

An Investigation into Factors Influencing Car Driver Behaviour in Oman

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ABSTRACT

Traffic crashes and accidents have been perceived as one of the real causes for human, financial and social misfortunes and losses both in developed and creating nations. Traffic flow particularly at peak time hours and practices and behavior of drivers are viewed as the most noteworthy contributory factors in road traffic accident. The point of this research is to investigate the Attitudes towards traffic safety and driving behavior among the Omani public, especially in Muscat. This study will be pursued using mixed method design qualitative research followed by quantitative research. The first phase will utilize a qualitative approach where qualitative data will obtain from sources namely interviews with traffic officers. The second phase will be the quantitative approach where questionnaires after pilot study will distributed to car drivers. Qualitative data will be analyses by using the constant comparative method and Measurable Package for the Sociologies (SPSS) variant 19. The created model proposes a few connections to supplement factors as "Age, road condition, weather, and traffic zone work" together to impact motor driver state of mind towards RTA association. Subsequently, the impact influences rise in street safety and lessens street car accidents, through interaction of these elements which could be considered as another or new measurement.

Keyword. Driver behavior, Traffic safety and Driver attitudes

Introduction

Road traffic accidents (RTAs) are the result of several very large problems around the world. A more illustrative picture, where accidents classified roads as the eleventh leading cause of death in the world (Ameratunga et al., 2006; World Health Organization, 2020) and as the main cause of the physical disability of pedestrians, passengers and drivers in developing countries (Zimmerman et al., 2012). The importance of traffic safety measures under the increasing number of regional conventions and the number of vehicles resulting from it. While the advanced economy continuously contributes to the increase in the number of regional trade agreements when many vehicles are used in transport (Johansson et al., 2014).

Globally, traffic accidents have increased by about 46% over the past 20 years to 2010. This has made traffic accidents (RTC) the 10th leading cause of death worldwide. The main cause of youth deaths. The Sultanate of Oman is a rich country where cars are getting faster and have a very high rate of mortality. In Oman, injuries and deaths from traffic accidents may be the primary cause of all morbidity among young people, and affect health and economic resources directly in the

country. Where many of the research seems to have broken road traffic in Oman only. The reasons for this problem and the most effective response are not clear.

Road traffic accidents in Oman

Oman, in contrast to several countries with very large numbers of road traffic fatalities, the road system is very sophisticated and the fleet is relatively new. According to reports from the Ministry of Health in the Sultanate of Oman, road accidents are the main cause of inpatient deaths and the primary cause of disability, serious injury and advanced death among adults (MoH, 2013). Statistics indicated that these accidents resulted in 1,365 injuries and 371 deaths. Omanis accounted for 75 percent of the total injuries and 64 percent of the deaths resulting from traffic accidents in 2020.

Statistics showed that 39.4 %of traffic accidents are collisions between vehicles, and in terms of the causes of accidents, speed was the largest cause of accidents, with 702 traffic accidents, which accounted for 52.3 % of the total traffic accidents in 2020 , and misconduct caused 226 accidents, while neglect caused In 206 accidents, followed by failure to leave the safety distance, which caused 88 accidents, and the defect clause in the vehicle caused 40 accidents and then the wrong overtaking in 30 accidents, while there were other reasons that caused 49 traffic accidents.

The data revealed that the total number of new and renewed driving licenses issued by traffic departments across the Sultanate during the year 2020 amounted to 274 thousand licenses, 36.7 % of which were issued in the Governorate of Muscat, and 66 percent of the total number of new and renewed licenses were Omanis. Renewed 198,711 licenses, new licenses 75,330 licenses, at a rate of new licenses every 7 minutes, and new licenses for light cars accounted for 92.4%, and Omani females constituted 43.8% of the total Omanis who obtained new licenses.

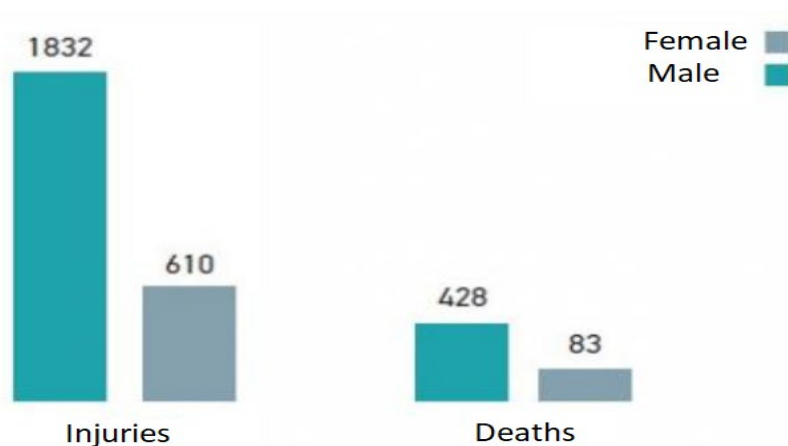


Figure 1.1 Traffic accident victims in Oman, by gender, 2019

Factors Effect Road Traffic Accident

The age of the driver is one of the most important factors that may lead to traffic accidents, as several literatures may indicate that adolescents (young drivers) are the most involved in the traffic accident compared to other age groups Bjornskau, (2007) where they have been shown by several studies that may indicate that more youth are more frequently causing traffic accidents resulting from speed and lack of control of the car compared with other categories of drivers. According to another study that conducted by Graham (2000) showed that car accidents were considered to be prevalent on a specific age group and that they occurred at specific hours of the day and week and on specific locations. Some people are more susceptible than others and may be more sensitive to the preparation of drug trafficking and other alcohol, as well as other physiological conditions (Graham 2008).

Leon et al (2008) discover that the reckless driving of adolescent age may be associated with an increased risk of accident exposure. The problem noticed more among young drivers because they attracted by risk behavior and lack leadership skills (Vasconcellos 1999) It was also mentioned that the teenage drivers are very important variable and helped in the rise in the number of injuries and deaths. In addition, Massie et al claimed in their study that drivers older than 70 years of age have the highest rates of involvement in fatal accidents. Drivers have the most harmful levels of participation in car accidents.

In terms of gender, males are more prone to traffic accidents than females (CSA 2019). It was found by Massie et al in their study that males have a greater risk than females in a fatal accident, compared to women who have the highest rates of participation in injury incidents (Massie et al 1995). Explained that the victims were among the drivers injured vehicles, the number was 69 percent of males and 31 percent of females, where they were able to control the level of infection of the sexes. While the World Health Organization report showed that more than 3 quarters (77%) all deaths occurred through traffic accidents developed among men (WHO, 2018). Road traffic deaths are higher in men driver than in women in all regions, regardless of income, and also in all age groups. It is likely that gender differences in mortality will be associated with behavior and risk-taking rates in men. Men drivers are likely to be affected higher (Peden et al., 2002; Peden et al., 2017).

Behavior is an essential part of people Rundmo et al. (2016). Individuals from a unique environment, for example Nairobi, Dar es Salaam or Delhi, have diverse demographic characteristics such as gender, training and education Shibata. While the risk behavior varies in them and is attributed to the characteristics of the population in the above described, the economic situation while they find themselves, and their cultural principles, as well as social norms, and the environment in which they live, and they are still better on their psychology and practice of culture and movement and roles Rundmo et al. (2014). The characteristics that are mentioned in people's knowledge, behavior and attitudes are affected by the risk of car accidents. In the same

characteristics will also be affected by the weakness of the individual becomes a problem of traffic accidents. In general, current literature has shown that the level of risk for traffic accidents for individuals is related to genetics.

Consequences of Road Traffic Accidents

The social and economic effects

People use roads to transport and also to transport several goods from one place to another. This movement plays an important role in social and economic development, while it increases goods and people travel in ways that may endanger road traffic accidents (WHO, 2009). Although several types of road users are at risk of being killed or injured in road traffic accidents, there are several obvious differences in mortality rates in several different groups that use the road, while the reasons for the RTA and trade may differ significantly Under various circumstances as well (Peden et al., 2004). Traffic accidents occur in roads and this is a major problem in the world because it leaves a great burden in the national health system, and most often leads to loss of life and occurs in times of disability and the families of the victims are constantly being mourned for their deaths, which have always caused some of them harm. In property and vehicles (WHO, 2009). In general, he said Peden et al. (2004) Car accidents in ways have several emotional, physical, economic and social effects in all individuals concerned and also in society. Moreover, Peden et al. (2004) Shows that the economic costs of large regional trade agreements, especially for developing countries, while the level of incidence of regional trade agreements is much greater than that of the countries provided. For anyone who is injured or killed due to road traffic deterioration, there are several other people who have been severely affected. Many families are forced to pay more for poverty because of long-term health care expenditures or the additional burden of caring for the disabled after the RTA or the loss of the family's breadwinner (Peden et al., 2004).

Research Methodology

This triangulation process is used to ensure health and reliability of the study results and for several other reasons. The first is the integration and use of quantitative and qualitative methods in order to obtain several information as a result of overcoming some difficulties at each step. The second reason is that it can provide many data support with powerful data guides with conclusions. This study used mixed design technique in the methodology through the use of quantitative research as well as secondary data in order to obtain the best information and best insights of the variables and concepts during the study. According to Creswell (2003), The mixed method is the design of the research where the researcher collects information and analyzes the data obtained in one study or many studies in mixed stages. methodology research is a complete guide to the problem of study, through quantitative research and secondary data. Two statistical techniques are used in the analysis of quantitative and qualitative data .SPSS-V24 and constant comparative methods.

Results

Decrease in the number of traffic accidents in the Sultanate, as well as the decrease in the number of victims of those accidents, deaths or injuries, is one of the good things that make citizens, residents and all road users in the Sultanate of Oman happy, especially after traffic accidents and the human, material and social losses caused by large numbers have been recorded in the past years. Statistics issued by the National Center for Statistics and Information indicated a decrease in the number of road accidents in Oman. The statistics indicate the effectiveness and positive efforts made by the Royal Oman Police (ROP) to reduce road accidents, and work to provide all possible instructions and services that help road users, of all groups, to avoid exposure to accidents or committing them, as well as the increased response on the part of citizens and residents to the efforts of The Royal Oman Police to reduce these accidents and the damages resulting from them, especially that the most affected group is the youth group for many reasons, which are also known.

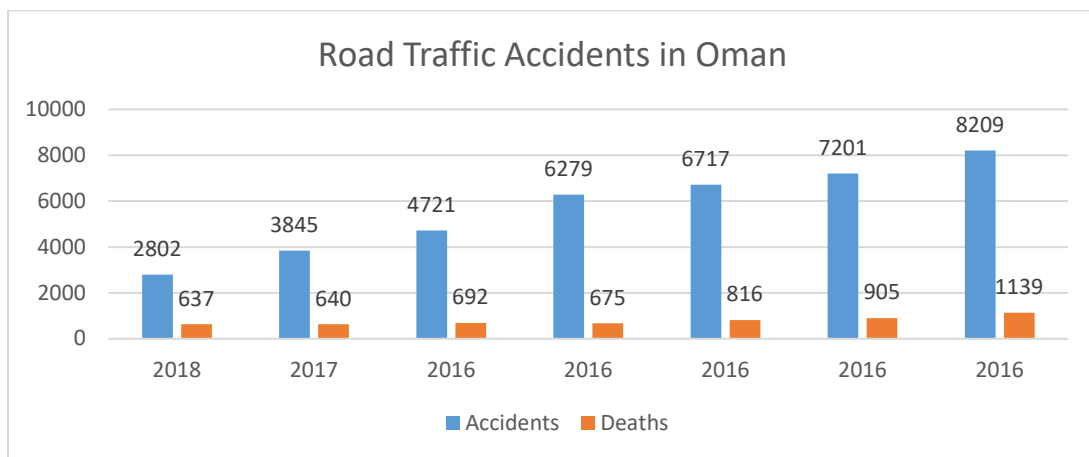


Figure 1.2 Road traffic accidents in Oman

As the shown in Figure 1.2 above 27 % decrease from the accident rate in 2017. Some 2,802 accidents occurred on the Sultanate of Oman roads in 2018, down from 3,845 accidents in 2017. Some 637 deaths occurred in 2018, compared to 640 in 2017. 2,815 people were injured in 2018, compared to 3,134 people in 2017. As many as 396 Omanis and 239 expats lost their lives on the Sultanate of Oman roads in 2018. Furthermore, there were 1.15 million vehicles registered on Omani roads by the end of 2018.

This section shows the demographic characteristics of the study and the results obtained from the questionnaire which targeting different car drivers in Oman, Muscat where the characteristics this groups varied between age and gender and educational level, Marital status, occupation, how long is experience in driving. As the shown in table1.1 the difference segment of ages who participate in the questionnaire with variation of percent. The age group between 26-33 was the highest in the survey, with 42.5% of the participants in this category and 28% in the category 18-25 year. For the lowest category of participation, the category of over 42 years is about 5%

Table1.1 Demographic characteristics of the driver’s respondents

Item		Frequency	%
Gender	Male	46	57.5
	Female	34	42.5
Nationality	Omani	70	87.5
	Non- Omani	10	12.5
Age	18-25	28	35
	26-33	34	42.5
	34-41	13	16.3
	Over 42	5	6.3
Level of education	Non- education	1	1.3
	Intermediate	1	1.3
	Secondary	20	25.0
	University college	58	72
Marital status	Single	38	47.5
	Married	39	48.8
	Others	3	3.8
How long is your experience in driving?	6-11 years	34	42.5
	12-17 years	4	5.0
	18-23 years	9	11.3
	> 24 years	3	3.8

The table 1.2 represents the most important behaviors that contribute to traffic accidents by drivers, as it turns out that the percentage of drivers who are determined by the legal speed specified as well as traffic signs by 26 (32.5%) Whereas by 26 (32.5%) They feel sleepy while driving and also the older adults over 60 years of age are 7 (8.8%), also the proportion of those who do not have sufficient experience during driving was 11 (13.8%), also the road condition among the most important causes of traffic accidents by 7 (8.8%).

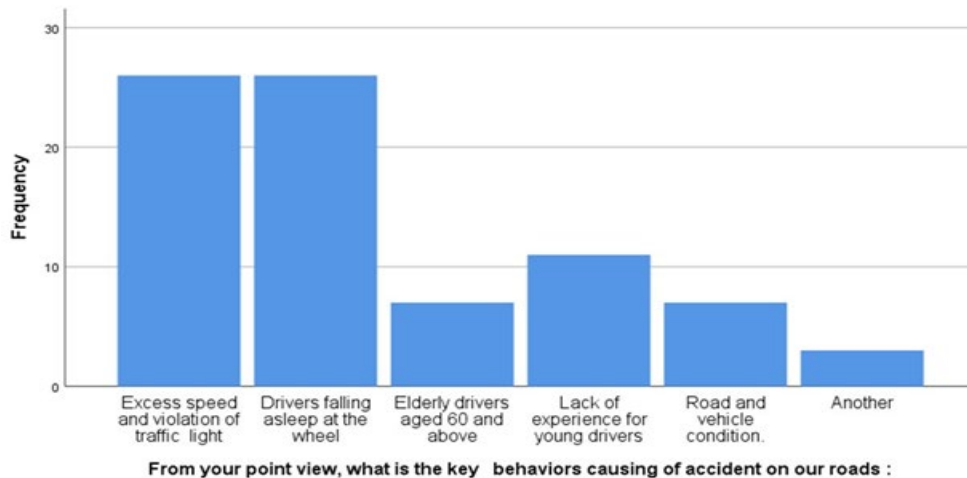


Figure 1.3 Graph for behaviors that contribute to traffic accidents by drivers

Through the search it became clear the ratio of motorists who follow the traffic rules permanently 30 (37.5%) While 22 (27.5%) They follow traffic rules often, and 22 (25%) Sometimes they abide by the traffic rules as the ratio of 6 (7.5%) They are rarely committed and accounted for 2 (2.5%) Who have never been to the traffic rules. The use of mobile phone is considered to be one of the most important behaviors that contribute to the occurrence of traffic accidents by motorists, as the figure 1.5 shows that the percentage of cars who use the phone while driving daily by 13 (16.5), Those who use the phone often make up 14 (17.5) while sometimes the phone while driving by 26 (32.5) and rarely using the phone by 11 (13) and finally the ratio never used the phone by 16 (20).

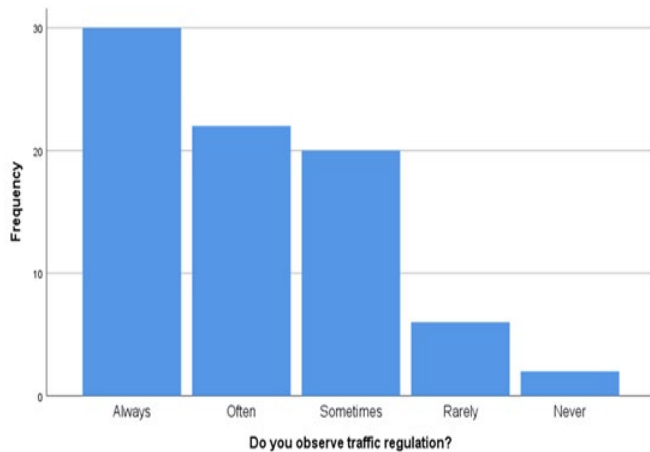
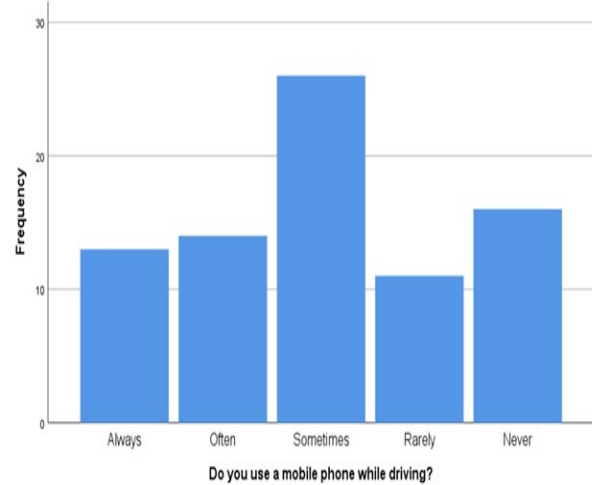


Figure 1.4: traffic regulation
Figure 1.5 Use mobile phone



While driving

Wrong behaviors that many car drivers may commit endanger the lives of all road users. Speed is rated as one of the most prevalent forms of unsafe driving behavior The analysis showed that the proportion of those who exceed legal speed on a daily basis 2(25%), While often they were 15(18.8%), Sometimes it is 24(30%), And motorists rarely exceed legal speed by 10(13%) as shown in Figure below.

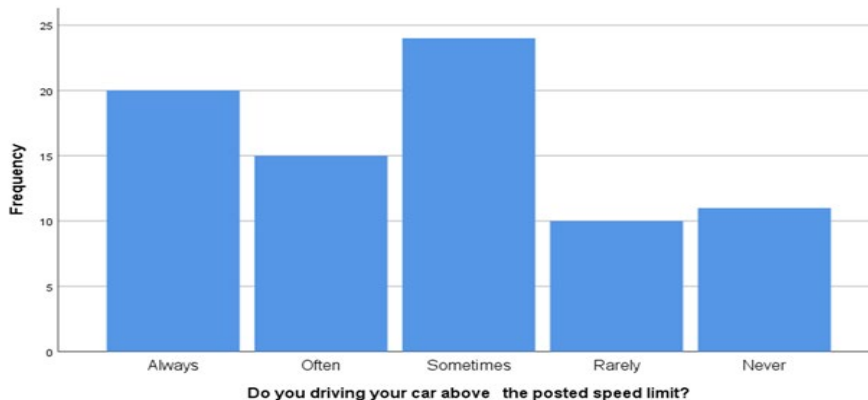


Figure 1.5: Speed limit

The rate of wearing the seat belt for motorists on a daily average of about 45(56.3%), While the seat belt is often 14(17.5%) and at times it was 12(15.0%), but rarely wear the seat belt by 7 (8.8%) and never 2(2.5%) and the important it is to abide by traffic rules, that the proportion of drivers who adhere to traffic rules permanently is 37.5%, while the percentage of those who abide by traffic rules often 27.5%, also clear through the table percentage drivers who are at times complying with the rules by 25%, and the proportion of those who adhere to the rules in a manner that is in the way of driving the car amounted to 7.5% and finally the class that never committed a commitment of 2.5%. The figure 1.6 illustrates the importance of commitment to fasten the seat belt while driving, as the proportion of those who commit to fasten the belt permanently amounted to 56.3% while the ratio of non-stick to the belt and use it sometimes 17.5%, while the category that you tie the belt sometimes They were 15%, with 8.8% rarely committed and fasten the seat belt while driving, and in addition, the percentage of non-obligated to use the belt never reached 2.5%.

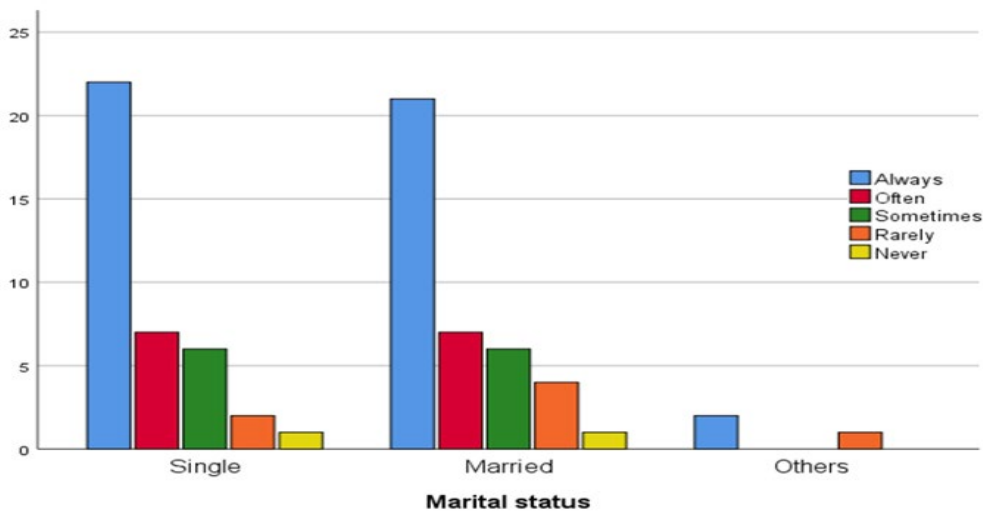


Figure 1.6: seat belt

Conclusions

Traffic accidents occur due to several factors, and it is usually difficult to set for only one main reason. It is best to fit this issue through the concept of (contributing factors to road accidents or identifying increased risk factors) while determining the cause and type of accident that caused the accident. In this study where several factors have been identified have contributed to road traffic accidents. The results showed that the human factor is the main cause of traffic accidents, as it constitutes 87% of the accidents of motorists in the Sultanate of Oman. These errors focus on driving errors and lack of adherence to the correct driving ethics. The most common misconduct that causes accidents is the use of the phone while driving and exceeding the specified legal speed. These causes may result in loss and damage that could lead to death and severe passenger injuries.

Through the secondary data, the Sultanate of Oman has made many programs to raise awareness of road traffic safety, planning, procedures, preventive measures and security to minimize traffic accidents in coordination with governmental and private sectors and bodies to unite efforts to promote safe roads in the Sultanate of Oman and preserve its economic and human resources. Oman has been involved in the field of traffic safety through holding many lectures and work and presentations of lectures on reducing traffic accidents. The local authorities of Oman have also put in place a number of safety measures to reduce these accidents. They have developed mobile and fixed radars in the highways, as well as police patrols deployed on the streets and the construction of roadblocks, which contribute to reducing traffic accidents and other measures.

Recommendations

The recommendations and suggestions we have reached through this study. There were several recommendations as a result of the complexity of the problem and related to several factors may be considered as a cause of this problem. Where the recommendations varied, and related to part of them in the design and the other part of the laws and some of the amendment and development. In order to reduce or minimize these traffic accidents in the Sultanate of Oman, Muscat.

- Constant attention to maintenance and repair of roads.
- Design of roads for the resistance of sliding may help to reduce traffic accidents.
- The imposition of regulations and laws necessary to ensure the safety of methods such as the use of safety belt and speed control and the use of the phone while driving design regulations in an innovative ability to draw the attention of motorists and get their focus.
- Technical inspection of cars continuously.
- Increasing the dissemination of awareness programs on ways.
- Attention to the institutes of traffic.
- Design of several innovative devices to detect motorists who did not wear the seat belt or used a mobile phone while driving and monitor it as a traffic violation and the amount of money.

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