

CAUSAL OF ROAD SAFETY: A STUDY AMONG MOTORCYCLISTS IN SELANGOR

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1. INTRODUCTION

Road traffic crashes are often to be heard. It is a long-standing issue in this world and Malaysia is no exception to this issue. This issue has been debated until now (Hoque, Rossen, & Tse, 2011; Parker, Allen, & Watson, 2016; Crash Countermeasures & Design of Safety, 2017; Musselwhite, 2018; Zhao, Li, Chen, Li, & Ding, 2021) and the outcomes still demonstrate increasing amount which has been attributed to road traffic crashes. Road traffic crashes are becoming a global issue around the world. Thus, it needs crucial attention from all parties to reduce the number of road traffic crashes. Road traffic crashes are one of the major contributors to the statistics of the leading cause of death in Malaysia. It shows road traffic crashes are the fourth highest of all other causes of death (Department of Statistics Malaysia, 2019).

Based on the road traffic crashes statistics, the number of road user deaths due to road traffic crashes comes from the group of motorcyclists (Malaysian Road Safety Department, 2020). This can be proved when the Malaysian Road Safety Department revealed that motorcycles recorded the highest number of accidents with a total of 3959 cases compared to cars that recorded 1253 cases, followed by pedestrians with 394 cases and lorries recorded a total of 182 cases (Malaysian Road Safety Department, 2020). As can be seen, by the numbers recorded by the Malaysian Road Safety Department, this indicates that motorcyclists are most vulnerable to danger while riding on the road compared to cars that are less vulnerable to danger. This study aims to examine the factors (human factor, road condition, vehicle condition) contributing to road safety among motorcyclists.

2. METHODOLOGY

The sampling technique for quantitative research design for this study is using proportionate stratified random sampling and involving 500 individual motorcyclists from the state of Selangor. This technique is to select the sample from the population which is in Selangor. This is because Selangor recorded the highest number of road traffic crashes in Malaysia by following the state. By using this proportionate stratified random sampling technique two important groups need to be classified. The first group to be classified is three districts which are reported the highest number of road traffic crashes involving individual motorcyclists. Thus, only three districts are selected as samples for this study. Among the three districts are (1) Petaling Jaya; (2) Shah Alam; and (3) Kajang (Royal Malaysian Police, 2015).

The second group to be classified is the adequate number of males and females who are selected from the three districts. In addition, to select an individual motorcyclist, the individual must be 16 until 40 years old. The reason is by selecting this range of age because they are considered as the most vulnerable groups involved in road traffic crashes (Malaysian Road Safety Department, 2020).

The instrument that was used in this study is by using questionnaires to gain the data. In the questionnaire, there are 2 sections. One part of the questionnaire is the profile of the respondents and the other contains 5 divisions namely: (1) human factors; (2) road conditions; (3) vehicle condition; (4) policy enforcement; and (5) enhance road safety. This questionnaire is using 5 points of the Likert Scale and ranging from 1 to 5 which is 1 representing strongly disagree, 2 represents disagree, 3 represent almost agree, 4 represent agree, and lastly 5 representing strongly agree. For the part of the profile of respondents' researcher use a nominal scale and the questionnaires are in a bilingual language which is English and Malay.

For the data analysis technique, this study uses Statistical Package for the Social Science (SPSS). This analysis using correlation analysis to explore the relationship between two variables.

3. RESULTS AND DISCUSSION

This study has conducted correlation analysis to explore the relationship between factors (human factor, road condition, vehicle condition) in contributing to road safety among motorcyclists. As stated by Pallant (2013) correlation analysis is to describe the strength and direction of the relationship for two variables. For this study, there is 3 relationship that is needed to analysis which is: (1) human factor and enhancing road safety; (2) road condition and enhancing road safety; and lastly (3) vehicle condition and enhancing road safety. The result is presented below:

Table 1: Correlation

Variables	(1)	(2)	(3)	(4)
Enhance Road Safety (DV)	(0.864)			
Human Factor (IV)	0.349**	(0.875)		
Road Condition (IV)	0.154**	0.587**	(0.847)	
Vehicle Condition (IV)	0.810**	0.259**	0.020	(0.966)

Notes: ** Correlation is significant at the 0.01 level (2-tailed).

Based on the result of correlation analysis, Table 1.0 above showed the results of the correlation. It is showed that there was a medium negative significant relationship between human factor and enhancing road safety by showing $p < 0.001$ and $r = 0.349$. This showed that the attitude of the human which in this case individual motorcyclists influences the level of enhancing road safety among motorcyclists. For the relationship between road condition and enhancing road safety the results of correlation showed that there was a small negative significant relationship by showing $p < 0.001$ and $r = 0.154$. This is showed that the maintenance and structure of the road give influence towards the level of enhancing road safety among motorcyclists. Lastly for the relationship between vehicle condition and enhancing road safety showed that the result for correlation is a large positive significant relationship between two

variables by showing $p < 0.001$ and $r = 0.810$. This indicates that the condition of the motorcycle will give an influence on the level of enhancing road safety among motorcyclists. As has been noted that, all three factors (human factor, road condition, and vehicle condition) showing that it can enhance road safety among motorcyclists. The reason behind this is because when looking at the significant value for the three factors, it showed that all the three factors are giving a significant which $p < 0.01$. Thus, it can be concluded that all three factors (human factor, road condition, and vehicle condition) are correlated with enhancing road safety among motorcyclists.

4. CONCLUSION

In a conclusion, this study wants to examine the factors (human factor, road condition, vehicle condition) in enhancing road safety among motorcyclists. As a result, drawn by using correlation showed that human factors, road condition, and vehicle condition give an influence in enhancing road safety among motorcyclists. This in line with the others author claimed that the human factor, road condition, and vehicle condition give an influence in enhancing road safety as a general (Malaysian Road Safety Department, 2020; Mohan, Tiwari, Khayesi, & Nafukho, 2006). As stated in the statistics book by Malaysian Road Safety Department (2020), several studies have undergone and they have stated that about 80.6% of human factors contribute to road traffic crashes. Followed by road condition with the contribution to road traffic crashes is 13.2%. Lastly, 6.2% comes from vehicle conditions which contribute to road traffic crashes.

This finding will give an advantage to all parties such as road users, relevant agencies, and the body of knowledge. The advantages for the road users are to make road users more aware of road safety compliance. Apart from that, road users also will be educated and aware of the importance of complying with road safety rules and regulations which will ensure that the road users are safe when using the road. The advantage for relevant agencies is to suggest the most preferable ways for the relevant agencies in enforcing road safety which is to be implemented effectively. Due to this, the relevant agencies can reconstruct the economy as this issue has given a huge impact on the economy where the economy has lost several billion to accommodate the impact and risk of this issue. As for the advantages for a body of knowledge, it will encourage the other researchers to continue more studies in this area of road safety which is more deeply focus on those three factors (human factor, road condition, and vehicle condition) in enhance road safety as this also indirectly contribute to reducing the number of road traffic crashes.

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