previous year 2020, country saw an unprecedented decrease in accident and fatalities (**refer to Table 1.1**)[3]. This is primarily due to the unusual outbreak of Covid-19 pandemic and resultant stringent nation-wide lockdown particularly during March-April 2020 followed by gradual unlocking and phasing out of the containment measures. Accidents parameters have followed similar trend till 2019, sudden drastic fall occurred in 2020 was due to Covid-19 pandemic. It may be seen in **Table 1.1** that major indicators of accidents performed better in 2021 when compared to 2019[3].

Road accidents on an average decreased by 8.1 percent and injuries decreased by 14.8 percent in 2021 compared to 2019. However, on account of road accidents increased only by 1.9 percent in 2021 corresponds to the same period in 2019 [3]. Trend in total number of road accidents, and injuries during 2016 to 2021 (**represented in chart1.1**) [3].

An accident, which results in death of one or more person, is a fatal accident. Total number of fatal road accidents increased from 1,20,806 in 2020 to 1,42,163 in 2021, registering an increase of 17.7 percent corresponding to some period last year (**represented in chart1.1**) [3]. Fatal accidents constitute 34.5 percent of total accidents during 2021 [3].

*Table 1.1: Total number of Accidents, Fatalities and Persons Injured during 2016 to 2021*

| Year | Accidents | % change over previous period | Fatalities | % change over previous period | Persons Injured | % change over previous period |
|---|---|---|---|---|---|---|
| 2016 | 4,80,652 | - | 1,50,785 | - | 4,94,624 | - |
| 2017 | 4,64,910 | -3.28 | 1,47,913 | -1.9 | 4,70,975 | -4.78 |
| 2018 | 4,67,044 | 0.46 | 1,51,417 | 2.37 | 4,69,418 | -0.33 |
| 2019 | 4,49,002 | -3.86 | 1,51,113 | -0.2 | 4,51,361 | -3.85 |
| 2020 | 3,66,138 | -18.46 | 1,31,714 | -12.84 | 3,48,279 | -22.84 |
| 2021 | 4,12,432 | 12.64 | 1,53,972 | 16.9 | 3,84,448 | 10.39 |

***Data Source: States/UTs (Police Departments).***

*Chart 1.1: Trends in number of Accidents, Fatalities and Persons Injured: 2016 to 2021*

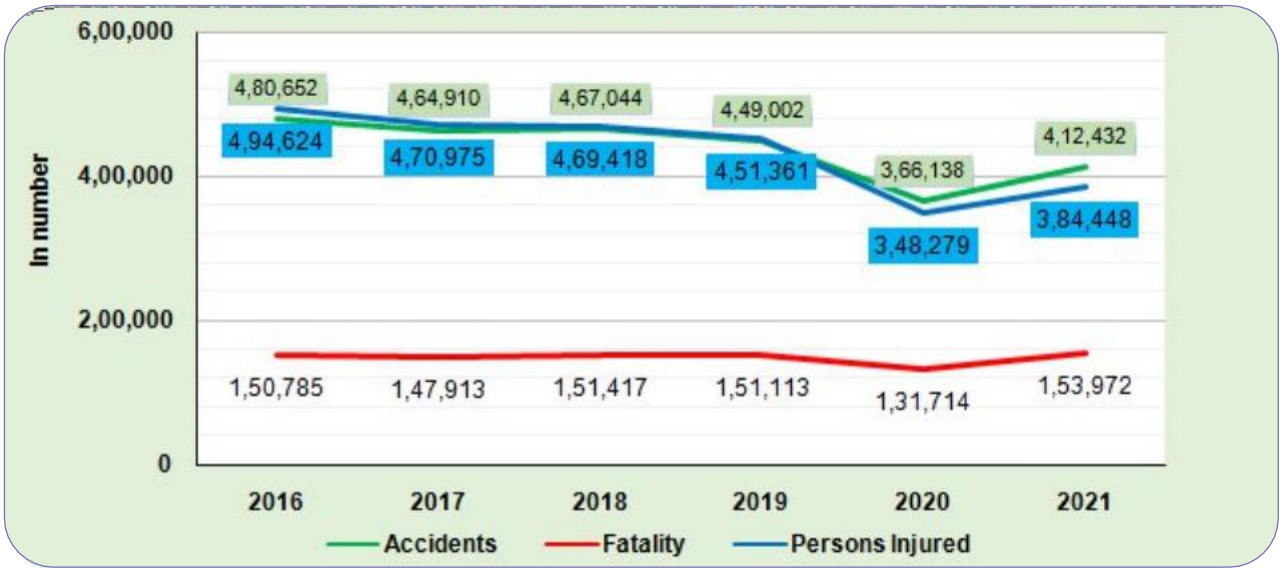



*Chart 1.2: Trends in the number of Fatal Accidents: 2016-2021*

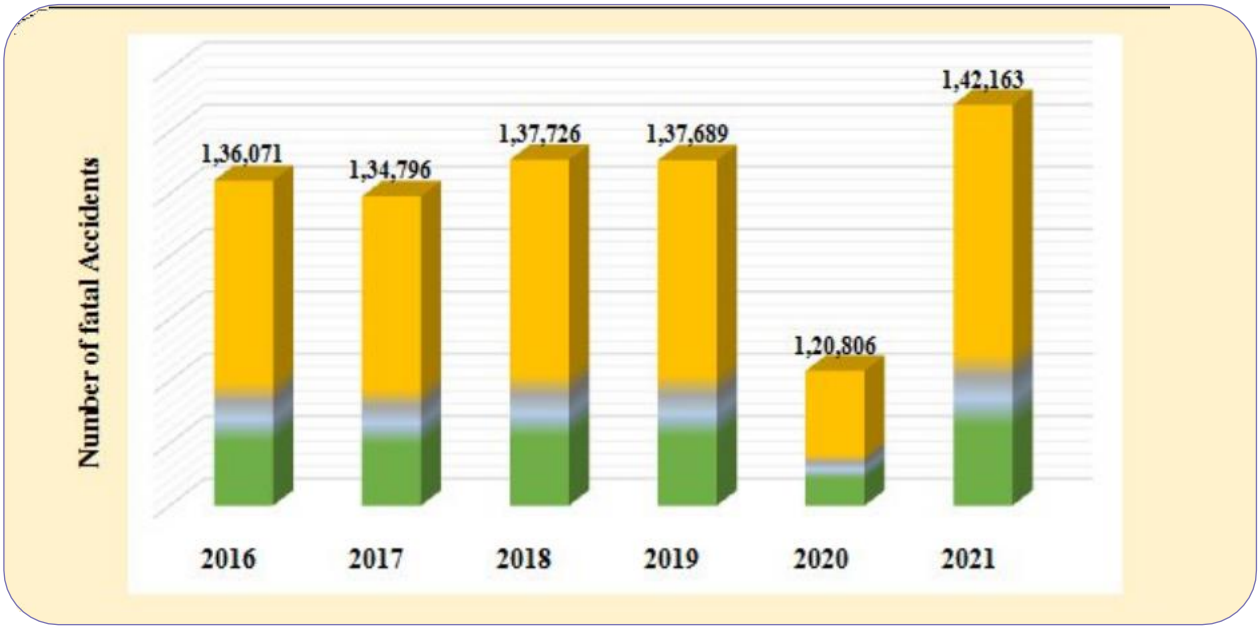



*Table 1.2: Major Parameters of Road Accidents- 2021 vis-à-vis 2020*

| Parameter | 2020 | 2021 | % Change |
|---|---|---|---|
| Number of Accidents | 3,66,138 | 4,12,432 | 12.6 |
| Number of Persons killed | 1,31,714 | 1,53,972 | 16.9 |
| Number of Injury | 3,48,279 | 3,84,448 | 10.4 |
| Accident Severity (Persons killed per 100 accidents) | 36 | 37 | |

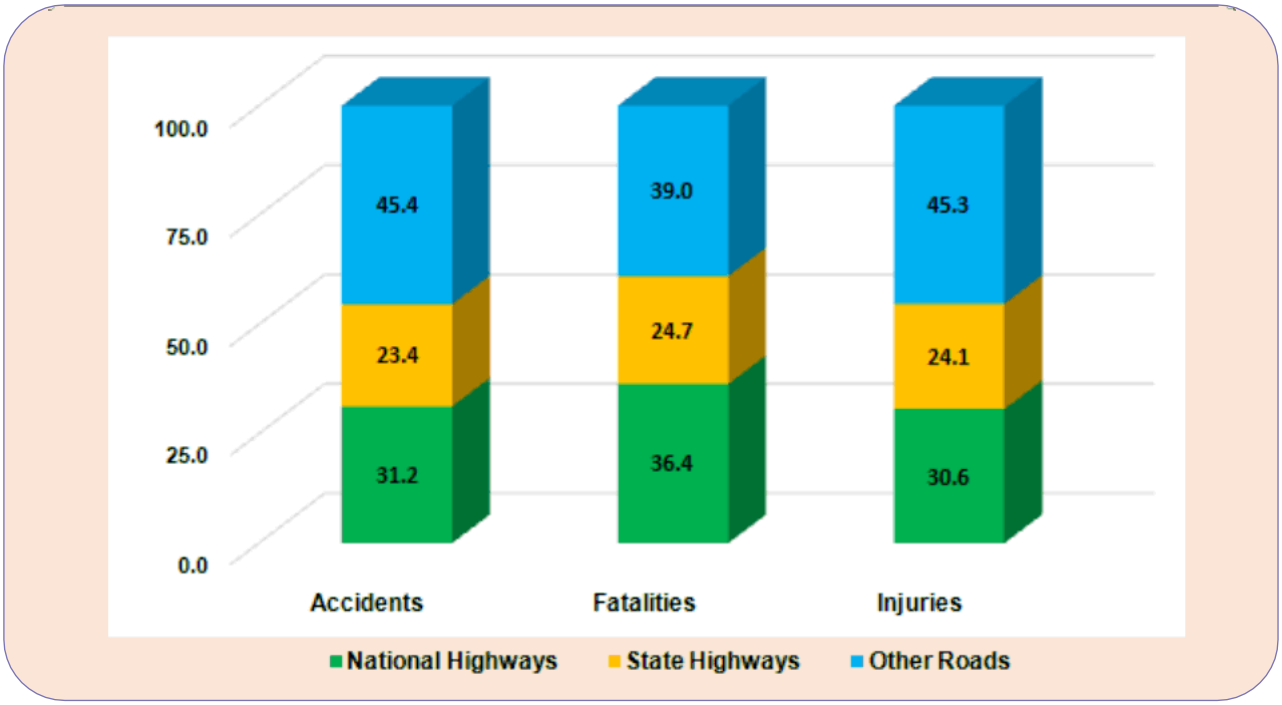
*Table 1.3: Total number of Accidents, Persons Killed and Injured by categories of Roadsduring 2021*

| Category of Road | Accidents | Killed | Injured | Road Length as on 31.03.2019 |
|---|---|---|---|---|
| National Highways | 1,28,825 | 56,007 | 1,17,765 | 1,32,499 |
| % share in total | *31.2* | *36.4* | *30.6* | *2.1* |
| State Highways | 96,382 | 37,963 | 92,583 | 1,79,535 |
| % share in total | *23.4* | *24.7* | *24.1* | *2.8* |
| Other roads | 1,87,225 | 60,002 | 1,74,100 | 60,19,723 |
| % share in total | *45.4* | *39.0* | *45.3* | *95.1* |

| | | | | |
|---|---|---|---|---|
| **All Roads** | **4,12,432** | **1,53,972** | **3,84,448** | **63,31,757** |

***Data Source: States/UTs (Police Departments)***
***Road Length- Basic Road Statistics of India, 2018-19***

*Chart 1.3: Categories of Roads Accidents, Fatalities and Injuries during 2021 (in percent)*




## Recommendations

This study shows the impact of driver laziness on road safety, several recommendations can be made. Firstly, drivers should be encouraged to take breaks regularly and get enough rest before driving [4]. Secondly, distractions should be minimized, and drivers should be discouraged from using their phones while driving [5]. Thirdly, incentives should be provided for safe driving, and penalties should be imposed for unsafe driving. Finally, drivers should be trained on the risks of complacency and how to avoid it [6].

And we have one more recommendation which leads to talk about our project. The project will start by running the python code by using some libraries and image processing files. This project asks permission to use camera on 2 interfaces, one will be Infront of driver and another interface on any other place who wants to see our movements [7]. This project detects the driver condition whether they're active or drowsy or sleeping. It will give the alert messages on screen to the driver of the vehicle is in active or sleeping or drowsy mode. This project would give sound alarms if the driver went to sleep or drowsy [8].

## Conclusion

This study says that driver laziness is a significant factor in road accidents. The factors contributing to driver laziness include fatigue, distraction, lack of motivation, and complacency [2]. To mitigate the impact of driver laziness on road safety, drivers should be encouraged to take breaks regularly, distractions minimized, incentives provided for safe driving, and drivers trained on the risks of complacency. These measures can go a long way in reducing the incidence of accidents caused by driver laziness [13].

All drivers should learn more about drowsy driving. In fact,it can be just as dangerous as drunk driving. The results in terms of damage, injury, and death can be just as permanent [14]. The risk is obvious when someone falls asleep at the wheel. But the danger begins long before that. Drivers who are tired and sleepy have delayed reactions and make bad decisions. Not only are they putting themselves in danger, but they area risk to everyone else on the road. In this paper, I discussed drowsy driving, its problems, and effects of lack of sufficientsleep, which is at risk of drowsy driving and how to prevent drowsy driving [15].

## References


1. An article by Dr. Sibasish Dey, Head – Medical Affairs, South Asia, ResMed. This article is by THE TIMES OF INDIA on Jan 19, 2023.

2. And one more article by G. Krishna Kumar. This article is by THE HINDU on Feb 20, 2020.

3. Road accidents in India 2021 by MINISTRY OF ROAD TRANSPORT AND HIGHWAYS, TRANSPORT RESEARCH WING, NEW DELHI ( www.morth.nic.in ).

4. T Brandt, R Stemmer, B Mertsching, A Rakotonirainy, Affordable visual driver monitoring system for fatigue and monotony. Proceedings of the IEEE International Conference on Systems, Man and Cybernetics (SMC '04), October 2004 7, 6451–6456

5. Z Tian, H Qin, Real-time driver's eye state detection. Proceedings of the IEEE International Conference on Vehicular Electronics and Safety, October 2005, 285–289

6. W Dong, X Wu, Driver fatigue detection based on thedistance of eyelid. Proceedings of the IEEE

7. International Workshop on VLSI Design and Video Technology (IWVDVT '05), May 2005, Suzhou-China, 397–400

8. Q Ji, X Yang, Real-time eye, gaze, and face pose tracking for monitoring driver vigilance. Real-Time Imaging 8(5), 357–377 (2002).

9. LM Bergasa, J Nuevo, MA Sotelo, M Vázquez, Real-time system for monitoring driver vigilance. Proceedings of the IEEE Intelligent Vehicles Symposium, June 2004, 78–83

10. L Fletcher, L Petersson, A Zelinsky, Driver assistance systems based on vision in and out of vehicles. Proceedingsof the IEEE Symposium on Intelligent Vehicles, 2003, 322–327

11. NHTSA, Evaluation of techniques for ocular measurement as an index of fatigue and the basis for alertness management (National Highway Traffic SafetyAdministration, Washington, DC, USA, 1998)

12. L Hagenmeyer, in Development of a multimodal, universal human-machine-interface for hypovigilance-management-systems, Ph, ed. by . D. thesis (University of Stuttgart, Stuttgart, Germany, 2007)

13. G Longhurst, Understanding Driver Visual Behaviour (Seeing Machine, Canberra, Australia) “1 in 24 report driving while drowsy".

14. Peters, Robert D. "Effects of Partial and Total Sleep Deprivation on Driving Performance", US Department of Transportation, February 1999.

15. Philadelphia.cbslocal.com/2013/10/02/drowsy-driving-becoming-dangerous-problem/drowsydriving.org/about/whos-at-risk.