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Perception on Road Safety Education (RSE) among Local University Students in Malaysia: A Preliminary Study

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Abstract

In Malaysia, accident rates involving pupils and youngsters are still considered high after 12 years of RSE implementation in primary schools and 7 years in secondary schools. In 2018, 7.5% of fatality rates involved people aged between 6 and 15 years old, while 29.8% were aged between 16 and 25. Nowadays, RSE in Malaysia has been formally implemented in primary and secondary schools for students aged 7 to 15. However, RSE in Malaysia has not been implemented at the university level. Therefore, this study aims to determine university students' perception of RSE. This study found that most students agreed that RSE needs to be taught at the university. Most of them also agree that RSE at university should be taught as an elective subject (68.2%). Only 28.8% agree that RSE should be taught as a mandatory subject.

Keywords*:* Road Safety Education, Local University Students, Quantitative, Preliminary Study

Introduction

Globally, road traffic injuries are the 8th leading cause of death and the principal cause of death in young people aged 15–29 years, and they are expected to be the fifth leading cause of death by 2030 unless urgent action is taken (WHO, 2019; Salvi, 2016). Recent studies (Wilson & Stimpson, 2010) also show that younger drivers are more likely to be in fatal accidents caused by being distracted than adults.

Road safety education (RSE), regarding its breadth and that it takes place during the complete life process of individuals is considered a key determinant of road safety behaviours and a relatively lower road risk (Alonso et al., 2018), essentially for road users with more diverse high-risk factors, which may explain the occurrence of road accidents, such as young adults. Therefore, we can say that, around the world, there is an evident need for education and prevention of the entire population's health (WHO, 2019). The lack of RSE among road users may affect their performance, thus increasing the probability of being involved in traffic accidents (Markl, 2016).

In Malaysia, accident rates involving pupils and youngsters are still considered high after 12 years of RSE implementation in primary and 7 years in secondary schools. In 2018, 7.5% of fatality rates involved people aged between 6 and 15 years old, while 29.8% were aged between 16 and 25. Nowadays, RSE in Malaysia has been formally implemented in primary and secondary schools for students aged 7 to 15. However, RSE in Malaysia has not been implemented at the university level. As a result, this research aims to gain insight into the previous experience with road safety education and its effect on safety behaviour and determine the need for continued implementation at the university level. The research also wants to gain a preliminary idea of RSE input needs at the university level.

Research Methodology

A quantitative study design was utilised for this research, and the researchers created their questionnaire to gather data from students attending a single local institution in Malaysia using a straightforward random sampling procedure. The questionnaire with the multiple-choice items was completed online, and participants received a link to the questionnaire by email and Facebook. The questionnaire was divided into four parts, each of which contained different types of information: demographic data; responses to questions about the perceived effectiveness of road safety education in schools; responses to questions about the necessity of implementing road safety education in universities; and responses to questions about the proposed curriculum that students require. IBM SPSS 22.0 was utilised in the process of entering the data. Descriptive statistics such as the mean and standard deviation were presented to provide the result.

Result and Finding

223 students from the National University of Malaysia were involved in this study, with 32.3 per cent (n = 72) of them being male and 67.7 per cent (n = 151) female. The sample consisted primarily of Malay people, with 71.3 per cent (n = 159) of the participants identifying as belonging to the ethnicity. The remainder of the sample was divided into three groups: Chinese (19.7 per cent, or 44 people), Indian (5.4 per cent, or 12 people) and others (3.6 per cent, or 8 people).

Among the participants, 110 were between the ages of 19 and 21, 71 participants were between the ages of 22 to 24, and the remaining 42 participants were over 24 years old. 188 participants were undergraduates, whereas 35 were postgraduates. The following Table 1 shows the Demographic profile in detail:

Table 1
Demographic Profile

Variables	Frequency	Percentage (%)
Gender		
Male	72	32.3
Female	151	67.7
Ethnicity		
Malay	159	71.3
Chinese	44	19.7
Indian	12	5.4
Others	8	3.6
Age group (year old)		
19-21	110	49.3
22-24	71	31.8
Above 24	42	18.8
Level of study		
Undergrad	188	84.3
Postgrad	35	15.7

This study found that the majority of students, 57% agree that RSE needs to be taught at the university. Figure 2 defines the percentage of agreement in detail.

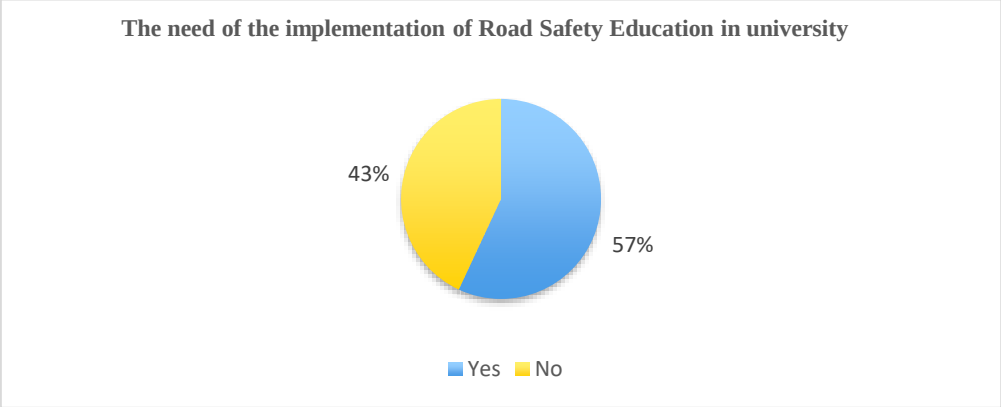
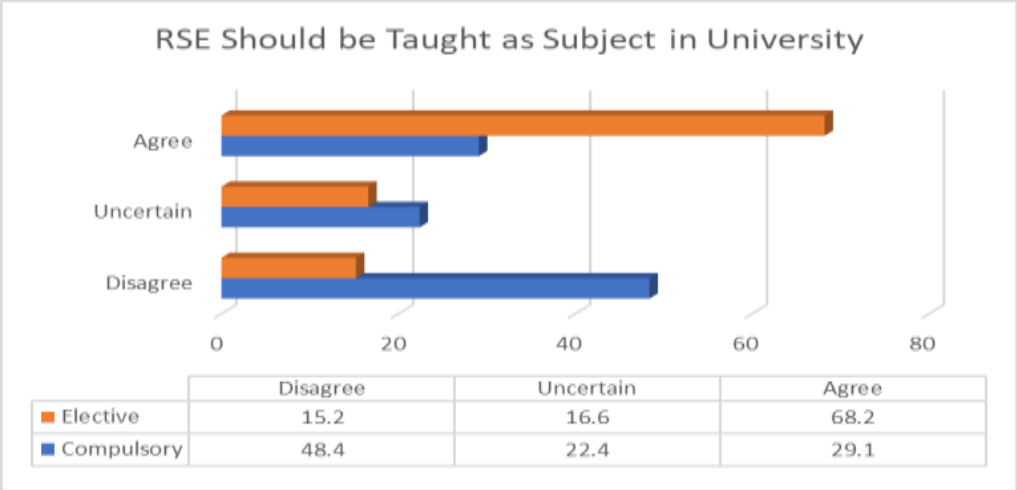


Figure 1: The need for the implementation of RSE in the university

The majority also agree that RSE in University should be taught as an elective subject 68.2%. Only 28.8% agree that RSE should be taught as a compulsory subject. Figure 2 shares the opinion that either RSE should be considered an elective or compulsory subject in the university.



	Disagree	Uncertain	Agree
Elective	15.2	16.6	68.2
Compulsory	48.4	22.4	29.1

Figure 2: RSE in University should be taught.

The data indicates the students' mean perception of road safety education in school. From the statistics, 176 respondents have learned RSE in school, whereas 47 respondents never learn about RSE. It is shown that most of the respondents rated 3 (not sure) to 4 (agree) from the statements given. A similar pattern can be found for the perception of the effectiveness of RSE in school for both students who had learned RSE in school and did not learn RSE in school. The majority of the students who learn RSE in school agree that RSE significantly raises their knowledge of road safety (M=4.19), raised their knowledge of risks on the road (M=4.19), teaches them to be careful road user (M=4.16), and teach them to be a prudent road user (M=4.16). Meanwhile, students who did not learn RSE in school also agreed that RSE could raise their knowledge of risks on the road (4.02), RSE significantly raises their knowledge of road safety (M=3.96), and RSE in school can teach them to be prudent road user (M=3.96). There was a significant difference for item RSE in school teaches me to be a careful road user for students who learned RSE in school (M=4.16, SD =0.88) and students who did not learn RSE in school (M=3.85, SD =0.98) conditions; t(221)=2.13, p=0.03.

There is no biggest comparison between those who had learned RSE on their perception of learning RSE in school and those who did not. The outcome is rather low (range of 3.3 to 3.5) for the statement RSE made of them being a passenger who dared to reprimand the driver for violating the road laws. There is a strong consensus among students who acquired RSE in school that it improved their road-safety understanding and made them safer drivers. The details of the results as table 2 below.

Table 2
Perception of Effectiveness of RSE in school by group students who had learned RSE in school and who did not learn RSE in school

No	Item	Learn RSE in school		Did not Learn RSE in School	
		Mean (M)	SD	Mean (M)	SD
1	RSE in school taught me to be a cautious road user	4.02	0.91	3.79	0.95
2	At school, RSE prepares me to be a safer road user	4.06	0.86	3.85	0.91
3	At school, RSE taught me to be a considerate road use	4.09	0.91	3.89	0.81
4	RSE at school made me a vigilant road user	4.15	0.90	3.89	0.98
5	RSE at school makes me respect other road users	4.10	0.90	3.79	1.04
6	RSE in school teaches me to be a careful road user	4.16	0.88	3.85	0.98
7	RSE in schools significantly raises my knowledge of road safety	4.19	0.91	3.96	1.00
8	RSE in school raised my knowledge of risks on the road	4.19	0.88	4.02	1.00
9	RSE in school increased my knowledge of road hazards	3.48	0.90	3.34	1.07
10	RSE in school made me a passenger who dared to reprimand the driver for exceeding the speed limit	3.53	1.12	3.47	1.20
11	RSE in school made me a passenger who dared to reprimand the driver for violating red light signal	3.56	1.14	3.49	1.20
12	RSE in school made me a passenger who dared to reprimand the driver and other passengers for not wearing seat belts	3.45	1.07	3.45	1.16
13	RSE in school affected my poor road user conduct	3.60	1.36	3.61	1.21
14	RSE in school increased my understanding of road safety	3.59	1.34	3.51	1.19
15	RSE in school is effective in teaching me to be a prudent road user	4.16	1.40	3.96	1.18

Next, the score RSE input needed at the university level is shown in Table 3. The results of the study found that 86.2% agreed on Vehicle maintenance techniques and the formation of a culture of vigilance on the road as a requirement that students in the university need to master. Followed by 85.7% of the agreement for safe driving skills among them. The result also reported that 85.2% of students think they have to know more Traffic rules and regulations. The formation of a culture of respect among road users, with 84.% agreement

that needs university students, followed by 83.9% with the item Building prudence on the road, 82.4% with Motorcycle riding skills item, and last one safe cycling skills, 61.6% per cent of agreement.

Table 3
Reported RSE input needed at the university level

No	Item	Yes		No	
		n	(%)	n	(%)
1.	Safe cycling skills	138	61.6%	86	38.4%
2.	Motorcycle riding skills	184	82.1%	40	17.9%
3.	Safe driving skills	192	85.7%	32	14.3%
4.	Vehicle maintenance techniques	193	86.2%	31	13.8%
5.	Traffic rules and regulations	191	85.2%	33	14.8%
6.	Formation prudence behaviour on the road	188	83.9%	36	16.1%
7.	Formation of the culture of vigilance on the road	193	86.2%	31	13.8%
1. 8.	Formation of a culture of respect among road users	190	84.8%	36	15.2%

Discussion

There is a strong consensus among students who received RSE in school that it increased their awareness of road safety and made them safer drivers. The results supported by Mayhew et al (2017); Shell et al (2015) that instructional measures will result in even a minor statistically significant reduction in traffic accidents. As a result, educational activities are now among the most effective road safety measures in the majority of countries worldwide. However, due to the variety of approaches and assessment methods used, the success of these programmes and their overall effects on overall road safety remain to some extent unknown (Topolsek et al., 2019). Despite that, Guggenheim et al., 2020 discovered that instructional programmes in RSE at school would help students depict positive behaviours that take advantage of the probable positive effect of friends to convince other young drivers to take more caution when driving.

Most countries prioritise road safety education for children in preschool and primary school, but almost no countries prioritise RSE for university education. Teenagers and adults appear to have fewer educational opportunities than younger ones. According to the demand study, 57% of respondents said RSE should be taught at the university level, either as a core subject or as an elective course. Because road users are continually exposed to risk, most students are the most vulnerable population. Who (2018) stated Every year, around 1.35 million people are killed in car accidents. This is the leading cause of death among children and young people aged 5 to 29 (Mohan, 2019). As a result, Raftery and Wundersitz (2011) argue that in order for road safety education to be effective, it must be provided continually and throughout all learning areas in the curriculum. Timely evidence-based evaluations are needed to determine what works and what does not.

Based on the results of the need analysis, we were able to gain a concept of what the needs of students are to satisfy their demands as adult road users, which are the three primary skills: safe driving abilities, automobile maintenance methods, and the development of a vigilant culture on the road. The findings, which are similar to the findings of Jafarpour and Rahimi-Movaghar (2014), show that vehicle factors (security devices and safety

maintenance) and human factors are the three variables that cause road crashes (the mental and physical ability of the driver, driving style, violations, and errors). However, because human error is the leading cause of road accidents, developing a cautious driving culture is crucial (Albentosa et al., 2018). All student needs must be addressed using a traditional technique, either a road user approach or a causal approach, which focuses on changing road users' behaviours and reducing human errors, with users being mostly responsible for the occurrence of road traffic crashes (Safarpour et al., 2020).

Conclusion

RSE is intended not only for children but also for adolescents and adult. Therefore RSE must be included in the learning process throughout one's entire life. The study successfully provided new insight on the needs for the implementation of RSE at the university even as elective subject as the a result of the established success of road safety education (RSE) in the school. The three primary skills needed by the university level students as adult road user are safe driving abilities, automobile maintenance methods, and the development of a vigilant culture on the road. Future research should use a larger sample size from all regions across the country, and more attention should be placed on designing curriculum for young adult drivers at the tertiary level.

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