

ROAD TRAFFIC ACCIDENTS AND RELATED FACTORS: A REVIEW

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Abstract

Road traffic accidents are widely regarded as the most serious public health concern, causing numerous injuries and deaths worldwide. India has one of the highest rates of such accidents among developing countries. As a result, traffic authorities and the general public are focusing on measures to reduce the severity of such accidents in order to lower the fatality rate. This paper investigates various factors concerning road accidents in various countries, as well as various safety measures proposed by researchers.

Keywords: Traffic Accidents, fatality, related factors, safety.

Introduction

The consequences of road traffic accidents (RTAs) on injuries and fatalities have a significant impact on a country's socioeconomic development. RTAs are one of the most dangerous issues a government faces, with an estimated 1.3 million deaths and 50 million injuries each year. Road traffic injuries are the leading cause of death for children and young adults aged 5-29 years (World Health Organization, 2021). RTAs pose a serious threat to the major states that contribute to the country's development in various ways. Safety can be improved by successfully correlating the frequency of accident occurrence and the severity of the causative variables. RTAs can be reduced with proper education and promotional participation. The primary goal of this work is to collect empirical details and various important statistics related to the severity of road accidents and RTA reduction measures. The

effects of safety education and driver education programmes are poorly understood. This work examines the causes and frequency of accidents in the world's major cities in depth. In order to improve a country's socioeconomic factors, an analysis was also conducted.

The Most Common Reasons for Road Accidents

Environmental factors, as well as stress, play a significant role in the causes of major road traffic accidents. Other important factors such as vehicle age, safety precautions, human error, and the time and location of the accident all contribute to the number of fatalities and severity of the accidents. The majority of car accidents appear to be the result of human error. Examining the operator or human causes will be a critical component of accident investigations. Priority should be given to research into the role of humans in the transportation system. Collisions can also be caused by the skill of the operator and the traffic situation.

Stress from economic or family problems can also exacerbate human error. They cause traffic accidents because they are in such a state of mind. One of the leading causes of traffic accidents in our country is carelessness. Using a cell phone while driving, disregarding red lights in traffic, and exiting a side road directly into the path of another vehicle are just a few examples. Over speeding is one of the causes, as injury severity increases with collision speed, and the most serious but avoidable injuries are caused by a lack of head protection. Inadequately experienced drivers, inexperienced drivers, and a failure to recognise traffic signs all contribute to an increase in the number of road traffic accidents.

Another significant factor contributing to the alarming increase in the number of road accidents is driving while intoxicated. Drivers who are under the influence of alcohol or other intoxicating substances lose self-consciousness and control of their vehicles, which leads to accidents. One of the reasons is a lack of sensitivity and responsibility on the part of state authorities. The human sensibility and life-respecting emotions of state officials, to investigate situations on the roads such as malfunctioning traffic lights, also causes accidents if not properly maintained.

Critical Factors in the Investigation of Traffic Accidents

Several reports emphasized the critical factors influencing an accident's

severity. Kristle Young et al. (2007) conducted a review of aspects of in-vehicle driver distraction, focusing specifically on mobile phone use, and concluded that this device has received the most attention in the driver distraction literature. The paper also discussed how in-vehicle devices affect driving performance. The effects of cell phone use on driving performance were investigated by Haigney et al. (2001). Accidents on the road result in significant human and material losses, numerous temporary and permanent injuries, and extensive damage to both public and private property. Using stimulators and thirty participants, researchers investigated the relative effects of hand-held and hands-free mobile phone use on driving performance. The results revealed a decrease in the mean speed and standard of the participants during a mobile phone conversation. According to the findings, drivers frequently engage in a variety of compensatory approaches in an attempt to maintain an acceptable level of driving performance while interacting with in-vehicle devices.

Accidents on the Road: How Common Are They?

Every year, an estimated 1.3 million people are killed in traffic accidents, while 50 million are injured, with 85 percent of those injured living in developing countries. India has the highest number of traffic accidents in the world. According to the National Crime Records Bureau, over 135000 people are killed in traffic accidents in India each year. According to the findings of a population-based study on injuries conducted by Moshiro et al., (2001), transport-related accidents were the leading cause of injury in Dar es Salaam, Tanzania, between 1992 and 1998. According to the Annual United States Road Crash Statistics, over 37,000 people are killed in car accidents each year. In 2012, there were 195,723 reported road casualties in the United Kingdom, including 1,754 fatalities and 23,039 serious injuries.

Road Traffic Accident Research in Several Countries

Thuso Mphela (2011) gathered and drafted data on the impact of traffic law enforcement on road accident fatalities in Botswana. The impact of traffic law enforcement on fatalities in Botswana was assessed in this study using multiple regression analysis with secondary data and interview data obtained from law enforcement. According to the study, licenced drivers between the ages of 30 and 45 have the lowest rate of fatalities.

According to Omar and Ashawesh (2008), road traffic accidents will rise to third place in the list of major causes of death and disability by 2020 world over. 157 road accidents occurred during the reporting period, with 25 percent of the victims being between the ages of 30 and 39 years old, 33 percent of pedestrians dying and 34 percent being injured. Atubi (2010) conducted a monthly analysis of road traffic accidents using secondary data in selected local government greases in Laos state, Nigeria. This study proposed preventive and corrective safety measures to reduce traffic accidents. Over the last thirty years, Nigeria has witnessed a disturbing increase in road traffic accidents. When compared to the United Kingdom, the likelihood of being killed in Nigeria is 47 times greater. Banik et al. (2011) examined a road accident and safety study in Bangladesh. Sylhet, Bangladesh's north-eastern division, is witnessing rapid growth in road vehicles and economic tourism development while also experiencing severe road traffic accidents. A better understanding and awareness of the accident causes can help to prevent and lessen the severity of road accidents.

Shanjun Li (2012) investigated the connection between traffic safety and vehicle selection. This was accomplished by quantifying the impact of the arms race on vehicle demand, producer performance, and traffic safety. The accident externality of a light truck is \$2444 over the life of the vehicle, and 12 percent of new light trucks sold in 2006, as well as 204 traffic fatalities, could be attributed to the arms race, with the reason being a design mismatch between light trucks and passenger cars.

Seth Daniel Oduro (2012) discussed brake failure and its impact on road traffic accidents in Kumasi Metropolis, Ghana. The survey research design was used for this study, which relied on questionnaires to generate data for analysis and discussion. 40% of vehicle owners agreed that brake failure is caused by a lack of or shortage of brake fluid, while 33% said it is caused by brake overheating. The main cause of road accidents is the motor vehicle that is on the road, as well as gross indiscipline on our roads, overloading, and fatigue driving.

Conclusion

This paper reports on the findings of various field studies on road traffic accidents conducted in various countries. This literature review provides the researchers with a high-level overview of the impact of RTAs and the safety

precautions need to be taken to avoid RTAs. The empirical details and various important statistics related to the severity of road accidents and the RTA reduction measures discussed in various studies were presented. Human error or driver negligence are not the only causes of traffic accidents. RTAs pose a serious threat to the major countries that contribute to the country's development in a variety of ways. Road traffic accidents must be viewed as an issue that requires immediate attention in order to reduce the health, social, and economic consequences. A multifaceted review of various literatures has revealed that accident occurrences are the result of multiple human, vehicle, and environmental elements frequently interacting in a complicated manner to generate the event's initiation.

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