Fatalism and its implications for risky road use and receptiveness to safety messages: a qualitative investigation in Pakistan

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Abstract

Given the increasing vehicle numbers and expanding road construction in developing countries, the importance of safe road user behaviour is critical. Road traffic crashes (RTCs) are a significant problem in Pakistan; however, the factors that contribute to RTCs in Pakistan are not well researched. Fatalistic beliefs are a potential barrier to the enhancement of road safety, especially participation in health-promoting and injury prevention behaviours, and also contribute to risk taking. Fatalistic beliefs relating to road safety have been found in some developing countries, although research is scarce and indicates that the nature and extent of fatalism differs in each country. Qualitative research was undertaken with a range of drivers, religious orators, police and policy makers to explore associations between fatalism, risky road use and associated issues. Findings indicate that fatalistic beliefs are pervasive in Pakistan, are strongly linked with religion, present a likely barrier to road safety messages and contribute to risky road use. Fatalism appears to be a default attribution of RTC and the intensity of belief in fate surpasses the kinds of fatalism noted in the limited existing literature. These findings have importance to developing road safety countermeasures in countries where fatalistic beliefs are strong.

Introduction

Road traffic crashes (RTCs) are a significant public health problem across the globe [1]. It has been suggested that the largest gains in reducing harm are to be made in less developed countries, where rates of injury-related deaths are highest [2]. Human factors (as opposed to vehicle and road environment factors) are considered to be the major contributors to RTCs [3], which highlights the potential benefit of health education approaches.

Health education aims to influence knowledge, attitudes and behaviours, including beliefs and attitudes that are used to justify unsafe behaviours or rationalize their effects. These include fatalism or the belief that events are predetermined and inevitable, thus affecting the interpretation of crash events and leading people to take more risks and disregard safety measures [4]. A topic that is part of popular discourse but has received little formal attention is the role of fatalism in the risky road use behaviour in developing countries [5], although its role in other health areas has been studied. Some examples from other areas of health include a study of the influence of fatalism on mammography screening rates among four different populations in Israel [6], the extent of fatalism about human immunodeficiency virus/acquired immune deficiency syndrome (HIV/AIDS) in Mali and its effect on prevention behaviours [7], general fatalism about cancer [8], the mediating role of fatalism in knowledge of...
HIV/AIDS among Native Americans [9], and the roles of fatalism, norms and social background in several health screening behaviours [10]. The few studies of fatalism in road safety in developing countries have been conducted in Africa [11–14] and have demonstrated the influence of both fatalism and superstition on beliefs about preventive behaviours. High degrees of fatalism and superstition were identified among drivers in the Ivory Coast [11], with religious and mystical or parascientific beliefs combining with limited knowledge of risks to influence the perception of risk and the causal explanation of RTC. In Nigeria [12] it was found that fatalistic beliefs and a continued adherence to traditional beliefs by both Muslims and Christians led to unsafe road use. A study to evaluate superstition, risk taking and risk perception of RTCs among South African taxi drivers found that a considerable proportion of drivers believed in destiny (and witchcraft or evil spirits) as possible causes of RTC [13], with similar findings being made in a related study [14]. A significant point made in one of these studies [12] is that the nature of the beliefs and practices that influence road safety vary from country to country. This means that research into fatalism with respect to road safety still remains to be undertaken in most developing countries around the world, including Pakistan.

Fatalism is a term employed in different ways, forms and using differing typologies [5, 15–17]. All societies exhibit some degree of fatalism, but the discourses differ (M. J. Young et al., unpublished manuscript) [16, 18]. Research in both developed and developing countries demonstrates that fatalism can take many forms and in developing countries may have religious and ethnic associations [7, 11, 13, 14, 19–21]. Several sources have pointed out that a strong sense of predestination and fate are in contradiction with an injury prevention orientation where events are seen as preventable and where one is in control of one’s life [10–12, 22–26], underlining the potential importance of fatalism as a barrier to effective health education and behaviour change. One way of approaching such beliefs is to see them as a psychological phenomena, e.g. simply a feature of a particular person. However, it has been noted [27] that perceptions of risk (and therefore fatalistic attitudes towards risk) need to be seen in their sociocultural context as being complex and bound up with notions of attribution of blame. More importantly, they are aspects of culture rather than individual psychology.

In 2007, Pakistan was estimated to have had 41 494 road fatalities, a rate of 25.3 per 100 000 population. There is a high degree of under-reporting of crashes in South Asian countries so that police data are unreliable [5]. As a result, these figures and the following comments are based on statistics taken from the World Health Organization (WHO) global report [1], which are point estimates within confidence intervals derived from regression models that use WHO regional mortality data. These estimates show that Pakistan’s fatality rate is markedly higher than other South Asian countries (Bangladesh, Bhutan, India, Maldives, Nepal and Sri Lanka) and about three times the rate for highly motorized countries that have been implementing road safety countermeasures for many decades [1]. Pakistan is one of the largest Muslim countries in the world, with 164 million people in 2007 [1], 97% of whom are Muslim, although (unlike Muslim countries in the Middle East) conversion to Islam followed centuries of Hinduism [5]. The overall literacy rate (age 10 years and above) is 56% (69% for males and 44% for females) [5]. It is classified as a low income country, with a gross national income (GNI) per capita of US$870 in 2007 [1]. In a World Values Survey (WVS 2004, cited in [15]), Pakistan scored highest on one particular measure of fatalism (see [5] for further discussion of this survey). More recently a roadside survey of drivers conducted in Pakistan found that many drivers attribute RTC to God [28].

The purpose of the research reported here was to explore fatalistic beliefs among Pakistani drivers with a view to developing a better understanding of the nature and basis of fatalistic beliefs, and how these beliefs may affect the success of safety messages.
Method

Using a focused ethnographic approach, in-depth interviews were conducted in the three major cities of Lahore, Islamabad and Rawalpindi. Qualitative sampling techniques were employed, and an interview guide was developed (Table I). The interviews were semi-structured, with the interviewer following up on interesting lines of discussion and using the interview guide more as an aide memoire. The issue of fate was not raised until late in the interview guide to avoid leading the participants.

Participant recruitment

Three forms of qualitative sampling were employed: purposive (selecting particular groups), criterion (experienced in road use in Pakistan) and snowball. Professional drivers of taxis, buses and trucks were recruited at transport depots where they were regarded by the depot manager as ‘experienced’. Car drivers, police officers and policy makers were recruited via snowball sampling, whereas car drivers were required to have several years of driving experience, and there was no driving experience requirement for police officers and policy makers. Police officers are required to be experienced drivers in any case, and policy makers have their own drivers and almost never drive themselves. ‘Policy makers’ were defined as high-level public servants in police and transport agencies with a direct influence on policy relating to road safety. They were either known to the first author directly or referred by other policy makers. During the research, the preponderance of assertions about religious precepts (sometimes conflicting) led to the recruitment of two religious orators; such orators deliver advice to Muslims about how to live their lives according to religious precepts, including advice on driving and

Table I. Interview guide prompt questions

1) Why do you think so many fatalities are occurring on our roads?
2) Why do you think road crashes happen?
3) Do you think road deaths or injuries can be prevented? (Probe for reason)
4) Have you ever been involved in a road crash? (If yes, ask the next three sub-questions)
   a) How many times?
   b) Did a violation contribute to the road crash?
   c) Could you have avoided this crash or could it have been avoided? (Prompt with examples, such as wearing seat belts, obeying the speed limits)
5) Do you think if we use safety rules we can minimize road crashes?
6) Do you follow traffic rules? (If ‘yes’, ask question 6a. If ‘no’, ask ‘why not’)
   a) Do you follow them voluntarily or due to the fear of being fined?
   b) Do you speed/drive fatigued/drive without a seat belt?
   c) If you drive fast or while fatigued, do you think this increases your crash risk?
7) Do you think road crashes are bound to happen? Or can we stop them? (Probe for reasoning)
8) How do you think we can reduce the road crash rate?
9) Who is responsible for road crashes?
10) Why are some people involved in road crashes and some are not? Why do you say that?
11) Do you think that people who drive safely are less likely to be involved in road crashes?
12) Is there anything about your driving that gives you a higher risk of crashing?
13) Do you think all things are decided for us, like death or injury, no matter what actions are taken? (Probe for reasoning)
14) How many of your fellow drivers that you know have been involved in a road crash?
15) Why do you think the road crash fatality rate in developed countries like United States, Australia, and United Kingdom is less than the rate in developing countries like Pakistan?
16) Will the prevailing road crash situation in Pakistan continue? Why?
17) Does ‘Qismat’ (fate) play a role in road crashes? (Probe for additional information on beliefs).
18) Thinking about road crashes you have been involved in, why do you think they happened?
RTC. A complete description of the sample is provided in the ‘Findings’ section. It should be noted that separate questions were asked for length that a license had been held and years of driving experience, since unlicensed driving is common.

Procedure
All participants were treated in accordance with the requirements of the Queensland University of Technology’s Human Research Ethics Committee, which provided ethical clearance for the research. Participants were approached personally by the interviewer, and the purpose of the research was explained verbally in the first instance. The participant information sheet (translated into Urdu) was provided if they showed an interest in participating in the research. Participants were not paid for their participation. All the interviews were recorded with the consent of participants. No names were associated with interview data, and no identities were attached to any research-related documents. Participants did not have to respond to questions if they did not wish to, and this resulted in some gaps in information on license status and driving experience.

Participants were interviewed individually for approximately 60 min. All but one interview was conducted in Urdu, the other in English. The audio recordings were transcribed and translated by a translator using the concept of meaning translation [29]. The researcher checked the translations against the recordings for validity and reliability, and an additional bilingual research assistant checked a random sample of transcripts, one from each of the participant groups, to ensure the validity and integrity of the backward-transcription process [30]. During the process of translation checking, the researcher also worked with the translator to discuss the content of interviews. Where issues of translation were not resolved (e.g. where sections of the interview were difficult to hear or could be interpreted in different ways), these were noted. The decision was taken to analyse the English versions of the transcripts to allow the supervisory team to read and understand the concepts as they arose and as analysis continued.

Analysis
A thematic analysis approach was employed; this did not involve open coding but commenced with the intention of testing the data against a conceptual framework, similar to the approaches used in a study of the institutionalization of safety in civil and community organizations [31], and in a study of reasons for violating child passenger safety laws [32]. Thematic analysis was conducted from the start of the first interview, as it allowed for a continuous re-evaluation of the themes and reflexive adjustment of the question and observation guides in keeping with an iterative approach. Analysis involved searching for the expression of particular ideas within the overall context of the dialogue [33] and connecting these ideas into themes that appear important [34]. The process involved the identification of themes through the careful reading and re-reading of the data [35]. The data were analysed in conjunction with Braun and Clark’s [36] suggestions based on three distinctive stages: transcribing and becoming familiar with the data, developing codes and themes, and refining themes and reporting data. The data were analysed consistent with the recommendations of Sandberg [37], that is, with the intention of understanding and unfolding and not of prediction.

Findings
Table II presents information about the participants. They ranged in age from 24 to 63 years, with a median age of 46 years. Twelve were professional drivers (three taxi drivers, six truck drivers and three bus drivers), and there were five car drivers, seven police officers, four policy makers and two religious orators. There were only two females (a general car driver and a field police officer). In Pakistan, more men than women drive, and female drivers are very rare among professional drivers. The police force has only a small female presence. All participants were Muslims, with the exception of one Christian driver and a Sikh field police officer. The majority of participants reported having been involved in at least one RTC, and almost every participant
reported that relatives, friends and/or colleagues had been killed and severely injured in RTC.

As noted above, the interview guide was constructed to avoid leading questions about fatalism until later in the interview (if it had not been raised), but in practice, fatalistic attributions emerged early in the interviews without prompting. This allowed the interviewer to follow up with more explicit questions about fate. The main themes relevant to fatalism that emerged from the thematic analysis were as follows:

- General fatalism (with separate reference to sociodemographic factors)
- Fate expressed in RTC
- Religion and fatalism
- Implications for risky behaviour as a consequence of fatalism

Additional themes that are not reported here due to space constraints include fatalism about the purchase of safe vehicles and the overlap between fatalism and culture. One of the challenges in presenting the quotes is that Urdu vernacular does not translate readily into English vernacular (which is highly variable anyway); however, the flow of words and common expressions have been preserved where possible, e.g. the use of the term ‘by God’ to mean ‘by the will of God’. The term ‘Int:’ is used throughout the following sections to indicate comments by the interviewer.

References are made in several places to ‘most’ or ‘the majority of’ participants, but no numbers or percentages are provided. This is consistent with this form of qualitative research, where the participants cannot be considered statistically representative of
the population, but where the meanings derived from the data are considered reflective of the shared beliefs of the population.

**General fatalism**

Almost all participants expressed strong fatalistic beliefs towards RTC occurrence, the only exceptions being some of the policy makers. Participants considered injury, death or other loss as ‘fated’ to happen and therefore unpreventable. Notably, the respondents used different terms to connote fate, such as Allah, destiny, qudrat, muqadar, qismat, taqdeer, nature or God:

`Int: So [if] you think everything depends on Allah, then where are our mistakes?`

We try to avoid mistakes but final authority is with Allah. Nothing is under human control, everything is by God. You see me, I am talking with you, and even this is not under my control. I will talk to you as much as God wants. Look at this bus, how big it is. Only God is running it and controlling it. How can a human being control it? (Bus driver, male, no education, 48 years old)

`Int: Can a driver avoid a road crash?`

If it is his fate he can’t save [himself] and if it is not his fate then he can save himself. Even If someone is in a burning fire, if it is not his fate he will not be affected by it. (Bus driver, male, middle school education, 55 years old)

Participants expressed the belief that fate determined their life course, including time of death, losses experienced in life, length of life, income and level of wealth. The majority of participants perceived themselves to be helpless with regard to fate and destiny:

`If we do everything right and we come across a difficulty, it is God’s will and fate. Every difficulty or problem in life is fated. We don’t want to harm anything. It is God. (Taxi driver, male, no education, 46 years old)`

Additionally, two of the policy makers interviewed stated that drivers usually have fatalistic views towards the occurrence of RTC. For example:

This Monday I was coming back from Islamabad. A man was walking on the road. He was not crossing the road but was walking on the middle lane. My driver saved him [by avoiding a collision with him, but] with great difficulty. I asked my driver to stop and we waited for him to ask what he was doing. There were many other cars that also narrowly avoided a crash with him. It was very dangerous. We then took him in our car to the motorway exit. When we asked him why he was walking on the motorway since it was so dangerous for him and other cars, he said ‘it does not make any difference, if something is in my fate, it will happen to me, and to others as well’. (Policy maker, male, university degree, 59 years old)

It was of interest how sociodemographic factors might influence fatalistic beliefs; however, there was limited information on gender and non-Muslim religion as influences. The two non-Muslim participants (one Christian driver and one Sikh police officer) reported parallel fatalistic beliefs to the Muslim participants, attributing RTC to predetermination and fate in almost the same words. Only two female participants were included, and they reported the same fatalistic beliefs towards RTC as their male counterparts:

As I told you earlier fate is mapped out by God. It does not matter whether we can stop an accident or not, as all is in the hands of God. What God has planned for us it will have to go. (Police officer, female, master’s degree, 36 years old)

Fatalistic beliefs were found across all ages; however, there was an interesting difference with respect to education. Although literature suggests that greater levels of fatalism are associated with lower levels of education, in this study fatalistic explanations were more common among participants with formal education. However, this was largely
because people with less formal education had a preponderance of superstitious as well as fatalistic beliefs, while people with more formal education were less superstitious.

The findings under this theme illustrate the pervasive nature of fatalism in Pakistan in relation to RTC.

**Fate expressed in RTC**

Participants spoke of fate as something that could be expressed in different ways, such as in the form of RTC, diseases, murder, war or other such disasters. There was a sense in which a person’s fate (including time of death) had been set by God in some way, but not the specific form, so that no blame could be attributed directly to God. Importantly, participants expressed the view that if someone’s death or injury in a RTC is the consequence of fate, then this situation is inevitable, and no precautionary measures would have helped:

> Int: In every road crash is there an involvement of taqdeer (fate)?
> [Yes] every crash is the reason of fate. Fate is involved in any crash. If death comes, it comes in different shapes, like disease, crash, and falling from buildings.

Int: Do you think that you have no control over circumstances while driving?

I always keep in my mind that everything will be done by God who has made my fate. Whatever we do, the results are due to fate. For example, if I am applying brakes while driving, it is fate. Either it stops the vehicle or it does not. (Taxi driver, male, no education, 46 years old)

If someone made a mistake that led to an RTC, fate was seen as responsible for the mistake. As a result, eyewitnesses to a RTC appear to dismiss human error and attribute it to the fate of the people involved. For example, the first quote below refers to a bus crash, witnessed by a taxi driver, in which many children died (they were sitting on the roof of a bus), and the second quote refers to a RTC experienced directly by a truck driver:

The children who died in that crash would have died for some other reason anyway, because death was their fate and that was their day. Death was fated for these children who were sitting on the top of bus. This was inevitable and the driver’s mistake just becomes the source of that crash. The sitting of the children on the top of the bus also became a source of death. If they had not had to face death, they would not have sat there. It was also the driver’s destiny that it was in his fate to face difficulties of life in this way. (Taxi driver, male, no education, 46 years old)

Int: Why do you think you had this road crash?

This happened because it was my fate and was inevitable. The next car’s lights were not working. I had been travelling for 1000 km but we did not have any crashes. It was just our time of loss that was decided here by our fate. (Truck driver, male, middle school education, 40 years old)

The same attributions were made by these and several other participants about RTC they described or had been involved in: a collision with a truck in which six people died when the car driver fell asleep; a collision between an out-of-control articulated vehicle and a bus in which seven bus passengers were injured; and a truck running over a motorcycle with two riders, one of whom was killed.

It is worth noting that participants did not attribute only bad happenings in their life to fate but also good news or achievements, including their survival in a RTC.

The findings in this section indicate that RTC are seen as a tool of fate, i.e. RTC occurs to achieve a fated death.

**Religion and fatalism**

As is already clear from the quotes given above, religion seemed to be an integral factor in shaping beliefs of all participants. The quotes below...
represent the strength of sentiment expressed in all
groups in relation to the role of religion as it relates
to RTC:

I have my strong faith as a Muslim that life
and death is in the hands of God. I will get
what is written in my fate. I will get anything
that is in my fate like a crash, disease, and
other problems in life. (Police officer, male,
bachelor’s degree, 30 years old)

Yes, as a Muslim I believe it was their fate; it
was their day of death or injury that they died.
It is God’s will. The family of the people who
died and were injured showed patience con-
sidering it is fate. If I had lost my vehicle in
this crash, why should I not also bear it with
patience?

Int: What do you think of fate’s role in a road

crash?

There is a role of 100%. We are not Muslims
if we ignore fate’s role in our lives. If my time
of damage, death or injury has been decided
by fate, how can I escape?

Int: Even if you are driving with care?

Yes, it does not make any difference. (Truck
driver, male, primary school education, 49
years old)

Participants not only expressed their beliefs in re-
lated to their driving behaviour but also in the per-
formance of other life events in accordance with
religion. Those participants who expressed stronger
religious beliefs and stronger fatalistic beliefs appear
to invest their everyday activities with religion
(e.g. their work tasks, eating habits and relations
with others). By expressing their religious beliefs
in elements of daily life, they show their strong com-
mmitment to religion. For instance, the comments
of professional drivers indicated that they believe
that they are doing a religiously approved job. The
following quote demonstrates this point:

[The] driving seat is a holy seat, driving is a
holy profession. This thing is [recognised]

only by the pious drivers. We have many stor-
ies in Islamic history which tells us that driv-
ing (moving or taking someone from one place
to another) is a respectable profession. Like
Hazrat Noah, A.S, [who] took his people and
drove them away [from floods to a safe place].
Crashes could become a reason for death but
it’s all Allah’s decision. (Truck driver, male,
primary school education, 60 years old)

These findings show a strong belief that fatalism
is part of religious observance, both in general and in
road use.

**Implications for risky behaviour as a consequence of fatalism**

As noted already, belief in fatalism allows people to
rationalize negative events in their lives, to over-
come their grief, and accept the outcome, and also
acts as a post-crash justification for their lack of re-
sponsibility. This ‘acceptance’ may lead a person to
act in a risky way while driving. For example, the
quote below is from a police officer describing
young motorcycle riders who do not appear to see
their behaviour as risky:

Many drivers do not accept their mistake if
they are involved in a crash. They say it was
fate. We often stop young motorcyclists and
tell them not to break the rules but they reply
that it’s fun and whatever is bound to happen
will happen... (Police officer, male, master’s
degree, 36 years old)

Participants demonstrated a limited knowledge of
risks involved in a RTC, leading them to misjudge
the factors contributing to RTC. Such considera-
tions seem to lead them to take bigger risks, possibly be-
cause they think that whatever effort they use for
escaping unexpected happening is futile because
of their fate:

Int: Why do you drive in the city at 120 km/h
where the speed limit is 60 km/h? You can be
involved in a road crash?

I am driving the vehicle and steering is in my
hands. I know what is right or wrong while I
I'm driving. Anyone should not worry when he is sitting in the vehicle. Just trust in God, if we are going to have a road crash, it could be at slow speed. It all depends on your routine and your faith. You make sure that you don't make mistakes all the time and Allah will protect you all the way. It gives confidence in me. I have sped and done many other [unsafe/illegal] things believing that God is there to protect me. Trust me, I have driven at 180 km/h believing that and I was damn sure that I had prayed and God was with me and nothing would go wrong for me. (Car driver, male, master’s degree, 40 years old)

Lack of understanding and perception of risks associated with fate can promote a sense of overconfidence and lack of use of safety measures. Professional drivers, in particular, expressed the belief that they are involved in more mistakes while driving and noted that life is not in their control and that RTC are unpreventable. For example:

Int: Why do bus drivers speed and take risks? Because they have to reach their destination on time and they have no fear of death. It is their way of driving in such kinds of situation and they don’t care if they are in a road crash. They become more confident and think that if it is written in their fate they will definitely face a road crash, otherwise not. (Truck driver, male, middle school education, 40 years old)

Int: But you have already had many road crashes in which people died. You were also injured. But still you drive while using drugs. Do you not think [about the safety of] yourself and other passengers in the bus? There are the lives of other people which are also in danger? I do [take drugs] sometimes when I have to do it [hand gestures indicating injection, implying an addiction].

Int: Why do you do this? What do you think about a road crash in which you could be involved?

It’s God who protects us. (Bus driver, male, middle school education, 55 years old)

Even police officers made the same point:

Int: If a driver follows safety measures, even then he can experience a road accident? Yes definitely. If a disaster has to come in your life you cannot escape, no matter what you do. (Car driver, female, master’s degree, 29 years old)

The findings show how fatalism leads to the view that safe behaviours aimed at preventing injury are irrelevant to the likelihood of an RTC.

**Discussion and Conclusion**

At the outset, it should be noted that this is qualitative research that aims to elicit meanings assigned by participants. The comments made by participants about their beliefs are their own and do not constitute any judgement or statement on the part of the authors, and no comment is made as to whether these stated beliefs are correct or incorrect. The findings therefore include much subjective material. We have attempted to reflect upon this material as objectively as possible.

The findings demonstrate the pervasiveness of fatalism in Pakistan in relation to RTC and preventive measures. That fatalism exists is not surprising as it is present in all societies and cultures; it is the extent to which it was used by participants to make sense of their experiences that is noteworthy.

Some examples are quite stark, such as the interpretation of the multiple fatality crash, where children sitting on top of a bus were killed, yet the concept of predestination was invoked to argue that they would have died on that day anyway, one way or another. The intensity of this belief in fate surpasses the kinds of fatalism noted in the limited existing literature, so it is important that confirmatory research is undertaken.

In some areas of the literature attention is devoted to comparing people with fatalistic and non-fatalistic beliefs (e.g. [20]) or to identifying factors linked with more or less fatalism (e.g. [38]).
The evidence reported above implies that fatalism in Pakistan is a central part of systems of meaning making, regardless of education and role. For some variables of interest, there is not enough information to enable any strong statements to be made, e.g. for gender and non-Muslim religions, although it was noted that the two females and two non-Muslim males talked about the role of fate in RTC in the same way as the other participants. An apparently anomalous finding was that those with lower education made proportionally less fatalistic attributions, but this was because they made a number of superstitious attributions, e.g. the attribution of the RTC to bad luck or black magic.

In view of the evidence presented in this article, it is reasonable to conclude that religion has a strong influence on fatalistic beliefs about RTC causation and on road user behaviour in Pakistan. Participants were more likely to regard life events as fated if they are influenced by religious teachings. Once again it should be stressed that we can make no comment about whether these religious interpretations are correct or valid—they are simply what our participants said, i.e. research tells us about how they construct their religious beliefs and not whether these are correct or incorrect according to religious scholars. On this point, the religious orators made the same kind of fatalistic attributions as the participants, with the same reference to religion.

A key issue for health educators relates to the encouragement of preventive and protective road user behaviours. Many participants believed that RTC or other adverse events in life would occur, even with their use of (indeed, in spite of) preventive measures. Such attitudes are inconsistent with basic road safety behavioural principles, such as those espoused by the WHO [1] on the use of seatbelts and helmets, and contribute to risky behaviour such as speeding. To encourage safer behaviours, it is important to provide people with a better understanding of why events occur and the risk factors associated with their actions. In practice this entails development of a thorough understanding of the belief systems involved and an analytical approach to means of challenging them.

A host of factors can contribute to the development of misperceptions and poor levels of understanding about safe road use. These factors can include a lack of knowledge and awareness of RTC causation, low levels of education (both religious and formal) of road users and policy makers, socioeconomic conditions, social environment, legal and political systems, stratification of society, feelings of pessimism/helplessness, the frequent occurrence of unexpected events, natural disasters, and a lack of enforcement and sound engineering measures [12, 26, 38–40]. These factors can work independently or with a combination of other factors in shaping beliefs. One could anticipate that in developing countries such as Pakistan, with limited resources and lack of political will, such factors are not addressed quickly or easily. It is already acknowledged that there is limited investment in and understanding of road safety at government level, which is reflected in the low priority that is given to traffic safety [41].

The current research has highlighted the importance of knowledge, awareness and the beliefs of those who make, use and enforce the ‘system’, although it is important to note that education alone is not the only key to changing the attitudes and behaviours of road users [42]. In countries such as Pakistan, which has extremely low literacy levels, it is expected that it will take a long time to address the critical road safety issues through education.

Finally, it needs to be noted that ‘coping mechanisms’ (i.e. rationalizing an occurrence as a predetermined event) can assist a person to deal with negative life events, such as the psychological distress associated with the trauma and grief from a RTC [43]. Such mechanisms come into effect after a traumatic event has occurred but may well affect how people construct their ability to avoid similar future events. This needs to be better understood.

This research project has provided an introductory step in addressing the role of fatalism in the behaviours and attitudes of road users in Pakistan as well as in developing countries, more generally, and provides information to inform strategies aimed at educating people about RTC in communities with strong fatalistic beliefs. Additionally, the findings
can inform future research projects to continue to explore the link between such beliefs and safety-related beliefs and behaviours. Overall, there is a need to better understand the beliefs, perceptions and attitudes that contribute to risky health behaviours, including risky road use in developing countries. In this regard, this research can contribute to such understanding and can assist in the design and implementation of appropriate health education interventions.

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None declared.

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