

A STUDY ON ROAD SAFETY AWARENESS  
AND PRACTICES AMONG SECONDARY  
SCHOOL'S STUDENTS

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A STUDY ON ROAD SAFETY AWARENESS AND PRACTICES AMONG  
SECONDARY SCHOOL'S STUDENTS

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Thesis submitted in fulfillment of the requirements  
for the award of the degree of  
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## ABSTRAK

Kemalangan jalan raya ditakrifkan sebagai salah satu masalah kesihatan awam yang ketara di seluruh dunia. Pada masa ini, kemalangan jalan raya meningkat di Malaysia terutama dalam kalangan golongan muda yang berumur antara 13 hingga 19 tahun. Langkah-langkah yang mudah seperti kesedaran dan amalan keselamatan jalan raya secara berkesan dapat mengurangkan kesan kemalangan jalan raya dalam kehidupan rakyat. Kajian ini dijalankan untuk menilai tahap pengetahuan pelajar sekolah menengah terhadap keselamatan jalan raya, untuk menentukan tahap kesedaran dan amalan keselamatan jalan raya dalam kalangan pelajar sekolah menengah, dan untuk membandingkan kesedaran keselamatan jalan raya antara pelajar lelaki dan pelajar perempuan dari sekolah menengah. Kajian keratan rentas dilakukan dalam kalangan 210 pelajar sekolah menengah. Data yang dikumpulkan telah dijalankan di Sekolah Menengah Kebangsaan Bandar Kuala Krai dengan mengedarkan soal-selidik kepada para pelajar sekolah menengah. Data yang diperolehi dianalisis secara kuantitatif dengan menggunakan Statistical Pakej Sains Sosial (SPSS) versi 24 dan dibentangkan dengan bantuan taburan kekerapan, carta pai, dan jadual. Berdasarkan hasil dapatan kajian, majoriti pelajar sekolah menengah mempunyai tahap pengetahuan, kesedaran dan amalan tentang keselamatan jalan raya yang tinggi. Walau bagaimanapun, pelajar perempuan sekolah menengah mempunyai pengetahuan, kesedaran dan amalan keselamatan jalan raya yang lebih tinggi daripada pelajar lelaki sekolah menengah. Organisasi program keselamatan jalan raya secara berkala di sekolah dan peranan ibu bapa dalam mendidik anak-anak mereka sangat penting untuk meningkatkan lagi tahap pengetahuan, kesedaran dan amalan dengan berkesan terhadap keselamatan jalan raya.

## **ABSTRACT**

Road traffic accident is defined as one of the significant public health problems around the world. Nowadays, Road traffic accidents are increasing in Malaysia especially among the young people between 13 to 19 years old. Simple measures such as awareness and practice of road safety measures could effectively reduce the impact of road traffic accidents on the people's lives. This research was conducted in order to evaluate the knowledge level of secondary school's students toward road safety measure, to determine the level of road safety awareness and practices among secondary school's students, and to compare the road safety awareness between male secondary school's students and female secondary school's students. The cross sectional study was done among 210 secondary school's students. The data collected was carried out at Sekolah Menengah Kebangsaan Bandar Kuala Krai by distributing the questionnaires to the secondary school's students. The data obtained was analyzed quantitatively by using Statistical Packages Social Sciences (SPSS) version 24 and presented with the aid of frequency distributions, pie charts, and tables. Based on the result findings, majority of secondary school's students had high level of knowledge, awareness and practices about road safety. However, the female secondary school's students had higher road safety knowledge, awareness and practices than male secondary school's students. Periodic organization of road safety program at school and the roles of parents in educating their children were essential for effectively increasing the level of knowledge, awareness and practices toward road safety.



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## LIST OF SYMBOLS

%	Percentage
<	Less than
>	More than
$\alpha$	Alpha Level
p	Significant Value

## **LIST OF ABBREVIATIONS**

IEC	Information, Education and Communication
LMIC	Low and Middle Income Countries
MIROS	Malaysian Institute of Road Safety
ROP	Royal Oman Police
RTA	Road Traffic Accident
RTI	Road Traffic Injury
SPSS	Statistical Package for Social Sciences
WHO	World Health Organization

## **CHAPTER 1**

### **INTRODUCTION**

#### **1.1 Introduction**

This chapter focuses with the general idea of this study in conjunction with the background of study, problem statement, research objectives, research questions, research hypothesis, scope of study, significance of study, and conceptual framework. The associated variables in this research are also operationally defined.

#### **1.2 Background of Study**

The world is changing rapidly and the road accidents are rising day by day. According to Phanindra and Chaitanya (2016), road traffic accidents (RTAs) were the leading cause of death among individuals aged 13 to 17 and second leading cause of mortality among 20-24 years of age. In addition to fatalities, less severe injuries also occurred leading to disabilities. There were the causes for increasing road accident such as lack of awareness, carelessness, thoughtlessness, ignorance, increased number of vehicles, inadequacies of the road, over confidence, increased speed of the vehicles, and etc.

Road traffic accident is considered as one of the significant public health problems around the world. According to World Health Organization (WHO), it was defined as an unfortunate crash incident which occurred on a street open to public traffic unexpectedly and unintentionally that typically resulting in fatal or non-fatal injuries on the road where at least one moving vehicle was involved.

Malaysia had witnessed an explosive rise in the demand for transport vehicles in recent decades in conjunction with its rapid economic growth. Currently, the number of private own vehicles registered in Malaysia showed increasing trends. Hence, the government of Malaysia had strengthened the road safety law such as every passenger must have to use seat belt in the car, if not they were fined a penalty. However, the road traffic accidents were still increasing especially among the young people. This was because no previous studies were available regarding the knowledge, attitude and practice towards the road traffic regulation in Malaysia. Based on the Road Safety Annual (2013), a Malaysian government fact sheet reported that adolescent between 13-20 years were the majority of those who were involved in road traffic accidents and this was followed by those between 21-25 years in the year 2000.

Safety experts premeditated young people as vulnerable road users because of the fact that they were immature, inexperienced and fragile. The body parts of child were all in a state of growth that made a child physically more vulnerable to any contact as compared to an adult. According to Wilson (1991), the small physical stature of children restricted their ability to see or to be seen by other road users. Moreover, the ability of a child to do safe decisions in the road environment was associated to the development of cognitive ability that was closely related to age. Malaysian Institute of Road Safety (MIROS, 2011) stated that the driver especially the teenagers preferred to disobey law. They often ignore the traffic light. They would not stop when the red light appeared. They just went ahead without thinking the consequences of their action. Sometimes the teenagers were purposely wanted to show off when their motorbike roared past. This kind of attitude would lead to the road accident.

The school children were highly affected directly and indirectly due to the increased road accidents. In the modern society, school students preferred more to choose freedom on one hand and parents were concerned about their safety on the other hand. By developing the term freedom, children were more prone involving in the road accidents in the country and especially in the bike accidents. This was because they were negatively influenced by the movies and television programs which underlined child riding a bike was something great and it was needed for the children to live in the society. Besides that, student transport was the transporting of children to and from schools and school events. School transport could be undertaken by school students

themselves such as on foot, bicycle, they might be accompanied by family members or caregivers, or the transport might be organized collectively by using buses.

According to The Star Newspaper (February 2017), there were eight teenagers on bicycles killed, while another eight were injured, after they were mowed down by a car. All 16 involved in the incident were aged between 13 and 17. The teenagers were in the middle of the road, which was dark at that time when the accident occurred. Besides that, another news was about fatal end for student who borrowed friend's bike which occurred on 3 April 2017. A 16-year-old schoolboy died after his borrowed motorcycle crashed into an electric pole at George Town. He was going to buy food for his teammates, who were playing football at the Balik Pulau Sports Complex. Next, an unlicensed motorcyclist was among two students killed in an accident involving three motorcycles whose riders all did not wear crash helmets which happened at Kulim (The Star, May 2017). These can be proved that almost the teenagers were lack of awareness on road safety nowadays.

There was major lost in potential healthy years of life of productivity especially among the youthful group. Also, there was minimal information on safety practices particularly among adolescent who were also a major road user in the country. Therefore, this study was to evaluate the level of knowledge, awareness and practices on road safety among secondary school's students.

### **1.3 Problem Statement**

Road traffic accidents are relatively unpredictable and compose a significant public health problem especially among teenagers. The numbers were highly skewed in Low and Middle Income Countries (LMIC) and young adults were over-represented (UNICEF, 2001). Mostly the happening of road traffic accidents were caused by human factor, vehicle factor, road and environment factor (Road Safety Department Malaysia, 2010). If effective interventions and strategies were not employed to address this issue, road traffic injuries (RTI) continued to rise steadily and by 2020, road traffic crashes were predicted to have moved from ninth position to third position in the world ranking of burden of disease (Peden et al, 2004).

In Malaysia, fatal road traffic injuries among children who aged 13–18 years old accounted for 13.6% in 2007 to 15.5% in 2009 of total fatality caused by road traffic injuries (Malaysian Institute of Road Safety, 2011). A national study in 1996 reported that most of the road accident injuries happened among 13-17 years (31.0%), followed by 18-29 years of age. Death were more normally among the young adults, and then followed by adolescent (Epidemiology of Injuries, 1997). According to Royal Malaysian Police (2004), adolescent between 15-20 years were the majority (16.37%) of those who were involved in road traffic accidents in the year 2000. This was followed by those between 21-25 years (15.43%).

Teenagers made use of roads together with cyclists, pedestrians, motorcyclists, and other vehicle users. They even use the roads as playing fields, especially when they live near to the roads. With a range of risk factors, in particular immaturity, risk taking behaviours and small body stature that caused their visibility to road users very low, interaction with the roads and other road users grew in number of the risk susceptibility of children to traffic injury. So, school children were the most vulnerable to these accidents. These were the reasons why this study was conducted.

Roads had been a dangerous place for teenagers all the time. Road traffic injuries among young people were a global public health problem. According to WHO (2008), more than 260,000 teenagers died as a result of road traffic crashes each year, and it was predicted that up to 10 million more were injured globally. Looking at this problem by age group, death because of road traffic crashes was a bringing about of death for children aged 13 to19 years and the second leading cause of death among 5 to 9 and 10 to 12 years old. The WHO report also expressed that in the Western Pacific Region, child transport injuries were one of the top causes of death for children aged 7 to 19 years old.

According to Malaysian Institute of Road Safety Research (MIROS, 2011), 11.6% of teenagers suffering from fatal road traffic injuries were pedestrians. By age breakdown, it was obvious that fatal pedestrian injuries vary by age group and affected the younger age group of 13 years old and above, with the highest proportion being among 5–9 years olds. Generally, most of the students did not always use pedestrian pathways and crossings especially when going to school and back from school. It was

maybe because they did not have the high level awareness of using pedestrian walk or they like to use shortcut in order to save the time.

There were a few reasons for increasing road accidents based on some journals. For example negligent driving such as speeding, lack of knowledge about the traffic rules and regulations, and lack of awareness when crossing the road. In order to bring about awareness and practices change among teenagers with regard to road safety, it should be started from their schooling years. However, there will go a long way to reduce morbidity and mortality due to road accidents. Thus, this case study was to investigate the road safety awareness and practices among secondary school's students in Malaysia.

#### **1.4 Research Objectives**

The principle goals of this research are:

1. To evaluate the knowledge level among secondary school's students toward road safety measure.
2. To determine the level of road safety awareness and practices among secondary school's students.
3. To compare the level of road safety knowledge, awareness and practices between male secondary school's students and female secondary school's students.

#### **1.5 Research Questions**

The following research questions are formulated:

1. What is the knowledge level of secondary school's students toward road safety measure?
2. What is the level of road safety awareness and practices among secondary school's students?
3. What is the difference of road safety knowledge, awareness and practices between male secondary school's students and female secondary school's students?

## **1.6 Research Hypothesis**

In view of the above research questions, these hypothesis are formulated:

1. The knowledge level of secondary school's students toward road safety measure is low.
2. The level of road safety awareness and practices among secondary school's students is low.
3. There is a significant difference of the road safety knowledge, awareness and practices between male secondary school's students and female secondary school's students.

## **1.7 Scope of Study**

A cross-sectional study was carried out at secondary school in order to determine the level of knowledge, awareness and practices about road safety among secondary school's students. This was because the number of road traffic accidents were increasing especially among the young people. Therefore, it was necessary to focus on this issue due to this problem was an ongoing problem worldwide. Besides that, the respondents which were aged 13-17 years old would be conducted in this research study. A validated questionnaire was given to all students. Through this research, it was more easily to compare the difference road safety knowledge, awareness and practices of using road among different gender of secondary school's students.

## **1.8 Significant of Study**

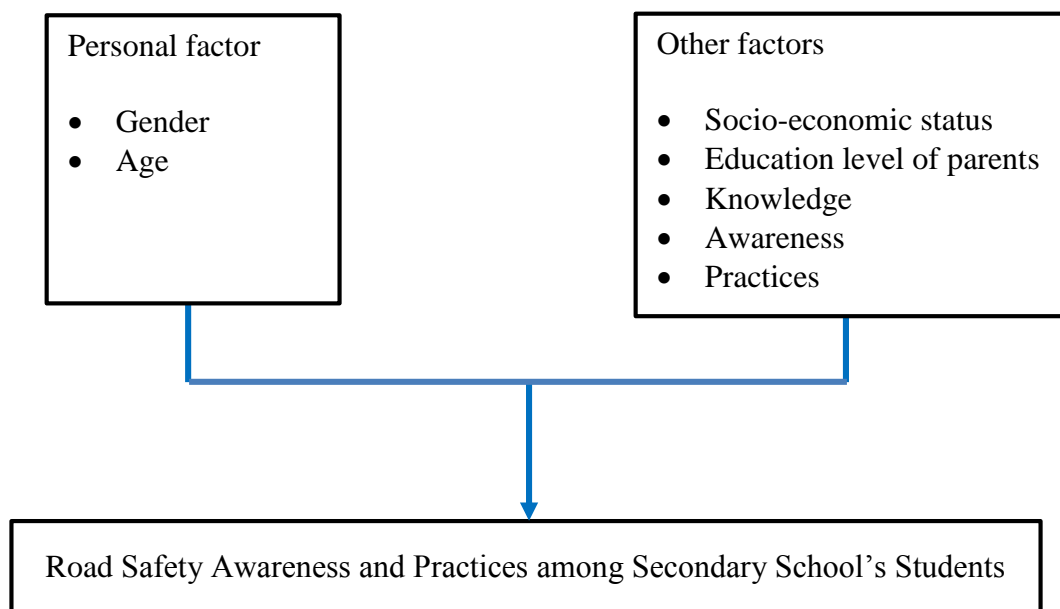
This research study had a great significance in the society. It was conducted to increase the awareness and practices about road safety in our country. By carrying out this research, the data about the demographic information of secondary school's students were collected as well as their socioeconomic background. Additionally, the data collected were analysed and the problem would be identified in order to provide the solution.



Furthermore, the research can help to minimize the risk of road traffic accidents since it would provide a more detailed information of road safety in order to let the secondary school's students be careful when crossing the road. This can ensure the secondary school's students to aware the danger and risk on the road and improve their safety awareness when using the road. The important of this study was the results from the analysis can be implemented as an indicator for reducing number of road accident in Malaysia by Malaysian Government plan. So there was a need for traffic safety awareness for the secondary school's students in order to decrease the number of road accidents among student community.

### 1.9 Conceptual Framework

Figure 1.1 illustrated the relationship of the following factors like personal factor and other factors with the relevant awareness and practices relating to the road safety among secondary's students through questionnaire.



**Figure 1.1 Conceptual Framework**

## **1.10 Operational Definitions**

### **1.10.1 Secondary School's Students**

Secondary school's students who are in the age group 13-17 years will be selected as respondents.

### **1.10.2 Personal Factor**

Personal factors such as gender and age who all are the inclusion criteria that require to be concerned when selection of sample for this research.

### **1.10.3 Road Safety**

Road safety is important in terms of the methods and measures used to prevent road users from being killed or seriously injured.

### **1.10.4 Awareness**

Awareness is the state or quality of being conscious of about road safety among secondary school's students.

### **1.10.5 Practices**

Practice is the learning and acquiring experience to bring about positive change in the secondary school's students towards road safety rules and regulations such as putting a seatbelt and wearing a helmet.

## **1.11 Summary**

The introduction of this research discussed about the purpose and goals of why this study was being carried out. The objectives, hypothesis, problem statement, and investigated variables were clearly outlined for giving a stand of why this research should be done. Besides that, the relationship of the variables studied were also illustrated in the conceptual framework to indicate that the respective variables had their own aspects that required assessment to gain the information needed for the mitigation measures found in relation to road traffic accidents. The literature was needed to further support the statements in this chapter which would be provided in the next chapter of literature review, followed by Chapter 3 then told the methodology of this research work.

## **CHAPTER 2**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

In this chapter, the literature from past researchers relating to this study was reviewed and discussed thoroughly in order to gain more knowledge and insight on the related information relating this study. This chapter discusses in detail about the definition of road traffic accident, the causation factors of road traffic accident, background of road safety, road safety measures, and road safety awareness and practices. Literature review provided an insight on how several factors associated with their own list of the aspect that could influence the causation of road traffic accident to happen. This chapter is important to acquire more information for supporting the study of mitigation measure related to road safety.

#### **2.2 Road Traffic Accident**

Based on a research by Ali Hassan (2014), a road traffic accident normally involved at least one road vehicle crashing into another vehicle, another road user, or a stationary roadside object which might result in injury or property damage, or possibly death. However, these events were uncommon in terms of the number of vehicles and drivers on the road, but resolving the contributing factors could lower the likelihood of collisions.

Indhumathy & Thenmozhi (2016) stated that road accidents were 9th leading cause of deaths and were predicted to become the 5th leading cause of death by 2020. Globally road traffic injuries were the leading cause of death among young people aged

15-19 years and second leading cause among 5-14 year olds. In addition, according to WHO, road traffic accidents were considered as 6th rank of leading causes of death in children. Hence, school children who were going to be adults of tomorrow were made aware of road safety measures.

Wood et al. (2010) stated that road traffic accidents disproportionately influence certain population groups. For example, males and those living in more underprivileged areas were most likely to be involved in a road traffic accident. In addition, children and older people also experienced higher frequency of pedestrian injury compare with other age groups. The make use of drugs or alcohol among drivers increased the risk of road traffic accident. Furthermore, the severity of injuries sustained from a road accident could be increased by using alcohol such as among injured pedestrians. The rate and type of accident could also depend on whether an area was urban, urban fringe or rural because of the differences in traffic and pedestrian patterns, population densities, and road layouts.

In Malaysia, the number of vehicles on the road was increasingly exponentially each year. The World Report on Road Traffic Injury and Prevention appraised that traffic accidents were responsible for approximately 1.2 million deaths per year and 50 million injured people all over the world which was reported by The World Health Organization (WHO, 2004). Based on the current trend, projections estimated that these accidents would be the third most general cause of death by 2020 in the world (Murray and Lopez 1996).

According to Abdul Kareem (2003), road traffic accident was one of the major causes of death and injuries in Malaysia. In the year 2001, the total number of road accidents was 265,175 with fatalities of 5230, seriously injured 6942, and slightly injured 30,684. It was an appalling fact that road accidents also killed more people in other developing countries every year compared with war and disease. In Asia, 400,000 people were killed on the roads annually and more than four million injured. According to WHO, nearly one million people were killed, three millions were severely disabled for life and thirty millions were injured in road traffic accidents every year.

Swami et al. (2006) claimed that it was predicted that over 75% of road traffic accident happened in the developing countries, even though these countries account for

only 32% of total motor vehicle fleet, which involved 65% of pedestrians and 35% of school children. Child pedestrian injury which was an important cause of morbidity and mortality remained one of the leading causes of death in developed and developing countries. Each year in US approximately 850 teenagers under the age of 19 years were killed and another 30,000 were injured in pedestrian collisions.

### **2.3 High Risk Group**

A research by Bhattacharya et al. (2006) had claimed that over 1 million people were estimated to have died in road crashes and the road users such as pedestrians, motorcyclists and cyclists who were particularly susceptible, represented the majority of fatalities worldwide each year. It was similar in Malaysia where the young males seem to be involved in the highest number of motorcycle accidents. From 178 cases, 105 (56.4%) of fatality aged between 16 to 25 years, only 12 (6.5%) were female (Yen et al., 1999).

Another study in 1998 where 186 fatal cases caused by motorcycle accident were reported in three general hospitals in Klang Valley, Malaysia, indicated that 93.5% of fatality involved male rider and only 6.5% were female. According to Pang et al. (2000), the highest fatality cases were among people ages 16-20 years (57%) followed by >30 years (56%), 21-25 years (48%) and 26 – 30 years (23%). Meanwhile in Delhi, India, males dominated the number of road traffic fatality by 36 per 100,000 followed by females which was only 3.6 per 100,000 (Bhattacharya et al., 2006). The main reason for this might be because they were still growing and not mature enough. In addition, pedestrians, bus passengers, and cyclists from poor and developing country bore the highest burden of injuries and fatalities (Nantulya & Reich, 2002). In another study by Worley (2006), 73% of road traffic injury affected mainly male ages 15 to 44 years old. At that age, it was supposed to be their most productive earning years. This meant that not only the loss in income to the person's family, but also the loss of enjoyment from living the rest of their life (Bhattacharya et al., 2006).

According to Malaysia Institute of Road Safety (MIROS, 2011), road crashes involving pedestrians happened at school areas varies by age groups. The highest was among age group 10–14 years old (18.5%) followed by age group 5–9 years old

(16.5%) and 15-18 years (16.1%) which was based on a nationwide police-based surveillance database. Children motorcycle riders was also the top group of traffic related death among children aged 13–18 years old.

## **2.4 Causes of Road Traffic Accident**

Mustafa (2006) had stated that the increase in road accidents was linked to the rapid growth in population, economic, industrialization and motorization industries in Malaysia. In addition, rapid motorization, poor road maintenance, lack of police enforcement, rapid population growth and poor road conditions were a few examples of factors which might lead to an increasing in road traffic accident in developing countries (Worley, 2006).

A road accident was recognized as a dominant cause of injury and death worldwide and Malaysia was no exception in this scenario. According to Road Safety Department Malaysia (2010), there were many factors that contributed to road accident. Mostly the happening of road traffic accidents were caused by human factor, vehicle defect and road condition.

According to the Royal Oman Police (ROP), the main contributing factors were risky driving behavior (e.g. speeding and overtaking), vehicle defects, road defects, weather condition and fatigue (Al-Maniri et al., 2012). A recent study conducted by Al-Reesi et al. (2013) had confirmed that risky driving in general and aggressive violation of traffic regulations in particular were major risk factors.

### **2.4.1 Human factor**

Humans always make mistakes. One might conclude that revoking the driver's licenses from accident prone drivers would be an adequate measure to enhance road safety since the human factor contributed to 90 % of all road traffic accidents. This measure would be in line with an approach known as the person approach (Reason, 2000) or the accident prone individual approach. However, both approaches were controversial and would not cause an improvement in road safety. This was because

there was statistical evidence that excluding accident prone drivers from road traffic would not produce the desired outcome. Besides that, it was meant to isolate the human factor from the system context, thereby ignoring the remaining contributing factors (Reason, 2000).

Based on New Straits Times (April 2017), studies had indicated that road traffic accidents were caused by the human factor but not vehicle or poor road conditions. One of the causes of these road accidents was non-observance of the speed limit which brought about careless driving and tragedy not only for the drivers but also their passengers. Somehow, everyone wanted to be a “Formula One” driver when they hit the highway. Royal Malaysia Police (2006) reported that the faster a vehicle, the greater the risk of an accident. Speeding, even if the vehicle was going five miles per hour over, in the wrong place at the wrong time, it caused death to somebody. Another research by Malaysia Institute of Road Safety Research (MIROS, 2009) claimed that speeding was the highest repeated traffic regulation violation and it was highly associated with fatal accidents.

#### **2.4.2 Vehicle defect**

Another factor that was categorized as one of the causes of road accident was vehicle factors. Smartmotorist.com (2005) declared that the type of equipment failure were including loss of brakes, tire blow outs or tread separation and suspension failure. About 5% of all motor vehicle accidents had reported that equipment failure contributed to accidents. All drivers should drive their cars in ideal car condition. So, they had to do some confirmation before driving any vehicle. They needed to inspect their vehicles in order to ensure it was safe to drive or not. For example, they must check the conditions of water, brake, battery and lamp were always be in good condition. There were some drivers that never take care of this problem. They felt it was a small matter to think about the problem and did it later at any time. They did not care about the safety factor of their cars such as they needed to change the worn out tires when the tires were worn out, the vehicles absolutely could not grasp the road surface tightly. So, it was more dangerous during rainy days because the stranglehold between tires and road surface would be weaker than sunny day condition. Worn out tires caused the accident easily.



Besides, there were many people who could not accept the fact that almost nine million vehicles in this country were involved in road accident because using of illegal equipment which gained the worst level for everyone. Then, 80% of 11 millions of the vehicles in our country used illegal equipment. The president of Persatuan Pemilik Kenderaan Bermotor Malaysia, Ahmad Zaki Arifin stated that more than half from the driver in our country faced the risk to involve in accident and death due to this behaviour.

### **2.4.3 Road condition**

The other reason that caused the accident was the road conditions. Typically, the road became dangerous in rainy day. This was because it made the road becomes more slippery for the vehicles to handle. According to Kurniawati Kamarudin (2002), many potholes were endangered motorists. This was due to the deep holes could result motorists were not control their vehicles and lead to the accident. It became worst if it was involved the motorcyclists. The broken surface of the roads were also create a nightmare for road users. It was because of the road users could not see the holes while driving. Most accidents that involved potholes occurred at night because at that time many drivers could not recognize the holes when they were driving. In addition, insufficient and improper of street light also caused an accident. The street lights usually were hard to find in village areas. In some places, the street light could not be used by people because the street light was already broken and not repaired by the authorities. In other case, the insufficient of traffic light also lead us to road accident, interstate highways remained the safest roads because their flow of traffic light was in one direction and it was completed with traffic lights. Many accidents were caused by insufficient of traffic light such as there were no traffic light at one road that was always full with vehicles and produced a huge traffic jam. It became worst when some drivers did not think about other road users and drive in high speed when taking a corner or change to the other side of road. However, roadway identification signs also played the role to make the roads safe for road users. It was useful to inform road users to locate and know the road conditions such as the location of landslide, the location of school, hospitals and many more. If the driver was informed properly the accident would not happen easily. It was possible that motorcyclists also needed specific lanes for them.

They should be separated from other 'big' users like car, lorry, bus and the other type of transportation that were bigger than motorcycles. It would make them safer and secure from unwanted accident.

## **2.5 Road Safety**

In general, road safety was crucial to minimize accident causes on road for proper driving. Road safety was defined and evaluated in terms of the recorded number of accidents or the number of killed or injured road users.

Based on Department of Statistic in 2008 by Yusoff et al. (2013), the traffic road accidents ranked fifth among the leading cause of deaths in Malaysia. Accidents were relatively rare and unpredictable. Sometimes it was direct observation and usually impossible. However, the number of traffic accidents in Malaysia continued to increase despite implementation of various intervention measures over the years. Since there were too many factors that influence the accidents to happen, it was quite difficult to control accidents. Such factors were including road conditions, the drivers' behaviour themselves, right-of way constraints, and weather conditions. This was because of the growth in urbanization and in the number of vehicles which exceeded the designed volume that they were able to carry.

According to the research of Malaysian Institute of Road Safety (Miros) from New Straits Times (2014, July 9), it stated that averages of 18 people were killed on Malaysian roads daily. Hence, roadside safety must be enhanced and a suitable action must be taken very seriously. Since the country's independence, a number of bodies concerned with road safety had been established within government departments, private sector agencies and voluntary organizations. Road traffic safety had been defined as one of the social responsibilities to be taken care of by the Malaysian Government. The concern for road safety was to minimize the effects from vehicle accidents such as death, injuries, and property damage.

Based on a journal by DMSShrestha (2006), more concentration was provided in developing road length by constructing new roads and very low consideration was given for maintenance and road safety till 80s. Road construction complied with standard geometrics with least concern for road safety. Most of the roads and bridges

did not have walkways and other required road safety features. The most vulnerable spots for the motorists, as well as the pedestrian were from the road intersections, blind curves, and bridge approaches. Considering the importance of road asset preservation and to reduce the road users cost, rehabilitation and maintenance program were implemented in the strategic roads. Improved road condition induced sudden increase in vehicle fleet and speed, resulting increase in road accidents and casualties.

### **2.5.1 Road Safety Measure**

Road safety measure generally fall into two categories. First was traffic calming measures which might be area-wide or localized. Second was provide education programmes which might be in population-level or targeted to specific groups such as vulnerable road users. According to WHO (2013), it endorsed a comprehensive approach to road safety which known as the safe system approach. It had recognized that the safety of all parts of the system such as road users, vehicles and roads must be enhanced to help minimize the impact of those mistakes due to the human body was vulnerable to injury and humans would always do mistakes. The purpose of the safe system approach was to develop a road transport system which could better accommodate human error and take into consideration the vulnerability of the human body, rather than just maintaining a focus on human error.

Duperrex et al. (2002) who carried out a systematic review of randomized controlled trials on safety education of pedestrians for injury prevention. They reported pedestrian safety education could change observed road crossing behaviour, but whether this reduced the risk of pedestrian injury in road traffic crashes was unknown. They concluded that there was a lack of good evidence of effectiveness of safety education. They also pointed out that none of the trials was conducted in low or middle-income countries. Zhao, Qiu and Qiu (year unknown) studied on effectiveness of child and parent safety education for two years to prevent accidental injuries in children between 7 and 13 years old in China. They reported no differences in the first year. However in the second year, the incidence of accidental injury was significantly less in intervention compared to control group.

Azeredo and Stidham (2003) evaluated a school injury prevention curriculum in Oklahoma, US focusing on safety belts, bicycle helmets and smoke alarms. They found significant differences in student knowledge, attitudes and behaviors in intervention schools compared to control schools between pre and post intervention. This study did not look beyond than the knowledge, attitude and behavior. Thus no studies on injury outcomes were carried out. Zeedyk et al (2001) also in their study on teenagers and road safety in UK only covered knowledge and behavior and not injury outcome. Hall et al (2004) in their study in evaluating a school based peer leader bicycle helmet intervention in Western Australia covered behavior changes only. Cross et al (2000) evaluated a 3 year Child Pedestrian Injury Prevention Project and reported on knowledge and behaviour indicators again. Similarly was Morrongiello et al. (1988) study on 13-17 years old teenagers covered awareness, attitude and practice.

## **2.6 Road Safety Awareness and Practices**

Based on a journal by Vaman Kulkarni et al. (2013), the overall awareness on road safety measures was slightly higher among females (20.6%) than males (19.9%). The participants had significantly low awareness with regard to alcohol and driving (4.2%), use of seat belts (20%) and use of mobile phones without hands free device (6.1%). The participants had a better knowledge about traffic signs and more than half of them identified all the signs correctly. With regard to the road safety practices, 25% were involved in drunken driving in the past one year. The practice of using mobile phones with hands free devices while driving was admitted by 20% of them. Nearly two-third participants (68%) admitted to have crossed speed limits on multiple occasions. Observations of the study emphasize on the need to generate awareness among medical students through training and IEC activities to curb the epidemic of RTAs.

Taranga Reang & Amar Tripura (2014) had stated that majority (67.4%) of the participants were in the age group of 13 -17 years and males (53.2%). Moreover, most of them knew that consumption of alcohol while driving was dangerous, seat belt to be worn by everyone in the car, talking while driving distracted the driver, cautious drove near school, loud music in the car distracted driver, should drive in the left lane, over

taking in the right only, give way to ambulance, use of hand free devices was safe while driving, waited patiently when pedestrians were taking too much time in zebra crossing and corrected knowledge of speed limit was necessary. Males had significantly better awareness and knowledge compared to females.

According to Swami et al. (2006), 40% of students were lacked correct knowledge of traffic safety rules. Particularly, knowledge of correct speed limit was lacking in 67.3% of the respondents. Girls were more aware of traffic rules to be followed at traffic lights (63%) and while crossing zebra lines (41.2%), whereas boys were more versed with rules for pedestrians (49.8%). Around 60% of school children had correct knowledge of risk factors. The awareness was almost same in both government & private schools as well as in males and female students.

Manoj Kumar et al. (2014) claimed that more males (61%) than females (37%) violated traffic rules. Main instances of violation of traffic rules was mobile use (43 males and 21 females) while driving, crossing at wrong signal and not wearing helmet. Many students (29% of males and 15 % of females) told that they practiced safety measures due to fear of challenge.

## **2.7 Summary**

As a summary, it was crucial to implement and practice the control measure to prevent the occurrence of road traffic accident among the people especially the adolescent. This chapter covered a spectrum of topics related to this task by additionally providing foundations for this research. First, a brief background and an overview on definitions made by previous researchers were discussed. This was followed by the risk factor and the high risk group which involved in road traffic accident. Next, the causes of road traffic accident were discussed which mostly the happening of road traffic accidents are caused by human factor, vehicle defect and road condition. The final section of this chapter reported on the road safety measures, awareness and practices. This is because the importance of awareness, knowledge and practice of road safety measures needed to be emphasized in the prevention of road traffic accidents (Vaman Kulkarni et al., 2013).

## **CHAPTER 3**

### **METHODOLOGY**

#### **3.1 Introduction**

This chapter discusses the methodology used in this research and explain how the methodology was applied in this research study. The study areas, research design, study samples and sampling strategy were focused in order to conduct during the research. The detail of procedures for conducting data collection by using questionnaire.

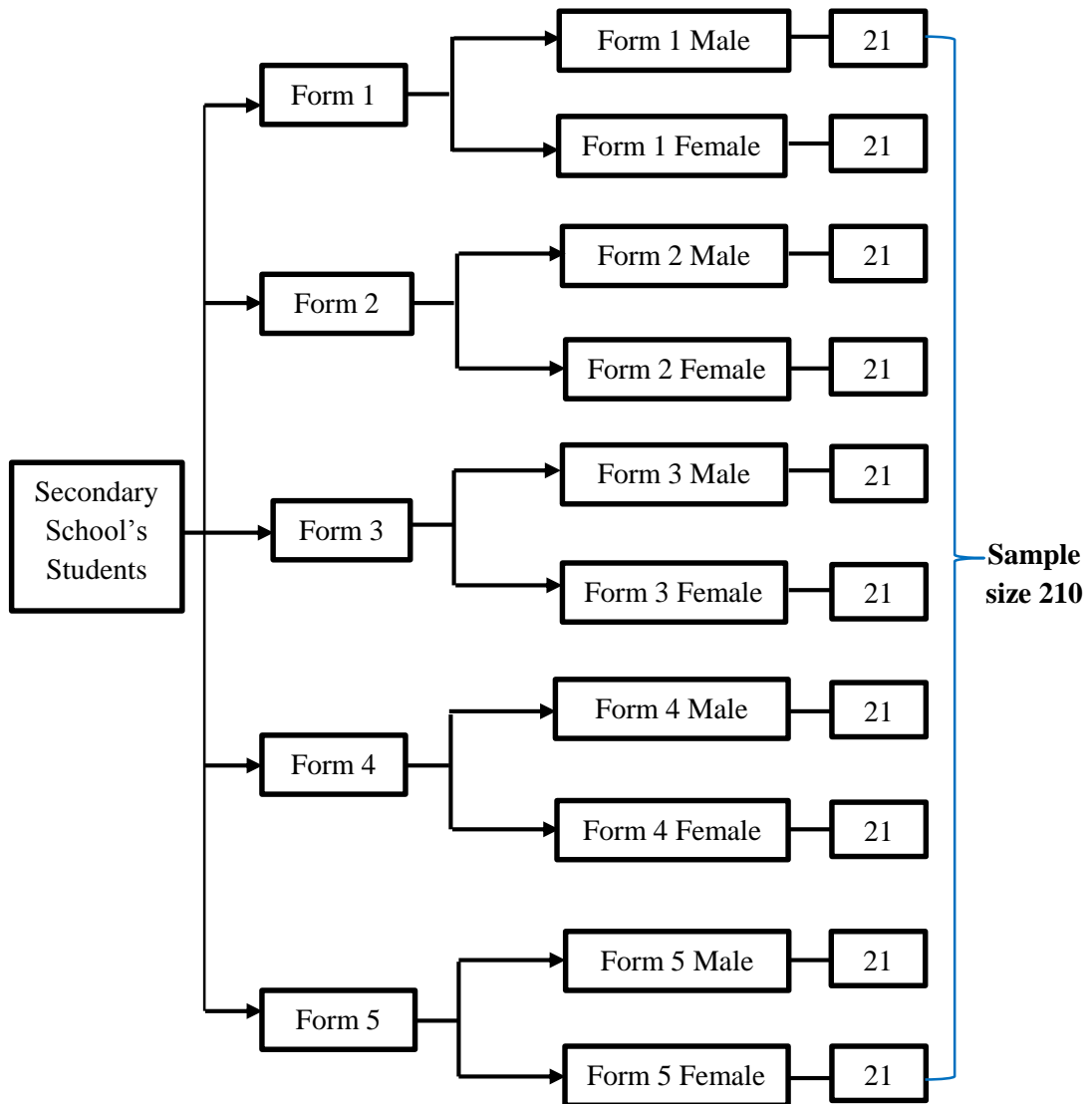
#### **3.2 Research Design**

The study design used in this research was analytical cross-sectional which was non-experimental design. This cross-sectional study was conducted in secondary school. The data in this study was collected in quantitative method. According to MacDonald & Headlam (1999), quantitative method was the techniques of research used to gather the quantitative data which was the data that can be sorted, categorized and calculated. Therefore, this research mainly used questionnaire to determine the level of knowledge, awareness and practices toward road safety. In this study, the secondary school's students with different gender were participated in order to explore the comparison of the level knowledge, awareness and practices of road safety.

### **3.3 Study Sample**

The population of the study consisted of the students from the secondary school. Walkthrough observation and initial visit were done in order to determine the size of population in the secondary school. The population size for the secondary school were 460. So, the number of respondents were chosen 210 which based on the Krejcie and Morgan's sample size determination table which shown in Appendix B (Krejcie and Morgan, 1970). All 13-17 year old (form 1 to 5) students from the secondary schools registered at government primary schools were the sampling population. The students were included girls and boys. Also, students who were present during the time of data collection will be included. The students who were absent during the time of data collection were excluded.

There were two types of sampling strategies that could be used in a study which were probability sampling and non-probability sampling. The probability sampling was chosen in such a way where it represented the population where area of study was carried out. There were several categories of sampling under probability sampling, which were simple random sampling, systematic sampling and stratified sampling. The type of sampling that used for this research study was stratified sampling. This type of sampling had been selected since one of the subject for this research were secondary school's students that were randomly chosen from different ages and genders. The purpose of obtaining this sample was to collect data on the level of knowledge, awareness and practices by secondary school's students in relation to road safety. Moreover, the data was also collected through questionnaire. Questionnaire was distributed among secondary school's students.



**Figure 3.1 Dimensional Stratified Random Sampling**

### 3.4 Study Area

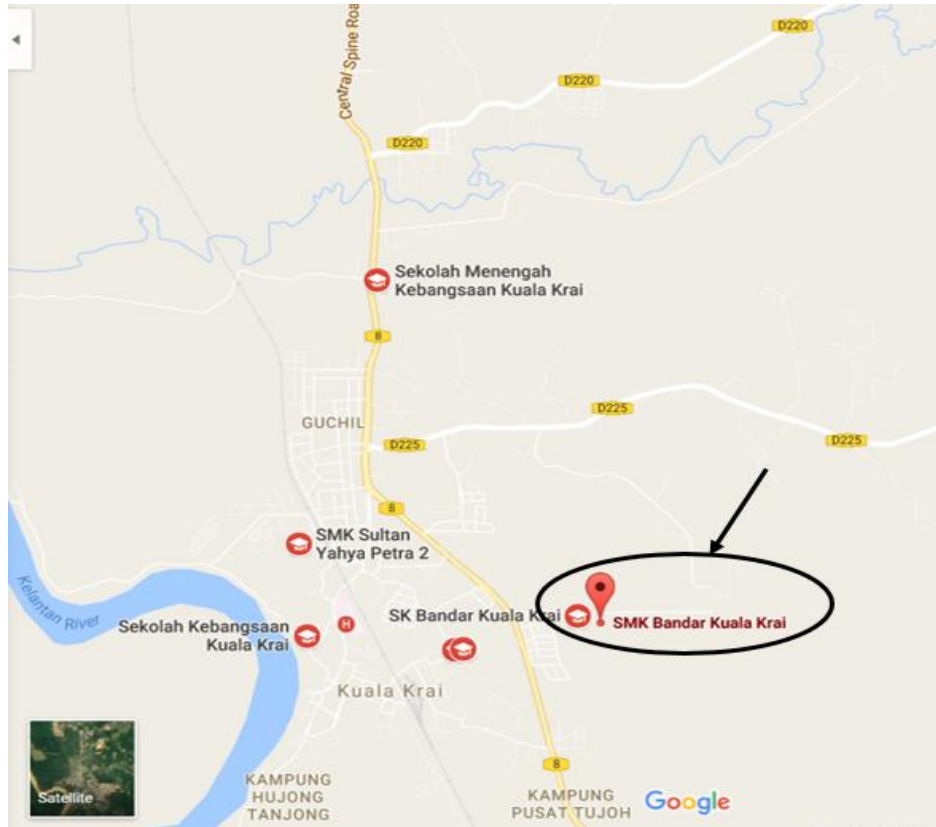
This research was carried out in a secondary school which was located in Kuala Krai, Kelantan. It was to determine the level of knowledge, awareness and practices toward road safety among secondary school's students. The sampling frame was



consisted of 210 respondents who were randomly selected from secondary school. The respondents were divided into two groups which are boys and girls.

In the first phase of the study, the necessary explanations about the permission for taking the list of the students were provided to the principal of secondary school. This could be easier to select the students as the respondents from the list to carry out this study. Additionally, the secondary school's students were given the explanation about their participation and the objective of the study.

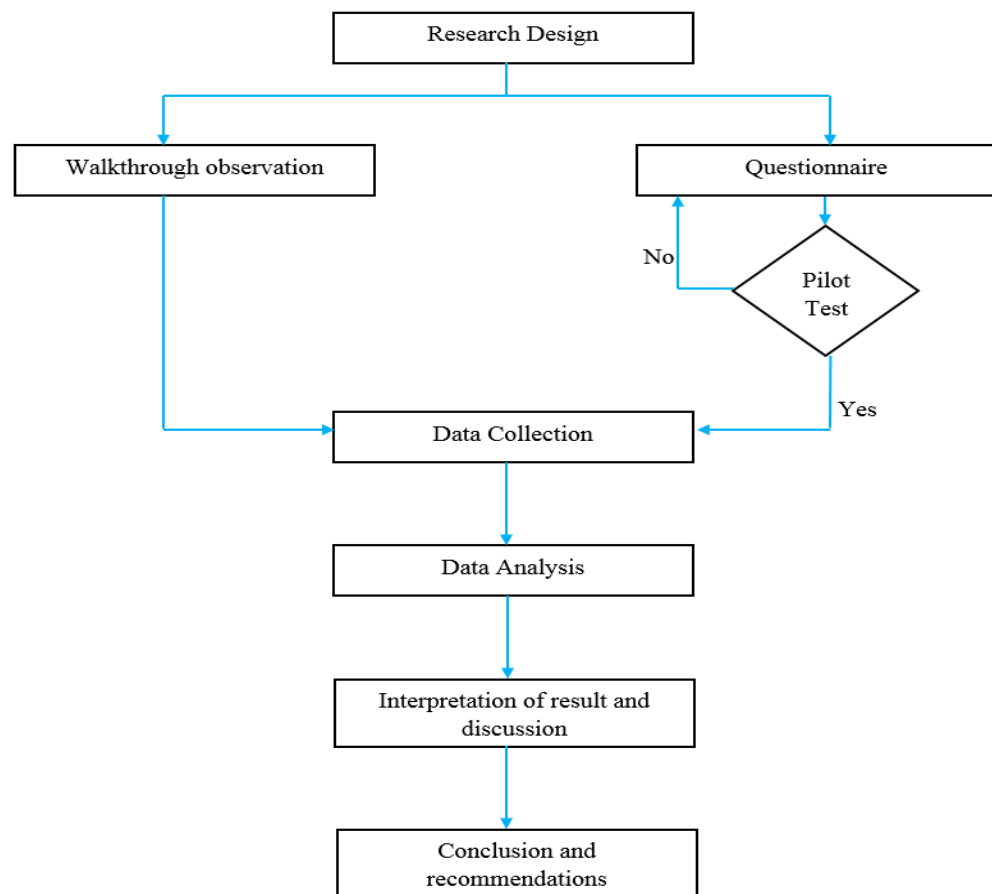
In the second phase, structured questionnaires with closed-ended questions were administered to the students after obtaining written informed consent. The questionnaires were divided into four parts which were included the general information related to the participants, questions related to participants' knowledge toward road safety measure, questions related to awareness of road safety, and questions related to the practices when using the road. In addition, the journals, websites and newspaper were also used as secondary source in order to collect more information. The map of this research study location was shown below.



**Figure 3.2** Location Map of Secondary School in Kuala Krai, Kelantan

Source : Adapted from Google Maps

### 3.5 Research Process and Procedures



**Figure 3.3 Research Process and Procedures**

### 3.6 Research Instruments

#### 3.6.1 Questionnaire

In regards to road safety awareness and practices, there was no specific templates available locally in Malaysia to be used as a reference. However, the questionnaire was taken from several related journal where research had been conducted prior to the subject matter. The questionnaire was divided into two sections. The first section will be captured the demographic profile of the respondents. While in the second section, it will be focused on the level of road safety knowledge, awareness and practices. The questionnaire will be several methods of answering option that

including likert scale and options to choose from. Respondents were asked to answer the knowledge-based statements on the five points of Likert scale that ranging from 1 (Never) to 5 (Always).

### 3.6.2 Pilot study

Thabane.L, et.al (2010) stated that a pilot study was a trial study that needed to conduct before a research design was finalized to assist in defining the research question or to test the feasibility, reliability and validity of the proposed study design. It was also done to evaluate the likelihood of success of the proposed data collection and data analysis technique that enabled to uncover the potential problems at the same time. A pilot study would be held with the help of the self-prepared questionnaire.

In the pilot test, Cronbach’s Alpha coefficient of reliability was being applied to measure the reliability and consistency of questionnaire. Before proceeding to major distribution of questionnaire, the total number of respondents by distributing questionnaires were 10 who were 13-17 years old. The results collected were applied in SPSS data software to generate the output. According to George & Mallery (2003), the rules of thumb for Cronbach’s alpha coefficient ( $\alpha$ ): “ $\alpha >0.9$  -Excellent,  $\alpha >0.8$  - Good,  $\alpha >0.7$  - Acceptable,  $\alpha >0.6$  - Questionable,  $\alpha >0.5$  - Poor, and  $\alpha <0.5$  - Unacceptable” Alphas normally range between 0.00 and 1.00. The closer the Cronbach’s Alpha coefficient is to 1.00, the greater the internal consistency of the items in the scale. Alpha coefficients above 0.70 are considered acceptable and reliable.

The total number of items were 30 in the pilot test for the questionnaire. The Cronbach’s Alpha coefficient value was 0.988. Since it was more than 0.7, the coefficient value were acceptable and reliable. Therefore, the questionnaire was continued to the major distribution for research.

**Table 3.1 Cronbach’s Alpha coefficient value for questionnaires**

<b>Reliability Statistics</b>	
<b>Cronbach’s Alpha</b>	<b>N of Items</b>
.988	30

### **3.7 Data Analysis**

Data analysis in this content was the process of systematically adopting analytical and logical reasoning to assess and to evaluate data which support in forming some sort of finding or conclusion. In this research study, Statistical Package for Social Sciences (SPSS) version 24 was used for the data analysis and interpretation. SPSS was capable in handling large amount of data and carried out all of the analyses. Typically, SPSS was used in the Social Science research. In this research study, descriptive statistic was used to determine the sample based on the data provided in the questionnaire. Level of knowledge, awareness and practices among secondary school's students toward road safety were analyzed by using graph, percentage, frequency, mean, standard deviation, minimum and maximum value.

### **3.8 Study Limitations**

There are some limitations should be taken into consideration. The cross-sectional study relies on a large sample to average out random error caused by individual differences. Results of cross-sectional study often concentrate on group effects with little emphasis on individuals. The study conducted may not be representative of whole student population. It may not present a true picture of awareness among students in other areas. There can be recall bias among respondents. Thus, the result that will be produced from this research become not so accurate.

### **3.9 Summary**

This chapter discussed the methodology that was used to carry out the study and to facilitate data collection process. It gave an idea of how the research was being conducted and carried out. The results obtained from the data collection data will be used to explain in the following chapter.

## **CHAPTER 4**

### **RESULTS AND DISCUSSION**

#### **4.1 Introduction**

This chapter focuses on the data analysis from the collecting questionnaire. To evaluate the knowledge level of secondary school's students toward road safety measure and to determine the level of road safety awareness and practices among secondary school's students, the questionnaire was conducted at the secondary school which was located in Kuala Krai, Kelantan. The survey was carried out from August 2017 to September 2017. The collected results also were used to compare the road safety awareness between male secondary school's students and female secondary school's students. In this chapter, the data collected from questionnaires are analyzed using Statistical Package for Social Science (SPSS) version 24.

#### **4.2 Demographic Information**

There were 210 secondary school's students from Sekolah Menengah Kebngsaan Bandar Kuala Krai who were chosen for this research. The respondents were different with the age, gender, and the living area. The questions related to demographic profile was vital to determine the background of respondents who participated in this research. The descriptive statistics was used in data analysis.

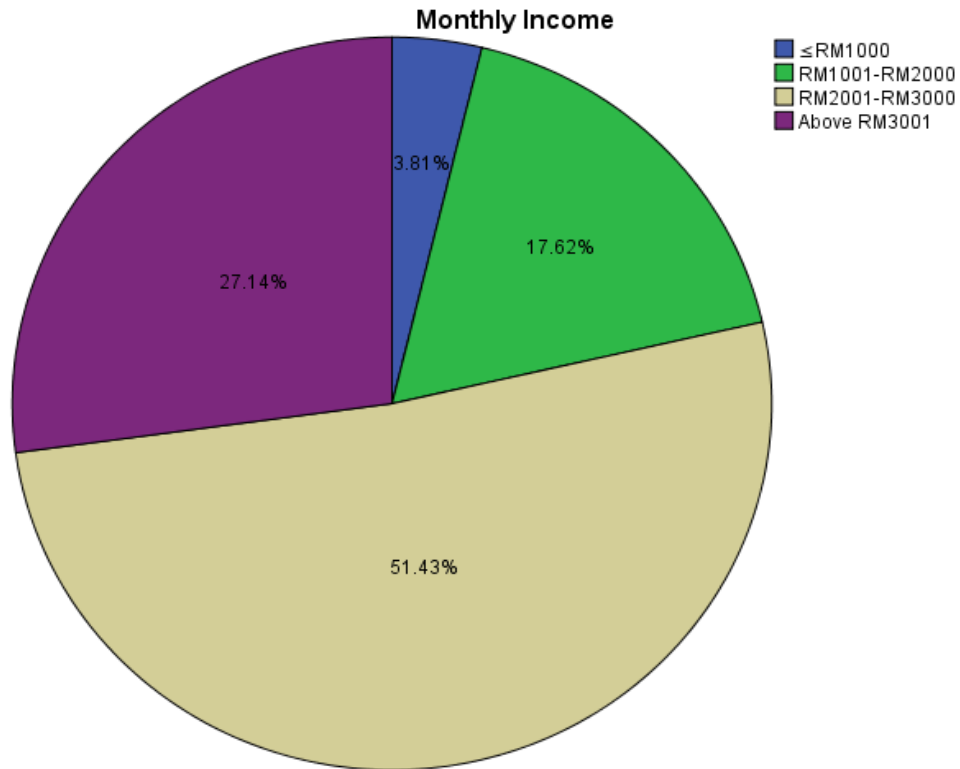
**Table 4.1 Demographic data of secondary school students in SMK Bandar Kuala Krai**

	<b>Frequency</b>	<b>Percentage (%)</b>
<b>Age (Years Old)</b>		
13	42	20
14	42	20
15	42	20
16	42	20
17	42	20
<b>Gender</b>		
Male	105	50
Female	105	50
<b>Living Area</b>		
Urban	0	0
Suburban	80	38.1
Rural	130	61.9

N=210

#### **4.2.1 Average Monthly Income**

Figure 4.1 showed the average monthly income of the respondents' family. 51.43% for the average income of the respondents' family were between RM2001 to RM3000 which were the highest number. By the following of the average monthly income were above RM3001 and between RM1001 to RM2000 which were 27.14% and 17.62% respectively. The lowest of average monthly income of the respondents' family was below RM1000 (3.81%).

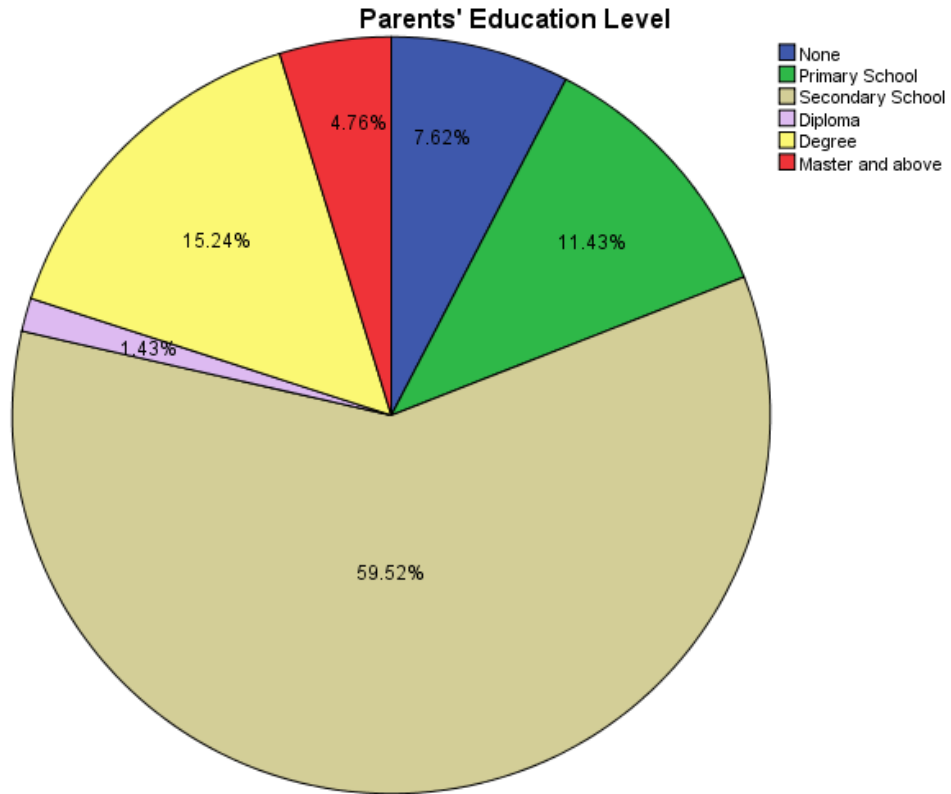


**Figure 4.1 Average Monthly Income of Respondents' Family**

#### **4.2.2 Parents' Education Level**

Figure 4.2 indicated the parents' education level of the respondents. From the result, most of the parents had the secondary school level with 59.52%. A total of 32 respondents (15.4%) showed that their parents' education level were degree level. For the primary school level, there were 11.43% of respondents for their parents' education level. Next, 11.43% of respondents displayed their parents had master level. 16 respondents (7.62%) had showed that their parents did not have any education level while only 3 respondents showed their parents had diploma level.



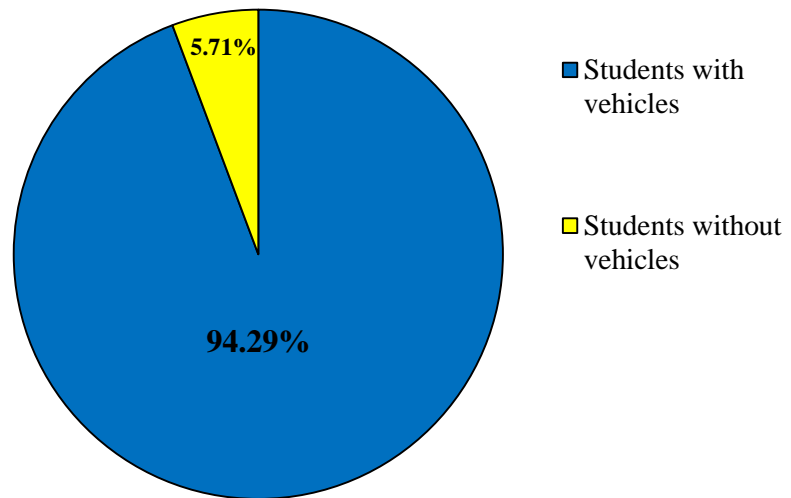


**Figure 4.2 Parents' Education Level**

### 4.2.3 Ownership of Vehicle

Figure 4.3 showed the ownership of the vehicle by the respondent's parents. Out of the 210 respondents, parents of the 198 (94.29%) respondents had either a car or a two-wheeler of their own. The rest of the parents of 12 respondents (5.71%) did not have a vehicle of their own.

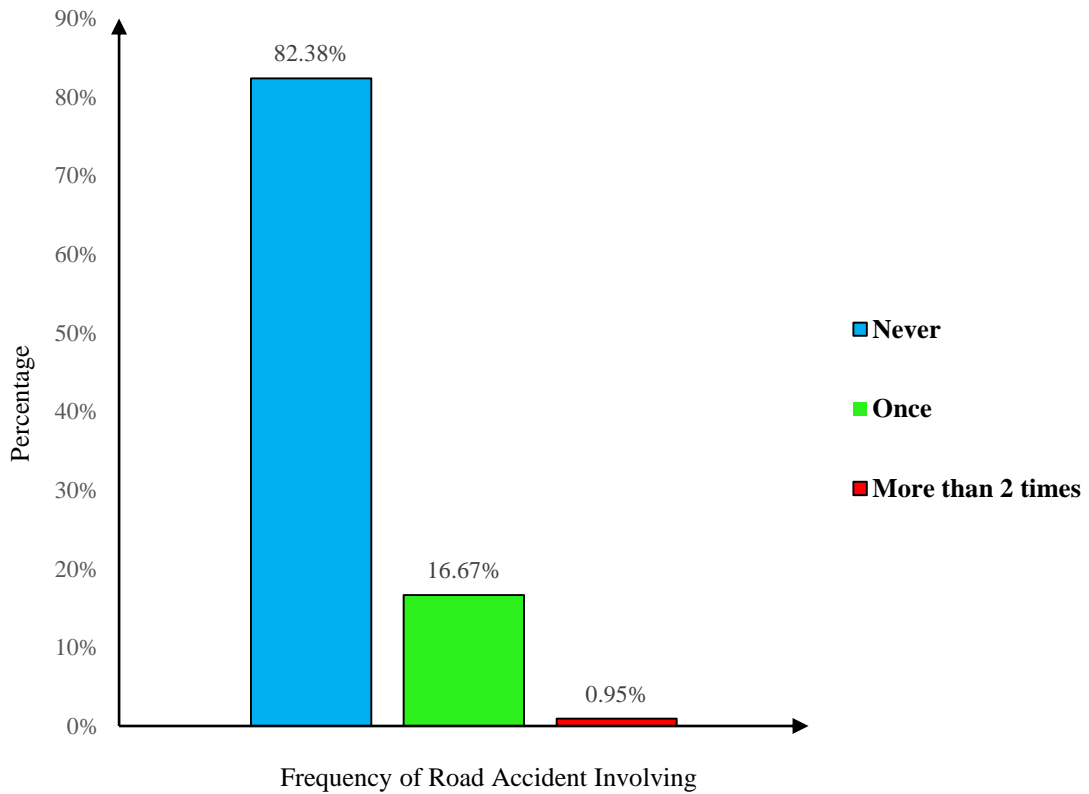
## Ownership of vehicle



**Figure 4.3 Ownership of Vehicle**

### 4.2.4 Frequency of Road Accident

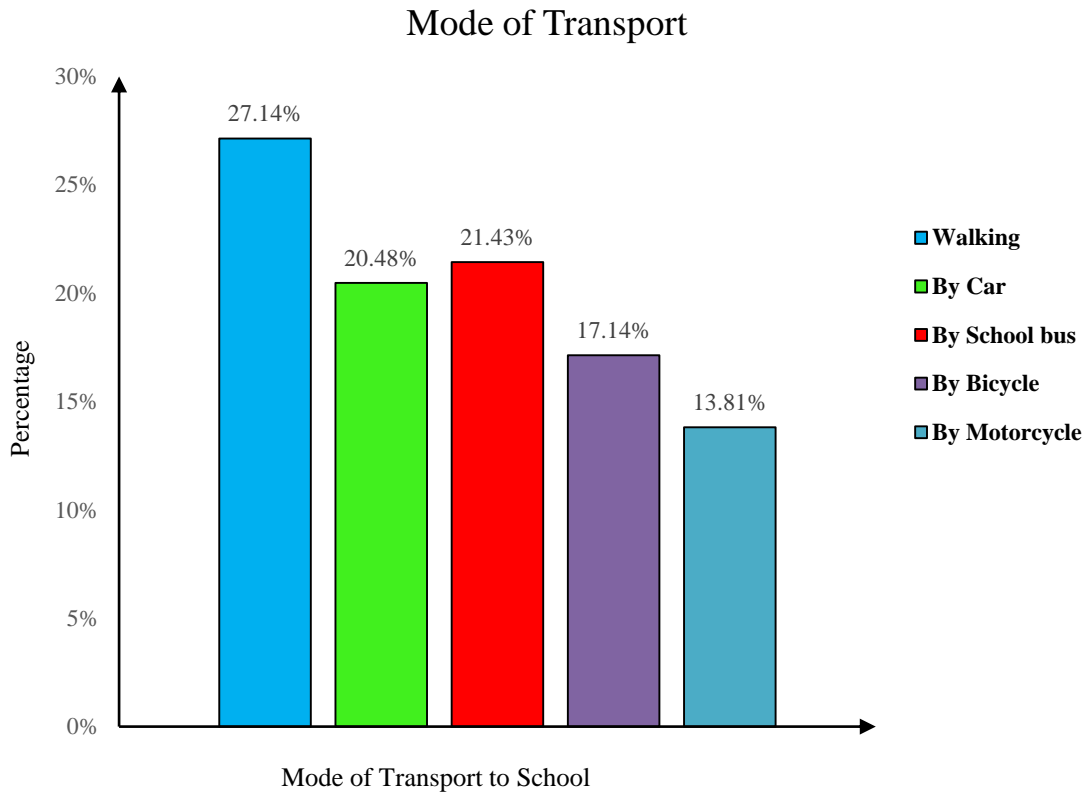
Figure 4.4 demonstrated that the frequency of respondents that involved in a road accident. Majority of the respondents (82.38%) never meet a road accident. While 35 respondents met once accident on the road. Out of 210 respondents, only 2 respondents (0.95%) met road accident more than 2 times. Based on the respondents' answer, for those who met road accidents more than 2 times were because of involving in motorcycle crash accident.



**Figure 4.4 Frequency of Road Accident**

#### **4.2.5 Mode of Transport**

Figure 4.5 showed the mode of transport to school by respondents. From the result, most of the respondents (27.14%) walked to school. 45 respondents (21.43%) took school bus while 43 respondents (20.48%) sat the car to school. Next, 17.14% respondents cycled to school. Only 29 respondents (13.81%) went to school by motorcycle. The reason walk to school or cycle to school because the distance of their houses were nearer to the school.



**Figure 4.5 Mode of Transport**

### 4.3 Test of Normality

In the research study, the normality test was being applied to measure whether the study were normality distribution or not. If the test was normal, the parametric test would be chosen. In contrast, if the test was not normal, non-parametric test would be chosen. The alpha level ( $\alpha$ ) was set in SPSS to be at 0.05 since it was the most common and usually that value was used as a reference for conducting normality testing. In this research, the sample questionnaires were examined with the Shapiro–Wilk’s normality test since the data set was smaller than the value 2000 (Razali & Wah, 2011; Shapiro & Wilk, 1965). The results were taken based on significant value (p-value). In normal distribution, significant value must be greater than 0.05 (p-value>0.05) which mean that the hypothesis would be accepted. Meanwhile, if the p-value obtained was smaller than 0.05 ( $p < \alpha$ ), the hypothesis would be rejected where the data obtained was not normally distributed.

For the normality test of this research, the results of significant value were 0.000 (shown in Appendix C). Since the significant value was less than 0.05 ( $0.000 < 0.05$ ), it was considered as non-normal distribution where there was a true significant.

#### 4.4 Frequency for level of knowledge toward road safety measure

##### 4.4.1 Knowledge about road safety rules and regulations

Table 4.2 showed the level of sufficient knowledge about road safety rules and regulations among the respondents. From the result, the highest amount of 89 respondents (42.4%) often agree to have sufficient knowledge about road safety rules and regulations while 31.9% and 24.8% were always and sometimes agree respectively. Only 2 respondents (1%) rarely to have sufficient knowledge about road safety rules and regulations. No any respondents had never to have sufficient knowledge about road safety rules and regulations. This was because it was crucial to know about road safety rules and regulations.

**Table 4.2 Knowledge about road safety rules and regulations**

	Frequency	Percentage (%)
Always	67	31.9
Often	89	42.4
Sometimes	52	24.8
Rarely	2	1.0
Never	0	0
Total	210	100.0

##### 4.4.2 Knowledge of road safety from the parents

Table 4.3 showed that the respondents got the knowledge of road safety from their parents. From the result, mostly respondents (46.2%) often agree to get the knowledge of road safety from their parents. While only 4.3% of respondents rarely to get the knowledge of road safety from their parents.

**Table 4.3 Knowledge of road safety from the parents**

	<b>Frequency</b>	<b>Percentage (%)</b>
Always	43	20.5
Often	97	46.2
Sometimes	61	29.0
Rarely	9	4.3
Never	0	0
Total	210	100.0

#### **4.4.3 Knowledge about road traffic signs**

Table 4.4 showed the level of knowledge about road traffic signs among respondents. 97 respondents (46.2%) indicated that they often to know well regard to the road traffic signs. This was because they wanted to prevent any injuries on the road. Only 1 respondent (0.5%) rarely to have a good knowledge about road traffic signs.

**Table 4.4 Knowledge about road traffic signs**

	<b>Frequency</b>	<b>Percentage (%)</b>
Always	72	34.3
Often	97	46.2
Sometimes	40	19.0
Rarely	1	0.5
Never	0	0
Total	210	100.0

#### **4.4.4 Frequency of reading the news about road traffic accident from newspaper**

Table 4.5 showed the frequency of reading the news about road traffic accident from newspaper by respondents. Most of the respondents (60.5%) sometimes read the newspaper about road traffic accident. This was because the respondents were busy with their studies so that they did not have time to read newspaper. Only 3 respondents (1.4%) always read the news about road traffic accident from newspaper.

**Table 4.5** Frequency of reading the news about road traffic accident from newspaper

	Frequency	Percentage (%)
Always	3	1.4
Often	36	17.1
Sometimes	127	60.5
Rarely	44	21.0
Never	0	0
Total	210	100.0

#### 4.4.5 Knowledge of bad behavioural attitude on using the road

Table 4.6 displayed the level of knowledge of bad behavioural attitude on using the road will cause road traffic accident among the respondents. The highest amount of 109 respondents (51.9%) always agree that bad behavioural attitude on using the road will cause road traffic accident. 72 respondents (34.3%) often agree that bad behavioural attitude on using the road will cause road traffic accident. While only 13.8% of respondents sometimes agree that bad behavioural attitude on using the road will cause road traffic accident.

**Table 4.6** Knowledge of bad behavioural attitude on using the road

	Frequency	Percentage (%)
Always	109	51.9
Often	72	34.3
Sometimes	29	13.8
Rarely	0	0
Never	0	0
Total	210	100.0

#### 4.4.6 Knowledge about positive attitude and negative attitudes

Table 4.7 showed that the level of knowledge about positive attitude decreases risks of driving but negative attitudes will increase the risks among the respondents. Based on the result, most of the respondents (53.8%) always agree that positive attitude decreases risks of driving but negative attitudes will increase the risks and followed by the frequency of often with 31.4%. Only 31 respondents (14.8%) sometimes agree that positive attitude decreases risks of driving but negative attitudes will increase the risks.

**Table 4.7 Knowledge about positive attitude and negative attitudes**

	Frequency	Percentage (%)
Always	113	53.8
Often	66	31.4
Sometimes	31	14.8
Rarely	0	0
Never	0	0
Total	210	100.0

#### 4.4.7 Knowledge of the meaning of ensuring road safety

Table 4.8 showed that the knowledge level of the meaning of ensuring road safety among the respondents. Based on the result, most of the respondents (77.1%) always know that ensure road safety mean ensuring safe roads, safe people, safe vehicle and safe speed and followed by the frequency of often with 17.6%. Only 11 respondents (5.2%) sometimes agree that ensure road safety mean ensuring safe roads, safe people, safe vehicle and safe speed.

**Table 4.8 Knowledge of the meaning of ensuring road safety**

	Frequency	Percentage (%)
Always	162	77.1
Often	37	17.6
Sometimes	11	5.2
Rarely	0	0
Never	0	0
Total	210	100.0

#### 4.4.8 Knowledge about the traffic light basics

Table 4.9 showed the level of knowledge about the meaning of colours of traffic light among the respondents. The highest amount of 162 respondents (77.1%) always know about the meaning of colours of traffic light which red mean stop, yellow mean get ready to stop and green mean go and followed by the frequency of often with 17.6%. Only 11 respondents (5.2%) sometimes to know about the meaning of colours of traffic light. This was because the respondents felt that it was crucial to know the basic and importance of traffic light on the road.



**Table 4.9 Knowledge about the traffic light basics**

	Frequency	Percentage (%)
Always	162	77.1
Often	37	17.6
Sometimes	11	5.2
Rarely	0	0
Never	0	0
Total	210	100.0

#### 4.4.9 Knowledge of wearing bright colour clothing at night when on the road

Table 4.10 showed that the level of knowledge of wearing bright colour clothing at night when on the road among the respondents. From the result, most of the respondents (58.6%) sometimes agree to wear bright colour clothing at night when on the road. There were 70 respondents (33.3%) rarely know about it. Only 2 respondents (1%) never know to wear bright colour clothing at night when on the road. Based on the majority respondents' opinion, this was because it was not necessary and importance to wear bright cloth at night when on the road.

**Table 4.10 Knowledge of wearing bright colour clothing at night when on the road**

	Frequency	Percentage (%)
Always	0	0
Often	15	7.1
Sometimes	123	58.6
Rarely	70	33.3
Never	2	1.0
Total	210	100.0

#### 4.4.10 Knowledge of traffic signs while on the road

Table 4.11 showed that the knowledge of traffic signs while on the road among the respondents. Based on the result, the highest amount of 80 respondents (38.1%) noticed the traffic signs while they are on the road in order to prevent road traffic accident. While there were 29.5% and 27.6% of respondents often and sometimes pay attention with traffic signs while on the road. Only 10 respondents (4.8%) rarely to notice the traffic signs while they are on the road.

**Table 4.11 Knowledge of traffic signs while on the road**

	Frequency	Percentage (%)
Always	80	38.1
Often	62	29.5
Sometimes	58	27.6
Rarely	10	4.8
Never	0	0
Total	210	100.0

#### 4.4.11 Overall mean for level of knowledge toward road safety measure

Table 4.12 showed the overall mean of the knowledge level toward road safety measure. In sum, the overall mean was 3.89 which was categorized in the high range based on the mean score (shown in the Appendix F). Therefore, it indicated that the respondents were having the positive response to have the knowledge toward road safety measure.

**Table 4.12 Mean for level of knowledge toward road safety measure**

No	Statement	Mean
1	Knowledge about road safety rules and regulations	4.05
2	Knowledge of road safety from the parents	3.63
3	Knowledge about road traffic signs	4.14
4	Frequency of reading the news about road traffic accident from newspaper	2.99
5	Knowledge of bad behavioural attitude on using the road	4.28
6	Knowledge about positive attitude and negative attitudes	4.39
7	Knowledge of the meaning of ensuring road safety	4.47
8	Knowledge about the traffic light basics	4.49
9	Knowledge of wearing bright colour clothing at night when on the road	2.52
10	Knowledge of traffic signs while on the road	3.91
Average of Mean		3.89

## 4.5 Frequency for level of road safety awareness

### 4.5.1 Awareness of complying with traffic signs

Table 4.13 showed the awareness of complying with traffic signs among the respondents. Based on the result, the highest amount of 93 respondents (44.3%) always aware to comply with traffic signs when they are on the road followed by often which was 35.2%. The least was sometimes which was 20.5%.

**Table 4.13 Awareness of complying with traffic signs**

	Frequency	Percentage (%)
Always	93	44.3
Often	74	35.2
Sometimes	43	20.5
Rarely	0	0
Never	0	0
Total	210	100.0

### 4.5.2 Awareness of the age for getting a motor's license

Table 4.14 showed the awareness of the age for getting a motor's license is 16 years old among the respondents. Most of the respondents (95.2%) always aware that the age for getting a motor's license is 16 years old. Only 10 respondents (4.8%) often aware with the age for getting a motor's license is 16 years old.

**Table 4.14 Awareness of the age for getting a motor's license**

	Frequency	Percentage (%)
Always	200	95.2
Often	10	4.8
Sometimes	0	0
Rarely	0	0
Never	0	0
Total	210	100.0

#### 4.5.3 Awareness of using the vehicle on the road after getting the license

Table 4.15 showed the awareness of using the vehicle on the road after getting the license. Based on the result, the highest amount of 156 respondents (74.3%) always aware to use the vehicle on the road after getting the license followed by often and sometimes which were 15.7% and 9% respectively. Only 2 respondents (1%) rarely aware to use the vehicle on the road after getting the license.

**Table 4.15 Awareness of using the vehicle on the road after getting the license**

	Frequency	Percentage (%)
Always	156	74.3
Often	33	15.7
Sometimes	19	9.0
Rarely	2	1.0
Never	0	0
Total	210	100.0

#### 4.5.4 Frequency of watching TV programs and use internet

Table 4.16 showed that the frequency of watching TV programs and use internet to increase the awareness about road safety by the respondents. Most of the respondents often agree with 40% and followed by the respondents sometimes agree with 38.1%. 43 respondents (20.5%) rarely watch TV programs and use internet to increase the awareness about road safety. Only 3 respondents (1.4%) always to do that situation.

**Table 4.16 Frequency of watching TV programs and use internet**

	Frequency	Percentage (%)
Always	3	1.4
Often	84	40.0
Sometimes	80	38.1
Rarely	43	20.5
Never	0	0
Total	210	100.0

#### 4.5.5 Frequency of attending road safety program

Table 4.17 showed the frequency of attending awareness road safety program among the respondents. From the result, most of the respondents (62.4%) rarely to attend awareness road safety program. This was because the respondents thought that it was not necessary and important to participate the road safety program. Only 3 respondents (1.4%) often attend the awareness of road safety program.

**Table 4.17 Frequency of attending road safety program**

	Frequency	Percentage (%)
Always	0	0
Often	3	1.4
Sometimes	47	22.4
Rarely	131	62.4
Never	29	13.8
Total	210	100.0

#### 4.5.6 Cautious on the road without getting distracted by anything

Table 4.18 showed the awareness of cautioning on the road without getting distracted by anything among the respondents. The highest amount of 85 respondents (40.5%) often cautious on the road without getting distracted by anything followed by always and sometimes cautious which were 32.9% and 21.4% respectively. Only 11 respondents rarely aware with that action.

**Table 4.18 Cautious on the road without getting distracted by anything**

	Frequency	Percentage (%)
Always	69	32.9
Often	85	40.5
Sometimes	45	21.4
Rarely	11	5.2
Never	0	0
Total	210	100.0

#### 4.5.7 Frequency of using left side on the road where sidewalks were unavailable

Table 4.19 showed the awareness of using left side on the road where sidewalks were unavailable among the respondents. Most of the respondents (42.4%) always aware of using left side on the road where sidewalks were unavailable followed by often aware which was 39.5%. The least frequency was sometimes with 18.1%.

**Table 4.19 Frequency of using left side on the road where sidewalks were unavailable**

	Frequency	Percentage (%)
Always	89	42.4
Often	83	39.5
Sometimes	38	18.1
Rarely	0	0
Never	0	0
Total	210	100.0

#### 4.5.8 Safe to cross the road through zebra crossing

Table 4.20 showed that the awareness about safe to cross the road through zebra crossing among the respondents. Based on the table above, the highest amount of 166 respondents (79%) always aware that it was safe to cross the road through zebra crossing and followed by the frequency of often which was 15.7%. Only 5.2% of respondents sometimes aware about it.

**Table 4.20 Safe to cross the road through zebra crossing**

	Frequency	Percentage (%)
Always	166	79.0
Often	33	15.7
Sometimes	11	5.2
Rarely	0	0
Never	0	0
Total	210	100.0

#### 4.5.9 Violation of traffic rules

Table 4.21 showed the frequency of having been caught for violation of traffic rules among the respondents. Most of the respondents (99%) never been caught for violation of traffic rules. Only 2 respondents (1%) rarely been caught for violation of traffic rules on the road. This was because they drove on the road without the license.

**Table 4.21 Violation of traffic rules**

	<b>Frequency</b>	<b>Percentage (%)</b>
Always	0	0
Often	0	0
Sometimes	0	0
Rarely	2	1.0
Never	208	99.0
Total	210	100.0

#### 4.5.10 Encouragement of parents for children to drive the vehicle after getting the license

Table 4.22 showed the awareness of accepting with the parents' encouragement for children to drive the vehicle after getting the license. Based on the result, the highest amount of 164 respondents (78.1%) always agree to accept with the parents' encouragement for children to drive the vehicle after getting the license and followed by the frequency of often which was (18.1%). There was only 3.8% of respondents sometimes agree to accept the encouragement of parents for children to drive the vehicle after getting the license.

**Table 4.22 Encouragement of parents for children to drive the vehicle after getting the license**

	<b>Frequency</b>	<b>Percentage (%)</b>
Always	164	78.1
Often	38	18.1
Sometimes	8	3.8
Rarely	0	0
Never	0	0
Total	210	100.0

#### 4.5.11 Overall mean for level of road safety awareness

Table 4.23 showed the overall mean of the awareness level toward road safety. In sum, the overall mean was 3.19 which indicated that the respondents have medium road safety awareness that based on the mean score (shown in Appendix F).

**Table 4.23 Mean for level of road safety awareness**

No	Statement	Mean
1	Awareness of complying with traffic signs	4.05
2	Awareness of the age for getting a motor's license	3.70
3	Awareness of using the vehicle on the road after getting the license	4.03
4	Frequency of watching TV programs and use internet	2.72
5	Frequency of attending road safety program	2.01
6	Cautious on the road without getting distracted by anything	2.83
7	Frequency of using left side on the road where sidewalks were unavailable	3.93
8	Safe to cross the road through zebra crossing	4.00
9	Violation of traffic rules	1.01
10	Encouragement of parents for children to drive the vehicle after getting the license	3.60
Average of Mean		3.19

#### 4.6 Frequency for level of practices when using the road

##### 4.6.1 Good behaviour and practice

Table 4.24 showed the level of having good behaviour and practice when using the road among respondents. Based on the result, most of the respondents (42.9%) always learn to have good behaviour and practice when using the road and followed by the frequency of often with 37.1%. While 42 respondents (20%) sometimes learn to have good behaviour and practice when on the road.



**Table 4.24 Good behaviour and practice**

	Frequency	Percentage (%)
Always	90	42.9
Often	78	37.1
Sometimes	42	20.0
Rarely	0	0
Never	0	0
Total	210	100.0

#### 4.6.2 Habit of wearing helmet when on the bike

Table 4.25 showed the level of practice to have habit of wearing helmet when on the bike among the respondents. The highest amount of 89 respondents (42.4%) often have the habit of wearing helmet when on the bike and followed by the frequency of always with 29.5%. 53 respondents (25.2%) sometimes practice to wear helmet when on the bike. Only 6 respondents (2.9%) rarely to practice this habit.

**Table 4.25 Habit of wearing helmet when on the bike**

	Frequency	Percentage (%)
Always	62	29.5
Often	89	42.4
Sometimes	53	25.2
Rarely	6	2.9
Never	0	0
Total	210	100.0

#### 4.6.3 Follow speed limit

Table 4.26 showed the practice level of following the speed limit when driving motorbike among the respondents. The highest amount of 89 respondents (42.4%) often practice to follow the speed limit when driving motorbike and followed by the frequency of always and sometimes which were 37.6% and 13.8% respectively. Only 13 respondents (6.2%) rarely to follow the speed limit when driving motorbike. This was because the respondents wanted to reach the destination quickly.

**Table 4.26 Follow speed limit**

	Frequency	Percentage (%)
Always	79	37.6
Often	89	42.4
Sometimes	29	13.8
Rarely	13	6.2
Never	0	0
Total	210	100.0

#### 4.6.4 Use footbridge when crossing the road

Table 4.27 showed the practice level of using footbridge when crossing the road among the respondents. Based on the table below, most of the respondents (42.4%) often use footbridge when crossing the road while 53 respondents (25.2%) sometime to practice that way. 45 respondents (21.4%) always practice using footbridge when crossing the road. Only 23 respondents (11%) rarely to use it because it was needed to take time when using footbridge compared with directly cross the road.

**Table 4.27 Use footbridge when crossing the road**

	Frequency	Percentage (%)
Always	45	21.4
Often	89	42.4
Sometimes	53	25.2
Rarely	23	11.0
Never	0	0
Total	210	100.0

#### 4.6.5 Use seat belt

Table 4.28 showed the practice level of using seat belt while in a moving car among the respondents. Based on the result, most of the respondents (41.4%) often wear seat belt while they were in the moving car. 38.6% of respondents always practice to use seat belt while 18.1% of respondents sometimes to practice it. Only 1.9% of respondents rarely practice to use seat belt while they were in the moving car. This was because they felt uncomfortable when the wear seat belt.

**Table 4.28 Use seat belt**

	Frequency	Percentage (%)
Always	81	38.6
Often	87	41.4
Sometimes	38	18.1
Rarely	4	1.9
Never	0	0
Total	210	100.0

#### 4.6.6 Practice of watching left and right sides before crossing the road

Table 4.29 showed the practice level of watching left and right sides before crossing the road among the respondents. The highest amount of 106 respondents (50.5%) always watch left and right sides before crossing the road and followed by frequency of often which was 31%. While there were 39 respondents sometime practice to watch left and right sides before crossing the road.

**Table 4.29 Practice of watching left and right sides before crossing the road**

	Frequency	Percentage (%)
Always	106	50.5
Often	65	31.0
Sometimes	39	18.6
Rarely	0	0
Never	0	0
Total	210	100.0

#### 4.6.7 Practice of cycling without using mobile number

Table 4.30 showed the practice level of cycling without using mobile phone among the respondents. Based on the result, most of the respondents (40.5%) always cycle without using mobile phone. 37.1% of respondents often practice that way while 22.4% of respondents sometimes cycle without using phone number. This was because they wanted to prevent accident when on the road.

**Table 4.30 Practice of cycling without using mobile number**

	<b>Frequency</b>	<b>Percentage (%)</b>
Always	85	40.5
Often	78	37.1
Sometimes	47	22.4
Rarely	0	0
Never	0	0
Total	210	100.0

#### **4.6.8 Practice of crossing the road without using mobile phone**

Table 4.31 showed the practice level of crossing the road without using mobile phone among the respondents. From the result, most of the respondents (41.0%) always cross the road without using mobile phone. 36.7% of respondents often practice that way while 22.4% of respondents sometimes cross the road without using mobile phone.

**Table 4.31 Practice of crossing the road without using mobile phone**

	<b>Frequency</b>	<b>Percentage (%)</b>
Always	86	41.0
Often	77	36.7
Sometimes	47	22.4
Rarely	0	0
Never	0	0
Total	210	100.0

#### **4.6.9 Practice of obeying road signs**

Table 4.32 showed the practice level of obeying road signs among the respondents. The highest amount of 93 respondents (44.3%) often obey the road signs when they are on the road. There were 30% of respondents always practice to obey the road signs while 25.7% of respondents sometimes to practice that way.

**Table 4.32 Practice of obeying road signs**

	<b>Frequency</b>	<b>Percentage (%)</b>
Always	63	30.0
Often	93	44.3
Sometimes	54	25.7
Rarely	0	0
Never	0	0
Total	210	100.0

#### **4.6.10 Motivate parents, relatives and friends to follow road safety rules and regulations**

Table 4.33 showed the practice level to have the habit of motivating parents, relatives and friends to follow road safety rules and regulations among the respondents. Based on the table below, most of the respondents (39.5%) often motivate their parents, relatives and friends to follow road safety rules and regulations and followed by the frequency of always to have this habit which was 32.9%. While 27.6% of respondents sometimes practice to motivate their parents, relatives and friends to follow road safety rules and regulations.

**Table 4.33 Motivate parents, relatives and friends to follow road safety rules and regulations**

	<b>Frequency</b>	<b>Percentage (%)</b>
Always	69	32.9
Often	83	39.5
Sometimes	58	27.6
Rarely	0	0
Never	0	0
Total	210	100.0

#### **4.6.11 Overall mean for level of road safety practices**

Table 4.34 showed the overall mean of the practices level toward road safety. In sum, the overall mean was 4.04 which was categorized as high level based on the mean score (shown in Appendix F). It represented that the respondents were having the good response to practice when using the road.

**Table 4.34 Mean for level of road safety practices**

<b>No</b>	<b>Statement</b>	<b>Mean</b>
1	Good behaviour and practice	4.00
2	Habit of wearing helmet when on the bike	3.69
3	Follow speed limit	4.11
4	Use footbridge when crossing the road	3.54
5	Use seat belt	4.13
6	Practice of watching left and right sides before crossing the road	4.32
7	Practice of cycling without using mobile number	3.51
8	Practice of crossing the road without using mobile phone	3.44
9	Practice of obeying road signs	3.89
10	Motivate parents, relatives and friends to follow road safety rules and regulations	3.83
Average of Mean		3.85

#### **4.7 Comparison between male secondary school's students and female secondary school's students**

##### **4.7.1 Comparison for level of knowledge toward road safety measure**

Table 4.35 showed the mean ranks of comparison for level of knowledge toward road safety measure. Based on the table below, it represented that the female respondents had better knowledge toward road safety compared with male respondents with the significant value of 0.012.

**Table 4.35 Comparison for level of knowledge toward road safety measure**

Statements	p-value
Knowledge about road safety rules and regulations	0.000
Knowledge of road safety from the parents	0.000
Knowledge about road traffic signs	0.005
Frequency of reading the news about road traffic accident from newspaper	0.000
Knowledge of bad behavioral attitude on using the road	0.031
Knowledge about positive attitude and negative attitudes	0.001
Knowledge of the meaning of ensuring road safety	0.033
Knowledge about the traffic light basics	0.041
Knowledge of wearing bright colour clothing at night when on the road	0.000
Knowledge of traffic signs while on the road	0.009
<b>Total Average</b>	<b>0.012</b>

#### **4.7.2 Comparison for level of road safety awareness**

Table 4.36 showed the mean ranks of comparison for level of road safety awareness. From the result, the female respondents had better awareness toward road safety compared with male respondents with the significant value of 0.0004.

**Table 4.36 Comparison for level of road safety awareness**

Statements	p-value
Awareness of complying with traffic signs	
Awareness of the age for getting a motor's license	0.000
Awareness of using the vehicle on the road after getting the license	0.002
Frequency of watching TV programs and use internet	0.000
Frequency of attending road safety program	0.000
Cautious on the road without getting distracted by anything	0.000
Frequency of using left side on the road where sidewalks were unavailable	0.000
Safe to cross the road through zebra crossing	0.001
Violation of traffic rules	0.000
Encouragement of parents for children to drive the vehicle after getting the license	0.001
<b>Total Average</b>	<b>0.0004</b>

#### **4.7.3 Comparison for level of road safety practices**

Table 4.37 showed the mean ranks of comparison for level of road safety practices. Based on the table below, the average mean for level of road safety practices among the male respondents were 3.26. While for the female respondents were 4.43. It could be concluded that the female respondents had better practices toward road safety measure compared with male respondents with the significant value of 0.015.



**Table 4.37 Comparison for level of road safety practices**

Statements	p-value
Good behaviour and practice	0.009
Habit of wearing helmet when on the bike	0.001
Follow speed limit	0.027
Use footbridge when crossing the road	0.000
Use seat belt	0.049
Practice of watching left and right sides before crossing the road	0.044
Practice of cycling without using mobile number	0.000
Practice of crossing the road without using mobile phone	0.000
Practice of obeying road signs	0.011
Motivate parents, relatives and friends to follow road safety rules and regulations	0.007
<b>Average of Mean</b>	<b>0.015</b>

#### 4.8 Summary

The first part of this chapter covered the general demographic information. The second part discussed about normality test in order to ensure that the data was whether normal distribution or not normal distribution. This was followed by the analysis of each factor that toward to road safety. The results were graphically presented and described to provide an understanding of why was the research conducted. From the findings discussed in this chapter, it could be concluded that the knowledge level of secondary school's students toward road safety measure was high. These findings proved the hypothesis 1 in Chapter 1 to be wrong as a low knowledge level among secondary school's students was expected in this research. Second findings from the data analysis discussed that the level of road safety awareness was medium and the level of road safety practices among secondary school's students was high. Thus, it proved that hypothesis 2 in Chapter 1 to be wrong as a low level of road safety awareness and practices were predicted in this study. For the third findings, it could be concluded that the female secondary school's students had higher road safety knowledge, awareness and practices than male secondary school's students. This demonstrated hypothesis 3 in Chapter 1 to be correct as there is a significant difference of the road safety awareness between male secondary school's students and female secondary school's students. The data analysis managed to answer all the research questions and also achieved all the research objectives as well. In the following chapter, the discussion will be continued with the appropriate conclusion and recommendation.

## **CHAPTER 5**

### **CONCLUSION AND RECOMMENDATIONS**

#### **5.1 Introduction**

In this chapter, the findings of research will be concluded based on results and discussion obtained and analysed throughout the research. The conclusion was discussed based on the statistical analysis conducted and supported by past researches. The recommendations suggested in this chapter were useful and helpful for future research in road safety field in order to reduce the number of road traffic accidents.

#### **5.2 Conclusion**

The road traffic accidents are increasing in the country day by day. Everyday people got up from the bed hearing the news reported on death and injuries. Road safety is a major concern in the present situation. So, this study was conducted to evaluate the knowledge level of secondary school's students toward road safety measure, determine level of road safety awareness and practices among secondary school's students, and also to compare the road safety knowledge, awareness and practices between male secondary school's students and female secondary school's students. Most of the respondents were came from rural area and the average monthly income of their family were RM2001 to RM3000. This was because Kelantan was still not developed and prosperity state. However, most of the respondents' parents had either a car or a two-wheeler of their own.

Some of the students seldom read the news about road traffic accidents because they were busy with their studies so that they did not have time to read newspaper.

Besides that, some students rather use internet to scroll Facebook or Twitter than watch the news about road traffic accidents. Also, some of them rarely to use seat belt because they felt uncomfortable and tighten. Some of the students especially male students rarely to follow the speed because they wanted to show off when their motorbike roared past and also wanted to reach the destination quickly.

However, it was good to hear that majority secondary school's students had high level of knowledge and awareness toward road safety. Therefore, they could practice road safety measure based on their knowledge when they were on the road. In spite of that, prevention of road traffic accidents should be incorporated in the curriculum which enabled the students to develop advanced and increase knowledge thereby road traffic accident can be avoided. Next, the female secondary school's students had higher road safety knowledge, awareness and practices than male secondary school's students. This was because some of the male secondary school's students were lazy to increase the knowledge and awareness about road safety and they also wanted to show off especially they drove the motorcycle by speeding up the limit.

### **5.3 Recommendations**

Most of the secondary school's students seldom involve in road safety program. A special program on road safety knowledge, awareness and practices should be organized at school. The principal should make sure all the secondary school's students attend the road safety program. Besides that, teachers should insist about to walk on the footpath only. If there was no footpath on the road, the students should walk on the extreme right hand side of the roads. The teachers also should advise the students not to be impatient on the road and not to rush or run on the road. In addition, teachers should impart essential knowledge about roads and traffic to the students by making them familiar with the rules of road and their importance.

Furthermore, the parents should play their roles in educating their children about road safety knowledge, awareness and practices. For example, the parents taught their children to cross only at zebra crossings, traffic signals or foot over-bridges. Where such the facilities did not exist, the children should look for a safe place to cross. Based on the questionnaires, most of the secondary school's students rarely to wear bright

colour clothing at night when they were on the road. Therefore, the parents should play their characters by wearing bright colour clothing when on the road at night in order to encourage their children to follow their act. For effectively implementing road safety rules and regulations, parents must monitor their children do not using vehicles without the license.

Next, to enhance the reliability of this research, the scope of study should be expanded to other states and include other secondary school's students especially the students live at the urban area. Additionally, a comparative study can be done between the primary school and high school children.

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## APPENDIX A

### GANTT CHART OF FINAL YEAR PROJECT I/II

Activities	Semester 2 2016/2017				Semester 1 2017/2018				
	FEB	MAR	APR	MAY	AUG	SEPT	OCT	NOV	DEC
Brainstorming									
Information Gathering									
Chapter 1 Introduction									
Chapter 2 Literature Review									
Chapter 3 Methodology									
Partial Research Thesis Submission									
Proposal Presentation									
Data Collection									
Preparation for PSM II and Research Work									
Data Analysis									
Thesis drafting and writing									
Submission of Report									
Final Presentation									

## APPENDIX B

### KREJCIE AND MORGAN'S SAMPLE SIZE

<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	100000	384

Note.—*N* is population size.  
*S* is sample size.

**APPENDIX C**  
**NORMALITY TEST**

Section 1: Road Safety Level of Knowledge, Awareness and Practice

**Table C-1 Level of Knowledge toward Road Safety Measure**

No	Questions	Shapiro-Wilk		
		Statistic	df	Sig
1	I have sufficient knowledge about road safety rules and regulations.	.827	210	.000
2	I get the knowledge of road safety from my parents.	.856	210	.000
3	I know well regard to the road traffic signs.	.813	210	.000
4	I read the news about road traffic accident from newspaper.	.800	210	.000
5	I know bad behavioural attitude on using the road will cause road traffic accident.	.748	210	.000
6	I notice that positive attitude decreases risks of driving but negative attitudes will increase the risks.	.739	210	.000
7	I know ensuring road safety means ensuring safe roads, safe people, safe vehicle and safe speed.	.547	210	.000
8	I aware of the meaning of colours of traffic light.	.547	210	.000
9	I know to wear bright colour clothing at night when I am on the road.	.771	210	.000
10	I notice the traffic signs while I am on the road.	.832	210	.000

**Table C-2 Level of Road Safety Awareness**

No	Questions	Shapiro-Wilk		
		Statistic	df	Sig
1	I comply with traffic signals.	.779	210	.000
2	I aware that the age for getting a motor's license is 16 years old.	.217	210	.000
3	I use the vehicle on the road after getting the license.	.583	210	.000
4	I watch TV programs and use internet to increase my awareness about road safety.	.824	210	.000
5	I attend road safety program.	.790	210	.000
6	I cautious on the road without getting distracted by anything.	.844	210	.000
7	I aware to use left side on the roads where sidewalks are unavailable.	.786	210	.000
8	I aware that it is safe to cross the road through zebra crossing.	.523	210	.000
9	I have been caught for violation of traffic rules.	.071	210	.000
10	I accept with my parents' encouragement for children to drive the vehicle after getting the license.	.535	210	.000

**Table C-3 Level of Road Safety Practice**

No	Questions	Shapiro-Wilk		
		Statistic	df	Sig
1	I learn to have good behaviour and practice when using the road.	.784	210	.000
2	I have the habit of wearing helmet when on the bike.	.845	210	.000
3	I follow the speed limit when driving motorbike.	.816	210	.000
4	I use footbridge when crossing the road.	.869	210	.000
5	I use seat belt while I am in a moving car.	.817	210	.000
6	I watch left and right sides before crossing the road.	.754	210	.000
7	I cycle without using mobile phone.	.791	210	.000
8	I cross the road without using mobile phones.	.789	210	.000
9	I obey road signs and vehicles.	.809	210	.000
10	I practice the habit of motivating parents, relatives and friends to follow road safety rules and regulations.	.804	210	.000

Section 2 Comparison road safety knowledge, awareness and practices between male secondary school's students and female secondary school's students.

**Table C-4 Comparison for level of knowledge toward road safety measure**

Statement	Gender	Shapiro-Wilk		
		Statistic	df	Sig.
I have sufficient knowledge about road safety rules and regulations.	Male	.836	105	.000
	Female	.768	105	.000
I get the knowledge of road safety from my parents.	Male	.864	105	.000
	Female	.805	105	.000
I know well regard to the road traffic signs.	Male	.818	105	.000
	Female	.746	105	.000
I read the news about road traffic accident from newspaper.	Male	.798	105	.000
	Female	.730	105	.000
I know bad behavioural attitude on using the road will cause road traffic accident.	Male	.806	105	.000
	Female	.609	105	.000
I notice that positive attitude decreases risks of driving but negative attitudes will increase the risks.	Male	.799	105	.000
	Female	.618	105	.000
I know ensuring road safety means ensuring safe roads, safe people, safe vehicle and safe speed.	Male	.635	105	.000
	Female	.416	105	.000
I aware of the meaning of colors of traffic light.	Male	.635	105	.000
	Female	.416	105	.000
I know to wear bright colour at night when I am on the road.	Male	.744	105	.000
	Female	.743	105	.000
I notice the traffic signs while I am on the road.	Male	.858	105	.000
	Female	.674	105	.000

a. Lilliefors Significance Correction

**Table C-5 Comparison for level of road safety awareness**

Statement	Gender	Shapiro-Wilk		
		Statistic	df	Sig.
I comply with traffic signals.	Male	.805	105	.000
	Female	.694	105	.000
I aware that the age for getting a motor's license is 16 years old.	Male	.333	105	.000
I use the vehicle on the road after getting the license.	Male	.753	105	.000
	Female	.241	105	.000
I watch TV programs and use internet to increase my awareness about road safety.	Male	.809	105	.000
	Female	.792	105	.000
I attend awareness road safety program.	Male	.605	105	.000
	Female	.699	105	.000
I cautious on the road without getting distracted by anything.	Male	.811	105	.000
	Female	.608	105	.000
I aware to use left side on the roads where sidewalks are unavailable.	Male	.796	105	.000
	Female	.590	105	.000
I aware that it is safe to cross the road through zebra crossing.	Male	.567	105	.000
	Female	.470	105	.000
I have been caught for violation of traffic rules.	Male	.118	105	.000
I accept with my parents' encouragement for children to drive the vehicle after getting the license.	Male	.579	105	.000
	Female	.467	105	.000

- a. Lilliefors Significance Correction
- b. I aware that the age for getting a motor's license is 16 years old is constant when Gender = Female. It has been omitted.
- c. I have been caught for violation of traffic rules is constant when Gender = Female. It has been omitted.



**Table C-6 Comparison for level of road safety practices**

Statement	Gender	Shapiro-Wilk		
		Statistic	df	Sig.
I learn to have good behaviour and practice when using the road.	Male	.806	105	.000
	Female	.692	105	.000
I have the habit of wearing a helmet when on the bike.	Male	.846	105	.000
	Female	.763	105	.000
I follow the speed limit when driving motorbike.	Male	.808	105	.000
	Female	.640	105	.000
I use footbridge when crossing the road.	Male	.793	105	.000
	Female	.787	105	.000
I use seat belt while I am in a moving car.	Male	.836	105	.000
	Female	.639	105	.000
I watch left and right sides before crossing the road.	Male	.799	105	.000
	Female	.634	105	.000
I cycle without using mobile phone.	Male	.799	105	.000
	Female	.725	105	.000
I cross the road without using mobile phones.	Male	.798	105	.000
	Female	.725	105	.000
I obey road signs and vehicles.	Male	.786	105	.000
	Female	.771	105	.000
I practice the habit of motivating parents, relatives and friends to follow road safety rules and regulations.	Male	.776	105	.000
	Female	.736	105	.000

a. Lilliefors Significance Correction

**APPENDIX D**  
**QUESTIONNAIRE**



**RESEARCH TOPIC:**

A STUDY ON ROAD SAFETY AWARENESS AND PRACTICES AMONG SECONDARY SCHOOL'S STUDENTS

**INSTRUCTION:**

1. Your participation in this research study should be voluntary. You may choose not to take part. But if you decide to take part in this research survey, please complete the following questions to reflect your opinions as accurately as possible and to answer factual questions to the best of your knowledge.
2. Your information will be kept strictly **CONFIDENTIAL**. The results of this research will be used for scholarly purpose.

Thank you

Please answer each question as accurately as possible by ticking the correct answer in the space provided.

**Part 1 General Information**

Respondent Name:

Age:

Gender:  Male  Female

Tick only **ONE** answer.

1. Which of the following best describe the area you live in?

Urban  Suburban  Rural

2. What is the average monthly income of your family?

- ≤ RM1000  
 RM 1001-RM 2000  
 RM 2001-RM 3000  
 Above RM3001

3. Parents' education level

- |   |   |
|---|---|
| <input type="checkbox"/> None             | <input type="checkbox"/> Diploma          |
| <input type="checkbox"/> Primary school   | <input type="checkbox"/> Degree           |
| <input type="checkbox"/> Secondary school | <input type="checkbox"/> Master and above |

4. Do your parents have their own vehicle?

Yes  No

5. Have you ever been involved in a road accident?

- Never  
 Once  
 More than 2 times accident

6. Mode of transport to school

- |  |                                     |
|--|-------------------------------------|
| <input type="checkbox"/> Own by walk   | <input type="checkbox"/> Bicycle    |
| <input type="checkbox"/> By car        | <input type="checkbox"/> Motorcycle |
| <input type="checkbox"/> By school bus |                                     |

Please circle each question below.

**Part 2 Evaluate Participants' knowledge toward Road Safety Measure**

1	2	3	4	5
Never	Rarely	Sometimes	Often	Always

1	I have sufficient knowledge about road safety rules and regulations.	1	2	3	4	5
2	I get the knowledge of road safety from my parents.	1	2	3	4	5
3	I know well regard to the road traffic signs.	1	2	3	4	5
4	I read the news about road traffic accident from newspaper.	1	2	3	4	5
5	I know bad behavioural attitude on using the road will cause road traffic accident.	1	2	3	4	5
6	I notice that positive attitude decreases risks of driving but negative attitudes will increase the risks.	1	2	3	4	5
7	I know ensuring road safety means ensuring safe roads, safe people, safe vehicle and safe speed.	1	2	3	4	5
8	I aware of the meaning of colours (red means stop, green means go and yellow means also stop) of traffic light.	1	2	3	4	5
9	I wear bright colour at night when I am on the road.	1	2	3	4	5
10	I notice the traffic signs while I am on the road.	1	2	3	4	5

**Part 3 Evaluate Participants' Awareness toward Road Safety**

1	2	3	4	5
Never	Rarely	Sometimes	Often	Always

1	I comply with traffic signals.	1	2	3	4	5
2	I aware that the age for getting a motor's license is 16 years old.	1	2	3	4	5
3	I use the vehicle on the road after getting the license.	1	2	3	4	5
4	I watch TV programs and use internet to increase my awareness about road safety.	1	2	3	4	5
5	I attend road safety program.	1	2	3	4	5
6	I cautious on the road without getting distracted by anything.	1	2	3	4	5
7	I aware to use left side on the roads where sidewalks are unavailable.	1	2	3	4	5
8	I aware that it is safe to cross the road through zebra crossing.	1	2	3	4	5
9	I have been caught for violation of traffic rules.	1	2	3	4	5
10	I accept with my parents' encouragement for children to drive the vehicle after getting the license.	1	2	3	4	5

**Part 4 Assess Participants' Practices when using the road.**

1	2	3	4	5
Never	Rarely	Sometimes	Often	Always

1	I learn to have good behaviour and practice when using the road.	1	2	3	4	5
2	I have the habit of wearing helmet when on the bike.	1	2	3	4	5
3	I follow the speed limit when driving motorbike.	1	2	3	4	5
4	I use footbridge when crossing the road.	1	2	3	4	5
5	I use seat belt while I am in a moving car.	1	2	3	4	5
6	I watch left and right sides before crossing the road.	1	2	3	4	5
7	I cycle without using mobile phone.	1	2	3	4	5
8	I cross the road without using mobile phones.	1	2	3	4	5
9	I practice to obey road signs.	1	2	3	4	5
10	I practice the habit of motivating parents, relatives and friends to follow road safety rules and regulations.	1	2	3	4	5

## APPENDIX E

### RESEARCH CONSENT FORM



The research with title **A Study on Road Safety Awareness and Practices among Secondary School's Students** conducted by UMP student Lay Hui Lian (PA14052) from Bachelor of Occupational Safety and Health with Honours for the subject BPS4514 Final Project 2. In this study, we will determine the level of knowledge, awareness and practices toward road safety.

#### **Statement of Informed Consent**

I have read the consent form and recognize that my participation in this research study is entirely voluntary and that I am free to withdraw at any time. **My signature below represents my voluntary participation in this research and that I have received a copy of this consent form from my own records.**

Name : \_\_\_\_\_

Signature : \_\_\_\_\_

Date : \_\_\_\_\_

## APPENDIX F

### TABLE OF MEAN SCORE

<b>Mean Score</b>	<b>Interpretation</b>
1.00 – 1.80	Very Low
1.81 – 2.60	Low
2.61 – 3.20	Medium
3.21 – 4.20	High
4.21 – 5.00	Very High

**Source: Moidunny 2009**