

Attitude and behavior of medical and dental students towards driving in Punjab province of India

Abstract

Road traffic accidents are increasing with the increase in a number of vehicles and are likely to become one of the leading causes of death in the near future. This study has been done with the hypothesis that attitudes and behaviors towards driving can be predictors of road traffic accidents and losses due to accidents can be decreased if we control and modify the attitude and behavior of the drivers and the best time to modify is when the drivers are young. In this study, 225 medical and dental students in the age group of 17-22 years participated and it was observed that many of them were having dangerous driving behavior. In order to modify the attitude and behavior after knowing what is wrong in behavior and attitude of the young population who are driving or likely to drive shortly so that we can modify their behaviors according to the Theory of Planned Behavior.

Keywords: attitude, driving behavior, road traffic accidents

Volume 6 Issue 3 - 2018

RK Gorea,¹ Bindu Aggarwal,² Gulam M Hasan,³ M Sarosh Khan,³ Sameer al Ghamdi,³ Arshdeep Gorea,⁴ Abhinav Gorea⁴

¹College of Medicine, Prince Sattam bin Abdulaziz University, Saudi Arabia

²Department of Anatomy, Luxmi Bai Dental College, India

³Prince Sattam bin Abdulaziz University, Saudi Arabia

⁴Edith Cowan University, Australia

Correspondence: RK Gorea, Faculty Member, College of Medicine, Prince Sattam bin Abdulaziz University, al Kharij, Kingdom of Saudi Arabia, Tel +966580115662, Email rakeshgorea@gmail.com

Received: February 08, 2018 | **Published:** May 21, 2018

Already researched in this area:

- i. Attitudes to driving vehicles in the general public in some countries.
- ii. Behaviour of drivers of vehicles resulting in accidents
- iii. Ways to correct the attitude and behavior towards driving

New in this research:

- i. Attitudes to driving vehicles in the medical and dental students.
- ii. Behaviour of medical and dental students driving vehicles
- iii. To know the dimensions of this problem among future preventers of road traffic accidents

Introduction

Attitude is “a feeling or opinion about something or someone or a way of behaving that is caused by this.”¹ Behaviour is “the way in which one acts or conducts oneself, especially towards others.”² Attitude of the driver leads to different driving behaviors which make a person prone to accidents.³ Attitude determines the intentions which in turn mediate the perceived behavior control e.g. texting while driving.³ Aggressive behavior and speedy driving is a factor for the proneness to accidents.⁴ Young drivers are more likely to meet accidents.⁵ Age affects driving behaviors and young drivers have more risky behavior as compared to the old drivers.⁶ and are more likely to violate traffic rules especially students⁷ and people mostly involved in fatal accidents are in the age group of 20-29 years.⁸ Risk in the young drivers may be affected by attitude of the individuals, environmental circumstances and psychological of the persons.⁹ Drinking by young persons while driving especially in the company of other young persons and driving at high speed especially at night increases the chances of accidents.⁹ Males are more likely to meet accidents.⁵ Males are more prone to drunk driving as well as blue

collared, administrative and sale workers are prone especially when enjoying at nighttime.¹⁰ Men have an attitude that they are better drivers than women and usually drive more distances than women but have more risky driver behavior,^{6,11} as they use fewer safety devices but the rate of accidents is almost equal in both the genders but there is less reporting by males.¹¹ In another study on the contrary males are found to disobey laws less as compared to females.⁷ Being rich and female has negativity towards good driving behaviours.¹²

Being a student is associated negatively with the driving behaviors.¹⁰ Educational status and social status was not found to responsible for accidents.⁴ Distracted driving is very common for the college students because of their higher self-confidence and their belief in multitasking. Voluntary risk-taking behavior increases the chances of accidents especially when they are driving for recreation.⁵ Driving during night also increases risk of accidents especially in young people.⁵ Speedy driving is one of the factors for accidents⁵ which driving may just be pushing or aggressive.¹³ Accidents may be by non-speeding behavior which usually involves aggressive violations, mobile use, and tailgating.¹⁴ For two-wheelers driving recklessly, taking the motorcycle through narrow gaps and overtaking on wrong sides are frequent violations who are driving two wheelers.⁷ For four-wheelers, if a person is alone in the vehicle is likely to commit more errors as compared to if more persons are traveling with the driver.¹⁵ Seat belt wearing, using mobile, signaling and keeping a safe distance from other vehicles are behaviors which can be a factor in accidents.¹⁵ Sensation seeking behavior results in more risky behavior acts.⁶ Speeding intentions reduced if speed enforcement messages were announced but there were no differences if radars or police officers were used to check over speeding and unknown speed enforcement stations were better as compared to fixed enforcement stations.¹⁶

Emotional control of the person can also change the driving behavior of a person and persons with poor emotional control may be impeded to take driving decisions to some extent.¹⁷ Mostly persons

learn driving from parents and friends and number of persons taking coaching from driving schools is limited mainly for the reason that young people who need to learn are lacking financial resources for this training.¹⁸ Those with the attitudes of stronger control over themselves were more prone to drowsy driving especially amongst the students of the university.¹⁹ Communication campaigns have been designed are effective for improving the driving behaviours.²⁰ Safety belt usage and do not drink and drive campaigns have been studied and a better result for seat belt usage was noticed as people were already convinced of not mixing driving and drinking.²⁰ Different questionnaires have been used to assess the driving behavior namely Manchester Driver Behavior Questionnaire,¹³ 7-item Driver Behavior Questionnaire and traffic accident involvement,¹⁴ attitudinal questionnaire¹⁰ in different studies with advantages and disadvantages.

Material and methods

In this cross-sectional study participants were medical students and dental students. This is a survey-based study in which pre-structured survey which was pilot tested was used to find the attitude and behavior of medical and dental students towards driving based on the theory of planned behavior. It was a self-administered survey. A total of 225 students participated in this survey (n=225). All the participants were explained the contents of the survey and meaning of all the items. Verbal consent was taken from all the participants. They were given the choice to refuse to participate in the study. They were also given the choice to not reply to any item if they were uncomfortable to reply. The inclusion criterion was students of MBBS and BDS course and who were consenting. Exclusion criteria were students who did not consent or were above the age of 22 years. No monetary incentive was provided. The ethics committee of the institution approved this project.

Results

Participants in this study were mostly adults, females and from the urban area, as shown in Figures 1-3.

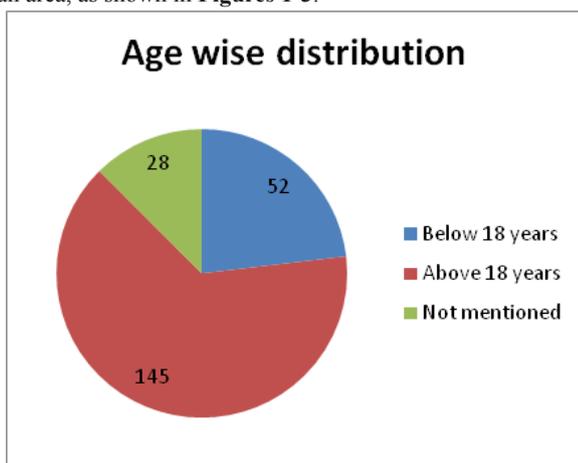


Figure 1 Age wise distribution of the cases.

(Table 1) 38.55% started driving vehicles below the age of 16 years when even license for two-wheelers without gears is not issued. 42.21% started driving four-wheelers when the license cannot be issued. (Table 2) 72% of the participants never joined any driving school. (Table 3) 61.77% of students issued driving license without

any driving test. (Table 4) A sizable number of persons (35.11%) start driving even without a driving license. (Table 5) 8.44% students usually drive two-wheelers above the speed limit of 60 km. (Table 6) 15.09% students drive more than 60 km at a stretch. (Table 7) 18.66% students drive at a speed more than 70 km/hour routinely and 40.44% persons have occasionally driven at a speed of more than 70 km and 12.44% have occasionally driven at a speed of more than 90 km. (Table 8) 56.88% did not use safety helmets while driving or pillion riding. There were 11.11% persons who did not use rare seat belts as compared to 5.33% participants who did not use front seat belts. (Table 9) Only 49.33% of the participants tried to help the accident victims as police harassment still continues as observed in 6.66% of the cases. (Table 10) 2.66% drove vehicles after consuming alcohol. 40.88% participants have jumped red signals and 29.77% will stop definitely at red signals if they find traffic police at the crossings. 20.08% have been penalized by the traffic police and 26% have bribed the traffic police to avoid penalization. Only 36.44% participants follow the speed limits but to avoid injuries 83.55% slow down at the speed breakers. Only 76% use the light dippers at night and 81.77% use side mirrors to avoid accidents. 19.11% have parked in No Parking zones and in 7.55% of cases vehicle has been towed away. Racing on the road is a big challenge and 32% enjoy racing for a thrill. 15.11% of the participants admitted that they will cross the closed railway barriers at the crossings. (Table 11) As far as maintenance of the vehicle is concerned 88.88% of participants care for regular servicing of the vehicle and 93.77% take care of tires. 72.44% participants have regular pollution check of the vehicles. (Table 12) 40% of the participants had an accident while driving.

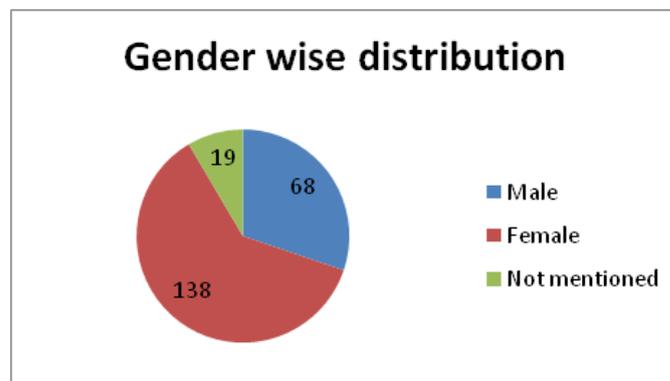


Figure 2 Gender wise distribution of the cases.

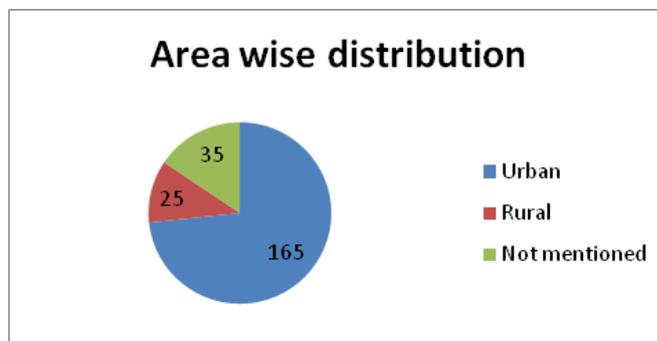


Figure 3 Area wise distribution of the cases.

Table 1 Age when started driving vehicle

Type of vehicle	Below 16 years		Between 16-18 years		Above 18 years		Total		Not mentioned		Total	
	Numbers	%	Numbers	%	Numbers	%	Numbers	%	Numbers	%	Numbers	%
Two wheelers	47	20.88	108	48	13	5.77	168	74.66	57	25.33	225	100
Four wheelers	40	17.77	55	24.44	11	4.88	106	47.11	119	52.88	225	100

Table 2 Joined any driving school

Yes		No		Not mentioned		Total	
Number	%	Number	%	Number	%	Number	%
49	21.77	162	72	14	6.22	225	100

Table 3 Driving test given by the authorities before issuing license

Yes		No		Not mentioned		Total	
Numbers	%	Numbers	%	Numbers	%	Numbers	%
63	28	139	61.77	23	10.22	225	100

Table 4 Possess driving license when you started driving

License possession	Yes		No		Not mentioned		Total	
	Numbers	%	Numbers	%	Numbers	%	Numbers	%
Numbers	130	57.77	79	35.55	16	7.11	225	100

Table 5 Normally drive the two-wheeler vehicle at a speed (KM/Hour) of*

Speed	<40KM		41-60KM		61-80KM		>80		Not mentioned		Total	
	Numbers	%	Numbers	%	Numbers	%	Numbers	%	Numbers	%	Numbers	%
Number	8	3.55	146	64.88	18	8	1	0.44	52	23.11	225	100
Maximum speed	5	2.22	27	12	27	12	7	3.11	73	32.44	139	100

Table 6 Driven 2 wheeler at a stretch

<14km		15-60km		61-100KM		100-150 KM		151-200		>200KM		NM		Total	
Numbers	%	Numbers	%	Numbers	%	Numbers	%	Numbers	%	Numbers	%	Numbers	%	Numbers	%
43	19.2	47	20.88	20	8.88	5	2.22	3	1.33	6	2.66	101	44.88	225	100

Table 7 Normally drive the four-wheeler vehicle at a speed (KM/Hour) of*

Speed	<45KM		46-70KM		71-90KM		>90		Not mentioned		Total	
	Numbers	%	Numbers	%	Numbers	%	Numbers	%	Numbers	%	Numbers	%
Number	6	2.66	46	20.44	35	15.55	7	3.11	131	58.22	225	100
Maximum speed	1	0.44	29	12.88	28	12.44	28	12.44	33	14.66	119	100

Table 8 Using safety devices when using/driving vehicle

Using safety devices	Yes		No		Not mentioned		Total	
	Number	%	Number	%	Number	%	Number	%
Safety helmet while using two wheeler	72	32	128	56.88	25	11.11	225	100
Front seat safety belt	167	74.22	12	5.33	46	20.44	225	100
Back seat safety belt	28	12.44	25	11.11	165	73.33	225	100

Table 9 Attitude towards road accidents

Attitudes	Yes		No		Not mentioned		Total	
	Number	%	Number	%	Number	%	Number	%
Witnessed road accident	132	58.66	81	36	12	5.33	225	100
Tried to help victims	111	49.33	84	37.33	30	13.33	225	100
Police harassment	15	6.66	171	76	39	17.33	225	100

Table 10 Safety habits

Safety habits	Yes		NO		Sometimes		Not mentioned		Total	
	Number	%	Number	%	Number	%	Number	%	Number	%
Driving under the influence of alcohol*	6	2.66	106	47.11	-	-	113	50.22	225	100
Jumped red signal	92	40.88	123	54.66	-	-	10	4.44	225	100
Only stopping at red light if only traffic police present	67	29.77	139	61.77	-	-	19	8.44	225	100
Ever been penalized (challan)	45	20.08	169	75.11	-	-	11	4.88	225	100
Have you ever bribed to avoid challan	60	26.66	150	66.66	-	-	15	6.66	225	100
Always follow speed limits	82	36.44	72	32	56	24.88	15	6.66	225	100
Slowdown at speed breakers	188	83.55	3	1.33	21	9.33	13	5.77	225	100
Use side mirrors	184	81.77	17	7.55	14	6.22	10	4.44	225	100
Use dippers at night time	171	76	9	4	12	5.33	33	14.66	225	100
Parked vehicle in no parking area	43	19.11	126	56	41	18.22	15	6.66	225	100
Vehicle towed away	17	7.55	188	83.55	-	-	20	8.88	225	100
Do you like to race with other vehicles on the road for a thrill	72	32	135	60	-	-	18	8	225	100
Drive at late night hours	48	21.33	135	60	32	14.22	10	4.44	225	100
Do you cross the railway barriers when closed	34	15.11	166	73.77	15	6.66	10	4.44	225	100

Table 11 Maintenance of vehicles

	Yes		No		Not mentioned		Total	
	Number	%	Number	%	Number	%	Number	%
Proper servicing of vehicle	200	88.88	4	1.7	11	4.88	225	100
Aware about tyre condition	211	93.77	4	1.7	10	4.44	225	100
Pollution control certificate	164	72.88	43	19.11	18	8	225	100

Table 12 Ever had an accident

	Yes		NO		Not mentioned		Total	
	Number	%	Number	%	Number	%	Number	%
	90	40	77	34.22	58	25.77	225	100

Discussion

Only small efforts have been made to reform the college students from avoiding distracted driving.⁸ Aggressive driving violations were factors in Qatar but not in UAE¹³ indicating different behavior patterns may be working in different countries. Development environment may also be responsible for provocation of traffic violations.¹⁴ Participants were concerned with the environmental pollution and better fuel efficiency as 72.44% of the participants had regular pollution check of the vehicles and it also helped to save the fuel. Persons especially young are more willing to shift to public transport especially if there is a countermeasure to check drinking and driving.⁹ Road safety

behaviors help in remedial measures and formulation of the national policies for prevention of the accidents¹⁴ and the data analyzed in this paper will highlight the deficient factors which need correction for prevention of the accidents in Indian Scenario. For reducing accidents attitude of males and females will have to be taken into consideration while making the policies for prevention of accidents.¹² There should be interventions for behavioral changes so that persons do not text while driving.³ Interventions are needed to check the sensation behavior of the drivers for reducing the accidents and such drivers should be provided knowledge as well as skills to control their anger and sensation seeking behavior.⁶ Suggests more penalties for those traffic violations which are likely to result in fatal accidents and

should be severe than those likely to result in non-fatal accidents.⁷ Students are of the opinion that those laws which may have an impact on their driving privilege and increasing insurance cost for them may improve their behaviour.²¹ Intentions play a big role in the behavior of the students who read messages or text messages when they are driving and crash risk was related to the intentions.²² The best time to modify the behavior is student time and interventions at this stage can make lifelong changes in the attitude and the drive behavior.⁸

Conclusion

To prevent the accidents we will need to modify the behavior of the students by changing their attitudes by highlighting the behavioral factors responsible for accidents and we should engage the students to modify their attitude to driving and their driving behavior. It would have been better to study the use of cell phones also while driving as the use of cell phones while driving is also a cause of accidents.

Acknowledgements

None.

Conflict of interest

Authors declare that there is no conflict of interest.

References

- Attitude Meaning in the Cambridge English Dictionary.
- Behaviour. Definition of behavior in English by Oxford Dictionaries. Oxford Dictionaries.
- Bazargan-Hejazi S, Teruya S, Pan D, et al. The theory of planned behavior (TPB) and texting while driving behavior in college students. *Traffic Inj Prev*. 2017;18(1):56–62.
- Mohamed M, Bromfield NF. Attitudes, driving behavior, and accident involvement among young male drivers in Saudi Arabia. *Transp Res Part F-Traffic Psychol Behav*. 2017;47:59–71.
- Clarke DD, Ward P, Bartle C, et al. Young driver accidents in the UK: The influence of age, experience, and time of day. *Accid Anal Prev*. 2006;38(5):871–878.
- Bachoo S, Bhagwanjee A, Govender K. The influence of anger, impulsivity, sensation seeking and driver attitudes on risky driving behaviour among post-graduate university students in Durban, South Africa. *Accid Anal Prev*. 2013;55:67–76.
- Susilo YO, Joewono TB, Vandebona U. Reasons underlying behaviour of motorcyclists disregarding traffic regulations in urban areas of Indonesia. *Accid Anal Prev*. 2015;75:272–284.
- Hassani S, Kelly EH, Smith J, et al. Preventing distracted driving among college students: Addressing smartphone use. *Accid Anal Prev*. 2017;99:297–305.
- Scagnolari S, Walker J, Maggi R. Young drivers' night-time mobility preferences and attitude toward alcohol consumption: A Hybrid Choice Model. *Accid Anal Prev*. 2015;83:74–89.
- Curtis A, Kerri C, Shannon H, et al. Prevalence and correlates of drink driving within patrons of Australian night-time entertainment precincts. *Accid Anal Prev*. 2016;95:187–191.
- Jiménez-Mejías E, Carmen AP, Virginia MR, et al. Gender-related differences in distances travelled, driving behaviour and traffic accidents among university students. *Transp Res Part F Traffic Psychol Behav*. 2014;27:81–89.
- Batool Z, Carsten O. Attitudinal Determinants of Aberrant Driving Behaviors in Pakistan. *Transp Res Rec*. 2016;2602:52–59.
- Bener A, Ozkan T, Lajunen T. The Driver Behaviour Questionnaire in Arab Gulf countries: Qatar and United Arab Emirates. *Accid Anal Prev*. 2008;40(4):1411–1417.
- de Winter JCF, Dodou D. National correlates of self-reported traffic violations across 41 countries. *Personal Individ Differ*. 2016;98:145–152.
- Rosenbloom T, Perlman A. Tendency to commit traffic violations and presence of passengers in the car. *Transp Res Part F Traffic Psychol Behav*. 2016;39:10–18.
- Kergoat M, Delhomme P, Meyer T. Appraisal of speed-enforcement warning messages among young drivers: Influence of automatic versus human speed enforcement in a known or unknown location. *Transp Res Part F-Traffic Psychol Behav*. 2017;46:177–194.
- Hayley AC, Ridder B de, Stough C, et al. Emotional intelligence and risky driving behaviour in adults. *Transp Res Part F Traffic Psychol Behav*. 2017;49:124–131.
- Tyler S. Study of current factors affecting road safety for 16-18 year old novice drivers in the Wingecarribee Shire. *J Australas Coll Road Saf*. 2015;26:39–45.
- Lee CJ, Geiger-Brown J, Beck KH. Intentions and willingness to drive while drowsy among university students: An application of an extended theory of planned behavior model. *Accid Anal Prev*. 2016;93:113–123.
- Nathanail E, Adamos G. Road safety communication campaigns: Research designs and behavioral modeling. *Transp Res Part F Traffic Psychol Behav*. 2013;18:107–122.
- Hill L, Rybar J, Styer T, et al. Prevalence of and Attitudes About Distracted Driving in College Students. *Traffic Inj Prev*. 2015;16(4):362–367.
- Prat F, Gras ME, Planes M, et al. Psychological predictors of texting while driving among university students. *Transp Res Part F-Traffic Psychol Behav*. 2015;34:76–85.