The impact of culture on road safety in Jordan

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Abstract

People's lives are substantially influenced by their cultural norms which affect the way they perceive road safety. Culture and lifestyle strongly influence the behaviour of individuals. The road is a social space where individuals from different social backgrounds meet and interact with other road users within their cultural framework. Risk culture may arise from an accumulation of unsafe behaviour patterns that become socially acceptable. This paper is part of a research study investigating the road safety culture in Jordan and whether it differs from countries with alternative cultural norms. Jordanian drivers were surveyed using a self-administered questionnaire, which was designed specifically for this study to match the prevailed culture, to examine whether cultural norms and prevailing traditions were associated with driver attitudes and self-reported road behaviour. Drivers were asked their opinions about their behaviour, attitudes, norms and manners with respect to road safety. Demographic details, penalties and crash history questions were also requested. A total of 545 drivers were surveyed. Results indicate that drivers blame themselves and the government similarly for poor road safety outcomes. Prevailing culture and traditions, such as dealing with hierarchy and social relationships, affect their behaviour on the road and their perception of road safety issues. This is different from drivers' behaviour and perception in the best performing countries. Drivers' behaviour on road sometimes contrasted with what they say when they commit errors that they considered a risk hazard when committed by other drivers. Drivers reported high self-image of their driving styles. Drivers gave themselves higher compliance rates with traffic law than they performed in reality. Respondents felt that religious and traditional tolerances are abused in cases of road incidents. Nepotism is thought to have a negative impact on road safety and should be eliminated. Drivers complained about the unfairness of traffic police when they fine different drivers. Drivers reported that they treated or challenged traffic police harshly when they did get fined.

Introduction

From the mid 1990's, the trauma resulting from the high incidence of traffic crashes in Jordan has been a challenge for communities and authorities in terms of reducing the health, social, and economic burden. The fatality rate in 2010 in Jordan in terms of population and vehicles was 11 per 100,000 population and 6.2 fatalities per 10,000 vehicles (Jordan Traffic Institute, 2012; WHO, 2013). Human factors, such as citizens' attitudes and behaviour and road safety culture along with other factors such as: levels of enforcement, road conditions, road-sides and vehicles, have created a multi-faceted road safety problem for Jordanian authorities and communities. While the design and road pavement appear to be in good condition, the surge in vehicles numbers over the past two decades, along with roadside trading activities, have resulted in roads becoming crowded throughout the country. This sometimes presents a challenge for drivers and pedestrians in terms of avoiding collisions (Shbeeb & Mejahed, 2003).

The safe system approach to road safety has been successful in a number of countries (Mooren, Grzebieta, & Job, 2011) and has been adopted into the United Nations Plan for the Decade of Action for Road Safety 2011-2020 (WHO, 2011). The safe system principles point to the critical importance of providing a transport system which forgives human error as an evitable part of the system and when a crash does occur, the crash forces should not result in the road user suffering lifetime injuries. In effect the safe system approach is a governing biomechanical criterion. This is why human behaviour is critical to road safety in terms of travel speed and use of seat belts and

child restraints to ensure a safe system. Most countries in the Middle East have yet to provide a truly safe road system and thus will continue to rely on human behaviour (factors) broadly as a low-cost core element of road safety mitigation strategies for some time to come(Bener, 2005; Parker, West, Stradling, & Manstead, 1995).

Safety culture can be defined in different ways depending on its goal or to whom this definition is directed (Guldenmund, 2000; Human Engineering, 2005); almost all the road safety culture definitions attempt to encompass a society's beliefs, values, attitudes and perceptions of road safety (Cooper, 2000). Road safety culture, for this specific purpose, can be defined as reduction of road crashes and casualties, promoting norm safety behaviours, bringing more attention to safety issues and more commitment to safety (Cooper, 2000). The level of road safety culture level in Jordan is low compared to best practice countries. This might be due to the disregard of safety rules and some social and cultural factors that affect people's attitudes and behaviours.

One effective means of influencing road safety outcomes is to change a society's attitude and behaviour towards risk taking (i.e. its safety culture). Procedure for changing road safety culture should take into account any special characteristics of the society such as socio-economic status, demography of the people, culture, traffic environment, and the law of the land (Bener, Jadaan, Al-Mulla, Bensiali, & Abu-Zidan, 2003; Cooper, 2000; Hofstede, 2001; Koushki, Bustan, & Kartam, 2003; Özkan, Lajunen, Chliaoutakis, Parker, & Summala, 2006a; Xie & Parker, 2002). The means by which attitudes are changed can include the precise use of fear in communications (Job, 1988) and the use of enforcement which can create attitude change through cognitive dissonance, as occurred in Australia with the introduction of random breath testing creating changes in social approval of drink-driving (Job, Lee, & Pravhakar, 1997).

The development of culture focussed on safety would be a useful tool to develop effective countermeasures that could significantly reduce Jordan's road fatalities. Individuals are a product of social influences (Fleiter, Watson, Lennon, King, & Shi, 2011) in which their social context acts as a navigation system (Zaidel, 1992). Culture is a set of rules that individuals respect when enacting their lifestyle (Hofstede, 2001). Bener and Crundall (2005) suggest that culture and lifestyle affect the behaviours of road users and consequently the level of road safety. The road is a social space where individuals from different social backgrounds meet and interact with other road users within their cultural framework (Engel, 2009).

In Jordan significant issues of road safety include disobeying the law and feeling the unfairness and weakness of enforcement as well as position and social hierarchy negative roles. This study investigates the road safety culture amongst Jordanian drivers. The aim of this paper is to examine the effects of social culture in Jordan on drivers' perceptions and attitudes towards using the road and consider them in comparison with other countries and cultural norms.

Methodology

The questionnaire

A questionnaire study conducted in Jordan investigated the determinants of the respondents' road safety culture. The questionnaire was developed specifically for this study by researchers for the Middle East region that takes into account the characteristics of the people and the prevailing culture and traditions. The Middle East Driver Behaviour Questionnaire (MEBQ) was based upon the well-known Manchester Driver Behaviour Questionnaire (DBQ) (Parker, Stradling, Manstead, & Reason, 1995; Reason, Manstead, Stradling, Baxter, & Campbell, 1990), but also contained an extended set of driving violations particularly relevant in the Middle East region. The extended set of questions was based on some cultural and behavioural basis, observations and practices amongst Jordanian drivers.

The drivers' version of the MEBQ questionnaire consists of five main sections where each section handles a particular aspect of road safety. The survey covers basic demographic characteristics, driving habits, traffic law enforcement, attitudes and behaviour on roads, and finally drivers' history of traffic violations and road crashes or incidents. The elements included in the survey are based on a survey methodology established in literature that is known to characterise driver's performance. The set of questionnaire items and their relevant scoring used in this paper are listed in Appendix A.

The MEBQ questionnaire contained questions with numerical answers, multiple choice questions, ranking questions, and Likert scale style questions. A total of sixty Likert style questions were used; twenty eight were six-point scale, with options ranging from never to nearly all the time, and thirty two were five-point scale ranging from strongly agree to strongly disagree.

Procedure

Ethics approval was obtained from the University of New South Wales to carry out this survey in the Middle East region. Printed copies of the questionnaire were distributed to the potential respondents personally. The questionnaire was administered and returned in Arabic. In some cases this was carried out by the researcher but in most cases the distribution was carried out with the help of other researchers who were briefed on the questionnaire. A female researcher was recruited to help in approaching female drivers and obtaining their questionnaires.

Researchers would approach any person who looked above the driving age (18 years in Jordan) and asked them if they held a valid driver's license; if the respondent answered positively then they were asked if they were willing to complete a questionnaire about road safety and if they agreed to be briefed about the questionnaire and the purpose of the study before they were asked for their final consent. Respondents were assured of their anonymity and the confidentiality of their response and were encouraged to answer to their best knowledge honestly and frankly. Drivers were approached in public places and in places where drivers were relatively concentrated such as bus and taxi stops as well as shopping centres, cafes, restaurants and market places. In this study, the convenience sampling method was used and no bias was introduced.

The intervals between the distribution and the collection of the questionnaires ranged from about half an hour to weeks. Potential participants were provided as much time as they felt they required to complete the questionnaire after which the questionnaires were later collected in person, i.e. participants were not pressed. An effort was also made to ensure the sample covered a wide range of driver age, i.e. drivers of all age groups were approached. Both genders were approached in cities and rural areas regardless of their potential license type. Data was collected in late 2011 and early 2012 after obtaining approval from relevant local government departments in Jordan.

Participants

A total of 1600 copies were distributed, 587 (37%) were returned and 42 of them (about 7%) were rejected due to being not filled or randomly filled. The final sample included 545 respondents.

Results

Demographic characteristics and driving history

Approximately 84% of respondents were males and 16% were females; 35% were single, 63% were married and 1.4% and 0.6% were widowed or divorced, respectively. Approximately 20% of respondents had less education than high school, 35% had high school education, 42% had university degrees and 3% had postgraduate degrees. There are no official numbers provided on the ratio of licensed female drivers to male drivers in Jordan. The low representation of female drivers

in the sample is due to the fact that Jordan is predominantly male driver society with fewer women driving than men. Also, it would be difficult from a cultural perspective to approach a woman in a public place to ask her to complete a survey as Jordan society is a conservative society with some social restrictions on communication between people of different genders in public places (Miller, 2012). This differs from the situation in best practice countries in terms of road safety and was overcome by the help of a female researcher. Nevertheless, the sample is biased towards male drivers.

The average, standard deviation, and the minimum and maximum of some of the respondents' characteristics are shown in Table 1. The respondents total number of fines, number of crashes they had in the past five years, age, driving experience, speeding fines, running red light fines, seatbelt fines, distraction fines (e.g. using mobile phone while driving), driving on the wrong lane fines, parking fines and other fines (e.g. illegal vehicle modification, aberrant behaviours and noisy sounds), are listed. It is worth mentioning that the minimum age to get a driving license is 18 and no age restriction in terms of senior older drivers.

*Table 1: A summary of the driving experience and fines history of the respondent drivers*

| Item	Average	STD	Minimum	Maximum
Fines	2.9	5.3	0	51
Crashes	0.87	1.5	0	10
Age	34.6	11.35	18	69
Driving experience	11	9.7	0	50
Speeding fines	0.86	1.5	0	12
Running red light fines	0.43	1.13	0	10
Seatbelt fines	0.53	1.14	0	9
Distraction fines	0.51	1.34	0	14
Wrong lane fines	0.43	1.2	0	12
Parking fines	0.52	1.08	0	7
Other fines	0.24	0.86	0	11

General knowledge

Respondents were asked their opinion on who is responsible for road safety in Jordan (item 1 Appendix A). They had the option to tick more than one answer in the survey. The response of the surveyed drivers is shown in Figure 1. A majority of drivers accepted that they were liable for road safety (63% of respondents). Also, around 65% respondents replied that the government and relevant institutions (traffic police and councils) were responsible.

Drivers' attitudes and self-image

Respondents were asked to compare themselves to average drivers (item 2 Appendix A). Their response is shown in Figure 2. The respondent drivers reported a high self-image of their driving skills. Jordan appears to share the common international experience that drivers see other drivers as inferior (for example driver over-confidence and optimism bias has been identified in Sweden (Gregersen, 1996), the UK, Canada, the USA, Australia (Job, 1990; Jonah & Dawson, 1987) and Qatar (Bener et al., 2008).
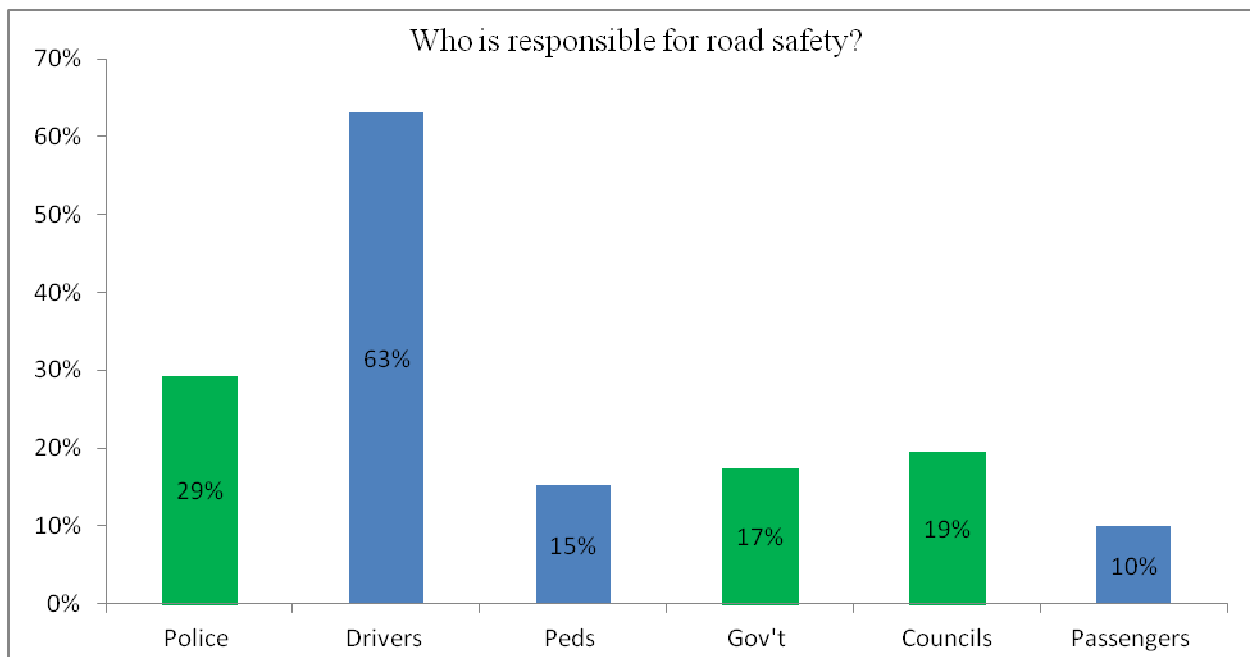
*Figure 1. Drivers' response on who is responsible for road safety*
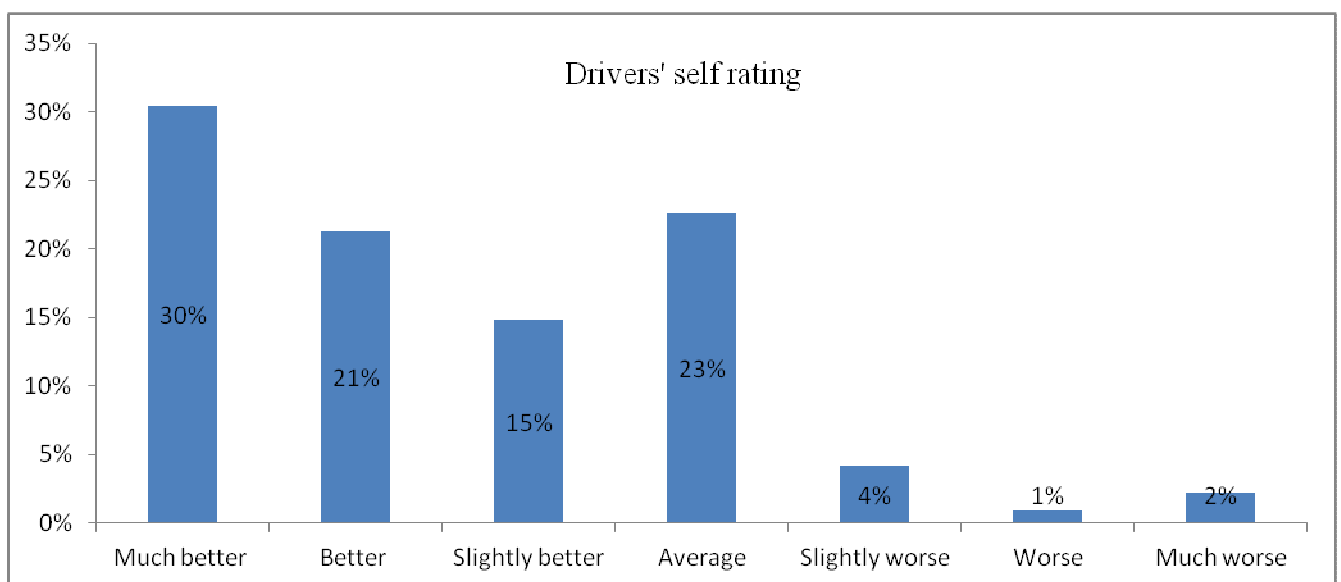
Figure 2. Drivers' self-rating compared to average driver

Respondents were asked to rate certain behaviours of others such as using a mobile phone while driving, speeding and running a red light (items 4-6 Appendix A). Surveyed drivers were also asked similar questions about their use of mobile phones while driving, speeding and running a red light (items 7-10 Appendix A). Figure 3 compares the responses of how drivers view of others and themselves and additionally their opinion on whether the traffic law should be obeyed or not (item 11 Appendix A).

The respondent drivers viewed certain behaviour by others as unacceptable due to the risk they represent but at the same time many of them would act similarly. For example, about 86% of respondents view other drivers who use their phones while driving, speeding or running red lights as having high to very high risk, yet, 41% of respondents admitted to talking on their mobile phone ranging from quite often to nearly all the time. A similar percentage was reported for running red lights as well while 34% reported that that have read or texted messages while driving. On the other

hand, about 72% agreed or strongly agreed that traffic laws should be obeyed. This makes contradiction between what respondents think about behaviours and driving styles of other drivers and what they reported about their own behaviours and driving styles.
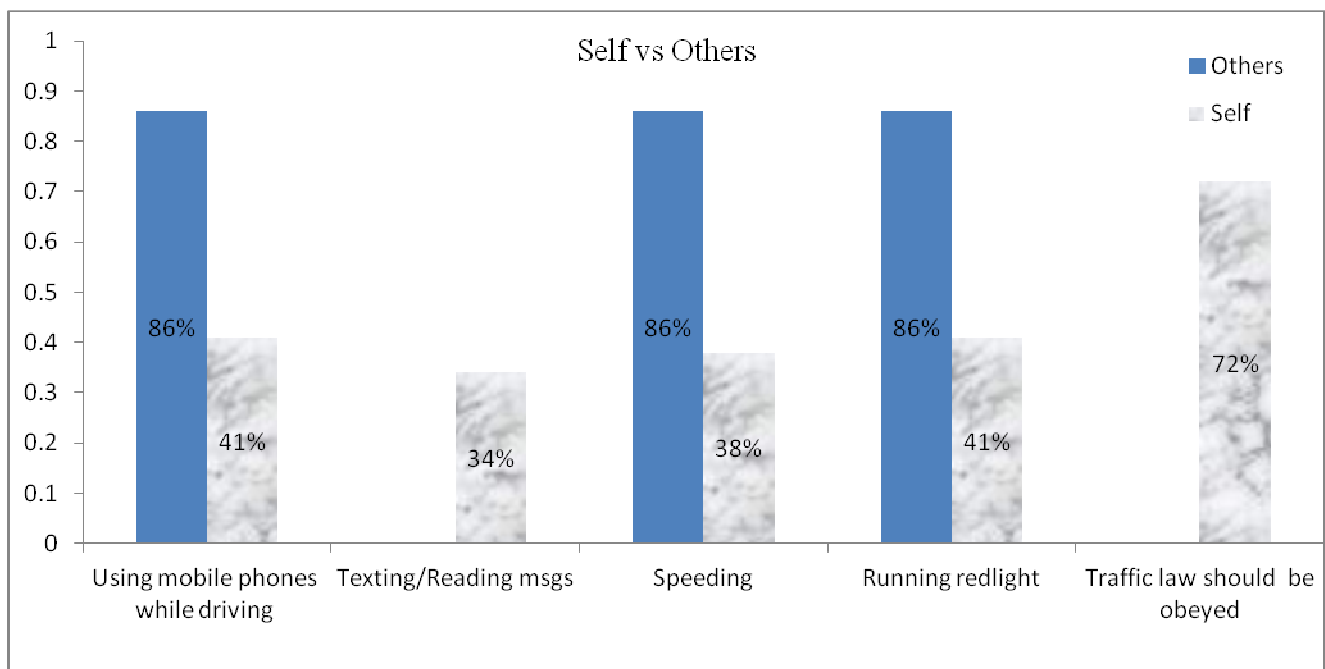
Figure 3. Respondents' self-rating versus their ratings for the 'other' drivers

### Law enforcement and social characteristics

Respondents were asked their opinion on what affects the policeman's decision to fine a violating driver (item 3 Appendix A). They had the option to choose more than one answer. Their response is shown in Figure 4. Hierarchy, networking, personal relations, position and authority of the driver or the owner of the vehicle are common factors that allow some drivers to avoid being fined for traffic violations, according to the survey respondents. Respondent drivers believe that the traffic officer's decision to fine a violating driver is affected by factors other than enforcing the law and that the violators need to meet some of the negative consequences of their actions.

About two thirds of respondents agree or strongly agree that social hierarchy and personal relations play a role in avoiding traffic infringements or not being fined in the first place (item 12 Appendix A). About 45% of respondents believe that people who have no influence are the only ones who receive fines (item 13 Appendix A). It is believed police enforce the law when dealing with people who have no obvious influence or status and are relaxed in enforcement of the law on other drivers who have status and influence. Approximately 58% believe that traffic rules are not enforced on people with authority (item 14 Appendix A) and 53% believe that fines can be withdrawn after being issued (item 15 Appendix A).

More than half the respondents agreed with the belief that police are selective in traffic law enforcement (item 16 Appendix A). Yet, about 25% noted the unfairness of traffic police (item 17 Appendix A) and 39% indicated that police favour some drivers (item 18 Appendix A). 61% of respondents said they normally receive good and polite treatment from traffic police when stopped or fined (item 19 Appendix A) whereas 31% of respondents said they are purposely rude to traffic police when they get fined (item 20 Appendix A).

The traditional and religious tolerance in Jordan is similar to that reported by Kayani, Fleiter, and King (2013) which allow the family of the road crash victim(s) to grant pardon and forgiveness to

the driver(s) who were at fault and cause the crash. This enables the parties to fast-track reconciliation outside the court process and it may include financial compensation. The religious side of this tolerance is that people seek to please God (ALLAH) by forgiving mistaken people for their 'unintentional' deeds. Jordan has both Muslims (94%) and Christians (6%) (BBC, 2011; CIA, 2013) and they both practice the traditional tolerance within the same group or across groups.
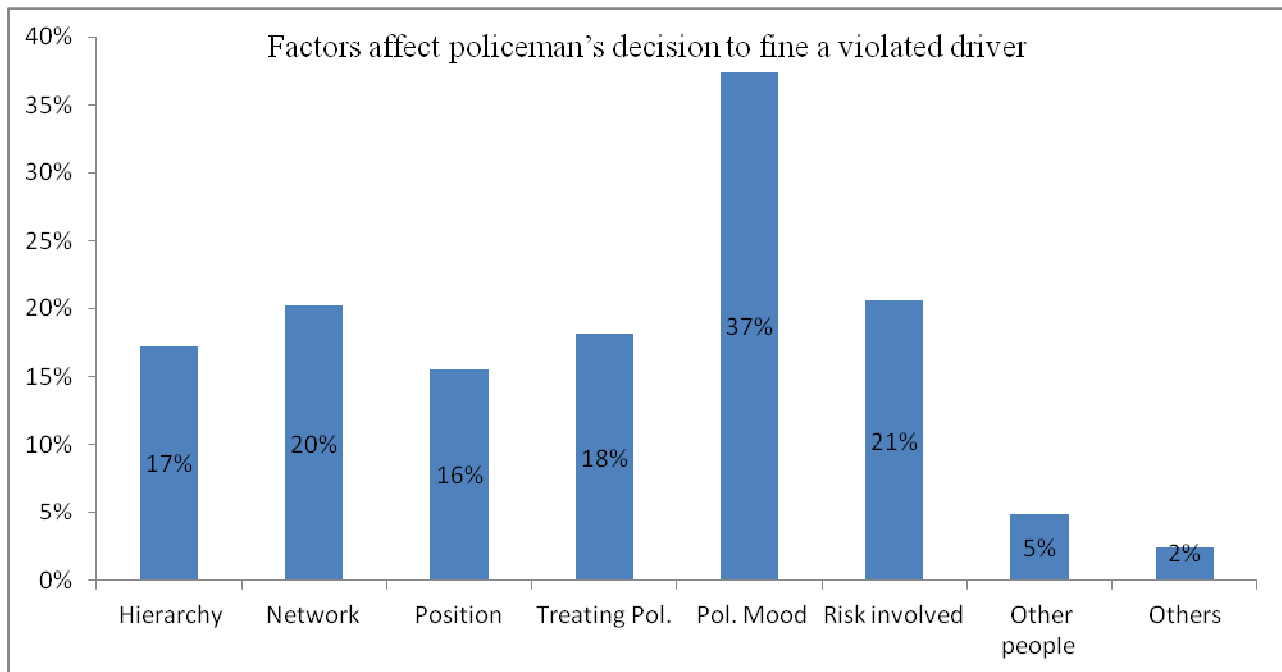
Figure 4. Drivers' response on factors affect policeman's decision to fine a violated driver

Two out of five respondents said that religious and traditional tolerance of those drivers causing traffic crashes worsens the road safety environment (item 21 Appendix A). About half the respondents think that violating traffic laws is against religious rule, which is the case. The remainder of the respondents were either neutral or disagreed (item 22 Appendix A). This is due to either the second group's ignorance that violating traffic laws is against religious rule or they intentionally downplayed their misbehaviour on the road by downplaying the social unacceptance of such behaviours.

Nepotism is favouritism granted to family members, friends or even friends of relatives of or friends. Nepotism is a common practice in cultures where the state law is not dominant. Respondents were asked their opinion on nepotism effects on road safety. About 58% reported that some drivers might be able to get a license without passing their driving test properly if they employ some kind of nepotism (item 23 Appendix A). Two thirds of respondents agreed to the statement about negative effects of nepotism on road safety (item 24 Appendix A).

Discussion

Using a survey tool designed to look at traffic safety culture in Jordan has revealed some important results, but at the same time presented some limitations and timing issues. The extended items that were additional to the standard DBQ survey, were designed specifically for this study and concerned some particular practices of drivers in the Middle East region. These practices have cultural and traditional roots. Indeed, this questionnaire can be used in Arabian Gulf countries due to these countries similarity in culture and traditions.

The outcomes of the study indicate that drivers rate themselves as better than average as reported earlier by Reason, Campbell, Baxter, Stradling, and Manstead (1990). Jordanian drivers were found

to have a high self-image of their driving skills and compliance with the law. High self-reported image implies overestimation of driving skills and consequently overconfidence which, in turn, may result in a biased risk assessment leading to more risk taking (Bener et al., 2008; Gregersen, 1996. Elander et al (1993) note that high confidence in driving skills and arrogance towards others may evoke risk taking and consequently exposure to a higher crash risk (Elander et al., 1993).

Drivers admitted to committing errors and violations that they saw as representing risk hazards when committed by other drivers. A possible explanation is that some drivers think they have the driving skills and abilities (high perceptual-motor skills but not necessarily safety skills (Turker Özkan & Lajunen, 2006)) that infer they are "good drivers" (Fleiter et al., 2011; Sümer, Lajunen, & Özkan, 2005). This in turn mistakenly makes them think they can control the vehicle while driving and committing violations including the use of a mobile phone, speeding or running red lights.

The survey revealed that Jordanian drivers admitted to regular speeding. Speeding drivers may view themselves as "fast but safe". They may believe they have the skills needed to handle speeding and they normally have a high opinion of their driving skills (Parker et al., 1995). Driving skills found to be positively correlated to crashes are reported as being related to high self-confidence (Nantulya & Reich, 2002). When drivers have a strong feeling of control they tend to forget their driving skills learned and follow the temptations of a higher risk driving style, e.g. speeding (Taubman - Ben-Ari, Mikulincer, & Iram, 2004). Nantulya & Reich (2002) note that high self-confidence in driving skills has a positive relationship with violations. However, the main reasons for traffic violations and crashes are embedded in the willingness to take risk and deliberate violations of traffic law and not the lack of driving skills (Iversen & Rundmo, 2002; Dianne Parker et al., 1995).

Iversen & Rundmo (2002) point out that skilled drivers who commit violations can pose a danger to other lesser skilled drivers who do not commit violations. The driver's self-awareness of their real driving skills, especially safety skills, is important (Özkan, Lajunen, Chliaoutakis, Parker, & Summala, 2006b)to avoid the "self-enhanced bias" (Walton, 1999) when comparing themselves to others. This also helps in avoiding the "unrealistic optimism" and "illusion of control" and any false safety sense (McKenna, 1993). When high violators compare themselves to other drivers they feel over-confident and may display their presumed better driving skills by showing off (Parker & Stradling, 2004). Again this characteristic was evident among Jordanian drivers.

Respondents were found to have strong biased perceptions of the violations committed by other drivers. Drivers who committed more violations and errors normally overestimated the proportion of other drivers who were involved in such violations and errors ((Åberg, Afram, & Nilsson, 2005; Manstead, Parker, Stradling, Reason & Baxter 1992) The frequent violators tend to view themselves as better drivers than others (Parker & Stradling, 2004). Also, by thinking they are better than average drivers they may tend to think that it is only the other drivers who commit serious violations on road. These beliefs are often the basis of over-confidence and optimism bias about driving (Al-Balbissi, 2003; Parker et al., 1995; Wiseman, 1972).

Although it is illegal, the use of mobile phones while driving in Jordan is consistent with usage rates elsewhere in the region, for example Qatar ((Bener, Lajunen, Ozkan, & Haigney, 2006; Ismeik & Al-Kaisy, 2010). Nevertheless, mobile phone usage is higher when compared to the Australians rates of using of phones while driving (McEvoy, Stevenson, & Woodward, 2006; Regan, 2006). Respondents reported concerns about the level of risk of other drivers posed when using mobile phones, speeding and running red lights and yet the self-report of their own behaviours on issues like mobile phone using while driving, speeding and running red lights is downplayed in comparison. In others words, results suggest that respondents have similar risky driving styles to others but that they overestimate other's' mistakes and underestimate their own mistakes (Åberg et al., 2005; Özkan et al., 2006b; Parker & Stradling, 2004; Sjöberg, Rundmo, & Moen, 2004; Walton, 1999; Wiseman, 1972).

Petridou and Moustaki (2000) identified some behavioural factors that stimulate risk taking with a long term impact; these factors include capacity overestimation, macho attitude, habitual speeding and disregard of traffic laws, non-use of seatbelt and helmet, and crash proneness. Shinar (2007) said that people drive in the same way they live and Lajunen, Corry, Summala, and Hartley (1998) suggest that driving skills are determined by the culture of the drivers.

Jordanian drivers mainly consist of male drivers. While there are female drivers they are much fewer in numbers, mainly as a result of cultural norms. This implies high levels of masculinity and macho attitudes among drivers that will affect their behaviour and risk taking on roads. Their culture is also reflected in their driving style. These issues can be addressed by changing the attitudes of drivers by stimulating courteous driving styles and respect for all road users. Also, the use of the abundantly positive cultural and religious values such as the respect of others especially females and elders and refrain from transgressing on others, can be very effective means of changing the drivers' attitude and perception towards driving. However this has yet to be framed in a road safety context.

The implications of this study suggest there is an issue of lack of trust which implies that this issue requires further attention. The relationship between people and authority tends to be one of distrust which in turn affects enforcement of traffic laws and road user compliance. These findings have some similarities to those reported for Chinese drivers (Xie & Parker, 2002) and to Australian drivers' attitudes to speed enforcement (Walker, Murdoch, Bryant, Barnes, & Johnson, 2009).

The survey indicated that when drivers are being fined by traffic police they feel that they have been cast out and treated unfairly. Being fined infers a status of no power, network, personal influential relationships, position or social hierarchy in order to reverse the fine. People with position and/or social hierarchy would normally have a higher socio-economic status within the community. This discrimination amongst drivers according to position and social hierarchy (i.e. socio-economic level) appears to lead many drivers to have a bitter feeling towards authorities. This in turn encourages drivers to disrespect traffic police and challenge authorities in a manner similar to that reported by Xie and Parker (2002) for Chinese drivers. This disrespect for police and challenging authorities appears to be adopted by both those who feel that the system works against them and by those who feel that they are able to avoid punishment for traffic violations (Briscoe, 2004).

Drivers were found to acknowledge that they share a responsibility to make roads safer and at the same time they are aware that the government also has a critical responsibility to build, maintain and regulate roads as well as enforce traffic laws. Collaboration on this issue is not possible without a certain level of trust being established between drivers and authorities. Drivers seem to sense some sort of deficiency from government in some areas; this study has identified enforcement and corrupt behaviour as one of these areas where fine avoidance practices are common (Fleiter, Watson, Lennon, King, & Shi, 2009; Xie & Parker, 2002). Drivers feel that the rule of law is not applied fairly to all drivers. They also perceive a low risk of receiving punishment for a traffic violation and that such punishment is of a low consequence. This in turn leads to their caring less about complying with traffic laws (Stafford & Warr, 1993). Eliminating corruption and encouraging a fairer and professional approach to enforcement would improve the relationship between drivers and traffic police and would thus have a positive impact on road safety.

The survey revealed that religious and traditional tolerances elect to forgive an errant driver nominally responsible for a crash if their families are convinced that the crash occurred for reasons beyond the driver's control. Frequent traffic violators abuse this tolerance by using it to ask for forgiveness every time they make a mistake that results in a fatality or an injury as reported by Kayani and others (Kayani, King, & Fleiter, 2012; Kayani et al., 2013; Kayani, King, & Fleiter,

2011). Nevertheless, some drivers believe that religious and traditional tolerance should not be used in the case of traffic incidents as it will have a negative effect on road safety.

Respondents believe that nepotism should be eliminated from road safety related issues, such as licensing and infringements, as it has a negative impact. Based on the known effects of punishment avoidance and negative reactions to authority, removal of corruption and bias would improve driver attitudes towards police and road law, and thus reduce the number of road fatalities in Jordan. Road safety planners and decision makers could employ religious teachings and prevailed traditions to establish the principle of socially and religiously unacceptable unsafe driving styles and violations of traffic law.

Different levels of deterrent penalties (Stafford & Warr, 1993), including the use of fear (Job, 1988), should be introduced as countermeasures to corruption and violations by different drivers with different socio-economic status. The traffic fines might be negligible for some violators while they are a costly for others (Barss et al., 2008). The introduction of tougher traffic laws for those of higher socio-economic status who act corruptly may change drivers' behaviour overall (Al-Rukaibi, Ali, & Aljassar, 2006; Aljassar, Ali, & Al-Anzi, 2004).

Further studies should be carried out to explore new interventions that consider societal cultural norms when addressing different road safety issues. Religion is a core part of life in the Middle East and should be utilised to increase road safety culture. It should be used to help shape attitudes towards 'unacceptable' behaviour in terms of aberrant and reckless driving styles and the importance of obeying traffic laws within a framework of social justice.

Study's limitations

The present study has some methodological limitations that should be taken into account. The data were based solely on self-reported behaviours where it is possible that some respondents embellished their answers by reporting low levels of violations, fines and crashes and may not be reliable. Another limitation is that there might be a difference between what has been reported by drivers and their actual behaviours on the road. The social desirability bias and the likelihood of humans to forget might reduce the reliability of the self-reporting questionnaires (e.g. DBQ and alike) (af Wahlberg, 2010; Lajunen & Summala, 2003; Nordfjærn, Jørgensen, & Rundmo, 2011) . However, respondents have completed the questionnaire anonymously and there was no apparent benefit to them by providing biased responses.

One issue concerning the survey was the lower-than-expected response rate (37%). This was attributed to the emerging culture of survey and questionnaire methodology in the society. People are not used to expressing their opinions regarding many issues and they are likely to still have some residual fear of possible consequences by authorities no matter what the survey is about or who is carrying it out. The timing of the survey was in the middle of what is known as the 'Arab Spring' of political unrest in the region and issues were unclear for many people. It is possible that potential respondents approached but declined perceived that their avoidance of any opinion-expressing methodology would avert any trouble occurring. However, respondents were more likely to answer without much external influence or bias when anonymity and confidentiality are maintained.

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Appendix A.

The questionnaire items used specifically for this paper are listed below

1. Road safety is the responsibility of :

☐Police
☐Drivers
☐Pedestrians
☐Government
☐Road designers and keepers
☐ Passengers (seatbelt use)

2. Compared with the average driver, I am:

☐Much better than average
☐Better than average
☐Slightly better than average
☐Equal to average
☐Slightly worse than average
☐Worse than average
☐Much worse than average.

3. Policeman's decision to fine for violation is affected by:

☐Driver's/owner's social hierarchy/authority
☐ Driver's/owner's personal network
☐ Driver's/owner's work organization
☐Driver's way of treating the policeman
☐Mood of the policeman
☐Risk level of the violation
☐The existence of other people (witnesses)
☐Others (please specify)

4. 'other' Drivers talking on cell phones
   (Very serious threat, serious threat, a minor threat or not a threat)

5. 'other' Drivers driving well over the speed limit
   (Very serious threat, serious threat, a minor threat or not a threat)

6. 'other' Drivers who do not obey traffic lights
   (Very serious threat, serious threat, a minor threat or not a threat)

7. While driving I talk on mobile phone
   (Never, Hardly Ever, Occasionally, Quite Often, Frequently, Nearly all the time)

8. While driving I send and read text messages
   (Never, Hardly Ever, Occasionally, Quite Often, Frequently, Nearly all the time)

9. I speed well above (10km/h or more) the speed limit
   (Never, Hardly Ever, Occasionally, Quite Often, Frequently, Nearly all the time)

10. I try to race traffic lights
   (Never, Hardly Ever, Occasionally, Quite Often, Frequently, Nearly all the time)

11. I traffic law should be obeyed
   (Strongly agree, Agree, Neutral, Disagree, Strongly Disagree)

12. Social hierarchy and personal relations play a role in getting away with fines
   (Strongly agree, Agree, Neutral, Disagree, Strongly Disagree)

13. Only those have no influence get punished
   (Strongly agree, Agree, Neutral, Disagree, Strongly Disagree)

14. Traffic laws do not apply to people in authority
   (Strongly agree, Agree, Neutral, Disagree, Strongly Disagree)

15. Having traffic tickets withdrawn is possible
   (Strongly agree, Agree, Neutral, Disagree, Strongly Disagree)

16. Police are selective in enforcing the law
   (Never, Hardly Ever, Occasionally, Quite Often, Frequently, Nearly all the time)

17. Police are fair when dealing with different drivers
   (Never, Hardly Ever, Occasionally, Quite Often, Frequently, Nearly all the time)

18. Police favour some drivers
   (Never, Hardly Ever, Occasionally, Quite Often, Frequently, Nearly all the time)

19. Police talk to me nicely and treat me respectfully
   (Never, Hardly Ever, Occasionally, Quite Often, Frequently, Nearly all the time)

20. I treat policeman harshly when they fine me
   (Never, Hardly Ever, Occasionally, Quite Often, Frequently, Nearly all the time)