Superstitious beliefs and practices in Pakistan: Implications for road safety

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Key Findings

- In Pakistan superstitious beliefs about crash causes and risks are common.
- These beliefs are shared by police and policy makers as well as drivers.
- Evidence-based approaches need to be promoted, taking cultural context into account.

Abstract

Superstitious beliefs and practices represent barriers to safety-related behaviours, yet have received minimal research attention. To examine road crash causation perceptions, particularly the role of superstition, religious and cultural beliefs, 30 interviews with drivers, police, religious orators and policy makers were conducted in three Pakistani cities. Analyses revealed a variety of superstition-based crash attributions, including belief in the role of evil eye (malignant look) and use of black magic by rivals/enemies to bring harm. Popular conceptions of religion and use of objects and practices believed to prevent harm were reported. This research sought to gain an understanding of the nature of the relationship between superstitious attributions and the behaviours, with a view to informing road safety promotion and policy. It seems apparent that road safety countermeasures common in western countries may have little/no impact if the audience does not see such issues as valid reasons for why harm may occur.

Keywords

Cross-cultural, Fatalism, Risk perception, Road safety, Road user behaviour, Superstition

Introduction

Road traffic injuries and fatalities are a significant public health problem and the largest potential for reducing harm is said to lie in less-developed countries (WHO, 2015). Pakistan is one such country and road crashes are one of the major civic problems there. Road fatalities in Pakistan are relatively high compared to other South Asian countries (Kayani, Fleiter & King, 2014) and significantly greater than the burden of road trauma experienced by developed countries (WHO, 2015).

Attitudes have been demonstrated to be an important human factor associated with road user behaviours. Superstitious beliefs represent a specific category of attitudes (Vyse, 2013; Dixey, 1999; Foster & Kokko, 2009; Torgler, 2007) which can influence behaviour in various social situations (Hira, Fukui, Endoh, Rahman & Maekawa, 1998). Superstition is "a belief or practice resulting from ignorance, fear of the unknown, trust in magic or chance, or a false conception of causation" (Foster & Kokko, 2009:31) and may involve attribution of negative events to transgression of taboos, the actions of ancestors, jealousy from others, and "witchcraft" (Dixey, 1999). It has been argued elsewhere (Kayani, King & Fleiter, 2011) that the concepts of superstition and fatalism overlap conceptually and in practice, with the difference being that when fatalism is invoked, actions are attributed to an all-powerful agent (e.g., God) whereas superstition relates to other forms of supernatural forces that can be propitiated (with sacrifices, offerings, prayers), averted (with amulets, spells, charms) or even controlled (with magic and witchcraft). Vyse (2013) describes the different forms of superstition, which include (at one end of the spectrum) "bad luck" associated with a chance occurrence (e.g. breaking a mirror is said to bring seven years bad luck in some traditions) while at the other end of the spectrum there is an overlap with religious beliefs.

Several authors (Dixey, 1999; Kouabenan, 1998) have identified high degrees of superstition among various

categories of drivers in Nigeria and the Ivory Coast and found that to avoid danger, people practice certain rituals. Dixey (1999) reported that adherence to beliefs in traditional African deities is observed across followers of major religions (Islam and Christianity), such that many people consult babalawos (Ifa priests) before a journey. Bastian (1992) noted that death is rarely seen as a natural phenomenon in any Nigerian culture. Furthermore, a study of 245 Nigerian university students revealed that the majority of the participants thought death was caused by the "work of wicked people", the gods or other forces (Jimoh, 1985). It has also been observed in Nigeria that some vehicle drivers believe in wearing charms or talismans to protect their vehicles from road crashes or so they can miraculously escape when a crash occurs. It was reported that people having such beliefs behave imprudently, disregard precautionary measures, and believe that such amulets will keep them safe (Sarma, 2007). Furthermore, it was reported that if they experience a road crash, in spite of this magical precaution, people believed that witches, wizards, secret societies or demons are responsible. Peltzer and Renner (2003) report similar findings from a study of superstition, risk-taking and risk perception of crashes among South African taxi drivers. To date, this topic as it relates to road user behaviour has received no research attention in Pakistan, a country where fatalism is prevalent (Acevedo, 2008) and cultural practices are likely to influence beliefs and attitudes (Kayani et al., 2014).

The research reported in this paper aimed to better understand the nature of superstitious beliefs relating to road use in Pakistan and its implications for improving road user behaviour there and elsewhere. In approaching the research it was borne in mind that Pakistan has a long cultural history which includes centuries of Hinduism and the influence of invaders, followed by the influence of Islam with its own Arab roots. Account was also taken of levels of education, because it has been argued that superstitious beliefs are a result of having lower education (Peltzer & Renner, 2003) although there is evidence of superstition not only in more educated developed nations (Torgler, 2007; Hira et al., 1998), but also among more educated people within developed nations (Barro & McCleary, 2002; Mears & Ellison, 2000). It has been demonstrated elsewhere (Kayani, King & Fleiter, 2012) that fatalism is present across all levels of education in Pakistan. Therefore, it is reasonable to consider that a similar spread of superstitious beliefs might also be expected.

Methods

Participants

Using a focused ethnographic approach, in-depth, semi-structured interviews were conducted with 30 participants (aged from 24 to 63 years, median age of 46 years) in the three major cities of Lahore, Islamabad and Rawalpindi in Pakistan. This study used three forms of qualitative sampling: purposive (selecting particular groups); criterion (experienced in road use in Pakistan); and snowball (identified by other participants), and the findings presented here represent part of a larger research project that sought to investigate the role of fatalism and cultural practices in un/safe road use in Pakistan. Participants included twelve professional drivers (3 taxi drivers, 6 truck drivers and 3 bus drivers recruited at their workplaces or where they gathered together), 5 car drivers, 7 police officers, 4 policy makers (working in areas related to road safety) and 2 religious orators (added during the study because the issues of interpretation of religion emerged during interviews). With the exception of one Christian driver and a Sikh field police officer, all participants were Muslims, and all the quotes presented below are from Muslim participants. For comparison purposes, national data (Pakistan Bureau of Statistics, 2017) indicates that the largest proportion of the Pakistani population identifies as Muslim (96.28%) with the remainder identifying as Christian (1.59%), Hindu (1.85%, combining what the source refers to as "Jati" and "scheduled castes"), Ahmadi (0.22%) or other (0.07%). The majority of the sample was male, with only two female participants (a car driver and a field police officer). All the professional drivers, one car driver, one field police officer, and two religious orators, had a high school degree or no education, while other participants, (e.g., car drivers, field police, and policy officers) had tertiary education qualifications. The majority of participants reported having experienced at least one road crash in their driving history, and almost every participant confirmed that relatives, friends and/or colleagues had been killed and severely injured in road crashes.

Materials and Procedure

Ethical clearance for the research was provided by the relevant University Human Research Ethics Committee. Participants were approached personally (by the first author), and the purpose of the research was explained verbally in the first instance. For all interviews, verbal consent was obtained and participants were not paid for their participation. All interviews were audio-recorded with consent. An interview guide with simple prompt questions was developed and participants were interviewed individually for approximately 60 minutes. The prompt questions were designed to elicit discussion of the beliefs that participants had about road crashes and their prevention, and spanned fatalistic, superstitious, religious and cultural beliefs, (e.g., Why do you think road crashes happen?; Why are some people involved in road crashes and some are not?), though this paper only focuses on superstitious beliefs and related cultural practices. Participants were interviewed individually, all but one in Urdu, one of the two official languages in Pakistan (the other is English, which was used in the remaining interview). Because of the nature of the subject being explored and the limited amount of information in the literature, one-to-one in-depth interviews were considered an appropriate research method. Audio recordings were transcribed and translated by a separate translator using the concept of meaning translation (Esposito, 2001) and the first author (interviewer) checked translations for validity and reliability. Additionally, to ensure validity and integrity of the back translation process, a bilingual researcher (not associated with the

research design or data collection) checked a random sample of transcripts (Beaton, Bombardier, Guillemin & Ferraz, 2000). Analysis of transcripts was conducted using thematic analysis (Rice & Ezzy, 1999) and all analyses were undertaken with the intention of understanding, not of prediction (see Sanderg, 2005). Note that comments made by participants about their beliefs are their own and do not constitute any judgment or statement on the part of the authors, and no comment is made as to whether these stated beliefs are correct or incorrect.

Findings

A range of superstitious beliefs were described by participants as responsible for crash causation and crash involvement among the sample. Urdu vernacular does not translate readily into English vernacular, which is the one of the challenges in presenting participant quotations. However, where possible, the flow of words and common expressions has been preserved. Information about the participant type, gender, age and level of education is provided after each quotation. The term 'Int:' is used to indicate comments by the interviewer.

Superstition and the Malicious Acts of Others

Evil eye

The concept of evil eye (literal translation is "malignant look") was the most commonly described superstition relating to road crashes. Evil eye refers to the concept of looking at something or someone with the intention of creating harm or wishing for something bad to happen to another, often because of jealousy over the good fortune of other people (i.e., because they have a new car, good job, smart clothes), as illustrated by these quotations:

> *Int: Do you think evil eye can contribute to a road crash?*
>
> *Yes, it is certain it is a dangerous thing.*
>
> *Int: How does it affect (the chance of a crash)?*
>
> *It depends on the person, how much they believe in these things. But I do believe in these things and that they can hurt us.* Male Police officer aged 35, with Bachelor Degree

> *I had a road accident while performing my duty. I tried to stop a car that had made violations. He hit me while I was trying to stop him. I got seriously injured. The reason was that on that day I was looking very smart and some people made an evil look at me and I got evil eye.* Male Police officer aged 30, Bachelor Degree

The term may also apply in a non-malicious sense in that evil eye was also described as occurring if someone praises something too much (e.g. lots of praise for a new car) or if the owner is overly proud of something. The wishing of harmful or jealous feelings or to look at something with the intention that someone receives trouble was described by participants as looking with "tyrant eyes", whereas the act of praising something too much or liking something too much was described as looking with "kind eyes". Both tyrant and kind eyes (looks) were expressed as forms of evil eye.

Evil eye was described as a possible cause of road crashes as well as being detrimental to one's lifestyle, business and performance. It was noted that the impact of evil eye was perceived to be borne by the object that had the "look" directed towards it. For example, if a person was on the receiving end of evil eye, the loss would be borne by his/her body (e.g., injury, death, disease), whereas if a vehicle attracted evil eye, the vehicle would experience mechanical faults or a crash. The concept of evil eye was also described in relation to envy or jealousy of someone's position, advantages or possessions. The large gap between rich and poor within society was noted by some and commented upon with respect to why jealousy may occur. For example:

> *In a social set up, jealousy is a great factor in Asia, particularly like in Pakistan, India, Nepal, Sri Lanka, and Bhutan. Keeping in view this jealousy factor, for example, if someone was a [bus] conductor, then after [some time] he was able to buy a bus, the other drivers who were not able to have their own bus and could not rise to a better position [may] have a feeling of jealousy towards that person. This jealousy factor creates malignant look for that driver. For that purpose he writes holy verses on his vehicle or uses amulets [to protect against evil eye].*Male Police officer aged 48, Masters Degree

Religious association with superstition and evil eye

It was also noted that the concept of evil eye was linked to religious concepts by some participants. People who did not believe in other superstitious things (e.g., bad luck or bad omens) expressed a belief in the existence of evil eye because they thought it had been mentioned in religious teachings. They stated that the Islamic religion also provided information that evil eye could affect one's performance and cause personal harm and damage to belongings. Furthermore, it was reported that this could also affect driver performance and cause road crashes. For example:

> Int: Does malignant look [evil eye] have a role in road crashes?
>
> *From the Islamic point there is such a thing. If we relate this thing with religion it is obviously present [if you want to find answers about this in religion, the answers are there].* Male Police officer aged 48, Masters Degree

It was noted that some participants who expressed stronger religious views also expressed non-superstitious beliefs. In comparison, those who expressed less religious beliefs also expressed beliefs in superstition. Some participants reported the belief that there is no role for superstition in religion and that those who were inclined to seek help from superstitious

methods were deemed to be distant from religion. Indeed, it was explicitly expressed by some that superstitions had no religious basis at all. For example:

> *I don't believe in such things [evil eye, bad omens] according to my faith. These things can never save you from accidents. It's absurd to think that a shoe or a piece of black cloth can save you from accidents. If God's name [will of God] can't save us from the happening of bad things, how can things like a shoe?*
>
> *Int: What is the percentage of people, in your view who believe in such things?*
>
> *Majority of people believe in such things. But I don't because I know about my religion and there is no such thing in my faith [Islam].* Male truck driver aged 59, 5 years schooling

In the quotation above, reference is made to use of shoes and cloth. The practices of tying children's shoes or black cloth to a vehicle are common preventive methods used in Pakistan in the belief that they keep people and vehicles safe from harm. This topic is discussed in greater detail towards the end of this section of the paper. Information in the interview transcripts suggested that people who were less educated were more likely to express superstitious beliefs and more likely to seek out readily available information on steps they could take to reduce their fears (through a presumed reduction in the chances of adverse events). This information is more available, and possibly more valued, when it is learned from avenues such as family members and others around them. It is the experience of the first author, a Pakistani citizen, that many uneducated people rely heavily on the teaching of their parents as the primary way of learning about coping with life's difficulties, though it is recognized that family members are an important source of learning across all sections of the Pakistani community. Beyond parents, people may consult Saints (living holy people who have acquired saintly status), traditional healers, and religious orators/teachers. Whereas religious scholars (or Sheikhs) have a formal knowledge of Islam, saints do not, but have acquired their status through local reputation for their personality, spirituality or mystical powers.

> *If I completely had taken care of myself, like tying black threads or a small shoe on my new motorbike as advised by my family, I would not have been affected by evil eye. My parents used to say that black threads or clothes should be wrapped on a new bike so as to save it from evil eye.* Male car driver aged 28, 10 years schooling

It was noted that some participants consider that superstitious beliefs exist among both educated and uneducated members of society, including police. For example:

> *The majority of people do [believe in superstition], even if they have done a Masters in education. Our society is like that. It [belief in superstitions] prevails everywhere.* Male Police officer aged 52, 10 years schooling
>
> *Int: How many of your police colleagues believe in bad omens and use amulets to avoid them?*
>
> *Many of my colleagues believe in these things.* Female Police officer aged 36, Masters Degree

An Islamic religious orator expressed belief in the concept of evil eye and thought that it could contribute to road crashes. He also used it as an explanation for his own involvement in crashes. This suggests that people who have limited formal education and knowledge and who seek guidance from Islamic religious orators may be exposed to information that is based on superstition, rather than on more scientific explanations of crash causation. However, as can be seen from the quote below, the same orator who expressed the belief in the existence of evil eye did not express belief in the use of amulets to prevent it. Rather, he indicates the belief that the use of Sadqa can prevent evil eye. Sadqa is a form of charity where money, clothes or food are distributed to the needy in order to obtain the blessings of the creator and to avoid the possibility of bad events (Qidwai, Tabassum, Hanif & Khan, 2010).

> *Int: Is the use of amulets and charms like black cloth or shoes good to avoid evil eye?*
>
> *No. For this purpose use Sadqa [charity]. Amulets are useless.*
>
> *Int: If we don't use Sadqa, will the evil eye affect our performance?*
>
> *Yes it works, and we can face an accident. There are some evil eyes that can break stone. People who have jealousy, it has a very acute effect. There are some verses about this. The best solution is to give Sadqa and take help from Holy verses to avoid this. It has great impact.* Male Religious orator aged 63, 5 years schooling

In contrast, the other orator described his belief that the use of amulets, talismans and charms would protect people from evil eye, as demonstrated in the following quotation.

> *Actually we make a thing, to some extent, dull so that it does not look so beautiful and will not attract attention. If something is very beautiful it catches evil eye. If we make it ugly by tying a shoe or black cloth it does not catch evil eye.* Male Religious orator aged 37, 8 years schooling

Black Magic

Another commonly discussed superstition was belief in mystical powers and practices, such as black magic. Black magic was described as a curse placed upon one person by another person with malicious intent, often because of jealousy, in order to bring them bad luck or misfortune. It was noted that black magic could be used to control the mind and impair driving performance, thus creating a situation where a driver is "forced" to make a mistake which would then lead to a crash. The following quotation is from a well-educated police officer.

> *They [the people who perform black magic] can overcome your senses and you can make mistakes. I've seen many people affected by black magic. They were given water, food or other things [and were] influenced under black magic and they were affected. A driver's thinking is controlled with black magic.* Male Police officer aged 32, Masters Degree

It was asserted that black magic is practiced with the intention of damaging others' performance, health, property or business. In relation to road crashes, it was believed that black magic could manipulate driver behaviour and could also create mechanical faults in a vehicle. While no participants described the act of performing black magic themselves, some of those interviewed did report direct experience of having a curse placed upon them by a relative (it is common for the act of black magic to be sought by those individuals who are close to the person such as relatives or friends, as a result of envy or jealousy), as illustrated in the quote below.

> *One of my relatives did it [black magic] on me because of jealousy so that my business does not go well and my vehicle gets troubles. It did work and my vehicle has unexpected troubles while travelling.* Male Bus driver aged 55, 8 years schooling

The practice of consulting special (mystic) people who are believed to hold unique supernatural powers was also described. These mystics were considered to hold special powers over those whom they wish to harm.

> *There are many people who are working in black magic. People visit them frequently. But they all are frauds. Few people know the true use of black magic. People usually have their family tensions or other [problems] and think that someone had done black magic on them.* Female Police officer aged 36, Masters Degree

A belief in the role of fate even if black magic was implicated

Information provided by participants indicates that the concept of fate appears to override any role that other attributions, including black magic, might play in crash causation. For instance, if someone believed that they had used the relevant precautionary measures (e.g., amulets or charms) to avoid the curse of black magic and still suffered a crash, this crash was considered as being in their fate, and, therefore, acceptable/understandable because it was destined to happen. Interestingly, some participants believed that black magic could be used against them, while at the same time they were also committed to the idea that if fate or God was with them (i.e., if something other than the course of black magic was destined for them), then the black magic would not have any effect on them. For example:

> *Int: Do you believe in black magic or evil eye?*
>
> *Black magic is real but Allah can save anyone, anytime, anywhere. I do believe in these things [black magic]. On the other hand God knows well if something is going to happen.* Male Police officer aged 35, Bachelor Degree

Black magic and a link with religion

For some people, their belief in black magic appeared to have a link with religion. The following quote represents the thoughts of a well-educated policy maker which illustrates the belief in the existence of magical powers and a link between these powers and driving behaviour.

> *It is written in the Quran that when Moses met with Pharaoh, the Pharaoh's magicians threw the ropes on the ground and they took the shape of snakes. Moses also put his stick on the ground and it also took the shape of a big snake and ate the other snakes. So what was this? This was magic and that real story portrays that magic exists and this is knowledge. The magicians were doing things with their magic whereas Moses was performing miracles. It means magic does exist and its effects [are real].*
>
> *Int: Can black magic have influence on driving performance?*
>
> *Yes it certainly can have influence*. Male policy maker aged 59, Masters Degree

Commonly, participant comments indicated that a belief in black magic was linked to an incident where the Holy Prophet Muhammad (peace be upon him) was supposedly affected by black magic. This refers to the incident that is described in the last two Surras of the Quran where the Holy Prophet (p.b.u.h) was affected by illness. Many people believe that this incident was the result of black magic:

> *Yes it [black magic] is used to give damage to people in their business, body, property. A vehicle is also a property. If someone does black magic on a vehicle, the people or driver inside the vehicle can face an accident. I believe in black magic and it also worked on the Prophet (p.b.u.h.).* Male Police officer aged 30, Bachelor Degree

It appears that this reference has great influence over some people's perceptions of the existence and power of black magic, irrespective of their level of formal education. In other words, people used the rationale that if the Holy Prophet (p.b.u.h), the most sacred and blessed person, could be affected by black magic, then how could an ordinary individual hope to escape it? Among the current sample, people who did not appear to believe in other cosmological powers (e.g., superstitions) did appear to believe in black magic because of that specific reference.

Practices to Avoid Bad Luck or Bad Omens

In response to participants' assertions about their lack of control over the occurrence of a road crash or injury, they were asked about the use of protective measures such as wearing restraints or helmets, or avoiding speeding. Although they believed that such protective measures would

not work, participants described various superstitious and religious practices that are believed to protect people from harm, including road crashes. The quote below from a truck driver describes the practice of using a piece of green cloth to protect vehicles and prevent crashes. In Pakistan, it is common for people to put large pieces of green cloth at the tombs of Saints. Some people remove small portions of the cloth to use in their vehicles as a form of protection from harm.

> *People who follow Saints do these kinds of things. They also use green cloth in their vehicle. I also have green big cloth on my vehicle for good omens. When we buy a vehicle we go to Saints and distribute food at Saints' tombs and take the green cloth. In this way we can keep safe from bad happenings.* Male truck driver aged 26, no formal schooling

Talismans, amulets and charms were described as being used to combat evil eye and bad omens as well as to avoid road crashes. Commonly mentioned talismans and amulets were black and red strips of cloth, horses' hooves and hair, peacock feathers, wigs, and shoes. Black cloth is usually attached to the outside of the vehicle, a horse's hoof is placed within the body of the vehicle, and red strips and horse hair are fixed within the cabin of the vehicle. Amulets placed outside the vehicle are intended to be visible so that other vehicles and the malicious looks or feelings from other people do not harm the vehicle or driver. Below, a truck driver describes his use of such objects to protect a new vehicle from harm:

> *Int: Do you use these as precautions?*
>
> *Yes, when I bought a new van I tied a horse's hoof and an old shoe to it. I also have holy verses in my vehicle. I think it saved me from bad omens.* Male truck driver aged 60. Primary school education

Finally the practice of using drood was described. Drood refers to the practice of having a holy breath blown on a person. In this practice, a person stands in front of a living Saint or a devout person who recites sacred or holy verses, then gently blows in the direction of the person requiring a blessing and assistance. Some participants described the use of this practice as a way of helping to protect them from any bad happening while travelling, such as disease or road crashes. For example:

> *We go to Pir (Saint) for drood for our own satisfaction. Allah also helps. There are certain things in which Allah has bestowed to his pious people (Pir). Allah listened to them who pray for us. I have this belief.* Male car driver aged 28, high school education

Discussion

The information provided by participants indicates that many superstitious beliefs are present in Pakistan and that such beliefs appear to be perceived by some people as the reason why road crashes occur. A variety of superstition-based crash attributions were widely discussed. For instance, crashes were noted as being caused by evil eye (the malignant look of others), or black magic that had been performed by others. The information provided by participants indicated that there are many religious and cultural beliefs linked to perceptions of crash causation, regardless of education level, age, gender, or religion. The findings also revealed that police officers and officials themselves demonstrated a range of superstitious and other beliefs. It is difficult to determine exactly how many people in Pakistan believe in such practices. However, as noted earlier, this topic was commonly discussed among the different types of participants included in this study. Therefore, it is important to consider the role that such beliefs may play in regard to road use in Pakistan.

It has been demonstrated that fatalism is linked to both risky road use and the under-reporting of road crashes in Pakistan (WHO, 2015; Kayani et al., 2012). The information presented in the current paper indicates that superstitions did not appear to be an alternative to religious beliefs for all people. Like fatalism, superstitious beliefs are widespread, but their level of acceptance does not appear to be as universal, and fate appeared as the "default attribution" for a crash when all other explanations failed to account for the incident. However there is sufficient evidence from the findings to suggest that belief in the power of superstitions, such as those described here, can lead to risky behaviours. People may believe that there is no value in using standard safety measures (e.g., seat belts and helmets) because they will not work in the presence of such powers. Thus, people may be inclined to adopt the "safety measures" that they believe will address the supernatural risks, such as using preventive prayers, amulets, black cloth and other objects. This means that behaviours considered risky in many western countries (e.g., not wearing a seatbelt) would not necessarily be viewed as risky in Pakistan because of the belief that prayers and amulets mean that people have done everything necessary to avoid harm. Furthermore, some participants expressed a sense of powerlessness in the face of superstition or cosmological forces (e.g., black magic or evil eye) and thus, appeared to hold the view that they have little personal control over life events, including road crashes.

The finding relating to a sense of powerlessness is consistent with research conducted with work-related drivers in Ethiopia where no significant relationships were found between levels of self-efficacy and driving behaviours or self-reported crashes (Mamo, Newnam & Tulu, 2014). These authors suggested that their findings could be due to the beliefs expressed by the Ethiopian drivers that road crashes were random events occurring by bad luck and beyond their control, which contrasts with research findings from western countries. Similarly, the research described earlier from Nigeria (Dixey, 1999; Sarma, 2007) indicates the presence of a range of mystical and superstitious beliefs that appear to exert a great deal of influence on people's risk perceptions and risk taking behaviours. Additionally, research conducted in Pakistan examined beliefs about the role of Sadqa (giving charity in order to gain blessings and good outcomes) in preventing and recovering from disease and illness (Qidwai

et al., 2010). Participants of that study reported beliefs that the act of giving charity could improve their healing, shorten the duration of their disease, increase resistance to disease, prevent disease reoccurrence, and prolong life. This finding highlights the power of belief in practices such as Sadqa (giving charity), a practice that was described by participants in the current study as able to prevent harm from the malignant look (evil eye) of others.

Together, the findings presented here indicate that some people do not have a clear understanding of events which are perceived by them to be out of their control. Furthermore, their rationale for why road crashes occur is not based on scientific evidence, but rather, on cultural, religious, or other beliefs, such as superstition. The findings also indicate that people use such methods within their belief-based system. This suggests that there is a need to change the nature of popular belief systems towards a scientifically-based understanding of cause and effect. However, it is recognized that any such attempts could be met with resistance, particularly by those who perceive strong links with religion and religious practices. Therefore, caution is recommended when attempting to provide information about 'scientifically-based' strategies to a population where fatalistic and superstitious beliefs are prevalent. One avenue to tackle this challenging dilemma may be to promote the concept that taking care of others is important and, therefore, that care on the road is required. Indeed, being careful on the road could be portrayed as another way of giving charity to others, in a similar way to giving money or food to the needy. Another approach, given the very high Muslim population, would be to enlist the support of religious leaders to publicly point out the superstitious beliefs and behaviours considered contrary to Islam.

As has been discussed elsewhere (Wallén Warner, Åber, Sjögren, Thorsén & Okpokam, 2007), much of the injury prevention, risk assessment, and health education literature (including the road safety literature) is based on the concept of rational decision-making based on scientific understanding of why crashes occur and has largely ignored those who have a different world view – one where beliefs in fate, superstition, and other cultural/religious-based practices are prevalent. Therefore, it is imperative that safety practitioners and policy makers consider a wide range of world views when attempting to change attitudes and behaviours. From the information presented above, it seems apparent that road safety countermeasures commonly used in western countries, such as education campaigns aimed at raising awareness about things such as the risks of not wearing seat belts or helmets and not complying with speed limits may have little or no impact if the target audience does not see such issues as valid reasons for why harm may come to them (Sun, 2015).

This research has offered a first step for describing and better understanding some of the religious and cultural/superstitious belief-based factors related to risky behaviour in Pakistan which will hopefully stimulate further research interest in this area. Several limitations, however, should be considered when interpreting and using the findings. A methodological limitation is the reliance on self-reporting prompted by questions on the topic. People may report more willingness to engage in practices related to superstitious beliefs than they actually exhibit. However, it is possible that, due to self-report bias, people would engage in more traditional behaviour than they espouse (Young, Morris, Burrus, Krishnan & Regmi, 2005). A quantitative study would provide an opportunity for validation . Another limitation relates to recruitment locations. All participants were recruited from large cities in Pakistan and their driving experience was largely confined to cities, highways and motorways, yet large numbers of road crashes occur away from these large urban areas. Future research should consider involving drivers from more rural parts of the country, since it is possible that people from these areas might exhibit more intense and expanded beliefs than those described above due to reduced opportunities for education and access to mainstream media. It is important to emphasize that our intentional use of qualitative methods means that there was no attempt to gain a representative sample (Rice & Ezzy, 1999). Rather, this method allowed the opportunity to explore in some depth the novel topics contained herein that could, in future work, be examined more systematically via representative sampling methods. Therefore, this limitation relating to the generalisability of our results means that caution is required when drawing conclusions about policy maker actions in addressing these issues. Finally, it would be a mistake to conclude that high income countries do not share similar issues, for example a recent Austroads report noted the need to address myths about speeding that are prevalent among segments of Australian drivers (Fleiter et al, 2016). The difference is one of degree, which points to the possibility of reciprocal learning between high income countries and low/middle income countries.

Conclusions

In conclusion, our findings signal a need to carefully consider the social and cultural factors which can potentially affect road user behaviours and the attribution of road crashes to non-scientific means (e.g., black magic or evil eye). This is particularly important when implementing policies to promote safer road use, particularly if the policies are taken from societies where religious and/or cultural factors are quite different to those discussed in this paper. Additionally, it is important to consider such issues in societies where the population consists of a broad mix of people who bring a wide range of beliefs to their use of the road environment. For professionals in low and middle income countries involved in road safety, focusing on implementation of the Safe System approach advocated by WHO (2015) would crystallize action and advocacy in two ways: first, it would promote an evidence-based approach to road safety; and second, it would promote integrated approaches that combine enforcement, education, road environment improvements, vehicle standards and effective road safety management.

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