

Review Paper on Accidents of Vehicle Due To Usage of Mobile Phones and Not Wearing of Seat Belts While Driving

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ABSTRACT

This article develops a collection of models for the determinants of automobile fatalities with specific attention dedicated to the results of exaggerated mobile phone usage. Cell phones are related to each life taking and life-saving properties. However, previously applied math evaluations of the results of cell phones have a light-emitting diode to fragile results. we have a tendency to develop during this article economic science models exploitation timeseries information, providing polynomial structures of the regressors. The models square measure evaluated with a collection of specification error tests providing reliable estimates of the results of the assorted policy and driving-related variables evaluated. The applied math results indicate the impact of cell phones is a nonmonotonic reckoning on the number of phones in use, 1st having an internet life-taking impact, then an internet life-saving impact, followed finally with an internet life-taking impact because the volume of phone use will increase.

General Terms

Accidents of vehicle due to usage of mobile phones and not wearing of seat belts while driving.

Keywords

Road Safety, Defiance to traffic rule, Seat belts.

1. INTRODUCTION

The determinants of motor vehicle accidents have been the topic of interest among economists, public policymakers and health professionals for many years. Studies have been conducted on the determinants of motor vehicle accidents in aggregate, as well as by components, i.e. automobiles, trucks, motorcycles, etc. The interest in transportation accidents also led to studies involving railroads, ships, and aircraft as well as accidents due to the interaction of two or more modes of transportation. In addition to interest in accidents themselves, there has been an interest in the determinants of the outcomes of these accidents, i.e. injuries, fatalities, and property damage.

- Centering our discussion on motor vehicle accidents, numerous studies have investigated the effect on motor vehicle accidents due to: speed, speed variance, alcohol, speed limits, vehicle miles travelled, measures of income, technology advances, the age of the fleet, population characteristics, police enforcement, seat belt legislation and the effects of the deregulatory climate which came about in the 1980s, among others. More generally, these potential determinants of accidents and factors reducing accidents may be placed into three categories: those associated with the vehicles themselves, e.g. technology improvements; those due to the roadways, e.g. speed limits; and those relating to drivers, e.g. alcohol consumption, income, seat belt usage, etc. More recently, the question has arisen as to the effect of cell phones on motor vehicle accidents. While it may generally be argued that the probability of a motor vehicle accident increases with the use of cell phones by drivers, it is not necessarily as obvious when considering motor vehicle fatalities. Some analysts claim that fatalities, like accidents, increase when drivers use cell phones, due to an inability of at least some drivers to dial and talk while driving (similar to an inability to chew gum and tie one's shoes).
- Also, there is evidence that cell phones reduce the driver's attention span and reaction time which in turn increases the probability of an accident. Further, others have argued that the distraction of using a cell phone is not restricted to the time while on the cell phone itself, but may extend for several minutes after the phone conversation has terminated.
- On the other hand, the opposite argument has been made that cell phones can reduce fatalities, that is, given an accident, cell phones increase the probability of obtaining help promptly which may result in the saving of lives.
- In any case, cell phone use by the public at large has increased dramatically since 1985. In 1985, there were approximately 340200 cell phone subscribers. By the

year 2004, this number grew to over 182140000 subscribers.

- As such, we see not only tremendous growth in cell phone subscribers but also an increase in usage of these devices over time by drivers. The question then arises as to the net impact that cell phones have on motor vehicle fatalities. This study provides some econometric insight into the effect of cell phone use on motor vehicle fatalities. This is accomplished using econometric techniques on an annual time-series dataset covering the period.
- 1975 to 2003. The models developed are subjected to a set of specification error tests to assure that the results are statistically viable.

2. SEAT BELT

A whopping 75 per cent passenger vehicle user (driver, co-driver and rear) in India don't wear seat belts leading to 15 deaths every day, according to a study by India's largest carmaker Maruti Suzuki. Compared to India's dismal 25 per cent compliance, 98 per cent Europeans wear seat belts, whereas the US has a compliance rate of 85 per cent. Among drivers in India, seat belt usage stood at a disappointing 28 per cent. Road accidents, in fact, are the leading causes of deaths in the country. According to the ministry of road transport and highways, in 2016, 15 lakh people died in road accidents. A total of 5638 people died in 2016 due to non-usage of seat belts.

2.1 Reasons for not using seat belts

- Weak legal enforcement was the topmost reason for non-usage of seat belts.
- Negative image perceptions (27 per cent) and the belief that seat belts ruin clothes emerged as key reasons for non-usage, in the study.
- 23 per cent did not consider seat belts as a safety device.
- 20 per cent said that they did not wear seat belts as family and friends don't wear/don't encourage seat belt usage.

2.2 Reasons for using seat belts

- 77 per cent respondents said they wear seat belts because of legal enforcements.
- 64 per cent of car passengers wear seat belts because they considered them as a self-safety device.
- 63 per cent respondents said that they had prior experience of seeing how seat belts had saved lives. Hence, they use.

- Encouragement from family and friends to wear seat belts was one of the key reasons for wearing seat belts along 56 per cent of the respondents.

3. MAJOR INCIDENTS OF ROAD CRASHES CAUSED BY MOBILE PHONE USAGE

- On September 9th, 2016, a bus driver was over speeding and talking on his mobile phone, when the bus carrying nineteen passengers toppled off a bridge in Angul, Orissa. All passengers were killed in the crash.
- On October 20th, 2015, fourteen people were killed and seventeen others were injured after a minipassenger bus skidded off the road and fell into gorge at Ramnagar area of Udhampur district of Jammu & Kashmir. The crash took place when the driver of the vehicle was on his cell phone and lost control over the vehicle.
- On September 21st, 2013, nine persons were killed and twenty-two others sustained injuries, 10 of them critically, when an overloaded minibus plunged into around 300 feet deep gorge at Pasana near Arnas in Reasi district of Jammu & Kashmir. The accident reportedly occurred due to the negligence of the driver, who was talking on his mobile phone.
- On July 24th, 2014, twenty children and the driver were killed when their school bus was rammed by a passenger train at an unmanned level crossing in Medak district of Andhra Pradesh. The driver of the school bus was speaking on his mobile phone while the vehicle was crossing the unmanned level crossing near Masaipet.

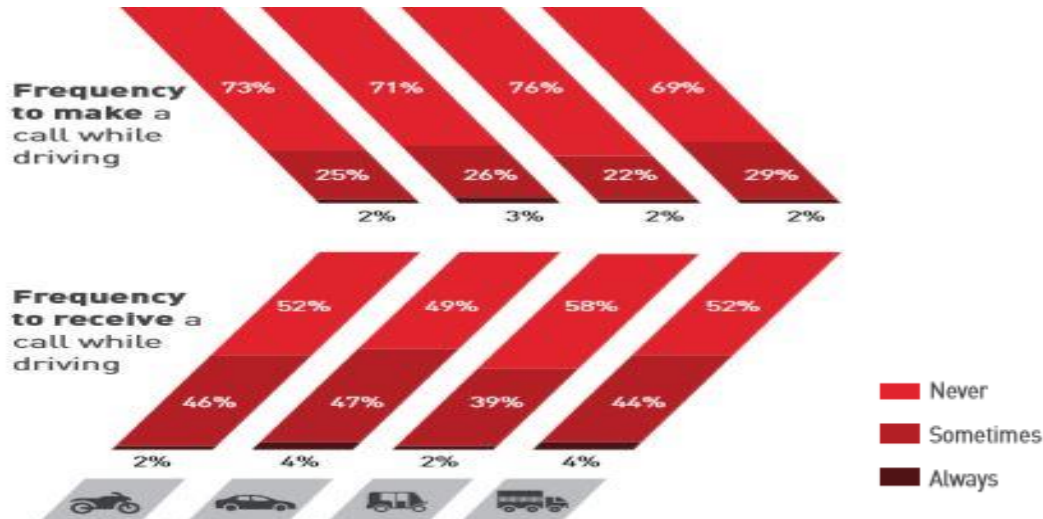
3.1 Extent and purpose of use of mobile phones while driving

According to the Telecom Regulatory Authority of India (TRAI), India had 1033.20 million mobile subscribers as on May 2016 with a decadal growth rate of 627% between 2006 and May 2016.8 India has the second largest telecom penetration in the world after China and reached close to 80% of India's population by 2016. During the same period, the total number of registered motor vehicles in India increased by 136% – from 89 million vehicles in 2006 to 210 million vehicles in 2015.

3.2 Mobile phone use for calling or receiving calls

The Survey reveals that nearly half the respondents, i.e. 47% receive a call while driving. The proportion is less when it comes to making a call, with about 28% making a call while driving. 1 in every 2 four-wheeler drivers receive a call while driving, highest in the typology, whereas 31% of bus/truck drivers make a call while driving, the highest in the typology.

Table 1: -Frequency of receiving and making calls by typology

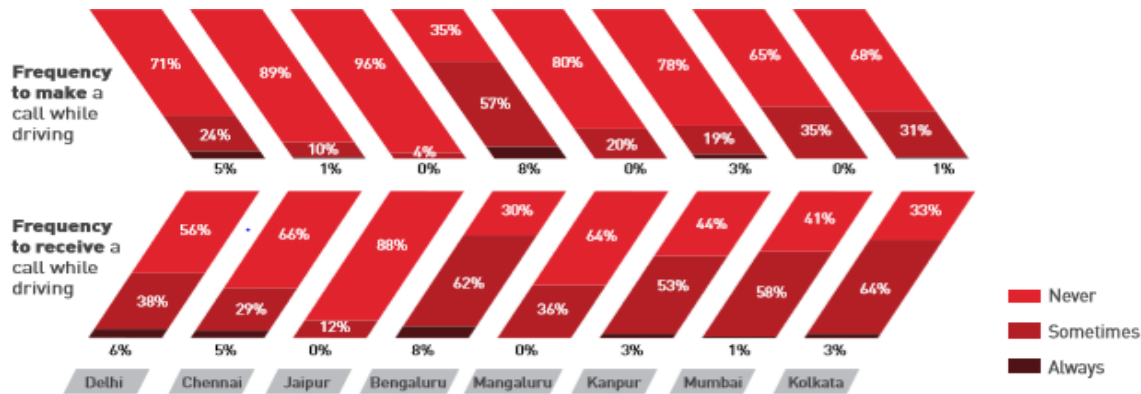


Among typologies, four-wheeler drivers are most likely to receive a call as 51% of four-wheeler drivers reported to receiving a call while driving, compared to 42% of auto-rickshaw drivers. Fewer respondents reported to making calls while driving, the highest among all typologies being truck/bus drivers, with 31% of them always and sometimes making calls while driving. Even for making calls, auto-

rickshaw drivers are the least likely to make calls while driving as 24% of them reported to make calls.

Among cities, 7 out of 10 respondents (70%) in Bengaluru receive a call and more than 6 out of 10 make a call (65%). In comparison, only 12% of respondents in Jaipur receive a call while driving.

Table2: -Frequency of receiving and making calls by cities.



3.3 Purpose of receiving and making calls

The usage patterns of mobile phones for making/ receiving calls, and also the purpose of making/ receiving such calls differ across cities betting on, however necessary the decision is. associate analysis of the aim of respondent calls whereas, driving shows that regarding forty-first folks answer calls if it's work connected, 12 months claimed that

they did therefore if they were a motion at low speed and thirty-first did constantly if the decision was of a personal/social nature, for instance from family. Different reasons accounted to respondent calls whereas, driving enclosed ennui, not feeling unsafe, exhaustion and soliciting for directions. Lack of social control additionally encourages folks to enjoy distracted driving with 14 July receiving a decision once there have been no cops visible.

Figure 1: -Proportion of respondents who use mobile phones while driving for either making or answering calls by cities.

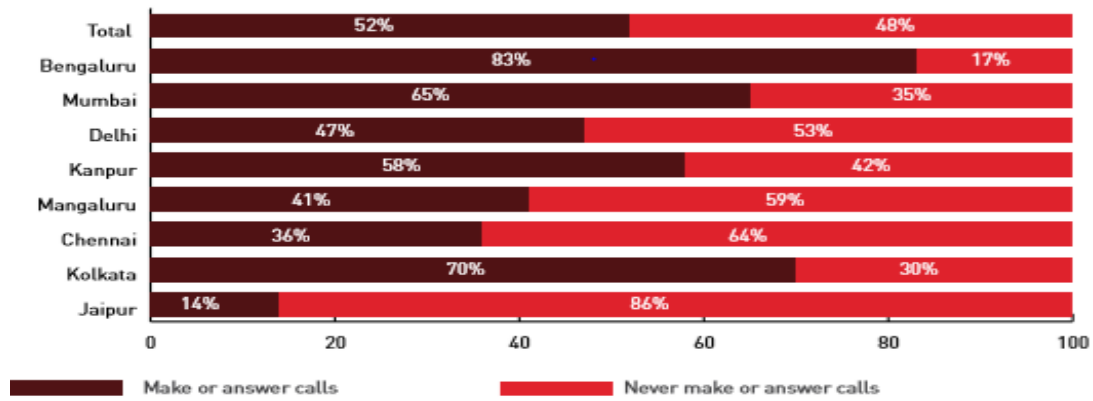


Table 3: Purpose of answering calls while driving by typology

In what situations do you generally answer a call?	(n=220)	15	15	15	15	Average of total
Anytime because I don't feel unsafe to do so	18%	18%	16%	11%	16%	16%
During non-stressful traffic conditions	32%	26%	39%	21%	29%	29%
Travelling at a low speed	34%	40%	32%	39%	36%	36%
Boredom	7%	10%	9%	17%	11%	11%
In need of direction & other information	22%	24%	28%	29%	26%	26%
No police officers in sight	15%	17%	19%	7%	14%	14%
Tired ("Talking keeps me awake")	11%	11%	9%	9%	10%	10%
If it is a work-related call	40%	40%	36%	46%	41%	41%
If it is a personal call	36%	30%	32%	27%	31%	31%
Others	3%	2%	5%	2%	3%	3%

Fig 2 : - Ways of handling the phone while talking on the phone during driving

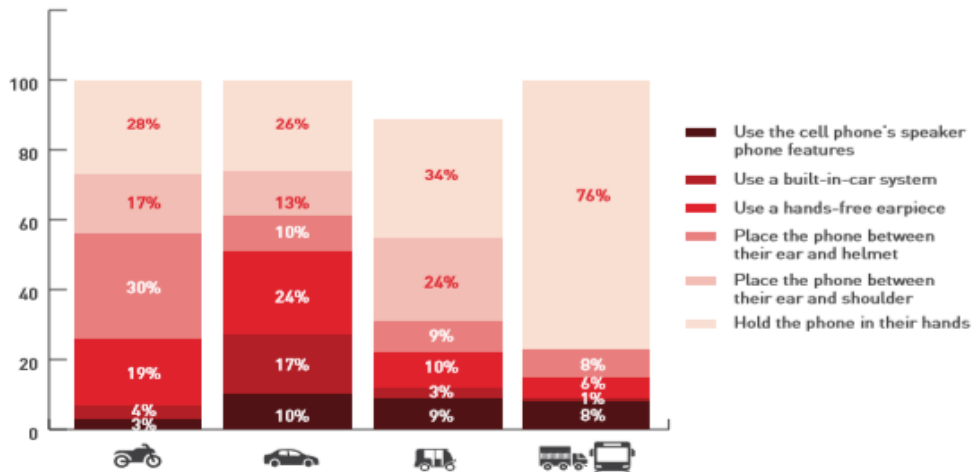


Figure 3: - Proportion of respondents who call when driving by ways of handling phone

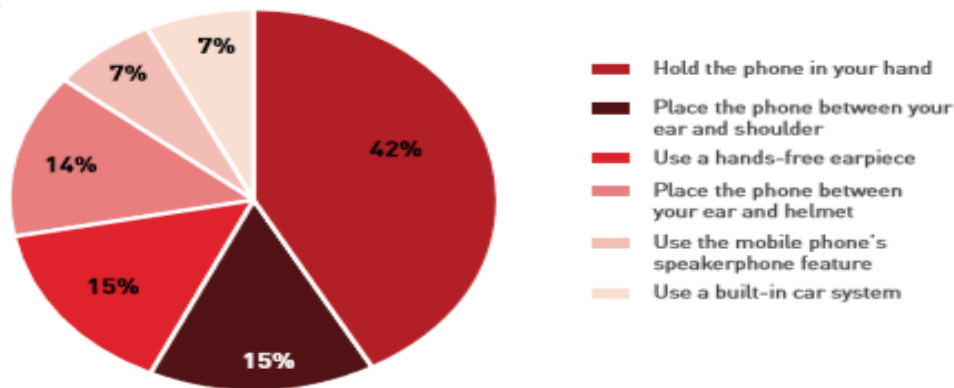






Table 4: - Proportion of respondents by different ways of driving while talking on the phone by typology

Different ways of driving when talking while driving				
Drive slower	89%	88%	85%	82%
Change lanes less frequently	71%	79%	65%	61%
Look in rear or side view mirrors more frequently	57%	63%	48%	56%
Use turn signal less regularly	54%	56%	55%	31%
Use turn signal more regularly	38%	43%	25%	50%
Look in rear or side view mirrors less frequently	42%	35%	48%	34%
Apply the brakes suddenly	27%	26%	28%	44%
Change lanes more frequently	22%	19%	24%	19%
Drive faster	16%	16%	23%	4%
Others	4%	2%	3%	1%

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