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Fatalism and road safety in developing countries, with a focus on Pakistan

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Abstract

Road crashes are a significant problem in developing countries such as Pakistan. Attitudes are among the human factors that influence risky road use and receptiveness to interventions. Fatalism is a set of attitudes known to be important in Pakistan and other developing countries; however, it is rarely addressed in the road safety literature. Two broad types of fatalism are theological fatalism and empirical fatalism, both of which are found in developed countries as well as in developing countries. Where research has been conducted into the issue, fatalism is considered to interfere with messages aimed at improving road safety.

Pakistan has a serious road crash problem, and there is sufficient information to suggest that fatalism is an important contributing factor to the problem, but a better understanding of how fatalism operates in Pakistan is needed if effective prevention strategies are to be developed. A proposed study using an anthropological approach is described, which will be exploratory in nature and which is aimed at investigating fatalism and related concepts among Pakistani road users and those who develop and implement road safety policy.

Keywords

Fatalism, Superstition, Developing countries, Pakistan, Prevention, Road safety

Introduction

Road traffic crashes have emerged as a major health problem around the world. Road crash fatalities and injuries have been reduced significantly in developed countries, but they are still an issue in low- and middle-income countries (often termed

Table 1. South Asian countries vs Australia, 2007: Estimated fatalities, population and fatality rate per 100,000 population

Country	Estimated road crash fatalities 2007	Population 2007	Road fatalities per 100,000 population
Bangladesh	20,038	158,664,959	12.6
Bhutan	95	658,479	14.4
India	196,445	1,169,015,509	16.8
Maldives	56	305,556	18.3
Nepal	4,245	28,195,994	15.1
Pakistan	*41,494*	*163,902,405*	*25.3*
Sri Lanka	2,603	19,299,190	13.5
Australia	1,616	20,743,179	7.8

Source: Table A.2, *Global status report on road safety* [3]

developing countries) [1, 2]. The World Health Organization (WHO) [3] estimates that the death toll from road crashes in low- and middle-income nations is more than 1 million people per year, or about 90% of the global road toll, even though these countries account for only 48% of the world's vehicles.

Furthermore, it is estimated that approximately 265,000 people die every year in road crashes in South Asian countries (see Table 1). Due to the high degree of under-reporting of crashes in South Asian countries, all fatality rates presented in Table 1 (apart from those for Australia) are point estimates within confidence intervals derived from regression models that use WHO regional mortality data.

Although some of the confidence intervals overlap, the point estimates suggest that Pakistan has the highest rate of fatalities per 100,000 population in the region. It can be seen that Pakistan's road crash fatality rate of 25.3 per 100,000 population is more than three times that of Australia's (7.8). High numbers of road crashes not only cause pain and suffering to the population at large, but are also a serious drain on the country's economy, which Pakistan can ill afford. Unfortunately, research into road safety in Pakistan is scarce, as is the case for other South Asian countries.

Attention to all aspects of the Safe System approach to road safety is recognised as vital if harm from road crashes is to be reduced [4]. In developing countries especially, attention and resources are required in order to improve things such as vehicle roadworthiness and poor road infrastructure.

However, attention to human factors is also critical. Human factors that contribute to crashes include high-risk behaviours like speeding and drink driving, and neglect of protective behaviours such as helmet wearing and seatbelt wearing. Much research has been devoted to the attitudes, beliefs and perceptions that contribute to these behaviours and omissions, in order to develop interventions aimed at increasing safer road-use behaviours and thereby reduce crashes.

Fatalism is a set of attitudes that has received little attention in road safety research, but is potentially of great relevance to road user behaviours in developing countries. In 2004, a survey of personal values around the world found that Pakistan rated highest on a measure of fatalism (*World values survey,* 2004, cited in Acevedo [5]), and other developing countries also tended to be high. Social and cultural factors are argued to form an integral part of the context of road safety in a country, along with economic and institutional factors [6], and an understanding of these factors is necessary as part of the process of developing interventions that are likely to be effective [6]. It is therefore important that road safety professionals gain a better understanding of fatalism and its contribution to road crashes.

The aim of this paper is to clarify what fatalism means; to show how it overlaps with other concepts, attitudes and behaviours; to describe the ways it can influence road safety; and to outline a proposed program of research that aims to explore fatalism and related concepts in Pakistan.

Fatalism and related concepts

Fatalism, while a commonly used word, is employed in different ways and with different underlying meanings. Broadly, fatalism is the belief that life events are predetermined and inevitable, or (at the least) out of one's own control. In practice, fatalism can take more than one form, and several typologies have been developed [5, 7, 8]. While there is insufficient space to discuss these typologies, it should be noted that, when analysed, they appear to reflect the specific contexts and circumstances in which the studies were undertaken.

In our account of fatalism, the approach taken by Acevedo [5] is used. Acevedo discusses the approaches taken by Durkheim and other sociologists, and the more culturally oriented views of Weber and Elder, and opts for an approach using the first two of Elder's categories: empirical fatalism and theological fatalism. Empirical fatalism is a belief that observed events 'occur for no comprehensible reason and they cannot be controlled', while theological fatalism is 'the belief that God or some moral order such as karma controls man's destiny and the outcome of his actions' (Elder 1966:229, cited in Acevedo [5]).

There is an overlap between fatalism and superstition both conceptually and in practice. Superstition can be defined as 'a belief or practice resulting from ignorance, fear of the unknown, trust in magic or chance, or a false conception of causation' [9].

Like theological fatalism, superstition involves a belief in the working of supernatural forces, which could include magic, spirits, ancestors or vague concepts like luck. The main difference from theological fatalism is that there is no all-powerful supernatural agent (e.g., God) involved, and in fact, the effects of magic are often attributed to ordinary (though malevolent) human beings. A second area of overlap concerns the actions taken by people acting superstitiously, who may invoke religious acts and powers as a way of counteracting possible malevolent acts or bad luck. This can give the appearance of religion to a practice that is essentially magical.

Fatalism and developing countries

Cultures differ in a variety of ways, not only in how much they endorse the notion of the supernatural, but also in the ways that supernatural beings and forces operate, including fate [10]. All societies have some elements of fatalism, though it is put into practice differently [7, 11-18]. Indeed, according to the Safe System approach adopted in Australia, human error is acknowledged as an inevitable part of the system [4]. This acknowledgement highlights the need to focus on improving 'controllable' factors such as vehicles and roads, as well as high risk road user behaviours and attitudes in all countries.

Fatalism is also associated with various religions. For example, Christianity and Buddhism give similar explanations of life in terms of fate, although in Buddhism, fate is embedded in the different cultural belief of karma [7]. Islam has been implicated as especially associated with fatalism, although this is contested [5, 19, 20].

The survey of personal values cited earlier (*World values survey,* 2004, cited in [5]) identified Pakistan as the country highest on a measure of fatalism; however, the fatalism indicator used only measured empirical fatalism [5]. The full survey results have been used to compare (empirical) fatalism between religions and shows Muslims as highest and Protestants lowest in terms of fatalism [5]. However, other studies have reported results inconsistent with a one-dimensional view of Islam as fatalistic (e.g., [21]).

A survey that included measures of both empirical and theological fatalism has been conducted, although it was focused only on Islamic countries, and due to a lack of consistency in questions across countries, measures of both empirical and theological fatalism were only available for some countries (*Gallop Poll of the Islamic world,* 2003, cited in [5]). People identifying with religions other than Islam were also included, and the research tested hypotheses about expected differences in empirical and theological fatalism if Islam was a religion which, by its very nature, engendered fatalism.

The pattern of results did not support the hypotheses, but pointed instead to the importance of specific local and historical circumstances – the degree of empirical or theological fatalism in a particular group reflected their position in society and the historical experiences of their group. While it was found that, on average, Muslims were more fatalistic, the association between fatalism and both socio-economic status and education did not allow for any clear conclusion.

Socio-economic status and education are probably the key differences between developing and developed countries. It has been argued that the link between fatalism and poverty is not clear and may be more dependent on culture and education [22] or on the mindset of control over one's life, regardless of value and religiosity [5].

There is some evidence of a link between lower levels of education and greater fatalistic beliefs [17], and there has been speculation that an increased number of road accidents among superstitious drivers was a result of lower education levels [23, 24]. Other findings run counter to this, with evidence of fatalism and superstition not only in more educated developed nations [25-30], but also among more educated people within developed nations [31]. The current literature, though mixed on many of these issues, does signal the need to consider them when examining road user behaviour, particularly in developing countries.

Implications of fatalism for road safety

As discussed earlier, fatalism is the belief that events are predetermined or, at the very least, out of one's own control. The general concept here relates to the belief that a person is, therefore, unable to change the occurrence (and course) of an event and in turn, not personally responsible for what occurs. With respect to road safety, the implications of such beliefs can be that crashes may be viewed as inevitable and not preventable [17].

This thinking can act as a barrier to recognising factors associated with crash causation, as well as promoting the notion that crash investigation is unnecessary. Fatalism can also have an adverse impact upon road crash prevention because it may affect receptivity to messages about the need to change risky behaviour [32, 33]. In addition to an unwillingness to adopt safe behaviours, it has also been found that fatalism contributes to risky behaviour and consequent negative outcomes (e.g., people with greater fatalistic beliefs tend to take more risks and have been victims of road accidents on more than one occasion [24, 34]).

A small number of studies show that fatalism is implicated in road safety in developing countries. A study in Thailand indicated that ordinary people's constructions of Buddhism, karma and fatalism influenced their attribution of the causes of crashes, and hence their receptivity to safety messages [35]. Similarly, a study in the Ivory Coast (West Africa) into the importance of culture in risk taking and accident prevention discovered that fatalistic beliefs and mystical practices influence the perception of road crashes and consequently lead people to take more risks and neglect safety measures [34].

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 to allow for a miraculous escape when a road crash occurs [36]. It was reported that people having such beliefs behave imprudently, disregard precautionary measures and believe that such amulets will keep them safe [36].

Superstitions have also been shown to play a role in road safety. Superstitions may take the form of attributing misfortunes like road crashes to transgression of taboos, the actions of ancestors, jealousy from others and what Westerners call witchcraft [37]. Drivers take precautions, which include the use of spells, rituals, amulets and other magical objects. If they experience a road crash in spite of this magical precaution, they may believe that witches, wizards, secret societies or demons are responsible [36].

A study to evaluate superstition, risk taking and risk perception of accidents among South African taxi drivers found that a considerable proportion of drivers believed in destiny, witchcraft or evil spirits as possible causes of road traffic accidents [24]. Participants also reported that protective medicines, consulting traditional healers or prophets, and cleansing procedures could be effective means to avoid future accidents. Similarly, high degrees of superstition have been identified among various categories of drivers in the Ivory Coast [34] and Nigeria [37].

Many developed countries have successfully reduced road crashes and casualties by adopting a systematic approach to road safety, which is a result of a balanced blend of road user interventions and, most importantly, logically focusing on the attitude and behaviour of the road users towards road safety and observance of laws. Initially, developed countries considered road crashes as acts of God and unavoidable; however, over time, the focus shifted to the contribution of human factors and the notion of road crashes as preventable [38]. This shift in focus has culminated recently with concepts such as Vision Zero (Sweden), Sustainable Safety (Netherlands) and the aforementioned Safe System approach, where human error is considered inevitable and every effort made to control for it [4].

Research into the psychology of fatalism indicates that it may have benefits in its own right or as a compensatory mechanism. Attributing responsibility for bad events to an external agency avoids feelings of guilt about personal responsibility [24, 39-41]. In most people's lives there are things that they can change and things that they cannot, and being fatalistic about the things that cannot be changed can remove sources of dissonance [42-45], while attribution of responsibility to God or another supernatural being can be comforting [46, 47].

Against this backdrop, it is important to find a way forward, as the presence of fatalism is a potential barrier to participation in health-promoting behaviours and thorough crash investigation, particularly among the populations of developing countries. It has been argued that, both more generally [48] and in road safety [6], programs that are highly successful in developed countries sometimes do not work in developing countries, in part because their appropriateness for the local culture may have been overlooked.

Interventions need to be adapted to exploit those cultural values and beliefs that are compatible with safe behaviours, and otherwise account for those that are not [6, 37, 48, 49]. Alternatively, they should be generated entirely locally [50]. The lack of such efforts is in some senses symptomatic of a tendency to avoid consideration of broader cultural issues, noted in several countries [37, 51, 52]. For this reason, an important fundamental step in approaching road safety in Pakistan is to develop an understanding of the nature and role of fatalism in the broader context of road safety in the country.

Fatalism and superstition about road safety in Pakistan

It is clear from Table 1 that Pakistan has a significant road safety problem. Unfortunately there is relatively little research about road safety in Pakistan, so it is not surprising that two sources comment that road crashes are neglected in both research and policy in Pakistan [53, 54]. It has also been noted that shortcomings in police data continue to make it difficult to determine the scale of the problem [53, 55-58].

Two systematic reviews of relevant information have been conducted under the direction of A. A. Hyder [54, 56]. The first, a thorough review of reports on road crashes in Pakistan, was conducted in the late 1990s [56] and was supplemented by interviews with hospital victims, which revealed high levels of under-reporting in police data. It was found that there had been a steady increase in traffic deaths and injuries from 1956 to 1996. An unexplained issue in the study was the disparity between vehicles on the road and registered vehicles, with only half the vehicles on the road being registered. Commercial vehicles made up 12-35% of registered vehicles across the period, but were involved in more than 60% of crashes (increasing over time) and 90% of fatalities. The vehicles concerned were primarily buses.

The second [54], conducted a few years later, involved a systematic review of the literature relevant to road transport in Pakistan, which included gaining access to government reports. The report notes a distinct lack of official policy statements about road traffic injuries and, when the issue was acknowledged, the lack of reference to any interventions. A thorough search of databases revealed only seven studies, most of which are cited here and most involving groups of authors with some members in common across the studies.

In a 1997 national household injury survey, it was found that the road traffic injury rate was 15.1 per thousand people [55], while an earlier National Health Survey conducted in Pakistan in the period 1990-94 showed a similar incidence of 17.0 road traffic injuries per thousand people per year [59]. Both studies found higher levels for men and in urban areas, while the 1997 survey found higher rates for people aged 16-45 years (21.6 per thousand), and very high rates for labourers (119.5) and vendors (104.6). Looking at transport mode, 34% of injuries were as vehicle occupants, 24% as pedal cyclists, 21% as motorcyclists, 12% as pedestrians and 9% recorded as 'other'. According to the study, most of the injured vehicle occupants were occupants of buses or larger vehicles.

Pakistan is one of the largest Muslim countries in the world, although (unlike Muslim countries in the Middle East) conversion to Islam followed centuries of Hinduism. As noted earlier, Pakistan scored highest in the world on a measure of fatalism in an international survey (*World values survey,* 2004, cited in [5]); however, this only measured empirical fatalism, whereas a high rating on theological fatalism would not be unexpected.

Pakistan also exhibits other characteristics associated with fatalism, such as lower education and socio-economic status. According to the *Pakistan social and living standards measurement survey* for 2007-08 [60], the overall literacy rate (age 10 years and above) is 56 per cent (69 per cent for males and 44 per cent for females). The *WHO global status report* [3] classifies Pakistan as a low- (rather than middle-) income country, with a gross national income (GNI) per capita of US$870 in 2007. This is not the lowest GNI per capita in the region (Bangladesh and Nepal have lower figures); however, it places Pakistan in the lower half of a region that is relatively poor already.

There does not appear to be any research into the role of fatalism in road crashes in Pakistan, which is perhaps not surprising given that there are so few publications on road traffic crashes in general in Pakistan. The principal author is an experienced police officer in Pakistan (with the National Highways and Motorways Police) who has given hundreds of presentations on road safety to fleet drivers, as well as being involved in traffic law enforcement. In his experience it is almost universal to attribute crashes to God (the literal translation being 'it was by God', i.e., God's will) and to use the same reasoning to justify not taking precautions to avoid crashes.

Drivers of public and commercial vehicles (which figure significantly in the available crash statistics) are mostly uneducated and fatalistic, and this overlaps with superstitions, such that they believe that spirits, black magic and evils can influence their daily life and activities [61]. Figure 1 shows examples of the protective actions taken to avoid such misfortunes among Pakistani drivers. It can be seen that scripture from the Koran is used in the form of an amulet or charm inside a vehicle, which is believed to provide protection from road crashes. This is an example of how religious fatalism and superstition can overlap.

There are further overlaps with other aspects of culture: in Pakistan (and other places such as India, Afghanistan and some African countries), some people wear headgear that has cultural and status significance and, therefore, they are not willing to wear bicycle or motorcycle helmets. The legislation does not take this problem into account, even though the social and cultural imperative for them to wear their headgear is taken for granted by the public, and their right to ride motorcycles or bicycles is not challenged.

As discussed earlier, fatalism and related constructs can interfere with the effectiveness of public health messages. The significant road crash problem in Pakistan, combined with information suggestive of a problem with fatalism in Pakistan and the principal author's own experiences, provides a strong rationale for research aimed at developing an understanding of the nature of fatalism among Pakistani road users (especially professional drivers) and policy makers in the road safety field. The next section outlines a research project that is currently under way to explore these issues.

Proposed research

Clearly, more research is warranted on the effects of fatalism in road safety, both in general and in Pakistan. The historical, cultural and locally specific aspects that are likely to emerge from such research point to an anthropological approach (using qualitative methods) as being the most appropriate way of collecting and analysing data [62-65]. This paper summarises some aspects of the first step in an exploratory research project, which is a systematic and extensive literature review to establish a general picture of the belief systems of Pakistani road users and the influence of these beliefs on risky behaviour in road safety (specifically religious and cultural beliefs).

The second step – data collection – will be undertaken through individual in-depth interviewing [66]. This is considered an appropriate method to use for the current work because of the nature of the subject being explored and the limited amount of

Drivers use holy verses in vehicles to prevent road crashes

It is common for drivers to attach cloth, horse hair and other materials to vehicles to protect against black magic, bad luck, and to prevent others from wishing harm on a driver (evil eye).

Figure 1. Examples of measures taken by commercial drivers in Pakistan to protect themselves from road crashes. It is noted that such measures may introduce distraction into the driving scenario owing to such things as restricted visibility from windscreens and unnecessary movement of objects (e.g., black cloth) at the rear of vehicles.

Source: Kayani et al 2010 [61]

published information in the literature to date. The sample size for this study is anticipated to be 20 to 25 participants. It is anticipated that the interviews will be conducted in Pakistan in the city of Lahore and possibly other locations. Participants will include policy makers (with responsibility for traffic law), experienced police officers, professional drivers and general drivers selected through convenience sampling. The interviews will take place at participants' offices, public libraries and offices in taxi/bus stands to ensure participant confidentiality and anonymity.

Participants will be interviewed individually using a semi-structured interview format with simple prompt questions. Face-to-face, in-depth interviews are valuable for exploring the meaning of risk and understanding the role of deeper issues [67, 68]. For example, community values and ways of life, which are recognised as important in the risk literature, may be expressed through language that indicates multiple meanings. A semi-structured questionnaire will be developed in a generic form, and will be adapted as issues emerge to allow for follow-up and deeper exploration of participant responses. The broad items will initially seek information on how participants define a road crash, their perceptions of road crashes and their causes. Drivers will also be asked about everyday driving activities and their attitudes and beliefs about them.

An advantage of this research is that the principal author is Pakistani and will conduct the interviews primarily in Urdu, thus avoiding a problem noted in previous research in Pakistan [55]. However, translation can influence validity and reliability when collecting and analysing qualitative data [69]. In this study, the audio recordings will be translated by the researcher, and another translator will be utilised to double-check the translations against the recordings for validity and reliability. Data will be analysed using a thematic analysis approach, searching for the expression of particular ideas within the overall context of the dialogue [70]. Important themes will be identified and reported and will be used to provide preliminary information to assist in better understanding the role of fatalism in road use in Pakistan.

Conclusion

Fatalism has not been widely discussed in the road safety literature, and limited research has been carried out in this area. Two main types of fatalism – empirical and theological – can be identified, and they overlap with superstitions and superstitious beliefs and practices to some extent. Direct information about fatalism in Pakistan is lacking. However, there is enough indirect information to suggest that it is likely to form a barrier to the success of public health messages aimed at road crash prevention, particularly for those who believe that crashes occur solely by God's will (i.e., theological fatalism) compared with those who may believe that crashes are uncontrollable (i.e., empirical fatalism). The proposed research aims to provide information to assist in understanding the operation of fatalism in Pakistan, which will assist in the development of effective and culturally appropriate interventions in future.

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