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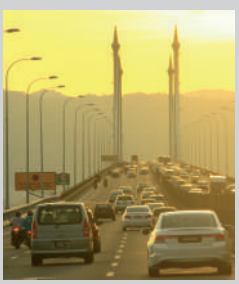

Research Report

Determinants Behind Unlicensed Motorcyclists among Secondary School Students

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Abstract

Malaysia is recognised as one of the countries in this region that has the highest road accident rates among young motorcyclists between ages 16 to 20 years. According to PDRM statistics (2017), in total 1,090 out of 6,740 fatalities involved riders in this age group. The main objective of this research is to find out the determinants behind unlicensed motorcyclists among secondary school students based on self-reporting and parents' perspective on unlicensed riding. The research was conducted using the semi-quantitative approach based on self- reported questionnaires. In total, four hundred and fifty-four students and one hundred and thirty-one parents or guardians were involved in this study. The mean age of participants (students) who were riding for the first time was 13.14 years, with the youngest only five years old. Results showed that the main factor leading to unlicensed riding was the fact that the participants below eligible age for motorcycle licenses and this caused them to ride illegally on the road. The research found that 40.6% of participants were unlicensed when the accidents occurred. However, the finding showed no significant relationship between the experiencing of accidents and licensing. Further, the result shows that there was a significant relationship between participants the first experience of motorcycle riding and their parents' perspective on unlicensed riding.

1. Introduction

In Malaysia, motorcycles are frequently used as a mode of transport, especially in urban areas, with a total of 12,677,041 motorcycles registered in 2016 (RMP, 2016). Increasing numbers of road crashes involving motorcyclists have become a nationwide issue in Malaysia over the past 10 years. Based on data generated in 2016, 670,935 motorcycle accident cases were reported. From this figure, motorcyclists contributed to 4,077 fatalities on the road in 2016 (RMP, 2016) alone. Many factors are significantly associated with road crashes among motorcyclists and one of the main factors is unlicensed riding.

Motorcycle accidents among students is a subject which is seldom studied because most of them have not reached the legal age to ride motorcycle. However, these children are exposed to similar riding experiences and risks as any adult rider. Different countries have different minimum legal ages for riding motorcycles. However, most of the young riders do not adhere to the minimum legal age applicable in their own countries. In another study by Yeh and Chang (2009) in Taiwan, the mean age of motorcyclists was found to be 14 years.

Research is done by Rathinam, Nair, Gupta, Joshi, and Bansal (2007) on 1,760 students in India found that 12 % of students who rode motorcycles at the age of 11 were involved in accidents, where 16% were aged of 12 and 17% were aged 13 when there were involved in accidents. The students with more than three (3) years of riding experience had 23.4% higher chances of being involved in accidents compared to those with less than three (3) years of experience.

The study was done by Ferdosian, Morowatisharifabad and Rezaeipandari (2015) 500 adolescent male riders in Dehaghan found that the prevalence of unlicensed motorcycling among participants was 74.2% and the mean age at first motorcycling experience was 11.97 ± 1.97 years ranging from the age of 8 to 17. The research also

found that the most frequently expressed reason for use of motorcycle was fun and entertainment (54.2%). Age at first motorcycling experience was lower among rural adolescents than urban adolescents. However, unlicensed motorcycling was more prevalent among urban adolescents than rural ones.

The study conducted by Knight, Iverson, and Harris (2012) found that early teenage experience without a license in rural area also contributed to the risk of road accidents. This is coupled with the adolescents who love to ride at high speeds on the roads in rural areas which have more hazards. Through this study, it can be seen that riding experience alone is not enough to reduce the risk of accidents. Riding experience should be accompanied by safe driving practices as practised during the process of taking their licenses.

The study conducted by Yeh, Chang, and Chang (2008) in Taiwan found that parental openness is one of the factors that encourage young people to ride without a license. Parents' attitude which allows their children to ride without a license is one (1) of the factors leading the adolescents to not care about obtaining a driver's license. Given that the safety of young people on the road is an important issue, a study should be carried out to look at other factors which are causing young people to still ride without a motorcycle riding license despite the fact that the cost of obtaining a license has been reduced. This particular study should be carried out to look deeper into the issues at hand, and this will be able to help the authorities in finding solutions to solve the issue of young people who are riding without licenses.

In Malaysia, government authorities have begun taking several initiatives to encourage young people, especially students to get a motorcycle license. Among the initiatives of the government is by reducing the cost of license fees. This is to help families among the less privileged to get licenses for their children. According to Williams (2011) and Williams and Tefft (2013), among the major factors contributing to the postponement of driving license ownership is the cost constraints to be paid for a license. However, in Malaysia, authorities have seen this and have lowered the cost of such payments to a much lower rate. However, the opportunity given by the government is still not fully

utilised and there are still many young people, especially school students, who are riding without licenses.

Hence, the purpose of this research is to investigate the factors contributing to motorcycle riding without license among secondary school students based on self-reported questionnaires and their parents' perspective on unlicensed riding. Furthermore, the research aims to find out the relationship between age at first motorcycling experience and parents' perspective on unlicensed riding.

1.1 Objectives

General objective:

To find out the determinants behind unlicensed motorcyclists among secondary school students based on self-reporting and parents' perspective on unlicensed riding.

Specific objectives:

i. To determine factors leading to motorcycle riding without license among secondary school students;
ii. To identify road accident experience between licensed and unlicensed riders;
iii. To explore the relationship between age at first motorcycling experience and parents' perspective of unlicensed riding.

1.2 Scope of Study

The scope of this study is to determine the extent of unlicensed motorcyclists in secondary schools in Kajang, Semenyih, Bandar Baru Bangi and Bandar Sungai Long.

1.3 Limitation of Study

A limitation of this study is that the findings are based on a self-reported survey instead of an actual on-road observation among motorcyclists to find out the determinants behind unlicensed motorcyclists among secondary school students. Therefore, it is unknown as to the extent to which this respective self-reported behaviour corresponds to actual riding behaviour.

2. Methodology

In this section, the method to examine the determinants behind unlicensed motorcyclists among secondary school students based on self-reporting and parents' perspective on unlicensed riding has been described in detail. It consists of several elements including the research design and sampling, instrument, procedure and data analysis.

2.1 Research Design and Sampling

This research was conducted using the semi-quantitative approach based on self-reported questionnaires. Letters of consent were obtained from each school authority. A research team collected the data from the respondents (students) at the motorcycle parking areas outside the school compound. The study was conducted during the morning and afternoon sessions before the start of classes during weekdays. With regard to parent or guardian respondents, the research team called them up to interview them regarding their perspective on unlicensed riding. The questionnaires were prepared in simple Malay (national language) and presented to the respondents individually and instructions were given to them on how to answer them. The respondents were also allowed to seek clarification if needed.

In total, 454 students from secondary schools in Kajang, Semenyih, Bandar Baru Bangi and Bandar Sungai Long were selected for this study. The participants in this study were aged between 14 to 19 years who rode motorcycles to school. The participants consisted of those with and without valid riding license. A total of 131 parents or guardians were randomly selected from the list of 454 students who were involved in this study.

2.2 Instrument

The survey questionnaire consists of four sections; Demographic details, road accidents experience, traffic violations and parents or guardians' perspective on unlicensed riding. The demographic details include age, gender, riding experience, age at first motorcycling, whether riding with or without license etcetera. The traffic violations include running red lights, speeding, making illegal U-turns, riding against traffic, using mobile phone while riding, overtaking at double lines and involved in illegal racing (*Merempit*). The other area of this study was to gauge parents' perspective on unlicensed riding with regard to their children.

Table 1 below shows the division of the number of student respondents from the different schools from around Kajang, Bandar Baru Bangi, Bandar Sungai Long and Semenyih.

Table 1 Number of respondents from different schools

No.	School	Respondents (Students)	Respondents (Parents/Guardians)
1	Sekolah A	61	6
2	Sekolah B	83	28
3	Sekolah C	42	6
4	Sekolah D	97	49
5	Sekolah E	29	5
6	Sekolah F	44	10
7	Sekolah G	98	27
	Total	**454**	**131**

2.3 Procedure

Questionnaires were collected on an individual basis from the seven (7) selected secondary schools in Kajang, Bandar Baru Bangi, Bandar Sungai Long and Semenyih. In total, 454 student participants and 131 parents or guardians were randomly selected from the list of those involved in this study.

2.4 Data Analysis

Data collected from this research was analyzed using the Statistical Package for Social Science (SPSS). Descriptive statistics such as frequency, mean, percentage were used, while inferential statistics such as ANOVA and *Chi-2* were used to achieve the objectives of the research.

3. Results and Discussion

Results of this study were presented in five (5) parts: demographics, factors leading to unlicensed motorcyclists, road accidents in relation to licensing, traffic violations while riding and the relationship between the first experience of motorcycle riding and their parents' perspective on unlicensed riding.

3.1 Demographics

In total, 454 participants were recruited from seven (7) secondary schools in the Kajang area, Bandar Baru Bangi, Bandar Sungai Long and Semenyih. All of the participants were aged between 14 to 19 with a mean age of 16.78 years. A majority of them were males (80.6%) and Form 5 students (50.2%). The youngest participants (3) were only in Form 1 and the oldest (67) was in Form 6. Most of them were young riders (mean age = 4.1) with a minimum experience of one (1) year in riding and maximum up to 14 years.

A majority of them reported that they were unlicensed riders (39.9%). This was followed by P-license (35.5%), L-license (21.8%) and only 13 participants (2.9%) had full license. Most of the participants rode motorcycles with an engine capacity of less than 25cc (96.7%), followed by those riding motorcycles with engine capacity of not more than 500cc (3.1%) and only one (1) participant (0.2%) reported that he/she was riding a 500cc and above motorcycles. In total, 87.7% of the participants admitted that they had experienced unlicensed riding, whilst 12.3% did not have experience in unlicensed riding. The mean age of those among the participants who were riding for the first time was 13 – 14 years, with the youngest only five (5) years old. Table 2 summarises the participants' demographic information. Research is done by Rathinam et al. (2007) in India found that boys begin motorcycling as young as eight (8) years, and the mean age of first motorcycling experience was found at the age of 11.97 ± 1.97 years. In another study by Yeh and Chang (2009) in Taiwan, the mean age of motorcyclists was 14 years.

A study done by Ferdosian (2015) on 500 adolescent male riders in Dehaghan found that the mean age for first motorcycling experience was 11.97 ± 1.97 years ranging from the ages of 8 to 17. Besides that, the prevalence of unlicensed motorcycling among participants was 74.2%. A research done by Yeh and Chang (2009) among senior high schools students in Taiwan, found that 53.1% out of 1597 participants had experienced unlicensed riding. The mean age of initial unlicensed riding was 16 years.

Table 2 Respondents' demographic

Item	n	%	Item	n	%
Gender			**Age**		
Male	366	80.6	14	6	1.3
Female	88	19.4	15	32	7.0
Form			16	120	26.4
One	3	0.7	17	226	49.8
Two	6	1.3	18	39	8.6
Three	34	7.5	19	31	6.8
Four	116	25.6	**Motor ownership**		
Five	228	50.2	Own	159	35.0
Six	67	14.8	Family	282	62.1
Licensing			Friend	13	2.9
Unlicensed	181	39.9	**Unlicensed experience**		
"L" license	99	21.8	Yes	398	87.7
"P" license	161	35.5	No	56	12.3
Full license	13	2.9	**Riding experience**		
Capacity engine				**Age**	
Below 250cc	439	96.7	Minimum	1	
Not more than 500cc	14	3.1	Maximum	10	
More than 500cc	1	0.2	Mean	4.1	
Experienced of ride with pillion			**Age at first ride**		
Yes	439	96.7	Minimum	5	
No	15	3.3	Maximum	18	
			Mean	13.14	

3.2 Factors Leading to Unlicensed Riding

Table 3 shows the factors leading to unlicensed riding among secondary school students. Most of the participants (n= 141, 66.80%) reported that they below eligible age for a motorcycle license and this caused them to ride illegally on the road. The second reason was that permission had been given by parents (7.1%). Furthermore, riding a motorcycle was the only transport option to school (6.2%). Eagerness to learn to ride a motorcycle (6.2%) was another reason, while no other transport available (3.8%) was another reason, no time to apply for a licence (2.8%) and not interested in getting a license (1.9%) were two other reasons. Other reasons are given (5.2%) include parents not allowing them to get the license, riding for fun and influenced by peers. Research done by Ferdosian (2014), found that the most frequently expressed reason for use of motorcycle was fun and entertainment (54.2%).

Table 3 Factors leading to unlicensed riding

No.	Factors	n	Percentage
1	Below eligible age	141	66.80
2	Permission given by parents	15	7.1
3	The only transport option to school	13	6.2
4	Eagerness to learn to ride motorcycle	13	6.2
5	No other transport	8	3.8
6	No time to get license	6	2.8
7	Do not feel to get license	4	1.9
8	Others	11	5.2
	Total	**211**	**100.0**

3.3 Road Accidents in Relation to Licensing

In total, 234 participants reported that they had been involved in road accidents in the past five (5) years. The research found that 40.6% of participants were unlicensed when the accidents occurred. Participants with P-license (license during probation) were the second-highest group at 33.3%, while participants with L-license recorded 22.2%. Only

3.9% of them had a full license when the accidents occurred. However, the finding showed no significant relationship between the experiencing of accidents and licensing (Table 4).

The research was done by de Rome et al. (2002) Haworth et al. (1994), Watson and Steinhardt (2006), found that unlicensed riders were a higher risk in crash. Further, a research was done by Rathinam et al. (2007) on 1760 students in India found that 12% of students who rode motorcycles at the age of 11 were involved in accidents, while 16% at the age of 12, and 17% at the age of 13 were involved in accidents. The students with more than three (3) years of experience in riding had 23.4% higher chances to be involved in an accident compared to those with less than three (3) years of experience. The study conducted by Knight et al. (2012) found that early teenage experience without a license in rural area also contributed to the risk of road accidents. This is together with the adolescents who loved to ride at high speeds on the roads in rural areas, which have more hazards.

Table 4 Road accidents in relation to licensing

Types of license	Accidents involvement,n (%)		X^2	P value
	Yes	No		
Unlicensed	95 (40.6)	86 (39.1)	2.349	0.503
L license	52 (22.2)	47 (21.4)		
P license	78 (33.3)	83 (37.7)		
Full license	9 (3.9)	4 (1.8)		

The X^2 test statistics were not significant at $\alpha \leq 0.05$

3.4 The Relationship between Age at First Motorcycling Experience and Parents' Perspective on Unlicensed Riding

Table 5 shows the relationship between the first experience of motorcycle riding and the parents' perspective on unlicensed riding. In total, 132 parents participated in this study. Participants who had the first experience of motorcycle riding were above 16. This shows that their parents were also more concerned about the issue of unlicensed

riding (mean= 9.91). This is followed by participants where the first experience of motorcycle riding was at age below 12 years (mean=9.78) and between the ages of 13 – 15 years (mean= 9.38). Results of the study show that there was a significant relationship between participants first experience of motorcycle riding and their parents' perspective on unlicensed riding ($p< 0.05$). The study conducted by Yeh, Chang and Chang (2008) in Taiwan found that parental openness is one of the factors that encourage young people to ride without a license. Parents' attitude of allowing their children to ride without a license is one of the reasons why adolescents do not care about obtaining a driver's license.

Table 5 Age at first motorcycling experience and parents' perspective on unlicensed riding

Age at first ride (year)	N	Mean	*F*	P value
Less than 12	40	9.78	3.669	0.028**
13 to 15	60	9.38		
More than 16	32	9.91		

**The *F* test statistics were significant at $\alpha \leq 0.05$

3.5 Traffic Violations while Riding

Table 6 below shows the types of traffic violations among 454 participants while riding motorcycles over the past one (1) month. The traffic violations include running red lights, speeding, making illegal U-turns, riding against the traffic, use of mobile phone while riding, overtaking at double lines and illegal racing (*Merempit*). Results showed that most of the participants admitted that they "sometimes" ran the red lights (78.6%), were speeding (67.2%), made illegal U-turns (55.1%) and overtook at double lines (49.8%). In total, 45 participants admitted that they were "always" speeding while riding, while 18 participants admitted that they were "always" running the red lights and making illegal U-turns. 24 of them were "always" overtaking at double lines and 19 of them admitted that they were always involved in illegal racing over the past one (1) month. Only 2.6% of participants admitted that they "always" used their mobile phones while riding and 1.5% of participants rode against traffic. Research is done by Wong, Chung, and Huang (2010) on young motorcyclists aged 18 to 28 years found that 25.3% of participants had

experienced running red lights, while 26.6% had experienced speeding. According to a RMP report (2017), the number of motorcyclists involved in road accidents caused by their faults included speeding (488 cases), running the red light (268 cases), overtaking dangerously (260 cases) and making dangerous turns (319 cases). Many research has been found people younger in age are generally more likely to speed and take risks than people older in age (Fergusson et al., 2003; Fitzgerald et al., 1998; Stradling et al., 2004).

Table 6 Traffic violations while riding motorcycles

Traffic violations	N	Percentage
Running red lights		
Never	79	17.4
Sometimes	357	78.6
Always	18	4.0
Speeding		
Never	104	22.9
Sometimes	305	67.2
Always	45	9.9
Making illegal U-turns		
Never	186	41
Sometimes	250	55.1
Always	18	4.0
Riding against traffic		
Never	342	75.3
Sometimes	105	23.1
Always	7	1.5
Using mobile phone while riding		
Never	261	57.5
Sometimes	181	39.9
Always	12	2.6
Overtaking at double lines		
Never	204	44.9
Sometimes	226	49.8
Always	24	5.3

Involved in illegal racing		
Never	360	79.3
Sometimes	75	16.5
Always	19	4.2

4. Conclusion and Recommendations

The purpose of this research was to study the determinants behind unlicensed motorcyclists among secondary school students. The questionnaires were distributed to the secondary schools in the Kajang area, Bandar Baru Bangi, Bandar Sungai Long and Semenyih. The main factor leading to unlicensed riding among secondary school students was that they were below eligible age for a motorcycle license. This was followed by permission given by parents, being the only transport option to school, eagerness to learn to ride a motorcycle, no other transport being available, having no time to apply for a licence and not interested in getting a license. Other reasons given include parents not allowing them to get the license, riding for fun and influence by peers. The findings showed that there was no significant relationship between the experiencing of accidents and licensing. However, there was a significant relationship between participants' first experience of motorcycle riding and their parents' perspective of unlicensed riding.

The findings from the research showed that most of the participants who were involved in unlicensed riding were below eligible age to get a license. Unlicensed riders did not attend any riding courses from driving schools nor any tests from Road Transport Department Malaysia. Therefore, they are not competent and are prone to be a risky group to themselves and other road users while on the road. The current licensing age for riders is 16 years and the government might consider revising the minimum licensing age for motorcycles to 15 years. This could produce more competent riders on the road. Besides that, the government should take into account other factors that might lead to road accidents in terms of maturity, aggression while riding, risk-taking by youngsters when they reach the age of taking motorcycle licenses. Furthermore, the government should also revise the current IM modules and develop a new training programme, especially on behavioural and road safety approaches. IMs play an important role in implementing safe driving practices as practised during the process of taking their

licenses. Thus, further research needs to be undertaken on the minimum licensing age for motorcyclists and the consequent effects on road accidents, especially among youngsters between ages 16 to 20 in the country.

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