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### The Relationship between Individual Attitude and Risky Driving Behaviour: A Systematic Review

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**Abstract:** Road accident is among the most alarming problems in Malaysia. Statistics show that the number of road accidents and road fatalities in Malaysia is increasing over the years. The cause behind this is predominantly due to the drivers' dangerous and risky driving behaviour. This behaviour can be further explained through individual attitude. This review paper was therefore made to investigate the relationship between attitude and drivers' risky driving behaviour. A systematic review process has been conducted through several databases such as Scopus, Wiley Online Library, Web of Science and Emerald. A total of 3,397 titles were identified from all search databases. Following the screening and review processes (title screening, abstract screening and full text reviewed), 17 studies were included in this study. The results of the review demonstrated that there are increasing evidences of significant relationship between the drivers' attitude and risky driving behaviour.

**Keywords:** Individual attitude, risky driving behaviour, Theory of Planned Behaviour

#### I. INTRODUCTION

Road accident is one of the major problems in Malaysia. Statistics on road accident cases in Malaysia showed an increase pattern over the years despite numerous efforts and safety plan outlined by the Malaysian Ministry of Transportation and other related bodies. Literature shows that the human factor contributes to more than 80% of road accidents (1-3). Meanwhile, drivers' risky behaviour of violating and breaking traffic rules and regulations has been identified as one of the contributors toward the occurrence of traffic crash (4, 5). Irresponsible drivers tend to commit numerous traffic crimes such as speeding, tailgating and texting while driving (5-7). These actions did not only harm the drivers themselves, but also the other road users.

## II. LITERATURE REVIEW

Risky driving behaviour is defined as the traffic violation behaviours committed by drivers such as driving over the speed limit, reading message and texting while driving, drink – drive, dangerous overtaking, not wearing helmet/ seatbelt, the failure to stop at the stopping line, running over red light, tailgating and driving under the influence of drug (8-12). These violation behaviours are the “intentional failures” committed by the drivers. Violation toward the traffic rules and regulations is among the significant factors toward the traffic crash causation in Malaysia and other countries around the globe (13-18).

Risky driving involving younger drivers has become a major issue in European countries like Belgium, United Kingdom, Italy and Greece (19-24). A study conducted in Italy found that adolescents are more likely to drive cars and ride motorcycles without having a valid driving license (20). Moreover, they were often observed to break traffic rules and regulations such as speeding, tailgating and driving under influence of alcohol, which can endanger other road users (20, 24). Similar problem was also reported in the Middle East countries including Oman where speeding and aggressive driving among the university students contributed to the traffic crash issue in the country. Apart from that, a study carried out in Australia has revealed similar issues where younger drivers are more likely to over speed due to excitement feeling (25-27). Similarly, risky driving behaviour among the younger drivers has also become a critical issue in Malaysia. Jamaluddin et al. (13) highlighted that young motorcyclists within the aged 15 to 25 years old are among the groups that commonly violate the traffic regulation of speeding. Meanwhile, another study by Ramli et al. (28) stressed that motorcyclists or *mat rempit* (daredevil riders) commit numerous traffic violations such as illegal drugs, street racing, performing dangerous stunts and alcohol drinking. This group of people did not only harm themselves, but also other road users due to their selfish acts (28).

Individual attitude is one of the main contributors toward risky driving (13, 16, 29-35). It is defined as the driver’s positive or negative evaluation on certain driving behaviours that helps the drivers to determine whether or not a particular behaviour is right and whether or not it will harm themselves and other road users (34, 36, 37). Individual attitude is one of the main components in the Theory of Planned Behaviour. Researchers usually apply this theory to investigate the antecedences of risky and road violation behaviour (9, 24, 36, 38, 39). Individual attitude can be either positive or negative. Drivers with negative attitude tend to be involved with higher traffic violation behaviours such as speeding, reading and texting while driving as well as other illegal traffic behaviours (8, 34, 38, 40, 41). Apart from that, other scholars consistently proved the significant relationship between attitude and traffic violation behaviours in other countries such as Turkey, Taiwan, Spain and France (39, 42-45). Overall, individual attitude indeed plays an important role in predicting drivers’ risky driving behaviour. Therefore, this paper aims at systematically reviewing the relationship between individual attitude and risky driving behaviour.

## III. METHODOLOGY

### (A) Search Strategy

A systematic review of the literature was conducted using the following electronic databases: Scopus, Wiley Online Library, Emerald and Web of Science. Search terms used for this review process were “attitude”, “risky attitude”, and “violation driving behaviour”, “traffic violation” and “Theory of Planned Behaviour”. There is no restriction in terms of language and date for the search process. Table 1 shows the detailed

search strategy according to the electronic databases. All related findings retrieved during the literature search process were exported into the reference management software, EndNote X7. Subsequently, the authors independently screened the titles and abstracts for relevant papers. This review included the studies that investigate the relationship between individual attitude and risky driving behaviour only using the application of Theory of Planned Behaviour and excluded any thesis, students' dissertation or governmental report. Figure 1 illustrates the PRISMA flow diagram for the related search strategy.

## IV. FINDINGS

### (A) Results

A total of 3,397 papers were identified from the literature search. In the finding duplication process, a total of 750 titles were excluded from the study with only 2,647 titles remained. Next, the title of each remaining finding was screened and a total of 2,114 titles were excluded in this process. Subsequently, the abstract of the remaining 390 related titles were read. This has resulted in a total of 281 abstracts excluded during this process with only 109 related abstracts remained. After that, the full text of all related abstracts was identified and from this figure, 92 full texts were excluded since they do not investigate the direct relationship between individual attitude and risky driving behaviour through the application of Theory of Planned Behaviour. Finally, only 17 full texts were selected for this review.

**Table I**  
**Search Strategy According to the Related Databases**

<i>Databases</i>	<i>Timespan</i>	<i>Search fields</i>	<i>Language</i>	<i>Returns</i>
Scopus	1971 – 2017	All field	English	352
Wiley Online Library	All year	All field	English	459
Emerald	1970 – 2017	All field	English	734
Web of Science	All year	All field	English	1852

### (B) Type of study

Six studies investigated the effects of attitude towards speeding behaviour (5, 30, 32, 34, 46, 47). Meanwhile, three studies investigated the relationship between attitude and the use of mobile phone to read and reply text while driving (36, 38, 39), one study investigated the impact of attitude towards the drivers' traffic compliance behaviour (48), one study investigated the relationship between attitude and drink-drive behaviour (49), one study investigated the relationship between attitude and offender driving behaviour (43), one study investigated the effects of attitude toward cyclists' risky behaviour (8), one study investigated the relationship between attitude and the use of helmet while riding (50), whereas the remaining three studies investigated the impact of attitude toward a combination of a few risky and traffic violation behaviours (7, 41, 42). All 17 studies were categorised as cross-sectional studies.

### (C) Participants

The included studies recruited different groups of research sample such as car drivers (5, 7, 46, 49), motorcyclists (32, 34, 42, 50), cyclists (8), test drivers (30, 47), traffic offenders (43), truck drivers (48) as well as the young drivers (38, 41) and universities students (36, 39).

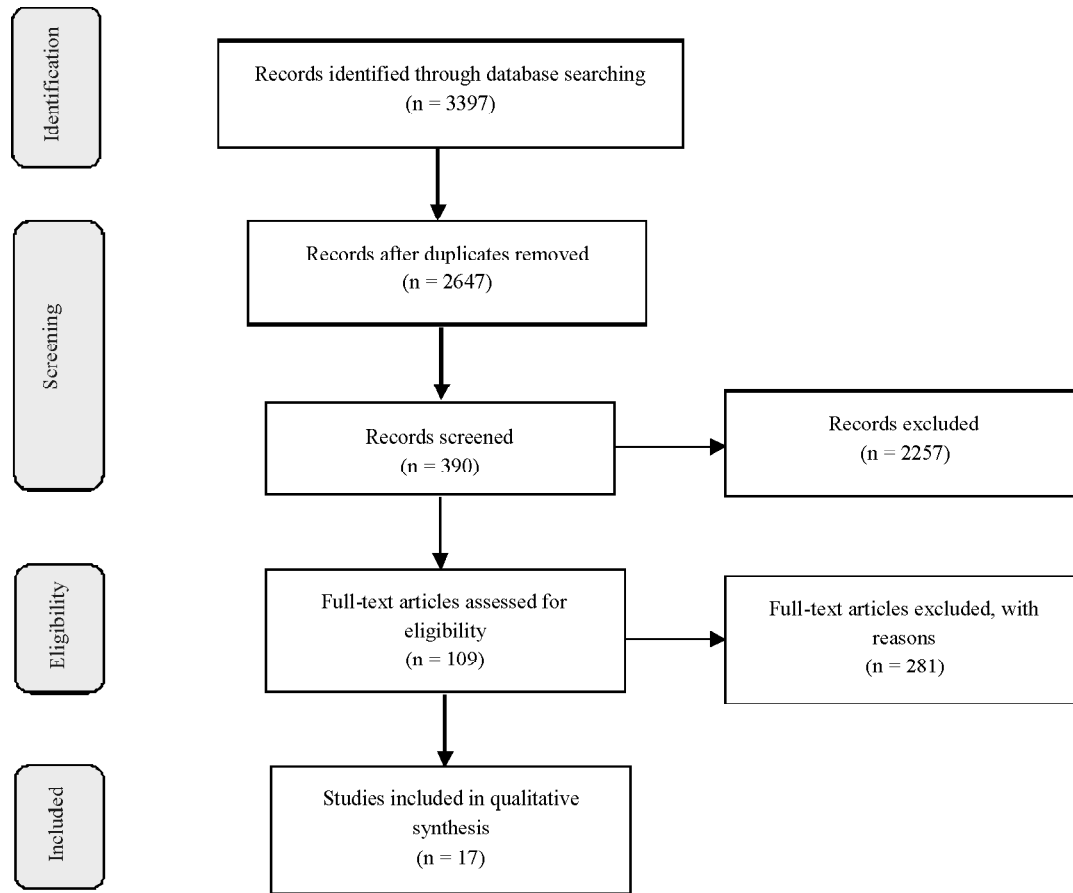


Figure 1: PRISMA flow diagram of the included and excluded studies

#### (D) Location

Five studies were conducted in France (5, 7, 8, 34, 41), three studies in United Kingdom (46, 48, 49), two studies in Australia (36, 38), two studies in Taiwan (32, 43), two studies in Sweden (30, 47) and one study was carried out each in Malaysia (50), Turkey (42) and Spain (39).

#### (E) Outcome

Six studies investigated the outcomes of risky driving behaviour of speeding (5, 30, 32, 34, 46, 47), three studies investigated the outcomes of mobile phone usage to read and reply text while driving (36, 38, 39), whereas the other studies investigated the drivers' traffic compliance behaviour (48), drink-drive behaviour (49), offender driving behaviour (43), cyclists' risky behaviour (8), the use of helmet while riding (50) and the remaining three studies investigated the combination of a few risky and traffic violation behaviour outcomes (7, 41, 42). Castanier *et al.* (7) examined the outcome combination of speeding, use of mobile phone while driving and disobey sign behaviours. Meanwhile, Cristea *et al.* (41) studied the outcome combination of traffic compliance behaviour and driving over 110 km/h. Finally, Özkan *et al.* (42) investigated the outcome combination of stunt behaviour and speeding.

## **(F) Relationship between Attitude and Risky Driving Behaviour**

Results of all the included studies showed a significant relationship between attitude and risky driving behavior. The details of the risky driving behaviour studied are described as below.

### ***Relationship between Attitude and Speeding behaviour***

Six studies revealed that the effects of attitude on speeding behaviour demonstrated a significant relationship (5, 30, 32, 34, 46, 47). Åberg *et al.* (30) evaluated the effects of attitude on speeding behaviour among 175 test drivers ( $r = 0.27$ ,  $p < .01$ ), Cestac *et al.* (5) studied the effects of attitude on speeding behaviour among 3002 drivers ( $r = 0.53$ ,  $p < .01$ ), Chen *et al.* (32) investigated the relationship between attitude and speeding behaviour among 350 motorcyclists ( $r = 0.47$ ,  $p < .01$ ), Elliott *et al.* (46) investigated the effects of attitude on speeding behaviour among 150 drivers ( $r = 0.59$ ,  $p < .001$ ), Eyssartier *et al.* (34) examined the effects of attitude on speeding behaviour among 256 riders of sport and touring vehicles ( $r = 0.50$ ,  $p < .01$ ) while Warner *et al.* (47) investigated the effects of attitude on self-reported speeding behaviour among 112 test drivers studied (path coefficient = 0.22,  $p < .05$ ).

### ***Relationship between Attitude and the Use of Mobile Phone to Read and Reply Text while Driving***

Three studies investigating the effects of attitude and the use of mobile phone to read and reply text while driving have reported a significant relationship (36, 38, 39). Gauld *et al.* (38) investigated the effects of attitude on texting while driving among 171 young drivers ( $r = 0.60$ ,  $p < .001$ ), Nemme *et al.* (36) studied the effects of attitude on sending and reading text while driving among 169 university students ( $r = 0.48$ ,  $p < .001$ ,  $r = 0.36$ ,  $p < .001$  respectively) and Prat *et al.* (39) investigated the relationship between attitude and sending text while driving among 1082 university students ( $r = 0.468$ ,  $p < .01$ ).

### ***Relationship between Attitude and Drivers' Traffic Compliance Behaviour***

A study was done investigating the effects of attitude and drivers' traffic compliance behaviour reported a significant relationship (48) where Poulter *et al.* (48) evaluated the relationship between attitude and traffic compliance behaviour among 232 truck drivers ( $r = 0.356$ ,  $p < .01$ ).

### ***Relationship between Attitude and Drink-drive Behaviour***

A study has been carried out identifying the effects of attitude and drink-drive behaviour with a significant relationship observed (49), which was done by Rivis *et al.* (49) investigating the relationship between attitude and drink and drive behaviour among 200 male drivers ( $r = 0.27$ ,  $p < .01$ ).

### ***Relationship between Attitude and Offender Driving Behaviour***

Another study was done studying the effects of attitude as well as offenders' driving behaviour and reported a significant relationship (43) in which Tseng *et al.* (43) have investigated the relationship between attitude and offenders' driving behaviour among 544 offenders whose license have been permanently revoked ( $r = 0.41$ ,  $p < .01$ ).

**Relationship between Attitude and Cyclists' Risky Behaviour**

A study conducted by Cristea *et al.* (8) investigating the effects of attitude and cyclists' risky behaviour has revealed a significant relationship from 224 cyclists studied ( $r = 0.29, p < .00$ ).

**Relationship between Attitude and Use of Helmet while Riding**

Ambak *et al.* (50) found that there is a significant relationship between attitude and helmet violation behaviour among 533 motorcyclists ( $r = 0.456, p < .01$ ).

**Relationship between Attitude and Several Risky and Traffic Violation Behaviour**

There are three studies investigating the effects of attitude on several risky and traffic violation behaviour (7, 41, 42) such as those conducted by Castanier *et al.* (7) studying the effects of attitude on speeding, use of mobile phone while driving and disobey sign behaviour among 280 drivers ( $r = 0.47, p < .001, r = 0.35, p < .001, r = 0.49, p < .001$  respectively), Cristea *et al.* (41) investigating the effects of attitude on traffic compliance behaviour and driving over 110 km/h among 1192 young drivers ( $r = - 0.12, p < .01, r = 0.36, p < .01$  respectively) and Özkan *et al.* (42) observing the effects of attitude on stunt behaviour and speeding among 451 motorcyclists (path coefficient = - 0.09,  $p < .05$ , path coefficient = - 0.18,  $p < .05$ , respectively).

**Table II**  
**Summary of Included Studies**

No	Study	Country	Sample size	Behavioural outcome	Results
1	Åberg L et al, 2008 (30)	Sweden	175 test drivers participant	Speeding behaviour	Attitude had a significant relationship with speeding behaviour $r = 0.27, p < .01$
2	Ambak K et al, 2010 (50)	Malaysia	533 motorcyclists	Helmet violation behaviour	Attitude had a significant relationship with helmet violation behaviour $r = 0.456, p < .01$
3	Castanier C et al, 2013 (7)	France	280 drivers	a) Speeding b) Use of mobile phone while driving c) Disobey sign behaviour	a) Attitude had a significant relationship with speeding behaviour $r = 0.47, p < .001$ b) Attitude had a significant relationship with use of mobile phone while driving $r = 0.35, p < .001$ c) Attitude had a significant relationship with disobey sign behaviour $r = 0.49, p < .001$

*contd. table II*

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<i>No</i>	<i>Study</i>	<i>Country</i>	<i>Sample size</i>	<i>Behavioural outcome</i>	<i>Results</i>
4	Cestac J et al, 2011 (5)	France	3002 drivers	Speeding behaviour	Attitude had a significant relationship with speeding behaviour $r = 0.53, p < .01$
5	Chen CF et al, 2011 (32)	Taiwan	350 motorcyclists	Speeding behaviour	Attitude had a significant relationship with speeding behaviour $r = 0.47, p < .01$
6	Cristea M et al, 2016 (8)	France	224 cyclists	Risky cycling behaviour	Attitude had a significant relationship with cyclists' risky cycling behaviour $r = 0.29, p < .000$
7	Cristea M et al, 2013 (41)	France	1192 young drivers	a) Traffic compliance behaviour b) Driving over 110 km/h	a) Attitude had a negative significant relationship with traffic compliance behaviour $r = - 0.12, p < .01$ b) Attitude had a significant relationship with driving over 110 km/h behaviour $r = 0.36, p < .01$
8	Elliott MA et al, 2007 (46)	United Kingdom	150 drivers	Speeding behaviour	Attitude had a significant relationship with speeding behaviour $r = 0.59, p < .001$
9	Eyssartier C et al, 2017 (34)	France	256 riders of sport and touring vehicle	Speeding behaviour	Attitude had a significant relationship with speeding behaviour $r = 0.50, p < .01$
10	Gauld CS et al, 2014 (38)	Australia	171 young drivers	Texting while driving	Attitude had a significant relationship with texting while driving behaviour $r = 0.60, p < .001$
11	Nemme HE et al, 2010 (36)	Australia	169 university students	a) Sent text while driving b) Read text while driving	a) Attitude had a significant relationship with sent text while driving behaviour $r = 0.48, p < .001$ b) Attitude had a significant relationship with read text while driving behaviour $r = 0.36, p < .001$
12	Özkan T et al, 2012 (42)	Turkey	451 motorcyclists	a) Stunt behaviour b) Speeding	a) Attitude had a significant relationship with stunt behaviour Path coefficient = $- 0.09, p < .05$ b) Attitude had a significant relationship with speeding behaviour Path coefficient = $- 0.18, p < .05$

*contd. table II*

No	Study	Country	Sample size	Behavioural outcome	Results
13	Poulter DR et al, 2008 (48)	United Kingdom	232 truck drivers	Traffic compliance behaviour	Attitude had a significant relationship with traffic compliance behaviour $r = 0.356, p < .01$
14	Prat F et al, 2015 (39)	Spain	1082 university students	Sent text while driving	Attitude had a significant relationship with sent text while driving behaviour $r = 0.468, p < .01$
15	Rivis A et al, 2011 (49)	United Kingdom	200 male drivers	Drink and drive behaviour	Attitude had a significant relationship with drink and drive behaviour $r = 0.27, p < .01$
16	Tseng CM et al, 2013 (43)	Taiwan	544 offenders who license had been permanently revoked	Offender driving behaviour	Attitude had a significant relationship with offender driving behaviour $r = 0.41, p < .01$
17	Warner HW et al, 2006 (47)	Sweden	112 test drivers participant	Self-reported Speeding behaviour	Attitude had a significant relationship with speeding behaviour Path coefficient = 0.22, $p < .05$

## V. DISCUSSION AND CONCLUSION

From the findings, it can be concluded that individual's attitude is significantly correlated with the drivers' risky driving behaviour. This is in line with the previous studies revealing that human factors including individual's attitude contributed to 80% of the road accidents, whereas the remaining 20% were due to technical faulty and environmental factors (51). Most importantly, this indicates the crucial need to focus on the drivers' attitude as it is highly correlated with individuals' risky driving behaviours such as speeding, use of mobile phone while driving, drink-drive, disobeying sign behaviour, and performing stunt while riding on the road.

Apart from that, results from the review showed that young drivers including university students are among the respondents that often commit traffic violations. In Malaysia, many accidents occurred involving young drivers between the age of 15 to 25 years old (13). This might be due to the fact that they are less mature and inexperienced in handling sudden conflicts while driving. In addition, they also committed numerous traffic violations and risky driving behaviours (13). Persuasive campaigns using mass media, education and enforcement should be administered to promote better driving attitude and improve road safety particularly among the young drivers. Drivers with positive attitude are able to restraint themselves from engaging in risky driving behaviours that can subsequently jeopardise their life and other people.

The results also showed that drivers' attitude is a common indicator for risky driving behaviour in many countries around the globe (France, United Kingdom, Australia, Sweden, Taiwan, Turkey, Spain and Malaysia). This indicates that individual' attitude is a global issue behind the occurrence of traffic accidents. Therefore, a thorough persuasive and preventive approaches need to be regulated in the international level



involving all related stakeholders and NGOs to address this issue. A memorandum can be formulated to act as the guideline for all countries struggling with this problem. With the reference to this memorandum, countries with traffic crash problem can collectively share their experiences and outline the best and most suitable preventive measure at national level. It is important to educate the public and subsequently overcome risky driving problem among drivers. This present review has a limitation that need to be addressed where its inclusion criteria have only focused on studies that applied the Theory of Planned Behaviour in explaining the relationship between attitude and risky driving behaviour. Future review can include other theories that can be applied to explain the relationship between attitude and risky driving behaviour.

## REFERENCES

- S.S. Kee, B.M.T. Shamsul, Y.M. Goh, "Differences of drivers' driving performance in simulated driving," *Res. J. Appl. Sci.*, vol. 4, pp. 230-237, 2009.
- M.C. Fong, J.R. Measelle, J.L. Dwyer, Y.K. Taylor, A. Mobasser, T.M. Strong, et al. "Rates of motorcycle helmet use and reasons for non-ue among adults and children in Luanfg, Prabang, Lao People's Democratic Republic," *BMC Public Health*, vol. 15, pp. 1-6, 2015.
- C.F. Lee, "Miro statistics say human error causes 80% of traffic accidents," *The Sun Daily*, 2015.
- J.B. Bayer, S.W. Campbell, "Texting while driving on automatic: Considering the frequency-independent side of habit," *Comput. Human Behav.*, vol. 28, pp. 2083-2090, 2012.
- J. Cestac, F. Paran, P. Delhomme, "Young drivers' sensation seeking, subjective norms, and perceived behavioral control and their roles in predicting speeding intention: How risk-taking motivations evolve with gender and driving experience," *SAF. SCI.*, vol. 49, pp. 424-432, 2011.
- M.A. Elliott, "Predicting motorcyclists' intentions to speed: Effects of selected cognitions from the theory of planned behaviour, self-identity and social identity," *Accid. Anal. Prev.*, vol. 42, pp. 718-725, 2010.
- C. Castanier, T. Deroche, T. Woodman, "Theory of planned behaviour and road violations: The moderating influence of perceived behavioural control," *Transp. Res. Pt. F-Traffic. Psychol. Behav.*, vol. 18, pp. 148-158, 2013.
- M. Cristea, A. Gheorghiu, "Attitude, perceived behavioral control, and intention to adopt risky behaviors," *Transp. Res. Pt. F-Traffic. Psychol. Behav.*, vol. 43, pp. 157-165, 2016.
- L.S. Fruhen, R. Flin, "Car driver attitudes, perceptions of social norms and aggressive driving behaviour towards cyclists," *Accid. Anal. Prev.*, vol. 83, pp. 162-170, 2015.
- D. Wishart, K. Somoray, B. Rowland, "Role of thrill and adventure seeking in risky work-related driving behaviours," *Per. Individ. Dif.*, vol. 104, pp. 362-367, 2017.
- M.M. Abdul Manan, "Motorcycles entering from access points and merging with traffic on primary roads in Malaysia: Behavioral and road environment influence on the occurrence of traffic conflicts," *Accid. Anal. Prev.*, vol. 70, pp. 301-313, 2014.
- M.M. Abdul Manan, A. Várhelyi. "Exploration of motorcyclists' behavior at access points of a Malaysian primary road - A qualitative observation study," *Saf. Sci.*, vol. 74, pp. 172-183, 2015.
- N. Jamaluddin, J.S. Ho, A. Shabadin, N. Megat Johari, W. Ameer Batcha, "Exposure Work Commuting: Case Study among Commuting Accidents in Klang Valley, Malaysia," *Journal of Civil Engineering and Architecture*, vol. 9, pp. 51-56, 2015.
- E. Giroto, S.Md. Andrade, A.D. González, A.E. Mesas, "Professional experience and traffic accidents/near-miss accidents among truck drivers," *Accid. Anal. Prev.*, vol. 95, pp. 299-304, 2016.
- M. Mohamed, N.F. Bromfield, "Attitudes, driving behavior, and accident involvement among young male drivers in Saudi Arabia," *Transp. Res. Pt. F-Traffic. Psychol. Behav.*, vol. 47, pp. 159-171, 2017.

- J. Oxley, M.D. Ravi, J. Yuen, E. Hoareau, H.H. Hashim, "Identifying contributing factors to fatal and serious injury motorcycle collisions involving children in Malaysia," 57th Annual Scientific Conference of the Association for the Advancement of Automotive Medicine; 2013; Quebec City, QC.
- Z. Sultan, N.I. Ngadiman, F.D.A. Kadir, "Factor Analysis of Motorcycle Crashes in Malaysia," Planning Malaysia: *Journal of the Malaysian Institute of Planners*, vol. Special Issue IV, pp. 135-146, 2016.
- A.S.K. Cheng, K.P.Y. Liu, N. Tulliani, "Relationship Between Driving-violation Behaviours and Risk Perception in Motorcycle Accidents," HONG KONG J. OCCUP. TH. Journal, vol. 25, pp. 32-38, 2015.
- K. Beullens, K. Roe, J. Van den Bulck, "The Impact of Adolescents' News and Action Movie Viewing on Risky Driving Behavior: A Longitudinal Study," HCR., vol. 37, pp. 488-508, 2011.
- M. Bina, F. Graziano, S. Bonino, "Risky driving and lifestyles in adolescence," *Accid. Anal. Prev.*, vol. 38, pp. 472-481, 2006.
- A. Carpentier, K. Brijs, K. Declercq, T. Brijs, S. Daniels, G. Wets, "The effect of family climate on risky driving of young novices: The moderating role of attitude and locus of control," *Accid. Anal. Prev.*, vol. 73, pp. 53-64, 2014.
- E. Constantinou, G. Panayiotou, N. Konstantinou, A. Loutsiou-Ladd, A. Kapardis, "Risky and aggressive driving in young adults: Personality matters," *Accid. Anal. Prev.*, vol. 43, pp. 1323-1331.
- P. Cordellieri, F. Baralla, F. Ferlazzo, R. Sgalla, L. Piccardi, A.M. Giannini, "Gender Effects in Young Road Users on Road Safety Attitudes, Behaviors and Risk Perception," *Front. Psychol.*, vol. 7, pp. 1-11.
- R. Rowe, E. Andrews, P.R. Harris, C.J. Armitage, F.P. McKenna, P. Norman, "Identifying beliefs underlying pre-drivers' intentions to take risks: An application of the Theory of Planned Behaviour," *Accid. Anal. Prev.*, vol. 89, pp. 49-56, 2016.
- L. Buckley, M.S. Foss, "Protective factors associated with young passenger intervening in risky driving situations," *J. Saf. Res.*, vol. 43, pp. 351-356, 2012.
- C. Horvath, I. Lewis, B. Watson, "The beliefs which motivate young male and female drivers to speed: A comparison of low and high intenders," *Accid. Anal. Prev.*, vol. 45, pp. 334-341, 2012.
- C. Horvath, I. Lewis, B. Watson, "Peer passenger identity and passenger pressure on young drivers' speeding intentions," *Transp. Res. Part F Traffic Psychol. Behav.*, vol. 15, pp. 52-64, 2012.
- R. Ramli, J. Oxley, F.M. Noor, N.K. Abdullah, M.S. Mahmood, A.K. Tajuddin, et al., "Fatal injuries among motorcyclists in Klang Valley, Malaysia," *J. Forensic Leg. Med.*, vol. 26, pp. 39-45, 2014.
- S. Sambasivam, K. Karuppiyah, S.B.M. Tamrin, K. Subramaniam, H.S. Naeini, "Non-Compliance of Malaysia Motor Vehicles (Safety Seatbelts) Rules 1978," *Iran. J. Public Health*, vol. 43, pp. 1-6, 2014.
- L. Åberg, H. Wallén Warner, "Speeding-deliberate violation or involuntary mistake?" *Rev. Eur. Psychol. Appl.*, vol. 58, pp. 23-30, 2008.
- C. Atombo, C. Wu, M. Zhong, H. Zhang, "Investigating the motivational factors influencing drivers intentions to unsafe driving behaviours: Speeding and overtaking violations," *Transp. Res. Part F Traffic Psychol. Behav.*, vol. 43, pp. 104-121, 2016.
- C.F.Chen, C.W. Chen, "Speeding for fun? Exploring the speeding behavior of riders of heavy motorcycles using the theory of planned behavior and psychological flow theory," *Accid. Anal. Prev.*, vol. 43, pp. 983-990, 2011.
- M.A. Elliott, J.A. Thomson, "The social cognitive determinants of offending drivers' speeding behaviour," *Accid. Anal. Prev.*, vol. 42, pp. 1595-1605, 2010.
- C. Eyssartier, S. Meineri, N. Gueguen, "Motorcyclists' intention to exceed the speed limit on a 90 km/h road: Effect of the type of motorcycles," *Transp. Res. Part F Traffic Psychol. Behav.*, vol. 45, pp. 183-193, 2017.
- H. Paris, S.Vd. Broucke, "Measuring cognitive determinants of speeding: An application of the theory of planned behaviour," *Transp. Res. Part F Traffic Psychol. Behav.*, vol. 11, pp. 168-180, 2008.
- H.E. Nemme, K.M. White, "Texting while driving: Psychosocial influences on young people's texting intentions and behaviour," *Accid. Anal. Prev.*, vol. 42, pp. 1257-1265, 2010.

- I.S. Moan, "Whether or not to ride with an intoxicated driver: Predicting intentions using an extended version of the theory of planned behaviour," *Transp. Res. Part F Traffic Psychol. Behav.*, vol. 20, pp. 193-205, 2013.
- C.S. Gauld, I. Lewis, K.M. White, "Concealing their communication: Exploring psychosocial predictors of young drivers' intentions and engagement in concealed texting," *Accid. Anal. Prev.*, vol. 62, pp. 285-293, 2014.
- F. Prat, M.E. Gras, M. Planes, B. Gonzalez-Iglesias, M.J.M. Sunman, "Psychological predictors of texting while driving among university students," *Transp. Res. Part F Traffic Psychol. Behav.*, vol. 34, pp. 76-85, 2015.
- J. Cestac, F. Paran, P. Delhomme, "Drive as i say, not as i drive: Influence of injunctive and descriptive norms on speeding intentions among young drivers," *Transp. Res. Part F Traffic Psychol. Behav.*, vol. 23, pp. 44-56, 2014.
- M. Cristea, F. Paran, P. Delhomme, "Extending the theory of planned behavior: The role of behavioral options and additional factors in predicting speed behavior," *Transp. Res. Part F Traffic Psychol. Behav.*, vol. 21, pp. 122-132, 2013.
- T. Özkan, T. Lajunen, B. Dogruyol, Z. Yildirim, A. Çoymak, "Motorcycle accidents, rider behaviour, and psychological models," *Accid. Anal. Prev.*, vol. 49, pp. 124-132, 2012.
- C.M. Tseng, H.L. Chang, T.H. Woo, "Modeling motivation and habit in driving behavior under lifetime driver's license revocation," *Accid. Anal. Prev.*, vol. 51, pp. 260-267, 2013.
- B. Palat, P. Delhomme, "What factors can predict why drivers go through yellow traffic lights? An approach based on an extended Theory of Planned Behavior," *SAF. SCI.*, vol. 50, pp. 408-417, 2012.
- Z. Tabibi, K. Pfeffer, "Predicting intentions to comply with traffic rules among Iranian drivers," *Adv. Transp. Stud.*, vol. 35, pp. 89-102, 2015.
- M.A. Elliott, C.J. Armitage, C.J. Baughan, "Using the theory of planned behaviour to predict observed driving behaviour," *Br. J. Soc. Psychol.*, vol. 46, pp. 69-90, 2007.
- H.W. Warner, L. Åberg, "Drivers' decision to speed: A study inspired by the theory of planned behavior," *Transp. Res. Part F Traffic Psychol. Behav.*, vol. 9, pp. 427-433, 2006.
- D.R. Poulter, P. Chapman, P.A. Bibby, D.D. Clarke, D. Crundall, "An application of the theory of planned behaviour to truck driving behaviour and compliance with regulations," *Accid. Anal. Prev.*, vol. 40, pp. 2058-2064, 2008.
- A. Rivas, C. Abraham, S. Snook, "Understanding young and older male drivers' willingness to drive while intoxicated: The predictive utility of constructs specified by the theory of planned behaviour and the prototype willingness model," *Br. J. Health Psychol.*, vol. 16, pp. 445-456, 2011.
- K. Ambak, R. Ismail, R.A. Abdullah, M.N. Borhan, "Prediction of helmet use among Malaysian motorcyclist using structural equation modeling," *Aust. J. Basic Appl. Sci.*, vol. 4, pp. 5263-5270, 2010.
- C.F. Lee, "Miros statistics say human error causes 80% of traffic accidents", *The Sun Daily*, 18 February 2015.