

Road Safety: A Case Study of Current Situation in Malaysia

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ABSTRACT

Road safety has long been considered as one of social responsibilities of the Malaysian Government. This paper attempts to review the present status of road safety and further study to reduce road accident in Malaysia with special reference to road safety initiatives carried out by the Malaysian Government especially the Ministry of Works Malaysia. The contents of this paper will use an overview of present road accident statistic, national road safety target, Road Safety Programmes by Ministry of Works Malaysia, and discussion of future strategies to reduce traffic accident.

Keyword

Road safety target, accident rate, accident statistic

1.0 INTRODUCTION

Road traffic accidents have been one of the biggest problems in the world involving the public health and prevention problems. This problem has become more complex since the victims of the road traffic accidents are fit and healthy prior to the accident. Based on the data from World Health Organization (WHO), there are over a million of people were killed due to road accidents every year and the cases are increasing every year. In this situation all people must realize and give more attention to decrease the rate of road accident. (MANAF, 2010) As we know many factors that cause this problem and the main factor is from human. After that the causes are road condition from poor, climate and vehicle factors. The rate of road accidents could be reduced by the various actions including from education, comfortable road condition, campaign and enforced the law. If all people give support and cooperation, this problem could be settled easily and our country also can decrease the number of deaths that result from road accident.

1.1 Problem statement

Given widespread awareness about the high rates of death and injury resulting from motor vehicle crashes worldwide and in Malaysia, drivers still operate automobiles and motorcycles in ways that reduce the likelihood of safe arrival at destinations. Speeding, externally-focused frustration, loss of attention of right-of-way is frequent behaviours in traffic, with resulting outcomes often involving crash and injury. (Downe, 2008).

1.2 Objective of Study

The aim of the present research is to determine those factors contributing to traffic accidents on Malaysia roadways, with a view to assessing which preventive measures would be most effective.

2.0 LITERATURE REVIEW

2.1 Human Factors and the Motor Vehicle Safety Problem in Malaysia

2.1.1 Rapid growth in population, economic in development

Traffic accidents in Malaysia have been increasing at the average rate of 9.7% per annum over the last three (3) decades. Compared to the earlier days, total number of road accidents had increased from 24,581 cases in 1974 to 328,264 cases in 2005, reaching more than 135% increase of accident cases over 30 years. (Mustafa, 2005) The increase of road accidents is in link with the rapid growth in population, economic in development, industrialization and motorization encountered by the country. Furthermore, the total length of road had also increased from 11,161 km in 1974 to 71,814 km in 2005 to accommodate an increase in numbers of vehicles in Malaysia. This also led to an increase of ownership from 9.6 persons per vehicle in 1974 to 1.7 persons per vehicle in 2005. The total numbers of

registered vehicles also increased from 1,090,279 to 15,026,660 vehicles in 2005 (Mustafa, 2005).

2.1.2 Roadway Crashes in Malaysia and Public Perceptions of Causality

In 2006, there were 341,252 motor vehicle accidents in Malaysia. Over 6,000 fatalities were recorded (Ministry of Transport Malaysia, 2007). The high rate of roadway accidents and deaths has been described in scholarly and popular print or internet media in extreme terms, often labelled as “tragic” (Downe, 2008). Recently, the Minister of Health characterized Malaysian roads as “worse than a war zone”, pointing out that annual fatalities exceed the total deaths among American combat personnel over four years of fighting in Iraq. In Malaysia, In 2009, there were 397,194 road accidents recorded compared to 328,268 in 2005, an increase of 21 per cent. Out of the total, there were more accidents without injury compared to accidents with injury. (Department of Statistics Malaysia, 2011). Generally, one-third of all crashes in Malaysia involves automobile users or motorcyclists within the 16- to 25-year-old age group (see table 2.2), higher than any other age grouping or combination of consecutive age groupings. This suggests that studies, in Malaysia, drivers within the senior secondary school and university age range must be regarded as being at a potentially higher level of risk than other age cohort (Downe, 2008).

2.2 The Emergence of Traffic Psychology as a Scientific Discipline

2.2.1 An Applied Perspective

There has been an interest in driver personality, information processing, motivation and behavioural performance as potential underlying causal factors in driver behaviour (Jonah, 1997a). The need for a more specialized focus by applied psychologists and ergonomists on driving-related research problems and roadway safety was raised throughout the 1960s (Downe, 2008).

People’s reactions to the inconvenience and discomfort of a particular journey depend on many intertwined psychological processes including personality disposition, attitudes about the origin and destination of the trip and resources for choosing alternative travel modes and schedules. The Traffic and Transportation Psychology Division of the International Association of Applied Psychology was established in 1994 and there has been a steady growth in publications, conferences and coordination of professional affiliations ever since

(Groeger, 2002). Huguenin (2005) defines traffic psychology as “the psychological intervention, or the psychological support for intervention, in the field of traffic. (Downe, 2008)

2.2.2 A Multi-disciplinary Approach

From the outset, traffic psychology has drawn from multidisciplinary perspectives, encompassing engineering, transportation planning, ergonomics, medicine, psychology, anthropology and sociology. Indeed, Ochando, Temes and Hermida (2001) found, in a Spanish survey, that individuals tend to combine their interests in traffic psychology with some other area of specialization such as educational psychology.

Ergonomics has made a contribution, as well, both by providing a better understanding of human-machine interaction, and of cognitive control over vehicle and highway systems involved. Saad (2002) commented that: From the perspective of the driver, ergonomics is concerned with identifying and designing technical and organizational means for facilitating the driver’s interaction with the road environment. In the broadest sense, the road environment comprises the vehicle, the road infrastructure and other road users. It also includes the rules of the Highway Code governing the use of the road infrastructure and interactions with other users, which are sometimes expressed in road markings and road signs.

2.3 Theories of Driving Behaviour

2.3.1 Concepts, Theories and Models

In attempting to understand, predict and modify road user behaviour, traffic psychologists frequently engage in theory-building. This involves the coherent grouping of general propositions for use as principles in explaining various classes of driving phenomena. Concepts are the building blocks for theory and may be defined as A word or set of words that expresses a general idea concerning the nature of something or the relations between things, often providing a category for the classification of phenomena: (Downe, 2008)

3.0 METHODOLOGY

This cross sectional, school based study was carried out in the year 2012 using a multistage stratified sampling method using the list of government schools

with upper six classes provided by the Department of Education of Selangor.

3.1 Study location

This is a cross sectional study carried out in government day schools in the state of Selangor, Malaysia. There are nine districts in the state of Selangor, Malaysia. Four districts, Klang, Hulu Langat, Petaling and Gombak were selected randomly.

3.2 Study participant

There are two levels of education in Malaysia. Primary level is from standard 1 to standard six (7 to 12 years) and secondary level is from form 1 to upper six (13 to 20 years). Upper six class is the highest school education before the student enters the university for their tertiary education. Government schools with the highest number of form six classes were identified and twelve schools were selected using the list of schools provided by the Selangor Education Department. The individual schools provided the class registers. All the students registered in the form six classes were included in this study. Students who were absent on the day of the survey were not included.

3.3 Data collection

A self-administered questionnaire adapted from the Motor-vehicle Occupant Safety Survey, 1998 was used after pre-testing (NHSA, 1998). Our study analysed data on road traffic accidents involving motorcars occupant (drivers and passengers) occurring within the last 12 months. Questionnaires were administered in classrooms to the willing participants, in examination conditions with students' desks separated to avoid discussion. A briefing was given by one of the authors prior to the survey. Questionnaires were completed in the absence of the teachers. Students' anonymity was protected through confidential conditions.

3.4 Statistical Analysis

Data were analysed using Statistical Package for Social Sciences (SPSS) version 19.0 with univariate and bivariate comparisons. P value below 0.05 was considered as statistically significant.

4.0 FINDINGS

From the data, it pointed out that the prevalence of traffic injuries and fatalities among drivers, and particularly among younger drivers, has resulted in considerable economic loss for the country. Some of the urgency in discussions of Malaysia's road safety problem has been related to the high frequency of roadway deaths and injuries occurring among adolescent and post-adolescent age groups. Generally, one-third of all crashes in Malaysia involve automobile users or motorcyclists within the 16- to 25-year-old age group higher than any other age grouping or combination of consecutive age groupings.

For the expectation, the 16-25 year-old teenager recorded a high number of cases involved in road accident.

The increase of road accidents is in link with the rapid growth in population, economic in development, industrialization and motorization encountered by the country. Since 1970s, Malaysia had experienced a remarkable growth in these sectors. In facts, there is an increase in Malaysian population from 10.4 million in 1974 to 26.1 million in 2005 at an average growth rate of about 2.1% per year. Furthermore, the total length of road had also increased from 11,161 km in 1974 to 71,814 km in 2005 to accommodate an increase in numbers of vehicles in Malaysia. For our expectation, the rate of road accidental definitely increased in line with high population, country development and others.

5.0 DISCUSSION & CONCLUSION

5.1 Contextual Mediated Model for Understanding Factors Influencing Unsafe Driving

Traffic psychologists, road engineers and ergonomists interested in motor vehicle safety have tried for a long time to understand the role played by human factors in determining traffic safety outcomes. While it has been generally assumed and frequently stated that driver characteristics, including gender, age and personality maybe the most important factors in crash causation (Bridger, 1995; Elander et al., 1993; Evans, 1991), researchers have been frequently frustrated when attempting to quantify the effects of psycho-social variables on either driving behaviour or crash outcomes. Often, human factors that conceptually might be expected to have a strong influence over driving behaviour and crash occurrence end up, upon examination, exerting

weaker influence or more equivocal results than anticipated. (Downe, 2008)

5.2 Safety Initiative

To achieve traffic accident reduction target set up by the Government, all the relevant Government departments and agencies need to give their contribution. The approach taken follows the 3 E's concept i.e. Education, Engineering and Enforcement. There is rarely an accident situation in which only one thing or person is the sole cause of accident. Generally, accident causes can be a combination of either these three basic factors which are road user errors, road environment faults and vehicle defects. (Mustafa, 2005)

5.3 Internal and External Locus of Control as Determinants of Driving Behaviour

In the present study, locus of control was found to play a significant role in influencing driving behaviour. Drivers, who had a strong internal locus of control regardless of automobile, motorcycle or taxicab drivers, reported engaging in behaviour in traffic that was relatively safe. This observation was true for all three groups studied: automobile drivers, motorcyclists and taxicab drivers. On the other hand, those who believed life events to be determined by chance or fate reported engaging in behaviour that was far more consistent.

In short, all participants in this study who were internals reported driving more safely than those who were not; and university students who were strongly externally controlled reported driving less safely than those who were not. This finding is exactly what the general body of thought about locus of control and driving would predict it to be. It has been generally assumed that, because externals believe that they have little personal control over what happens to them, they tend to consciously focus less on the driving task. (Downe, 2008)

5.4 Aggression

Haight (2004) has suggested that the concept of the accident-prone driver may have been replaced in the 1990s by that of the alcohol-impaired driver and, more recently, by the enraged driver. Nonetheless, there is a large body of evidence that aggression plays a significant role in unsafe driving behaviour and in crash outcomes. In the present research, aggression had a strong influence on behaviour in traffic. Consistently, among automobile drivers and motorcyclists, participants scoring higher on a measure of total trait aggression reported driving

patterns that involved right-of-way violations, feeling more frustrated at external sources, driving in a more urgent fashion and concentrating more on destination activities than on road and traffic condition.

While there are plenty of studies establishing the link between aggressions and driving behaviour, there are only a few that have attempted to explore the mechanism through which external or cognitive contexts trigger the effect.

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