

# Peer-Reviewed Papers

## Social influences on drivers in China

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### Abstract

China is one of Asia's many rapidly motorising nations and recent increases in private vehicle ownership have been coupled with an escalation in novice drivers. Several pieces of road safety legislation have been introduced in recent decades in China. While managing the legal aspects of road use is important, social influences on driver behaviour may offer alternative avenues to alter behaviour, particularly in a culture where such factors carry high importance.

This paper reports qualitative research with Beijing drivers to investigate social influence factors that have, to date, received little attention in the literature. Findings indicated that family members, friends and driving instructors appear influential on driver behaviour and that some newly licensed drivers seek additional assistance to facilitate the transition from learning to drive in a controlled environment to driving on the road in complex conditions. Strategies to avoid detection and penalties for inappropriate road use were described, many of which involved the use of a third person. These findings indicate potential barriers to implementing effective traffic enforcement and highlight the importance of understanding culturally specific social factors relating to driver behaviour.

### Keywords

Traffic law enforcement, Social influence, Driver behaviour, China, Novice drivers

### Introduction

Reducing road crashes and associated trauma across Asia is critical as the Decade of Action for Road Safety commences in 2011. Increasing rates of motorisation in many Asian countries are a significant challenge, with many facing the serious consequences resulting from the mix of large numbers of high velocity, motorised vehicles (e.g., trucks, buses and cars) with high proportions of low velocity, non-motorised road users (e.g., cyclists and pedestrians).

China has experienced large-scale and unprecedented economic growth recently, coupled with one of the highest annual motorisation growth rates in the world [1]. This rapid growth in motor vehicles commenced in the late 1980s [2] and has

occurred primarily in the huge and expanding 'mega-cities' (e.g., Beijing, Guangzhou, Shanghai) [3]. It is estimated that the number of vehicles in China had more than quadrupled since 1990 to a figure of over 55 million at the beginning of this century [4].

### Road trauma, road use and road safety law in China

Road crashes have been reported as the number one non-disease killer in China ahead of other disasters, such as flood, fire and earthquake [1]. Further, road crashes have been identified as the leading cause of death for younger, productive members of society (those under 45 years of age) and thus, the leading cause of working-life years lost [2]. Traffic-related mortality has escalated by 81% in the two decades since 1987 [5].

However, in rapidly motorising countries like China, automobiles are not the predominant form of transport. Rather, it is pedestrians and two-wheeled vehicles, such as motorcycles and pedal and electric cycles, that predominate [6]. Hence, there is increasing competition for space on the oft-crowded lanes on multi-purpose roads and the competitor is, increasingly, a fast-moving motor car.

Yet owning a car is not common in China. For example, it has been reported that China's 1.3 billion people own approximately 2% of the world's vehicles, yet account for approximately 15% of global road fatalities [1]. Research indicates that in 2005 there were only 2.4 automobiles per 100 persons in China [7]. As a comparison, commensurate Australian data (for 2003) indicates a rate of 52.2 automobiles per 100 persons [8].

A key challenge facing China is the changing nature of car ownership over a relatively short time. Until recently, private ownership of vehicles in China was restricted by government policy [3]. However, there appears to have been a relaxation of these regulations in recent years. For instance, in Beijing in 2008, private vehicles reportedly accounted for approximately 76% of the total vehicles in that city [9], with the number increasing by an average of 1466 vehicles per day [10].

In addition, there was, until recently, a large proportion of professional drivers in the driving population [11]. However, these drivers are now reported to constitute less than half the driving population as the incidence of private vehicle ownership

continues to rise. The surge in private vehicle ownership has been accompanied by increases in licensed drivers. In Beijing, for instance, approximately 1302 people on average are newly licensed each day, with the total number of drivers reported to number 5.2 million as at February 2009 [10]. These record numbers of first-time car owners and novice drivers represent unique challenges for authorities and road users alike.

There is a growing recognition in China that the issues of increasing motorisation and associated road trauma demand action. The Chinese government has developed and implemented a number of regulations in recent decades. In 1988, the People's Republic of China road traffic management ordinance was introduced and covered basic issues of road and vehicle use for drivers and pedestrians. Among other things, maximum speed limits for some roads and types of vehicles were outlined.

In 2003, the National People's Congress, China's highest state authority, adopted the Law of the People's Republic of China on road traffic safety, effective 1 May 2004 [12]. In conjunction with this law, the National Joint Conference on Road Traffic Safety was established to oversee the implementation process and coordinate communication among relevant agencies. These agencies included the Ministry of Public Security, the Ministry of Agriculture and the Ministry of Communication [13].

Minor revisions to this law were adopted at the 31st Session of the Standing Committee of the Tenth National People's Congress on 29 December 2007. While these legislative advances are important steps in addressing the road safety problem, there are other factors that also deserve attention to assist in reducing crashes and associated trauma. Social influence factors are one example.

### The role of social influence factors on driver behaviour in China

To date, there is little research on the role of social influence factors on driver behaviour in China, yet we know that Chinese society is strongly based on social rules, customs and relationships. There is reason to assume, therefore, that road use and driving-related issues may also be strongly influenced by social relationships.

One study that did investigate such issues highlighted the need to consider culturally specific issues such as interpersonal networks and social hierarchy when examining driver behaviour in China [14]. The findings suggested that there are some concepts relating to Chinese driving culture that may not necessarily have been identified from research conducted in Western contexts and that research conducted in China (and other Asian countries) must be considered in light of such concepts. The information presented in the current paper reports findings from the qualitative component of a larger project examining a range of influences on the driving speeds of car drivers in Beijing in 2008.

## Method

### Participants

In total, 35 participants were recruited to participate in six focus groups (numbers ranged from four to eight participants per group). The majority of participants ( $n=27$ ) were recruited from the membership of a large motoring support organisation, and eight participants were recruited from a graduate university population in Beijing. A direct approach via email to members of the motoring organisation was made by staff of that organisation. To recruit the convenience sample of university students, an advertisement was placed on student notice boards in the university.

The sole inclusionary criterion for participation was holding a current Chinese driver's licence for a car. The demographic data collected from participants indicates that they ranged in age from 21 to 49 years (Mean = 30.8 years, SD = 6.2) and that 71% were male. Participants had been driving for between 0.5 and 22 years (Mean = 6.9 years, SD = 6.7). Half of the sample had been driving for less than 5 years and 25% of the sample had been driving for more than 9 years (Mean = 6.9 years, SD = 5.66). Overall, these figures indicate a relatively young sample (i.e., mean age of 30.8 years) containing both experienced and novice drivers. Participants were paid RMB 150 (approximately \$25 equivalent) each for participating.

### Materials and procedure

In accordance with the Queensland University of Technology's Human Research Ethics approval conditions, written consent was obtained from all participants and included permission to audio record group discussions. During the recruitment process, all potential participants were advised that they would be participating in a discussion about driving in Beijing.

Semi-structured interviews lasting approximately 60 minutes were used to elicit information on issues relating to driving speeds, the influence of others on driving behaviour, and perceptions of speeding and speed enforcement. Open-ended questions were used to gain as much information as possible from participants in the allotted time and included the following: "As a driver, what does the word 'speeding' mean to you? Do you think that driving above the speed limit is dangerous? Think about the way you drive your car and the people who might influence you: Who influences your choice of driving speed (fast or slow)? How do they influence you? What do people do to avoid getting caught for speeding? Is there anything that people do to avoid the punishment when caught?"

All interviews were conducted in Mandarin and facilitated by a bilingual native speaker who was an associate of the research team. The first author was present during all group interviews but did not actively participate. The facilitator was able to refer to the first author during group discussions if necessary to clarify issues of interest to the research team. Transcripts of the discussions were later typed and translated (see below for description of this process).

## Research strategy and analysis

Focus group interviews were selected as the research method because of their potential to reveal contextually relevant information that may otherwise not be discovered via quantitative inquiry [15]. Such qualitative methods are particularly appropriate where a field is relatively under-researched. Participant groups were intentionally heterogeneous in nature to allow the inclusion of as great a breadth of experiences and perceptions as possible. Allowing for greater breadth is regarded as particularly useful in preliminary stages of investigating a topic where little is already known [16].

There were a number of steps involved in translating the group discussions from Chinese to English before a thorough thematic analysis could be conducted. Firstly, two Chinese researchers associated with the research team transcribed the audio recordings into Chinese. Secondly, the group facilitator checked these translations for content accuracy. Finally, another two Chinese research associates translated the transcripts into English. These translations were also checked by the group facilitator for accuracy. The first author consulted regularly with the group facilitator during the analysis process to discuss unfamiliar concepts, clarify ambiguous statements, and confirm the understanding of findings and themes as they emerged.

## Findings

Quotations from transcripts are presented as evidence for the interpretations made in these findings [17], and findings are presented to demonstrate the themes relating to social influence and driving that arose from the group discussions. As findings in relation to attitudes to speeding and speed limit compliance and to perceptions of speed enforcement and deterrence principles have been reported elsewhere [18], they will not be addressed here. Rather, the focus of the current paper is on social influence factors. Below, participants are identified according to their gender and age (e.g., F30 represents a 30-year-old female participant and M37 represents a 37-year-old male participant).

### The influence of others – family, peers and driving instructors

The influence of family members on driving was evident, though not commonly discussed. There was evidence of the influence of fathers, but not of mothers. Given that the majority of Chinese drivers are male, this finding is not surprising. For example:

“I got my licence in Beijing, but my father has a great effect on me because I usually drive at home [another Province]. He will share his driving experience with me. The aim of the coach [driving instructor] is to just make you pass the exam. I learn a lot of other things from my father.” M24

That quote suggests that the driving instructor (often referred to as a coach) was perceived as having limited influence beyond assisting this participant to obtain his licence. However, a

contrary opinion was expressed by other participants who cited their coach/instructor as influential on their driving behaviour. The exchange between participants (below) illustrates this:

Speaker 1: “The first person [to influence you is] the coach. His driving habits will influence you.” M23

Speaker 2: “Yes, you absolutely are influenced by his [coach] driving habit.” M41

Beyond the roles played by father and coach, there was evidence that friends played a role in providing role models of speeding. For example:

“I learned to drive under the instruction of him [a friend]. He drives very fast, so I drove faster than others when I got my licence.” M32

“When several friends drive out together<sup>1</sup> [in separate cars], if the car in front of you goes fast, you will follow it [copy its speed].” M26

The idea that being a good driver means that one must be competent when driving fast appeared in several groups and was reported as highly influential. The following quote illustrates how driving skill and managing a vehicle at speed were equated:

“Before I learned to drive, there was somebody I know who made comments about who has good driving skills. When I was a passenger in his car I realised that driving fast means good driving skill. This concept was in my mind. I agree that the environment will influence you when you are young. When I could drive by myself, I was affected by other comments that good driving skill means driving fast.” F34

There was also an indication that some people actively sought to learn how to drive fast by observing other drivers when a passenger in their car. The example below demonstrates the efforts and rationale behind them of one woman who wished to become a competent (implied by her to mean fast) driver and sought information from others to achieve this aim.

“There are many girls around who drive very slowly, which makes me annoyed. You can learn how to drive fast. Maybe I don’t know as much as men about cars, but I improve myself by asking others and participating in car clubs. I learned to drive fast when I was a passenger with others and then I practised when I drove by myself.” F30

In addition, although less commonly expressed, there was discussion about the influence of the driving speeds of unknown other drivers on the road in setting an example of how fast to drive.

“Sometimes others will have a great effect on you. If most drivers [are] speeding on the road [I] tend to speed too.” M21

However, there was evidence indicating the contrary situation, where drivers reported the belief that they were not influenced by anyone other than themselves and their personal experiences. For instance:

“It is just up to you. The speed is decided by your right leg and it has no relation with other people.” M26

“I have my own principles. Both my friends and colleagues need to wait for me when we drive together. With my driving skills, I can drive fast, but I don’t like to. I won’t keep up with you if you drive at the speed of 110 on the highway. I have my own principles. Nobody can influence me.” M31

#### The influence of others – Driving clubs

Participants described enjoyment received from driving together with friends in a group (i.e., in multiple cars) and often included descriptions of drivers racing each other on the road. For example:

“You can’t drive slowly like a snail if you drive out to play together with friends who like to speed very much. We feel cool when speeding, especially in a race with boys.” F26

This practice of racing others was discussed in every group and appeared related to shared enjoyment and encouragement from friends, as well as to feelings of thrill and excitement. Without being able to probe the topic with further questions at the time, it was unclear how often this racing occurs or how widespread it is among drivers. However, the information provided by several drivers suggests that it has been happening for many years and, further, that driving clubs may encourage and facilitate this behaviour. For instance, in response to the question about the social influences on driving speeds, one driver commented:

“Challenge, I like the competition. We used to drive out on a trip and we had a competition with others [to see who could drive the fastest to reach a destination first]. But this kind of thing happens less often when we have driven for many years. We [now] know that there is not much difference between the speed of 170 and 180. You just save about 10 minutes by driving at the speed of 180 [km/hour].” M41

Interestingly, one participant noted that he was envious of the opportunities available today for new drivers to be able to meet up with peers and enjoy racing:

“There were no clubs when I was young like there are now [for meeting people to race]. I am jealous of the younger generation [they have greater opportunities to race now]. I have raced with a policeman in the past because there were no clubs.” M40

#### Role of others – Accompanied driving once licensed

There was also discussion about what happened once people had received their licence to drive. It is commonplace for novice drivers to receive instruction to drive on purpose-specific driving tracks/facilities, rather than on the road network. Thus, when they finally receive their licence, many new drivers are likely to have little or no experience driving on-road with other traffic [19]. It appears that once people have successfully obtained their licence, they can pay for the services of an instructor from a driving school (referred to as an accompanying driver) to accompany them as they gain on-road experience. For example:

“When I began to learn driving, I drove on the simulated road [a road at the driving school, not the actual road] under the direction of the driving coach. After I got my licence, I would ask a person (from the driving school) for accompany training. When I drive on the real road, I think the direction of this accompanying coach for training is more important [than the coach for teaching driving].” M28

#### Role of others - Avoiding detection and avoiding legal punishment once detected

Participants reported strategies to avoid detection for speeding that are similar to those reported in countries such as Australia, including site learning (awareness of speed camera locations), use of in-vehicle radar detectors, and less commonly, the practice of illegally tampering with vehicle licence plates by hiding, removing or changing them. While these practices of avoiding detection do not specifically involve the influence of other people per se, numerous examples of the influence of others to avoid legal punishment once detected were noted. These practices were widely and openly discussed in each group and fall into two categories: 1) strategies used when interacting directly with police at the time of apprehension, and 2) actions occurring after the event.

In relation to direct interactions, some drivers described their experiences of negotiation with police officers in an attempt to have legal penalties reduced or waived. Examples included being polite to police, making suggestions to police about how speed limits could be improved (i.e., increased) in the hope of receiving sympathetic/lenient treatment, and negotiating with police for a reduced penalty. Several drivers described this practice as “acting shamelessly” to avoid punishment. By this, they appeared to mean acts that are dishonest and that lead to improper avoidance of a penalty, as illustrated in their words:

“I acted shamelessly with the policeman when I was caught for not using a seatbelt. I didn’t notice him [police officer] and he stopped my car to ask me to show my licence. I didn’t give him my licence and asked him which regulations I had violated. He told me that I had not used a seatbelt. I suddenly put the seatbelt on and said that I had used seatbelt. He said he saw me not using a seatbelt and I asked him to show me proof. He didn’t catch me on the spot and there was only one policeman, so I succeeded [in avoiding the penalty]. It is the first time that I had acted shamelessly.” F28

Another strategy used to avoid punishment at the time of the offence involved the use of other people’s business cards to influence the attending police officer. For example:

“One of my customers is from the traffic department. I have their business card. Whenever I am caught speeding, I use the card to show that I am in the same department as him. The policeman will let me go.” M40

“Two years ago I was caught [speeding] on the highway. I took out a card to tell them [police] that this is a special guest card provided by the government. It was just a lie I made up. The policemen let me go. [Since then] I have escaped punishment many times with this card.” M29

Together, these examples suggest that at the point of apprehension, drivers employ a range of strategies in an attempt to avoid legal sanctions.

The second group of strategies used to avoid legal penalties is employed after detection and does not involve direct interactions with police. The first of these was the use of demerit points belonging to another person. This strategy was discussed by each group and was described as easy to accomplish because “there are many people who have a licence but no car” M37.

The second strategy identified was seeking the assistance of acquaintances or police officers to have a penalty cancelled. It was noted that this strategy had become increasingly difficult with the introduction of speed cameras and that if it were to be successful, the intervention by another party must occur prior to the offence being posted by police on the internet. For example:

“You can ask for help from an important person. If you know some traffic policemen, you can ask them to cancel the record before you get traffic tickets. Before they [traffic police] put the information on the internet, they can cancel the record. You should ring the person as soon as you can.” M24

“I know a person whose relatives are traffic policemen. He can [have them] cancel all records. If you know someone who is familiar with the traffic policemen, you will be okay. Maybe the traffic policemen don’t know you, but they know the person you ask for help.” M41

Discussion about the use of an important acquaintance to cancel a penalty was common, although the consensus was that for a minor penalty such as that attached to a speeding ticket, it was not worth the trouble because the cost of the penalty would be outweighed by the cost of the gift needed in return for the favour. The following exchange demonstrates this point:

Speaker 1: “You ask someone important to cancel the record.” M37

Speaker 2: “Why do you ask for someone’s help? It is too troublesome because you need to buy a present to express your thanks.” F27

Speaker 3: “It is not easy now and it is not worthwhile for only 200 Yuan [the cost of the fine].” F29

Speaker 1: “Yes it’s not easy to ask somebody important to do this, but it is worth asking someone if you are going to lose all your points.” M37

## Discussion

This paper reports findings relating to social influence and driving that were part of a larger research project investigating a range of factors influencing the driving speeds of car drivers in Beijing. Overall, a large range of social influences were reported by participants, many of which are found in the research literature from countries with a more extensive history of driver behaviour research.

As noted earlier, driving is still a relatively uncommon component of daily life for most people in China. Therefore, it would not have been surprising to find little evidence of the influence of others as role models because, unlike Australia and many other highly motorised countries, many parents, friends and work colleagues in China may not drive. However, this proved not to be the case, as a number of different groups of people were identified as driving role models including family (i.e., father), friends and driving instructors.

The finding relating to the influence of driving instructors was not surprising, given the substantial number of new drivers in China. As discussed above, driving instruction is conducted off-road in purpose-specific driving facilities rather than on the road network, and when licensed, new drivers are likely to have little or no experience driving on the road with other traffic [19].

This learning situation is unlikely to provide new drivers with all the skills necessary to successfully negotiate crowded city streets and assess the related risks associated with such driving.

Therefore, one commonly reported strategy to assist with this situation was to employ the services of an ‘accompanying driver’ to provide ongoing driving instruction once licensed. In more highly motorised countries, such as Australia, supervised practice is part of a graduated driver licensing system where new drivers must be supervised by a more experienced driver for a requisite period of time before progressing to solo driving (see Senserrick [20] for a summary of such requirements in each Australian jurisdiction).

However, as this system is not in place in China, it appears that some drivers seek out and pay for additional support once they commence driving on the road. It is encouraging that a pilot study to trial free on-road driving practice for novice drivers in Beijing is being conducted and evaluated [21]. It is hoped that the results of this randomised control trial will demonstrate the benefits of supervised practice for novice drivers and result in the introduction of greater support for the increasing numbers of new drivers in China.

Another finding that is absent from the wider road safety literature relates to the role of social outings and racing other drivers on the road. Membership of socially-based driving clubs was commonly discussed by the groups. Owing to the frequency of discussion about clubs and racing and the research team’s limited understanding of such, staff members from the motoring support organisation used to recruit participants were consulted to assist with interpreting these findings.

They advised that there are many informal social clubs that advertise recreational driving events on their respective websites. In addition, there were also more formal structures offered by entities such as motoring organisations and car clubs for social networking opportunities for drivers. It was noted that such events seemed particularly popular with new drivers, especially if their peers did not yet have their own car. This avenue of more formally structured social influence, therefore, is one that might be particularly relevant for novice drivers in China.

Interestingly, several discussions provided information relating to the act of racing with friends or motoring club members at high speed on the road. It appears that in some instances, this activity is facilitated by motoring clubs. This is an area of concern, particularly for the development of ongoing speed management strategies in China.

It should be noted, however, that the majority of the sample was drawn from members of a motoring organisation in Beijing. At the time of data collection (2008), staff of that organisation advised that there were approximately 500,000 members in that city. The exact percentage of drivers who are members of motoring organisations in China could not be sourced. However, it is important to acknowledge that the sampling method used for this study may have produced responses that are not entirely consistent with the views of all Chinese drivers.

Another social factor discussed by participants was the use of social networks to negate speeding penalties. Firstly, the use of other people's demerit points was widely discussed. The group discussions suggested that in Beijing, locating a person who is willing to provide their demerit points to another person may be relatively easy compared to countries like Australia where a much greater proportion of the population drive. While there may be many licence holders in Beijing, there is likely to be a smaller proportion of this group who actually drive, owing primarily to the relatively high cost of vehicles.

Thus, the fraudulent use of another person's demerit points may be more widespread in places like China than in countries where driving is more commonplace. However, it is noted that this practice is not unique to China and while it compromises the integrity of a licensing regime, the extent of this practice is difficult to determine because it happens 'outside' the normal licensing and sanction systems [22]. Future research could shed additional light on the extent of such issues by surveying representative populations of drivers.

Secondly, the use of social networks was also discussed with regard to avoiding legal penalties at the time of apprehension (i.e., during direct interaction with police), as well as after being apprehended. From a Chinese perspective, the concept of *guanxi* (pronounced gwan-shee) is likely to be relevant here. *Guanxi* can be translated literally as 'relation' or 'relationship', although a functional translation to English is more difficult because this concept is not found in Western cultures [23].

The concept of *guanxi* encompasses many things, but primarily represents the build up and transfer of social capital via a network of people, which is central to every aspect of life in China [24]. This network is based on reciprocity, obligation and indebtedness, and members of the network rely on each other to promote mutual interest and benefit. Providing assistance to a network member inevitably leads to the expectation that this debt will be repaid at some point in the future [25].

This concept appears inherent in many of the strategies discussed above in relation to the involvement of other people, either directly or indirectly, to avoid legal penalties. The findings of the current study are consistent with those reported by Xie and Parker [14] with respect to using social networks to avoid legal punishments for traffic violations. To our knowledge, this work is the only other example of research that has investigated the link between interpersonal relationships and illegal driving in China. Since the concept of *guanxi* is central to everyday activities in China, there is good reason to expect that it would also be central to negotiating one's involvement with traffic police and traffic law and that it would represent a potential barrier to the implementation of effective traffic law enforcement strategies in future.

The extent of public education and road safety advertising about such matters in China is difficult to clarify. However, an observation made by the first author in Beijing during the 2008 Spring Festival period provides insight into a novel governmental approach to address this concept of using others to avoid legal penalties for improper road use. *Chun jie* (Spring Festival) marks the coming of the new lunar year and the Spring Festival Gala, a variety show presented in Mandarin with English subtitles, is broadcast on New Year's Eve night around the country and the world via the state-owned China Central Television station, CCTV. This program has developed the reputation of 'must-see' viewing as families gather to share the evening meal. It consists of a range of musical and comedy sketches, many of which appear to have a moral implication.

In 2008, one sketch related specifically to traffic law enforcement and the attempted use of interpersonal networks to avoid penalties. The plot involved an interaction between a police officer and a man who was obviously under the influence of alcohol and about to get into his car. The man suggested that the police officer should have waited until he was in his car so that the officer could have issued him a fine. The officer advises the man that he is not interested in fining him but interested in his safety.

A young woman driving at high speed then almost collides with the two men. As the officer starts to write a speeding ticket, she tells him that what she was doing was not a big deal and that he should let her go without penalty. When the officer disagrees, she begins to phone her boyfriend, a police officer, whom she says will come and remedy the situation by convincing him not to give her a speeding ticket. Although she has the phone number of her new boyfriend, she has not yet met him face to face and, therefore, does not know what he looks like. The attending officer's phone starts to ring; he is the new boyfriend. The sketch ends with the woman looking embarrassed and the officer telling both offenders that they need to understand and respect the police because they have a duty to keep everyone safe. The subtitle read:

'The recent increase in private cars has made the job of the Traffic Police even harder. During Spring Festival, the job of the Traffic Police is even more demanding as drivers visit family and friends for dinner and return home DUI (driving under the influence). This sketch shows how some drivers try to escape

punishment by claiming to have ‘connections’. The moral of the story is that we should respect the Traffic Police and obey the laws of the road.’

It is not known whether sketches in previous Spring Festival Galas have been used to draw attention to traffic law enforcement issues. It may be that the authorities chose 2008 to broadcast that type of message to coincide with the increased global attention on China because of their role as host of the Summer Olympic Games that year. Nonetheless, this example portrays one strategy used by the Chinese authorities to deliver an important road safety message to the broader community and signifies an attempt to negate the use of interpersonal networks in avoiding legal penalties.

## Limitations and conclusion

A number of limitations should be acknowledged when considering these findings. Firstly, it is recognised that the use of qualitative research processes limits the extent to which the findings can be generalised to the greater population of Beijing drivers. However, the trade-off with this approach is that it provided an opportunity to gain a level of understanding about influences on driver behaviour that would otherwise not have been possible via quantitative investigations alone.

Secondly, the use of convenience sampling to recruit some participants (i.e., university students) also introduces a potential source of bias in the type of drivers who participated. However, the use of an additional sample source from the membership of a large motoring organisation was intended to help alleviate bias. Yet in doing so, it may be that the information received was biased towards the experiences of more educated drivers than if participants had been sourced from more general locations. Future research should aim to extend the sample population.

Finally, while this study appears to represent the first published qualitative exploration of factors relating to social influences on driver behaviour in China, it should also be noted that a potential limitation was the presence of the author at each interview. Despite no direct interaction in group discussions, the presence of a ‘foreign researcher’ could have introduced a level of uncertainty or apprehension among participants in relation to their level of disclosure. The extent of this phenomenon is unknown. However, the apparent openness of responses, particularly in relation to descriptions of illegal behaviours to evade detection and punishment, can be taken as an indication that participants did not feel the need to withhold information because of this presence.

In summary, these findings highlight the need to investigate and include culturally relevant issues and solutions in road safety policy and practice. They also indicate that other people play an important role in shaping driver behaviour in China, as in many other countries. The use of interpersonal networks to avoid legal penalty and the support needs of the vast numbers of novice drivers in China are important issues that require ongoing attention as the Decade of Action unfolds.

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## Notes

<sup>1</sup>The term ‘driving out’ was used to describe the situation where people would drive in separate cars, usually with friends, for social occasions. Hence, this phrase does not refer to being a passenger but to being on the road as a driver with friends who are also driving.

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## Development of a supplementary education and training program for novice drivers in China

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### Abstract

The driver population is rapidly increasing in China and crash rates are expected to rise dramatically without effective preventative measures. The objective of this research was to develop a driver education and training program for China adapted from best practice. Based on review of the current system and stakeholder interviews, a program was developed to provide driving lessons in real-world traffic for newly-licensed drivers with a supporting educational manual. The present study aim was to evaluate whether the program could be successfully implemented with 64 pilot study participants. Post-training interviews and spot checks found the majority of participants received the program as intended, with early discrepancies readily overcome. Seventy-nine per cent completed additional recommended but not mandatory components and 100% reported benefiting from participation. It was concluded that the program was appropriate and acceptable. Further research will determine whether the program can help reduce novice driver road trauma in China.

### Keywords

Novice drivers, Driver education, Driver training, China

### Introduction

In recent years, China has established itself as the world's fastest growing automobile market. In the two decades between 1985 and 2005, the number of private passenger vehicles increased ninefold and motorcycles and other motorised vehicles 54-fold

[1]. The World Bank has reported that Beijing alone has experienced a tenfold increase of private cars in the past decade [2]. Together with this growth, the number of licensed drivers has also increased rapidly. A 2010 publication cites 60 million new drivers in China in the previous three years [3]. The rapid pace of the transition to a private car culture has been supported by rapid growth in road infrastructure, but systems infrastructure, including effective driver education, training and licensing programs for novice drivers, is yet to match the pace of these developments [4, 5].

In accordance with this growth, road traffic crashes and mortality have likewise rapidly increased. Latest available fatality figures published in the *Ministry of Public Security annual report* cite a total approaching 68,000 deaths in 2009, although comparisons to death registration data collected by the Ministry of Health suggest this figure may be twice as high [6].

Furthermore, the rate of increase in road traffic injuries between 1985 and 2005 exceeded that anticipated against an earlier estimated increase of 92% by 2020 [1, 7]. Without effective preventative measures, both the social and economic costs for China will be excessive, with road traffic fatalities accounting for more than one-third of potentially productive life years lost from injury deaths in China due to the over-involvement of youth and young adults [8]. Insurance companies report that novice drivers (those licensed for three years or less) are over-represented in road crash statistics [9], as is true of high-income countries [10, 11]; however, no official figures or population-wide information on novice drivers in China is currently available.