Perception of International tourists on Road Safety in Phuket

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I hereby certify that this work has not already been accepted in substance for any degree, and is not being concurrently submitted in candidature for any degree.

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Candidate

ชื่อเรื่องวิทยานิพนธ์ การรับรู้ของนักท่องเที่ยวต่างชาติเกี่ยวกับความปลอดภัยทางถนนในจังหวัดภูเก็ต

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บทคัดย่อ

การศึกษาครั้งนี้นำเสนอข้อมูลเกี่ยวกับการรับรู้ในปัจจุบันเกี่ยวกับความปลอดภัยทางถนนในจังหวัดภูเก็ต มีวัตถุประสงค์เพื่อศึกษาการรับรู้ของนักท่องเที่ยวต่างชาติและเพื่อศึกษาความสัมพันธ์ระหว่างตัวแปรด้านภูมิประชากรศาสตร์กับพฤติกรรมการท่องเที่ยวอันเกี่ยวกับความปลอดภัยทางถนนและการขับขี่ในจังหวัดภูเก็ต

การวิจัยนี้ได้ใช้แบบสอบถามเพื่อรวบรวมข้อมูลจากนักท่องเที่ยวต่างชาติที่สนามบินนานาชาติภูเก็ต โดยแจกแบบสอบถามแก่นักท่องเที่ยวจำนวน 400 คนที่เดินทางไปยังจังหวัดภูเก็ต แบบสอบถามนี้เป็นคำถามแบบปลายเปิดและคำถามแบบโครงสร้างผลการวิจัยพบว่าไม่มีความแตกต่างกันระหว่างเพศชายและเพศหญิงในด้านการรับรู้เรื่องความปลอดภัยทางถนน ในแง่ของอายุนักท่องเที่ยวที่มีอายุมากกว่า 60 ปีรับรู้ว่าการสวมหมวกนิรภัยและการคาดเข็มขัดนิรภัยขณะขับขี่รถเป็นสิ่งสำคัญ นอกจากนี้ ผู้ที่มีระบบการศึกษาที่ดียังมีความรับรู้และความเข้าใจในด้านความปลอดภัยบนถนนสูงกว่าคนอื่น ๆ อีกทั้งยังพบว่าผู้มีรายได้สูงจะมีความกังวลเกี่ยวกับการบังคับใช้ขีดจำกัดความเร็วและการใช้ระบบขนส่งสาธารณะในจังหวัดภูเก็ต

ผลการวิจัยพบว่าการทำความเข้าใจในการรับรู้และความกังวลของนักท่องเที่ยวเป็นสิ่งสำคัญเนื่องจากจะช่วยพัฒนาระบบการจัดการท่องเที่ยวแล้ว การศึกษาการรับรู้เกี่ยวกับความปลอดภัยยังเป็นจุดเริ่มต้นของการศึกษาเพื่อช่วยในการวางแผนและการจัดการที่ดีในอนาคตทั้งในจังหวัดภูเก็ตและทั่วประเทศไทยได้

คำสำคัญ: ประสบการณ์การท่องเที่ยว, การรับรู้ของนักท่องเที่ยว, ความปลอดภัยทางถนน, นักท่องเที่ยวต่างชาติ

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ABSTRACT

The study presents the findings of the present perception on road safety in Phuket. The objectives of this study were to examine the perception of international tourists and to investigate the relationship between the demographic variables and tourist behaviour related to road safety and driving.

Questionnaires were used to collect the data from international tourists at Phuket International Airport. The questionnaires were given to 400 tourists who travelled to Phuket. The questionnaires were open-ended and structured questions. The results showed that there were no significant differences between males and females in terms of the perception of road safety. In terms of age, tourists aged over 60 years old had the highest perception about wearing a helmet and seatbelt while driving to be important. Furthermore, well-educated participants had a higher acknowledgement on road safety than others. In addition, it was found that participants with a high income were also concerned on enforcing the speed limit and using public transportation in Phuket.

Based on the findings, this shows that understanding the tourists' perceptions and concerns are important, as it would help develop the tourism management, especially in Thailand. To summarise, the study of tourists' perceptions on road safety in Phuket can serve as a benchmark for future studies as well as provide some information to facilitate better planning and management in the future, both in Phuket and all over Thailand.

Keywords: Tourist Experience**,** Tourists' perception, Road Safety, International Tourists

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TAT	:	Tourism Authority of Thailand
TAR	:	Transport Accident Report
RTIP	:	Road Traffic Injury Prevention
RTP	:	Royal Thai Police
IUOTO	:	International Union of official Travel Organization
ASIRT	:	Association for Safe International Road Travel
FORS	:	Federal Office of Road Safety
BAC	:	Legal Blood Alcohol Concentration
RSC	:	Road Safety Control
WHO	:	World Health Organization

CHAPTER 1

INTRODUCTION

1.1 Statement of the problem

Road transport is the preferred mode of tourist's transport worldwide. It is an integral part of the tourism industry that plays a major role in the rapid growth of the tourism development. Road transport has become a part of a tourist product and is a fundamental component when traveling overseas (Sakolnakorn et al., 2013 and Tourism Authority of Thailand (TAT), 2013).

It has been studied that road transport is important for all tourists when traveling abroad, whether for a short or a long trip. Tourists take a main role in promoting road transport, which is ranked second among the local residents. Also, studies reveal that tourists get involved and utilize road transportation without ineluctability, for example, tourists engage in car driving, motorbike driving, and get on any motor vehicles or use the public transport when traveling abroad (Ponboon et al., 2009).

However, road transport is a major cause of accidents among tourists while traveling abroad by either public or private driving (Royal Thai Police, 2011 and Stewart et al., 2016). The problem has been discussed in terms of unfamiliarity, for example; while traveling in Asia, road transport requires enormous amounts of concentration and the legal implications are severe (Eiamtrakun et al., 2015). In western countries, the driver needs to understand the difference in the road condition and traffic rules, for example, different sides of driving in each country.

In Thailand, the influential factors related to road accident amongst international tourists are, firstly, driving in the unfamiliar area, which accounts for 60% or two times higher than non-tourist driving, when traveling aboard (Suriyawongpaisal et al. 2013). Secondly, road regulations and laws, which are very remarkable, are constantly ignored by the tourists. Thirdly, the quality of road surface and the road design such as damaged roads, lack of signs, potholes and low quality of construction increases the risk, leads to road traffic accidents (Sota et al., 2011). Furthermore, the behavior of taking drugs and alcohol among international drivers and exceeding speed legal limit is also significant and is ranked number two among tourist behavior on road accident (Thai Road Safety

Control (RSC) 2017). These phenomena is more prominent in tourist destinations like Pattaya, Samui, and Phuket (Choocharukul&Sriroongvikrai, 2017).

Phuket, which is located in the southern part of Thailand, is one of the most famous tourist destinations in Thailand that has the highest number of arriving international tourists each year (Tourism Authority of Thailand TAT, 2015). There are several tourists who get involved with the road, playing the role of pedestrians, motorcyclists, cyclists and passenger of public transport (Royal Thai Police, 2011). In terms of taking risks while traveling on the road, their behavior, which shows an inexperience and non-awareness of road regulations of Phuket, is very common. Secondly, the factor of environment and road condition, for example, the complex natural road landscape causes difficulties for all road users to travel, especially through and over the inclined and hilly terrain of Phuket and the narrow roads on the way up to the hill in Kata, Koron and the risky intersection in Chalong. These are the main factors that cause road accidents among tourists (Eiamtrakun et al., 2015).

In fact, road traffic accidents are a rapidly growing problem in Phuket and other parts in Thailand. With the increase of tourists arriving in the country, provincial administrators have noted that the incidence of road traffic accidents is raising (Eiamtrakun et al., (2015). Thus, managing on-road safety is a must as it becomes a very serious and sensitive issue; it is very important to improve the quality on road safety, not only in general but also, specifically for tourists, by providing information regarding road safety and proper regulations.

To summarize, RSC (2017) explained that unsafe road phenomenon has not only affected the tourism industry but also has led to the creation of an overall negative image of the country; it will, as well, influence the social, health and economic degradation of the country in the long term. For example; a negative image might influence the decisions of tourists arriving in the country. It is evident that the number of arriving tourists will decrease if nobody or no organization pays serious attention to this issue. Due to the limited research that is available for international road safety, continued research can provide much-needed information on tourist's requirement on road safety while traveling in Phuket since it is a market group that is being promoted in Phuket and other areas of Thailand.

1.2 Phuket as a case study

Transportation is the most important factor that facilitates tourists 'convenience in Phuket, as tourists have to travel either in the role as pedestrians, motorcyclists, cyclists, or passengers on public transport everyday while travelling in Phuket (Eiamtrakul et al., 2015; Choocharukul&Sriroongvikrai, 2017). This is because tourist convenience is a must as well as safety while travelling on the road in Phuket. At the same time, road safety is one of the concerns relating to tourists' well-being on Phuket (Kasantikul et al., 2005)

Amongst many touristic city, road accident rate in Phuket is high (RTP, 2011; Marzuki, 2012). During 2017 (January - September) the number of road accident victims in Phuket was 17,033, the 7th highest ranked province in Thailand (Choocharukul&Sriroongvikrai, 2017). Thus, effective management of road safety in Phuket is a priority and has become a very serious and sensitive issue affecting international tourists and the image of the country (Table 1).

However, Phuket continues to attract more international tourist arrivals in each year. Thus, to manage the policies, strategies, and campaigns on road safety is necessary in order to maintain the positive image of the destination and increase the safety perception of tourists while travelling within Phuket.

Table 1.1 showed that the highest top three causes on the road accident in Phuket during 2010 – 2015 were exceeding speed limit, dangerous lane changing, and drunk driver.

Table 1.1 Causes of the accident by the person in Phuket during 2010-2015

Accident Causes	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
1.Exceeding Speed Limit	47	98	50	40	29	**32**
2.Dangerous lane changing	32	49	40	31	9	15
3.Driving too close to leading vehicle	4	45	15	12	4	3
4.Not wearing a helmet on	2	2	2	4	3	3
5.No direction signals	1	1	-	1	-	-
6.Violation of traffic lights	8	7	8	4	5	8

Table 1.1 Continued

Accident Causes	2010	2011	2012	2013	2014	2015
7.No light/signal	1	1	-	1	-	-
8.Inexperience or new driver	9	13	13	4	1	2
9.Equipment failure						
10.Drunk driver	25	13	19	27	25	7
11.Falling asleep	-	7	1	-	1	1
12.Driving in the wrong lane	5	1	6	4	7	1
13.Illegal overtaking	3	9	8	3	9	2
14.Not giving to right of way	3	8	6	-	-	-
15. Other	95	299	116	43	16	28

Source: Statistical Forecasting Bureau: Royal Thai Police (2016)

1.3 Research Purpose

1.3.1 Research Purpose

As the number of tourist arrivals is increasing, it is essential to create an image of a safe environment in Phuket, to be known as a safe tourist destination for incoming visitors and as a province that has a good record of road safety. Thus, consideration and adherence to road safety are the most important issue for every single person. In terms of this research, the aims are: to understand the perception, needs, and concerns of international tourists about road safety in Phuket. These aims are of interest in order to improve road safety planning and developing a better guideline for up to date information for further researchers.

1.3.2 Research Objective

1) To examine the perception of international tourists on road safety in Phuket.

2) To investigate the international tourist's behaviors related to road safety and driving affecting tourist's perception on road safety in Phuket.

3) To identify the concerns / problems of international tourist while travelling on the road in Phuket.

4) To recommend how Phuket should improve the road safety in the future.

1.4 Research questions

The following research questions are designed specifically to assist the study to achieve the objectives.

1) What do international tourists think about the road safetyin Phuket?

2) What are the international tourist's behaviors related to road safety and driving factors that effect tourist's perception on road safety in Phuket?

3) What are the concerns or problems of international tourists while travelling on the road in Phuket?

4) How road safety on Phuket should be improved in the future?

1.5 Hypothesis

Base on the conceptual framework, the following hypothesis are developed as below;

Hypothesis 1

Ho: There is no significant difference between the demographic variables (Gender, Age, Nationality, Status, Education, Occupation) and tourist's perception related to road Safety in Phuket.

H1: There is significant difference between the demographic variables (Gender, Age, Nationality, Status, Education, Occupation) and tourist's perception related to road Safety in Phuket.

Hypothesis 2

Ho: There is no significant difference between the travelling behaviors related to road safety and driving and tourist's perception related to road safety in Phuket.

H1: There is significant difference between the travelling behaviors related to road safety and driving and tourist's perception related to road safety in Phuket.

1.6 Significance of the Study

Tourism has become an unstoppable phenomenon that is growing at an alarming pace and affecting all nations. Therefore, it has become critical to understand the tourist's motives, behaviors, and needs. The result from this study will be twofold; firstly, to give a better insight and understanding into the phenomenon of road safety in Phuket. Secondly, the result will provide the Thai Government and the Phuket Provincial Authorities vital information pertaining to road safety in Phuket, so as to improve transport planning and management in the future. Furthermore, this research can serve as a basis for similar studies in other parts of Thailand.

1.7 Scope of the study

1.7.1 Scope of Time

Primary data for the study was conducted from October - December 2016, and the entire study is expected to be completed by March 2018.

1.7.2 Scope of Geography

The study focuses on Phuket, Thailand and especially Phuket International Airport, Van station, Bus station, Rental car place and Rental motorbike place.

1.7.3 Scope of Demography

The research focuses specifically on international tourists who are travelling to Phuket in order to understand their perception related to road safety. As well as, their behavior and concerns to the issue.

1.8 Definition of Terms

Tourist Experience

Tourist's habits, behaviors, characteristics and life desires that associated with multiple interpretations from social, environmental and activity components of the overall experience (Cutler & Carmichael, 2010; Filep& Pearce, 2013; Prebensen et al., 2014)

Perception

Perception is the process of how people see the world differently. In academic terms, individual's perception is a process of selection, organizing, and interpretation (Tasci&Boylu, 2010 and Eilam, 2012).

Driving Behavior

It is the character of driving on the road during heading for a destination. It used to apply in the direction of behavior studies (Ponboon et al., 2009; Wichasin&Doungphummes, 2012)

Road safety

The phenomenon of no accident occurring (Stewart, 2016)

International Tourist

The tourist who travels to a country other than in which they have their usual residence for period not exceeding a month and whose main purpose in visiting a place for pleasure (UNWTO, 2014).

CHAPTER 2

LITERATURE REVIEW

2.1 Safety and Holiday

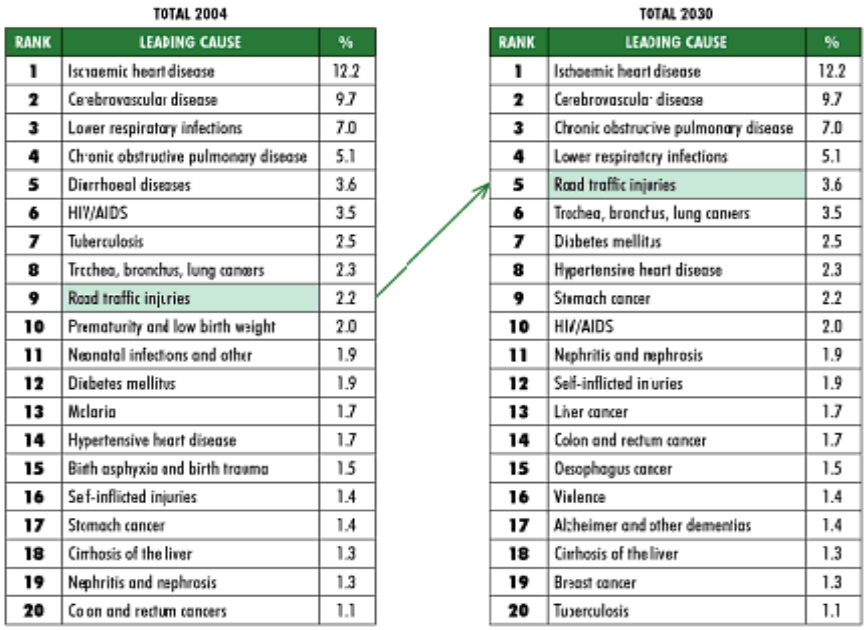
The relationship between road safety and tourism is increasingly becoming an important issue. Taneerananon (2013) contends how the issue of road safety affects people's decision-making for traveling. There were some international research studies that examined this specific impact and found that international tourists are more demanding and keen on the issue of safety, especially when it comes to travel.

2.1.1 Road Safety worldwide

The World Health Organization, WHO (2015) stated that road accident was ranked among the causes of death and injury that impact the society and well-being of humans. In 2004, it was shown that road accidents were at the ninth position in a list of phenomena that injured the most people. It was also estimated that by 2030, road accidents will shift to the fifth position in this regard and would be the reason for 2.3 million deaths (Figure 2.1).

Stewart et al., (2016) mentioned that about 70% of the aforementioned statistics came from developing countries. It showed that although the numbers of cars in these nations were less than those in the developed countries, only 40% from all over the world. In fact, the numbers of deaths and injuries due to road accidents is far more in developing countries as compared to the developed countries. Surprisingly, the studies indicated that deaths and injuries were involved with all road users such as drivers, passengers, pedestrians, cyclists and other participators on the road regardless of whether they were traveling for a short or a long distance (Nordfjaer et al., 2014; The Association for road international Road Travel, ASIRT 2010).

Figure 2.1 Causes lead of death, 2004 and 2030 compared



TOTAL 2004

RANK	LEADING CAUSE	%
1	Ischaemic heart disease	12.2
2	Cerebrovascular disease	9.7
3	Lower respiratory infections	7.0
4	Chronic obstructive pulmonary disease	5.1
5	Diarrhoeal diseases	3.6
6	HIV/AIDS	3.5
7	Tuberculosis	2.5
8	Trachea, bronchus, lung cancers	2.3
9	Road traffic injuries	2.2
10	Prematurity and low birth weight	2.0
11	Neonatal infections and other	1.9
12	Diabetes mellitus	1.9
13	Malaria	1.7
14	Hypertensive heart disease	1.7
15	Birth asphyxia and birth trauma	1.5
16	Self-inflicted injuries	1.4
17	Stomach cancer	1.4
18	Cirrhosis of the liver	1.3
19	Nephritis and nephrosis	1.3
20	Colon and rectum cancers	1.1

TOTAL 2030

RANK	LEADING CAUSE	%
1	Ischaemic heart disease	12.2
2	Cerebrovascular disease	9.7
3	Chronic obstructive pulmonary disease	7.0
4	Lower respiratory infections	5.1
5	Road traffic injuries	3.6
6	Trachea, bronchus, lung cancers	3.5
7	Diabetes mellitus	2.5
8	Hypertensive heart disease	2.3
9	Stomach cancer	2.2
10	HIV/AIDS	2.0
11	Nephritis and nephrosis	1.9
12	Self-inflicted injuries	1.9
13	Liver cancer	1.7
14	Colon and rectum cancer	1.7
15	Oesophagus cancer	1.5
16	Violence	1.4
17	Alzheimer and other dementias	1.4
18	Cirrhosis of the liver	1.3
19	Breast cancer	1.3
20	Tuberculosis	1.1

Source: World Health Organization (WHO), 2015

2.1.2 Road Safety in Thailand

Siriphakdee et al., (2013) contended that Thailand had one of Asia's lowest road safety records as compared to other countries in the same region. They also asserted that Thailand had been ranked number two after Namibia, in terms of the number of deaths from a road accident (Table 2.1).

The Royal Thai Police (2011) demonstrated the weak implementation of traffic rules in Thailand as a result of the commuters disregard for the rules. This has led to a high frequency of road accidents and incidents of bus overturn and car crashes on busy roads, thus damaging property and life. Sota et al., (2011) contended that Thailand has had some plans strategized for tackling this problem and preventing road accidents. However, these policies did not work well and it was quite evident from the failure of the various projects undertaken to make helmets and seatbelts compulsory. Marzuki (2012) mentioned how all of those policies, strategies and campaigns failed scourging road

accidents. Nevertheless, Ponboon et al., (2009) contended that the Thai streets were complicated in terms of security and needed multiple agencies and departments for enhancing road safety.

Table 2.1 Fatality rate per 100,000 populations for the road accidents crashes

Rank	Country	Rate
1	Namibia	45
2	Thailand	44
3	Iran	38
4	Sudan	36
5	Swaziland	36
6	Venezuela	35
7	Congo	34
8	Malawi	32

Source: Siriphakdee et al., (2013)

2.1.3 Tourism and road safety in Phuket

Suriyawongpaisal&Kanchanasut (2013) mentioned that international tourists also become the victims of road accidents within three days of arrival in the country, either as pedestrians, motorcyclists, cyclists or as passengers using the public transit. Marzuki's (2012) analysis found that the riskiest vehicles in Phuket were motorcycles and cars. 89.1 % of all transport accidents were attributed to these two vehicles. The frequency of accidents was the highest for people between the age group of 15 to 25 years and the accidents were at their peak between the hours from 15:00 and 24:00. Moreover, The Phuket Provincial Public Health Office (2011) also termed the most dangerous spot in Phuket to be the Mount Mai Tao Sibsong, which was located at the Patong Beach, Kathu District. Careless driving has made the area a dangerous zone with the highest frequency of road accidents. However, this has not deterred the arrival of international tourists in the nation and therefore, effective road management to ensure safety has become a pressing issue in Thailand as it affects the tourists as well as the nation's image as a holiday destination.

2.2 Tourist Experience

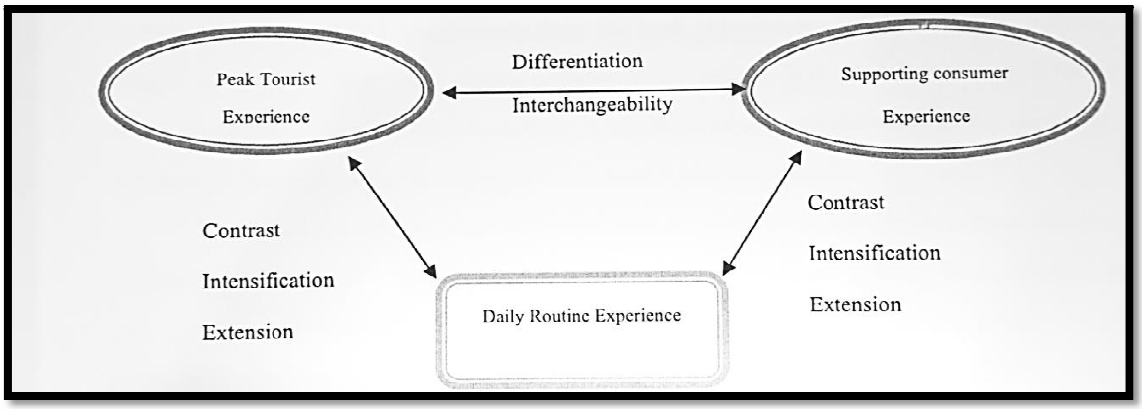
2.2.1 Tourist Experience definition

Many researchers have proposed and accepted various definitions of 'tourist experience'. In fact, before merging the two words, each of them can have an individual meaning of their own. Firstly, the International Union of Official Travel Organization (IUOTO), in 1968, defined 'tourists' as the temporary visitors who staying at least twenty-four hours in the country with the purpose of their visit classified under one of the following activities: leisure (recreational, holiday, health, study, religion and sport), business (Family mission and meetings) or people who travel and stay but not as residents and aren't involved in any activity of income generation. Secondly, the experience can be defined as the knowledge that a person gets out of watching something or learning something through actions (Cutler & Carmichael, 2010). Thus, in order to define 'tourist experience', Filep& Pearce (2013) merged the definitions and asserted that tourist experience is associated with multiple interpretations from components that are social, environmental and those that involve activity. On the other hand, Jennings & Nickerson (2006) stated that the experience of tourism can be defined as an artificial attraction that involves a quest for authenticity. In a nutshell, one can define tourist experience as the search for authenticity or a new lifestyle, which one wants to explore and adapt to as a new challenge, but without having to be totally immersed in the new culture.

2.2.2 Tourist Experience on road safety

There are two perspectives from which one can view the diversity that 'tourist experience' possesses. From the first perspective, tourist experience can be viewed as a social science. From the second point of view, one may see it as a marketing or management phenomenon. In regards with road safety, Jonas et al., (2011) mentioned how, tourist experiences can be seen through the tourists' reactions, for instance, behaving in contrast to their daily and normal behavior while traveling overseas. Quan& Wang (2004) conducted a study, which revealed that if the behavior of the tourists was originally based on austerity in the home country, in that there is a high possibility that they may choose to explode with various actions or behaviorsin countries that are more lenient. On the basis of the findings and discussions of their study, they proposed a two-dimensional model of the peak, which supported the experience.

Figure 2.2 Conceptual model of the tourist experience



Source: Quan& Wang, (2004:300)

2.3 Travelling Behavior

2.3.1 The Definition of travelling behavior

Ritchie et al., (2010) stated the travel behavior is the way in which tourists behave according to their attitudes before, during, and after traveling. While, Van Acker &Witlox (2007) referred that the socio-psychological constructs, such as lifestyles and attitudes, which have an impact on travel behavior. Paulssen et al., (2014) also agreed with those statements, and mentioned that the traveling behavior is driven by the needs of the individual that is engaged in their life while traveling. Therefore, it can be defined that personal factors (Need, perception and attitudes) and experience can affect traveling behavior in each person. Thus, as many travel behavior change over time and across cultures, this is important to study especially, traveling behavior on road safety.

A previous research by Filep& Pearce (2013) affirms that behavior is in association with the experience. This is because, the experience differs from person-to-person because of the varied personal, socio-economic and cultural phenomena in their lives. It must be noted that the personal factor depends on the age, gender, race and the past experiences or may be defined in terms of the different influences that individuals have on seeing, hearing, tasting, touching and smelling. Eilam(2012) asserted that there is a difference in how children, adolescents and adults view things for with the increase in age, their comprehension goes on developing.

2.3.2 Travelling behavior on road safety

It showed that the individuals' demographic characteristic play quite an important role in terms of road safety variables. To see these from a broad point of view, some of the characteristics of an unfamiliar driver including (nationality), age, sex, a local language, educational background, occupation, culture, health condition, driving ability, the extent of knowledge, previous experience, and available resources were influenced by the perceptions of international tourists in terms of road safety (Yannis et al., 2007; Eiamtrakun et al., 2015).

Furthermore, there are many relevant factors affecting the danger of tourists, that include physical landscape, budget, travel expenses, duration of preparation, and information readiness (Tasci & Boylu, 2010). In addition, it is said that experience and safety information takes the role in decision-making which will increase the safety of tourists. According to the study, it was found that the reason for most road accident comes from the lack of awareness of motorcyclists in using the traffic and their incorrect driving behavior. Moreover, the disrespect of rules and laws on safety are also involved. In conformity with Wedagama & Dissanayake (2010), they found that awareness greatly influencing individual's driving behavior. A person who has the awareness of driving safety will have the responsibility and see the importance of conducting themselves to bring up safety regularly until it becomes their habit. Also, the building of safety awareness from traffic accident might receive from education, training, and knowledge of traffic laws and rules (Wichasin & Doungphummes, 2012).

2.4 Travelling Transport at Destination.

Maunier & Camelis (2013) referred travelling to tourist attraction is the travel for relaxation and visiting relatives or friends during a short period of time without determination of permanent habitation. Additionally, the components of good tourist attractions are as follows: Firstly, attractions is a tourism place that captures the eyes of tourists resulting in the increase of people's visit, for example, natural tourism attractions, cultural tourism attractions, and entertainment attractions (Phuket Provincial Public Health Office, 2011). Secondly, amenities are buildings,

facilities, and basic factors that facilitate tourists, such as transport system, communication system, and public utility system (Loureiro, 2014). Thirdly, activity is the creational occupation that provides entertainment to tourists during their stays, such as sports, shopping, sightseeing, and arts and cultural activities (Cutleret al., 2010). Fourthly, accommodation contains several types to serve tourists such as hotel and hostel.Lastly, accessibility is the main tourism factor that convenience tourists to access to the places or attractions. However, this factor relates to their safety as well, owning to the fact that it is relevant to road travel during the trip to a place. This study would mainly focus on this factor because it directly relates to the safety on the road of tourists(Tasci&Boylu, 2010)as follow:

2.4.1 Travelling in unfamiliar Surroundings

Wichasin&Doungphummes (2012) contended that drivers were more prone to participate in unfamiliar surroundings. Particularly, the three issues, viz. driver fatigue, the lack of a seatbelt and helmet and overturning of the vehicles were the outstanding issues involving international tourists as against the local Thai people. While Papadimitriou et al., (2012) mentioned driving over the speed limit and drunk driving as the two most significant reasons leading to car crashes of overseas drivers, Wu (2015) backed it with the argument that a visitor to a new destination and unfamiliar conditions is prone to the risk of motor vehicle crashes as a result of phenomena like speed control, alcohol, and fatigue.

2.4.2 Availability of road safety information at destination

For instance, the commercially available guidebooks like Lonely Planet Publications provide some general but useful insights about Thailand’s road rules and driving conditions. However, Wichasin & Doungphummes (2012) mentioned that since most of these guidebooks, despite providing useful information along with maps, are difficult to read, not many international tourists choose to read it; for instance, TAT (2015) provides detailed and specific advice on road safety whereas the Phuket Gazette and Travel Corporation in Phuket also provides useful road safety tips and information. However, since their concept is rather broad for the tourists to understand, they do not venture reading into it.

2.4.3 Traveling on road conditions in other countries

Other countries have different road conditions such as the side of the road on which the vehicle is to be driven, rules about seat belt and the other driving laws. Many tourists in Thailand tend to drive on the right side of the road. This may be due to the fact that switching from the right side of the road to the left while driving may be difficult for some tourists. Ponboon et al., (2009) contended that this kind of transition leads to confusion, thus becoming a major reason for car crashes in Thailand. Suriyawongpaisal & Kanchanasut (2013) found this the transition from left to right was led to frequent road accidents for the tourists. In fact, this specific problem has not been investigated empirically despite its gravity. However, the car rental operators and insurance companies confirmed that these issues could be addressed to educate and advice overseas drivers about road safety, thus reducing road accidents considerably.

Thailand has never been on the forefront in the implementation of compulsory seat belt wearing laws (and child restraint). However, it is crucial that the international law is followed and seatbelts are made compulsory for all passengers in the vehicle. The example of Hong Kong is noteworthy in these regards in terms of how they introduced seatbelts for the rear passenger seats in the car. On the other hand, in the United States, 49 states have made it mandatory to wear seatbelts while in the front seats, whereas 12 of these states have made seatbelts compulsory in the rear seats as well. Thailand requires its commuters to wear seatbelts in both the front and rear seats of the car. However, Boufous et al., (2010) found that one-fifth of the people rarely used seatbelts because they were doubtful about how effective it was in preventing serious injuries or death. On the other hand, Eiamtrakul et al., (2015) asserted that Thai citizens, because of their awareness about the road conditions in the country, were less likely to fall victims to road accidents, as against the international tourists coming from developed countries, who could take the road conditions for granted and therefore drive in a carefree manner.

A lot of countries use road signs to conform to international standards. Thailand has chosen to follow this lead and has progressively adapted the use of such signs, in line with the international standards (Choocharukul & Sriroongvikrai, 2017). This shows that international tourists are highly likely to see unique signs while in Thailand and it is quite likely to confuse their perception

(Ponboon et al., 2009). Thailand uses kilometer as the unit to measure distance and speed' this is likely to confuse tourists from a few nations, particularly the USA and the UK. The maximum speed limit that the Thai laws allow on highways (i.e., freeways) is predominantly 90 km/h (Ruangsooksriwong et al., 2010). This restriction can be problematic for people coming from countries where there are no highway speed limits, such as Germany. These differences could result in the tourists facing problems and complications while driving in Phuket, Thailand.

2.5 Tourist's perception

Goldstein (2007)stated that perception is a learning process of human to comprehend the stimulus appearing on any sensation. Perception will set the demand, the motivation, and the action or behavior. It is the process that a person contacts to the environment or the surrounding stimulus such as individual, object, and natural phenomenon. A person will perceive anything from their organs which are ear, eyes, mouth, nose, and skin (Smith et al., 2009; Tasci&Boylu, 2010). Another definition of perception says that it is the process when the brain interprets or translates the data received from the sensations (ears, eyes, mouth, nose, and skin). As it realizes what the stimulus is; what the meaning is; which type is; this perception requires experience of that person as the assisting tool to interpret or translate.

As aforementioned, it could be concluded that perception is the resulting process of comprehension; feeling from senses, hearing, smelling, tasting, and touching. The feeling will be interpreted or translated by the prior knowledge or previous experience to assess the decision and to perform any behavior towards anything(Jonas et al., 2011). Besides, the word perception in view of tourists will occur differently from the other perception because the quantity of perception depends on the influencer or the factors in perception which are characteristic of the perceiver and characteristics of that thing. This study emphasizes the perception of international tourists towards road safety in Phuket (Papadimitriou et al., 2012).

Tourist's Perception on Road Safety

George (2010) asserted that the tourists' perception of the place may either repel them from or attract them to repeated visits in the country. The concept of perception is comprised of

factors such as attitude, image, and attribution (Jonas et al., 2011). The negative perception is something that is created in the minds of the travelers. Tasci&Boylu (2010) asserted that although there is a full range of marketing activities undertaken to create a positive image of Thailand, it has been observed that the negative image cannot entirely be reversed; for instance, the area of Patong Hill in Phuket is notorious for road accidents and its bad perception cannot be altered as easily. Moreover, Wichasin & Doungphummes (2012) reaffirmed that Phuket's negative perception has enhanced and attributed the problem to low values of tourist attraction, high traffic pollution, and densely crowded destinations. The study of TomiĆeviĆet al., (2012) found that Phuket's image as an international travel destination is diminishing rapidly as a rest of tourist perceptions affected by the international news, information on travel websites and travel brochures. It can, therefore, be safely concluded that the higher is the negative perception of a destination, the more likely it is that the tourists would choose not to return to the place.

Research has also shown that road safety affects the demand for tourism and the tourists' travel behavior significantly. TomiĆeviĆet al., (2012) suggested that the level of road safety and the risks involved play a major role in helping tourists decide whether they should visit a country or not. The tourists will always choose the safer destination when given a choice between multiple places to visit.

2.6 Risk Perception

2.6.1 Risk perception definition

Risk can be defined as the uncertainty and exposure to the possibility of loss or injury (George, 2010) or the instability or insecurity that occurs as a result of an unexpected situation. While the term "risk" is applicable in many domains, it can also be used interchangeably with the word hazard. Rhodes &Pivik (2011), in terms of traffic and road risks, defined perceived risk to be a pivotal factor that makes the travelers unselect a destination to travel as it is inherently related to a tourist destination's image. Yannis et al., (2007) found that an individual's perception of risk is affected by their age, education, nationality, gender, and social class. It was also reported that with the increase in age, tourists become less prone to road risks. Conversely, Vanlaar&Yannis (2006)

disagreed that the phenomenon of age affects risks, but asserted that the individuals' gender can influence their perceptions of risk. George (2010) and Suriyawongpaisal&Kanchanasut (2013) asserted that women tend to perceive risk with a greater intensity when faced with a dangerous situation, especially during the night-time. Nationality can explain the differences in the perception of risk, as associated with various tourist destinations. Yannis et al., (2017) contended that the nationality of a person may be decisive in how intensely a person perceives a specific situation of risk; for instance, a situation of terrorism may be perceived by a US citizen as riskier than others because of their national background. Barker et al., (2003) noted from their research on international tourists in New Zealand that during the 2000 America's Cup held in New Zealand in 2000, the bad situations created led to international tourists being prioritized for safety, as compared to the domestic tourists. Similarly, George (2010) contended that the domestic tourists were more aware of risks and were more concerned about their personal safety than the international tourists. On the other hand, Boufous et al., (2010) studied and found that American and Australian tourists were more concerned about risks and risky situations as compared to their British, Canadian and Greek counterparts.

2.6.2 Type of risk perceptions

According to the research associating with risk perception of tourists, they have similar or repetitive ideas towards the risk in the view of service users (George, 2010). This research would consider the risk in the view of tourists which the risk factors could be clarified as follows: Firstly, financial risk is the attitude and the belief about expenses or money lost more than normal purchasing or service buying in the tourist spots. For example, the feeling of traveling to that place is not worth because there are similar places offer better or more efficient services (Seabra et al., 2013). Secondly, social risk is the perception received from the other persons who directly influence the tourist. Additionally, to make the travel decision, they might think of the close people or members of the family (ASIRT, 2010). Thirdly, mental risk is the feeling that travelling to that place might be inappropriate to themselves due to many reasons. The examples are the type of travel does not match their taste or bad experience from the other places or it does not reach their expectation. This type of risk affects their decision and might cause stress or nervousness (Teeranuwat,2010). Fourthly, time risk, for instance, travelling to that place without reaching their expectation because of error during

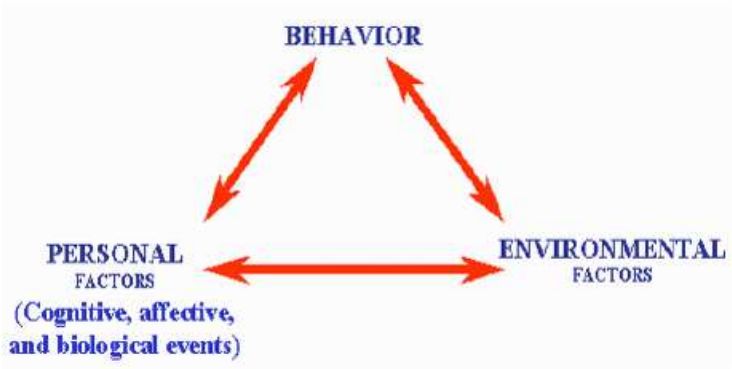
the trip, this type of risk will affect the travelling behavior of the other tourists (George, 2010). Lastly, safety risk is the attitude, the belief, and the feeling that they might not receive the safety from travelling because it might cause losses (Nakahara et al., 2005). In this study, this type of risk would be analyzed in the scope of road safety in Phuket.

2.7 The relevant theory

2.7.1 Social cognitive theory (SCT)

Created by Albert Bandura, the Social Cognitive Theory explains the factors that are likely to lead to road accidents. There are three major factors in play here, i.e. personal, behavior, and the environment on Figure 4. (Bandura 1999; 2001)

Figure 2.3 The constructs of Bandura's triadic reciprocal model



Source: Bandura (2001)

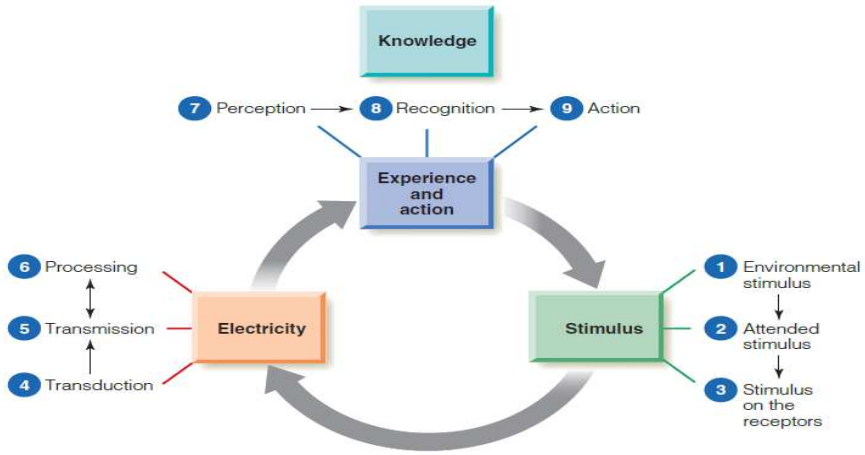
This theory not only provides the guidelines about the roads but also describes the behaviors and attitudes of people in general while using the roads. Here, the personal factors are inclusive of cognitive, affective, and biological phenomena that are influenced by the various internal dispositions (related to the behavioral patterns interact with environmental processes); for instance; the drivers tend to receive phone calls without taking into consideration the dangerous situations they are creating while driving (Personal factors). Environmental factors span across a broad spectrum in that they represent both the physical and social aspects; an example of this can be the weak

enforcement of road rules due to inadequate physical abilities for driving. Such behavior may also stem from personal factors in that the driver may have observed other drivers over speeding and getting away with it unpunished or the pedestrians may choose to cross roads while traffic is active because they see others doing the same. Therefore, it can be seen that humans develop and adapt applied attitudes in accordance with the personal, environmental and behavioral factors. Since the SCT is applicable in numerous disciplines, it can be used for studying the various behavior patterns and understanding the traffic situation in Phuket.

2.7.2 Perceptual Process

The complex perceptual process, known as “behind the scenes”, was mentioned by Goldstein (2007) as the action where everyone is the audience, watching the actor at the theatre. When we are attending the show, we are focused on the characters on the stage. At the same time, the backstage is in action, getting ready for introducing new actors in the play. Thus, it can be explained that actions that are happening behind the scenes form the sequence of the steps known as the perceptual process. This can be explained in terms of driving in that the cause of the accident can be figured out by understanding each step of the perception process that further leads to perception, recognition and reaction.

Figure 2.4 The perceptual process



Source: Goldstein, (2007)

The steps in this process are cyclic in nature.

1. A stimulation occurs when we pay attention to something and it elicits our response. The stimulus can be categorized into 3 types, namely the environmental stimulus, attended stimulus, and stimulus on the receptors. For instance, driving on the road and passing by a beautiful site resulted in the driver feeling stimulated at the sight of the beauty.

2. The receptors create electric signals and transmit it to the brand. In accordance with this, there are three steps viz., Transduction, Transmission, and procession. Transduction, for instance, can be described as the act of driving the motorbike (the act of holding the handlebar using our arms and fingers is the transducer that the brain uses before processing out electrical signals).

3. The last box is experience and action of perception and is inclusive of recognition as well as action. It can be explained how, while driving, a driver was motivated by his stimuli. The driver had to be in control of the stimulus because it can be transmitted to alert to the brain. Finally, if the driver notices and acknowledges the danger, it can help influence safe driving.

2.8 Related studies

The idea of transportation is what elicits the tourists' interest in traveling on the road either as a driver or as a passenger. Therefore, road issue has now become a very important issue that needs to be addressed on the double.

The studies have shown that international tourists perceive road safety differently depending on their demography and other factors (Suriyawongpaisal&Kanchanasut, 2013). Most of the studies affirmed that gender majorly affects the perception of risks, whereas some studies also attributed age to be a contributing factor in this case. Yet, the research studies listed in table. 2.2 outline additional factors.

Table 2.2 Related studies

Variables	What is the issue and why is it important	Source
Age	Age was a significant factor on road safety. It showed that the different age groups have the different experience to road safety.	Ginsburg et al. (2008) Siriptakdee et al. (2013) Eiamtrakun et al. (2015) Boufous et al. (2010) Wu (2015) Yao & Wu (2012) Wedagama&Dissanyake (2010)
Gender	Many studies found that males opposed to females, it found that males were involved in crash very frequently. While, females seemed to keep attention and awareness to road safety.	Suriyawongpaisal&Kanchanasut (2013). Siriptakdee et al. (2013) Boufous et al. (2010) Yao &Wu (2012) Wedagama&Dissanyake (2010)
Nationality	It showed that understanding on road safety is different in each nationality as same as the perception to understand the risk on road safety. It shows that drivers who were born in Asian countries were less relative lower in risky driving account for 25.6%. While, born in other regions is account for the risk 30.4%.	Yannis et al. (2007) Suriyawongpaisal&Kanchanasut (2013) Boufouset al. (2010) Choocharukul&Srioongvikrai (2017)
Status	Status factor strongly affected tourist perception related road safety in Phuket.	Suriyawongpaisal&Kanchanasut (2013) Boufouset al. (2010)
Education	Education plays a role influencing on tourist's perception. The population with a high degree of education tends to understand more on road regulations and driving condition.	Haworth et al., (2000)

Table 2.2 Continued

Variables	What is the issue and why is it important	Source
Occupation	Occupation was indicated the frequency to travel on road, and the possibility to take a risk as a role of passengers or drivers.	Eiamtakun et al.,(2015) Ginsburg et al., (2008)
Income	Income strongly influenced tourist's perception of road safety. High income is more likely to get higher price car with the good quality for driving.	Maneerat (2002)
Time of the day	Time of the day is the good indicator as it showed the time of accident occurring.	Kasantikul et al., (2005) Nakahara et al., (2005)
Types of vehicle	Tourist tends to use motorbike as it was a convenient vehicle and able to reach the destination in time. While using a car was good as the family group.	Choocharukul et al., (2013) Kasantikul et al. (2005)
Currently available	The road safety information on media and internet were an important element for tourists when decide to travel.	Eiamtakun et al.(2015)
Past experience	Having an experience and non-experience were showing in different behavior of perception on road safety	Tansakul (2006)
Unfamiliarity	Tourist visits a new destination was exposed to conditions they do not normally encounter for example; unfamiliar on traffic rules, vehicle and road condition.	Suriyawongpaisal&Kanchanasut (2013) Wu (2015)
Road regulation	It refers to the methods to prevent road users from being killed. Many studies mentioned that speed limited, driving license, restrictions on driving after consuming alcohol, and restrictions on seat belts and helmet used is a must.	Papadimitriou et al. (2012) Choocharukul et al., (2013) Nordfjaer et al. (2014) Eiamtakun et al. (2015)

Table 2.2 Continued

Variables	What is the issue and why is it important	Source
Road condition	The conditions of road were determined to cause the road accident for example; narrow roads with no shoulders, engineering problems, and unsealed surfaces.	Heggie&Heggie (2014)
Traffic condition	This issue plays a major role on road safety. It showed that Phuket's road can be dangerous for inexperienced tourists.	Heggie&Heggie (2014) Royal Thai Police (2011)
Driving behavior	Male tourists tend to involve in a road accident in any types of crashes for instance; collisions, hitting an object while females tourists are likely to involve with a single vehicle.	Ginsburg et al. (2008) Suriyawongpaisal&Kanchanasut (2013) Yao & Wu, (2012) Boufous et al. (2010) Yannis et al. (2007)
Orientation	Tourists are more likely to be involved in crashes than non-tourists. It appears to result from disorientation due to various conditions.	Heggie&Heggie (2014)
Distracted driving	Both exterior and interior distractions reported as the enforced causing road accident.	Heggie&Heggie (2014)
Personal condition	The individual factors have strongly influence to individual behaviors. Those factors vary from person to person and results in a different set of perceptions, attitudes and behavior.	Wu (2015)
Experience	Travelling in new destination were a new challenging and excitement. It is very clear regarding experience is related to age, education, culture and other factors.	Wu (2015) Siriphakdee et al., (2013) Yao & Wu (2012)

Conclusion of previous study

Age

Age is an important significant factor. Previous studies have mentioned that road crashes mostly occurred among young drivers aged 16 - 25 (24.14%) and over 25 years (23.07%). Wedagama and Dissanayake (2010) identified the age between 20 and 39 years as the highest group, while Siriptakdee et al. (2013) highlighted the age group of 25 - 29 years, which accounted for 82%, and stated that drivers between 60 - 64 years accounted for 20%. Furthermore, Yao and Wu (2012) found that teenage drivers where licensure is commonly allowed at the age of 16 years old also had dramatically higher crash rates than older drivers 18 and 19 years old.Boufouset al. (2010) and Wu (2015)also mentioned that drivers with an age under 30 years were more likely to be involved in a serious crash.

Gender

Many studies found that gender differences between males and females. It found that gender were an important factor that influenced the experience of road safety. According to Wedagama and Dissanayake (2010), male drivers, as opposed to females, were found to be distracted and have the probability to be in a crash, while females seem to maintain attention and be more concerned about road safety. In addition, Siriptakdee et al. (2013) mentioned that male international drivers were three times more likely to be involved in a serious crash than female international drivers.Yao and Wu (2012)agreed that males are highlighted and their accident numbers were 4 - 5 times higher than women in Thailand. Meanwhile, Boufous et al. (2010) identified that male drinking drivers were more likely to lose control of a motorcycle than females. However, many studies supported the results that inexperienced male drivers are a risk in every nationality and are the group with the most tendency to cause accidents on the road (Siriphakdee et al., 2013; Wu, 2015; Yao & Wu, 2012). In addition, Suriyawongpaisal and Kanchanasut (2013) showed the percentage of males involved in accident accounted for 82%.

Nationality

Suriyawongpaisal and Kanchanasut (2013) mentioned that foreigners in western countries were found to have a tendency to cause the risk of road accidents in terms of

inexperience and accounted for 82.74%. Boufouset al. (2010) stated that foreign tourists tend to have a higher risk of crashes compared to the local residents as a result of being new in the environment, especially during July and December, which are the peak riskiest months. Choocharukul et al. (2013) also revealed that the behaviours of tourists were different across regions. Yannis et al. (2007) showed the results that the most common place of residence for international drivers involved in accidents were Thailand (45%), Japan (34%), Germany (21%), South Korea (10%), China (7%), Taiwan (6%), Austria (5%), and the United Kingdom (5%). Moreover, other observations from Boufouset al. (2010) and Choocharukul and Srioongvikrai (2017) explained that the likelihood of traffic crashes depends on the country of birth of receiving the license, for example; they showed that drivers who received their license in Asian countries were relative lower in risky driving. Furthermore, another significant finding showed that Australian drivers who were born in Asian countries were relative lower in risky driving (25.6%) than Australians born in other regions (30.4%).

Status

Statistics revealed that 67.9% of those who have a crash on the road were single males, while 32.10% were married couples. These findings also agreed with Suriyawongpaisal and Kanchanasut (2013). Status factors strongly affected tourists' perception related to road safety in Phuket. The roles of married couples were an important factor; as they seemed to be guardians for their families. On the other hand, Boufouset al. (2010) mentioned that single people have more time to spend on the road as opposed to families, due to commitments.

Education

Education also plays a role in influencing tourists regarding road safety. The road users with a higher degree of education tend to be aware of road regulations and driving conditions in the same way that educated have a better understanding than those without education. In addition, education also influences the decision making involved with driving and travelling to the destination safely (Haworth, 2000).

Occupations

Students tend to lack the information about road safety and ignore the discipline, for example; drinking while driving and racing for excitement and accounted for 87%

(Ginsburg et al., 2008). In contrast, manual workers were found to be the top highlighted group to pay respect to road safety (Eiamtrakul et al., 2015).

Income

Tansakul (2006) mentioned that income is one factor that strongly influences tourists' perceptions of road safety. Maneerat (2002) suggested that having sufficient income influenced the pleasure of travel, especially the selection of the means of the transport. Tansakul (2006) also stated that those with a high income are more likely to pay a higher price for a car with good quality for driving, whereas tourists with low incomes are likely to use a cheaper type of transport. This is because tourists who have a low income concentrate more on price and convenience. On the other hand, those tourists with higher incomes will focus more on the quality of the vehicle rather than price.

Time of the day and year

Kasantikul et al. (2005) found that driving with inattention and running off the road normally occurs on weekends and particularly at night time. Additionally, Nakahara et al. (2005) mentioned that driving without a helmet peaked in the evening, especially during the rush hour. Also, these factors were shown to have an association with increased fatality risks. Furthermore, Kasantikul et al. (2005) stated that the road injuries frequently occur in the early rainy season (May - June) or the beginning of the school and university terms.

Types of vehicle

The data from Road Accident Victims Protection Company Limited (2012) revealed that in Thailand rental motorbikes are the vehicle that causes the most mortalities and injuries among international tourists, up to 95%. The findings of Choocharukul and Srioongvikrai (2017) agreed that motorbikes are the highest in crashes compared to other types of motor vehicles for tourists. On the contrary, the study from Prince of Songkla University referred to by Road Accident Victims Protection Company Limited (2012) found that the highest number of international tourists involved in road accidents was found to result from using public transport.

Currently available information

Eiamtrakul et al. (2015) mentioned that available information on risk factors related to road safety were lacking in travel information about road situations and traffic regulations in the country. It was found that only 1% of international visitors use the guidebook as an information source when travelling. It was claimed that the data provided some limited details on road safety within the broad context, so it was difficult for tourists to understand.

Driving conditions

Papadimitriou et al. (2012) mentioned that tourists may be confused when travelling to other countries with different rules and measures such as driving on the left-hand side of the road, using kilometres as the unit of measure for distance, and the maximum speed limit in each country.

Unfamiliarity

Unfamiliarity with the roads and traffic rules were found to be a common cause of accidents for both international and domestic tourists (Suriyawongpaisal&Kanchanasut, 2013) While lack of familiarity with rental vehicles were found to be a frequent cause of accidents for international tourists, it was showed that of those international drivers, 36% were unfamiliar with the road and local traffic rules, and 17% were unfamiliar with the vehicle being driven. Wu (2015) explained that the factor of the side of the road driven on in their home country,for example the transition from familiar driving on the right-hand side of the road at home to the left in overseas countries, may be difficult for some international visitors.

Laws and road regulations

Choocharukul and Srioongvikrai (2007) mentioned that most respondents did not know about Thai traffic laws and they did not learn about them before visiting Thailand. Also, Eiamtrakul et al. (2015); Ponboon et al. (2009), and Yao & Wu (2012**)** also referred to an understanding of Thailand's road regulations and traffic law enforcement as important for international tourists, especially those regarding holding a driving license and wearing seatbelts. Nordfjaer et al. (2014) and Eiamtrakul et al. (2015) explained the point in terms of regulations for wearing seatbelts being different in each country, for example Hong Kong and the United States have

legislation with high levels of enforcement while other countries are not strict. It is perhaps not surprising that many international drivers involved in fatal crashes overseas are found to be unbelted(Wu, 2015).

Road conditions

Choocharukul and Srioongvikrai (2007) mentioned that road conditions are one of the significant causes of road accidents for tourists.

Traffic conditions

Most international tourists misunderstand and misinterpret traffic signs. according to Heggie&Heggie (2014), who mentioned that overseas drivers were likely to encounter many signs from overseas countries, particularly warning signs related to the dangers of inattention.

Driving behaviour

Different drivers have different attitudes towards road safety. Wedagama and Dissanayake (2009) reported that traffic safety was correlated with aggressive driving, for example driving over the speed limit and making unsafe lane changes. Suriyawongpaisal and Kanchanasut (2013) referred to driving while tired, drink driving, running red lights, and racing. Furthermore, Road Accident Victims Protection Company Limited (2012) showed that driving under the influence of alcohol was ranked as the greatest hazard (87%) of tourist respondents. Ginsburg et al. (2008) and Choocharukul and Srioongvikrai (2017) both mentioned not using helmets and ignoring the seat belts were the dangerous behaviours found among tourists driving, both domestic and international.

Orientation

In particular, international drivers were more likely to be involved in crashes that appear to result from disorientation. The incidence of disorientation-related crashes seems to be exacerbated by driver fatigue and unfamiliarity with Thailand's driving conditions (Choocharukul&Srioongvikrai, 2007). Also, the problem is particularly frequently occurring among visitors from countries that drive on the right-side of the road(Yao & Wu, 2012).

Distractions while driving

Ginsburg et al. (2008) mentioned the dangers from interior distractions such as using a mobile phone while driving (text-messaging and making a phone call) caused the risk of road accidents that accounted for 60%.

Personal factors

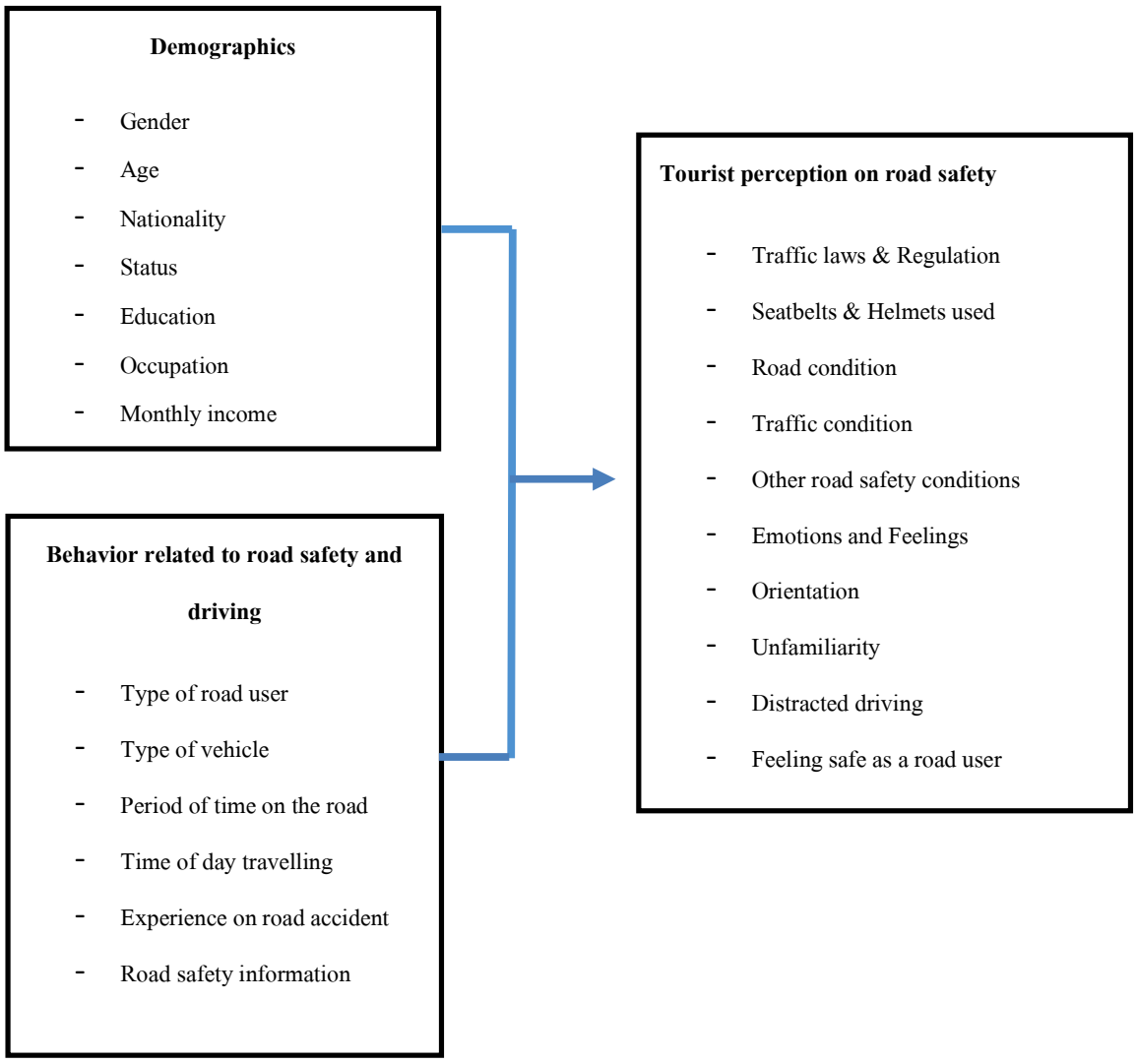
The personal factors that have an effect on road users' experiences, for example Ponboon et al. (2009) referred to human errors (memory, lack of concentration and motor function) and Smith et al. (2009) considered improper driving, were caused by critical performance and recognition errors. Also, Wu (2015) mentioned the experience of responding to being under a condition of mild sleepiness. Vanlaar and Yannis (2006) referred to the factor of drugs and medicines. Furthermore, Yao and Wu (2012) mentioned that the personal factors refer to driving with experience, stress, language skills to read the signs and physical conditions such as jet lag and orientation.

Experience

Siriphakdee et al. (2013) indicated that experience, in terms of an experienced driver will tend to be more aware regarding road safety than the first-time driver, accounts for 82.74%. McCartt et al. (2009) mentioned that the tool to understand driving experience is having a license. Meanwhile, Yao and Wu (2012) indicated that receiving a license was likely to create the experience for drivers. On the other hand, Wu (2015) suggested that tourists visiting overseas are mostly driving abroad the first time and are thus inexperienced with unfamiliar vehicles, road driving rules, exterior distractions, driving speed and environmental factors (the driving on the left-hand driving system). Furthermore, McCartt et al. (2009) suggested that the factors that are related to the tourists' experience were the extent of knowledge, their previous experience, and the resources available for road safety.

2.9 Conceptual Framework

Figure 2.5 Conceptual Framework



Source; Wu (2015)

CHAPTER 3

METHODOLOGY

The purpose of this study is understanding and identifying the various perceptions of road safety factor among the tourists and investigating the relationship between the demographic variables and road safety perceptions and driving in Phuket. The research divided into 8 different parts: 1) Data collection, 2) Target population, 3) Instrument selection, 4) The relationship between aims, objectives and questionnaires Research, 5) Pilot Tests, 6) The level of agreement, and 7) Content analysis

3.1 Data collection

3.1.1 Primary data

Quantitative data collected in order to analyze the variables from the questionnaires. The questionnaires were written in English and the questions were designed to ask the tourists about their demographics, their travelingbehavior in terms of road safety and driving in Phuket, and their perception and opinion about the road safety in Phuket. The data was collected from international tourists by first screening from asking if they were travelling or living in Phuket during November to December 2016.

3.1.2 Secondary data

The data collected from various references focusing on the studies that observed the theories and perceptions of the tourists. Textbooks and websites were used to gather as the secondary data.

3.2 Target population

3.2.1 Sample size

This research's target group comprised of the international tourists in Phuket. This data was collected using the statistics provided by the Tourism Authority of Thailand, TAT (2015). In 2015, the number of international tourists who visited Phuket was 9,488,956. This number was used

in the formula of Cochran (1977), which helped us find the number of samples. Convenience samples were used to compile the sample population of 400 international tourists for this study.

$$n = \frac{z^2}{4e^2}$$

Where n = Sample size

Z = Confidence level or alpha level

Confidence level at 95% or Alpha level at 0.05 Then, Z = 1.96 Confidence level at 99% or Alpha level at 0.01 Then, Z = 2.58

e =Significant level at 95% Then, e = 0.05

$$n = \frac{1.96^2}{4(0.05)^2}$$

$$n = \sim 384.16$$

The obtained sample size of international tourists visiting Phuket was 384 but in order to have more precise samples, this figure was adjusted to 400.

3.2.2 Survey site selection

Since the agenda was to record the accurate information about how international tourists perceived Phuket's road safety, it was decided that data would be collected from the Phuket International Airport.

3.3 Research Instrument

The questionnaire formed the primary tool for data collection. The questionnaire consisted both open and close-ended questions for covering the issue of tourist's perception of road safety in Phuket, as well as the tourist behavior in terms of road safety, driving as well as demographic profile. The findings were presented with tables and descriptions.

Part 1. Tourist behavior related to road safety and driving in Phuket.

It is referred to their behavior on road safety. There were 9 questions within this section; 1) Type of road user 2) How to get around in Phuket 3) Type of vehicle 4) Period of time on the road 5) Time of day travelling 6) Witnessed any road accident 7) Road safety information 8) Problems and concerns about road safety 9) Recommendation about road safety in Phuket.

Part 2. Tourist's perception that affects road safety in Phuket

This section highlights the perceptions of international tourists while travelling on the road in Phuket, the questions were divided into eleven dimensions.

Dimension 1: Traffic laws and regulations were divided into 2 questions as follows;

- I understand and accept the traffic laws and regulations of Phuket.
- It is mandatory to have a valid driving license when driving in Phuket.

Dimension 2: Seat belts and Helmets were divided into 2 questions as follows;

- Using seat belt is important for drivers and passengers in Phuket.
- It is necessary to wear a helmet when using a motorcycle and/ or scooter in Phuket.

Dimension 3: Road conditions were divided into 4 questions as follows;

- Condition and maintenance of roads in Phuket are generally good.
- Lane widths are appropriate in Phuket.
- Paved shoulders are safe for road users in Phuket.
- There is adequate lighting on Phuket's roads.

Dimension 4: Traffic conditions were divided into 2 questions as follows;

- Traffic lights in Phuket are in good condition.
- Road traffic signs are easy to understand in Phuket.

Dimension 5: other conditions were divided into 4 questions as follows;

- It is easy to use the measure of kilometre for the distance and speed in Phuket road.
- Enforcing the speed limit helps lower the number of driving accidents in Phuket.
- Using public transportation services are safe in Phuket.
- Local people drive carefully in Phuket.

Dimension 6: Emotion and feeling were divided into 3 questions as follows;

- I feel safe to travel on the road in Phuket.
- I do not feel stressed in Phuket traffic jams.
- I do not feel confused about driving on the left side of the road in Phuket.

Dimension 7: Orientation was divided into 1 question as follows;

- It is a must to be informed about how to drive safely in Phuket before arrival.

Dimension 8: Unfamiliarity issues were divided into 2 questions as follows;

- It is not dangerous to travel on the roads in Phuket for the first time.
- It is easy to become accustomed to an unfamiliar vehicle in Phuket.

Dimension 9: Distracted driving was divided into 1 question as follows;

- It is not good to use mobile phone while driving in Phuket.

Dimension 10: Perception on road safety statement in Phuket were divided into 6 questions as follows;

- As a driver, I feel safe using the roads in Phuket.
- As a pedestrian, I feel safe using the roads in Phuket.
- As a pedestrian, I feel safe when crossing the streets in Phuket.
- As a passenger, I feel safe using the roads in Phuket.
- Overall, my road experience in Phuket is satisfactory?

Dimension 11 Overall, my road experience in Phuket is satisfactory.

- Overall, my road experience in Phuket is satisfactory.

Part 3. Respondent's demographic profile

This section relates to the international tourist's demographic profile which includes; Gender, Age, Nationality, Status, Education, Occupation, and monthly income.

3.4 The relationship between aim, objective, and questionnaire.

Table 3.1 The relationship between aim, objective and questionnaire.

Aim and Objective	Questionnaire
1.To examine the perception of international tourists on road safety in Phuket	Section 1: Tourist's perception on road safety in Phuket divided into 11 dimensions. Dimension 1: Traffic law and regulation in Phuket I understand and accept the traffic laws and regulations in Phuket. It is mandatory to have a valid driving license when driving in Phuket. Dimension 2: Seat belts and helmets Using seat belt is important for drivers and passengers in Phuket. It is necessary to wear a helmet when using a motorcycle and/ or scooter in Phuket. Dimension 3: Road condition Condition and maintenance of roads in Phuket are generally good. Lane widths are appropriate in Phuket. Paved shoulders are safe for road users in Phuket. There is adequate lighting on Phuket's roads. Dimension 4: Traffic condition Traffic lights in Phuket are in good condition. Road traffic signs are easy to understand in Phuket. Dimension 5: Other condition It is easy to use the measure of kilometer for the distance and speed on Phuket road. Enforcing the speed limit helps lower the number of driving accidents in Phuket. Using public transportation services are safety in Phuket.

Table 3.1 Continued

Aim and Objective	Questionnaire
	Local people drive carefully in Phuket.
	Dimension 6: Emotion and feeling
	I feel safe to travel on the road in Phuket.
	I do not feel stressed in traffic jams of Phuket.
	I do not feel confused about driving on the left hand side of the road in Phuket.
	Dimension 7: Orientation
	It is a must to be informed about how to drive safely in Phuket before arrival.
	Dimension 8: Unfamiliarity
	It is not dangerous to travel on the roads in Phuket for the first time.
	It is easy to become accustomed to an unfamiliar vehicle in Phuket.
	Dimension 9: Distracted driving
	It is not good to use mobile phone while driving in Phuket.
	Dimension 10: Perception on road safety statement in Phuket
	As a driver, I feel safe using the roads in Phuket.
	As a pedestrian, I feel safe using the roads in Phuket.
	As a pedestrian, I feel safe when crossing the streets in Phuket.
	As a passenger, I feel safe using the roads in Phuket.
	Overall, my road experience in Phuket is satisfactory?
	Dimension 11: Overall, my road experience in Phuket is satisfactory.
	Overall, my road experience in Phuket is satisfactory.
	Section 3. Respondent's demographic Profile
	Gender
	Age

Table 3.1 Continued

Aim and Objective	Questionnaire
	Nationality Status Education Occupation Income / month
2. To investigate the international tourist behaviors related to road safety and driving affecting tourist's perception on road safety in Phuket	Section 2 Tourist behavior related to road safety and driving in Phuket Do you drive in Phuket? How do you get around in Phuket? What type of vehicle did you use most whiletravelling in Phuket? How much time did you spend on the roads of Phuket in each day? At what time did you travel the most on the road in Phuket? Did you have any road accident during your stay in Phuket? During you travel in Phuket, where did you find the local road safety information? Section 1. Tourist's perception on road safety in Phuket divided into 11 dimensions.
3. To identify the concerns / problems of international tourists while travelling on the road in Phuket.	Section 2. Tourist's perception that effects road safety in Phuket How did you find out about road safety problems in Phuket?
4. To suggest how Phuket should improve the road safety in the future.	Section 2. Tourist's perception that effects road safety in Phuket How would you recommendation about road safety in Phuket, as a tourist attraction.

3.5 Pilot Tests

Cronbach's alpha was put to test before conducting an analysis of data for investigating the questionnaire's reliability. The research has used the scale of alpha coefficient above 0.7 for applying to all variables. The results show a high correlation between all items of perception variables that are related to road safety. Post designing the questionnaire, 40 pretest questionnaires were collected for verifying if the tourists would find any kind of difficulty while answering. The questionnaire was distributed at the Phuket International Airport on Wednesday 2nd – Thursday 3rd, 2016 November from 13.00 pm – 19.00 pm.

Following the pilot test, the content of the questionnaire was edited for international tourists to help them gain a better understanding on the following:

Part 1. Modified the word within each statement so as to alleviate general confusion; for instance, shortening the sentences and making corrections in the vocabularies.

Part 2. Lowered the number of multiple choices within the questionnaires in order to bring about greater specificity in the articles

Part 3. Adding questions relating to opinion; for instance; "Would you recommend your friend or relatives to travel to Phuket in the future?

3.6 Data Analysis

The collected questionnaires were analyzed for their quantitative features. A program analysis was employed in order to analyze the final results of the method. It went as follows:

Part 1 Analyzing the demographic profiles and tourists behaviors in relation to road safety and driving in Phuket by an analysis of the frequency and the percentage.

Part 2 Analyzing and comparing road safety perceptions among international tourists visiting Phuket, using the T-test and ANOVA.

Part 3 Analyzing and comparing road safety perceptions among international tourists visiting Phuket as well as the demographic profiles using the Post-Hoc Tests.

Part 4 Analyzing and comparing road safety perceptions among international tourists visiting Phuket using T-test.

Part 5 Analyzing the Multiple Regression between Tourist perceptions related road safety and their possibilities to revisit Phuket.

3.7 The level of Agreement

It can range the agreement factor in five levels with the interval of 1-5 = 0.08 (Vagias& Wade, 2006)

Score 1.00 – 1.80 points	strongly disagree
Score 1.81 – 2.60 points	disagree
Score 2.61 – 3.40 points	neutral
Score 3.41 – 4.20 points	agree
Score 4.20 – 5.00 points	strongly agree

CHAPTER 4

RESULTS

This chapter presents the results obtained from questionnaires. The data was collected from international tourists who visited Phuket between 10 October–10 December 2016. The results were presented in tables and analyzed using various methods including descriptive statistics, T-Test, and ANOVA. The results were divided into seven parts as follows:

4.1 Respondent profiles

4.2 International tourist's behavior related to road safety and driving.

4.3 Comparison of perception of international tourists and the respondent's profile.

4.4 T-Test comparing between perception of international tourists on road safety and behavior related to road safety and driving in Phuket.

4.5 Tourist's perception that affects road safety.

4.6 How road experience affect the visiting in the future.

4.1 Respondent profiles

Table 4.1 Respondent profiles

Demographic Profile	Frequency	Percentage (%)
Gender		
Male	213	53.3
Female	187	46.8
Total	**400**	**100**

Table 4.1 Continued

Demographic Profile		Frequency	Percentage (%)
Age			
	20 years or younger	16	4.0
	21-30 years	195	48.8
	31-40 years	91	22.8
	41-50 years	30	7.5
	51-60 years	47	11.8
	Older than 60 years	21	5.3
	Total	**400**	**100**
Region			
	Asia	98	24.5
	Europe	121	30.3
	Australia	90	22.5
	North America	67	16.8
	South America	11	2.8
	Africa	13	3.3
	Total	**400**	**100**
Marital Statue			
	Single	169	42.3
	Married	174	43.5
	Separated	4	1.0
	Divorced	21	5.3
	In the relationship	24	6.0

Table 4.1 Continued

	Demographic Profile	Frequency	Percentage (%)
Marital Statue			
	Other (eg. Defector (1.3 %), window (0.5 %) and widower (0.3 %)	8	2.0
	Total	**400**	**100**
Education			
	Primary school	3	0.8
	High school	81	20.3
	Diploma	129	32.3
	Undergraduate	77	19.3
	Graduate or higher	107	26.8
	Others	3	0.8
	Total	**400**	**100**
Occupation			
	Student	26	6.5
	Employee	148	32.5
	Housewife/ unpaid worker	17	8.8
	Business man/ woman	60	15.0
	Government and Military Personnel	13	3.3
	Professional / Specialist	102	25.5
	Agricultural Worker	3	0.8
	Retired	17	4.3
	Unemployed	12	3.5
	Other	2	0.5
	Total	**400**	**100**

Table 4.1 Continued

Demographic Profile		Frequency	Percentage (%)
Monthly income			
	500 USD or lower	30	7.5
	501 - 1,500 USD	85	21.3
	1,501 - 2,500 USD	96	24.0
	2,501 - 3,500 USD	75	18.8
Demographic Profile		**Frequency**	**Percentage (%)**
Monthly income			
	3,501 – 4,500 USD	38	9.5
	Over 4,500 USD	76	19.0
	Total	**400**	**100**

Table 4.1 presents the characteristics of the respondents' profiles. Most of the respondents (53.3 percent) were male and the rest (46.8 percent) were females. Most of the people were in the age group of 21–30 years (48.8 percent) and were followed by 31–40-year-olds (22.8 percent). The majority of the respondents were from Europe (30.3 percent), followed by the Asians (24.5 percent). The respondents' marital status was fairly distributed, married (43.5 percent), single (42.3 percent), and in a relationship (6.0 percent). Most of the respondents held diplomas (32.3 percent), and were followed by those who had graduated or done higher education (26.8 percent). Most of the respondents' occupation was employees (32.5 percent), and they were followed by professionals (25.5 percent). Lastly, in the percentage breakdowns of the monthly income, 501–2,500 USD (24.0 percent) was the highest, followed by 501–1,500 USD (21.3 percent).

4.2 International tourist's behavior related to road safety and driving.

Table 4.2 Behavior related to road safety and driving.

Behavior related to road safety and driving	Frequency	Percentage (%)
Do you drive in Phuket?		
No	319	79.8
Yes (eg. motorbike (14.5 %), Car (3.8 %), both motorbike & car (1.5 %), Other (0.5 %)	81	20.3
Total	**400**	**100**
Type of transport used during vacation in Phuket. **(Multiple answers)**		
Local taxi (TukTuk)	193	48.3
Rental motorbike	73	18.3
Taxi meter	67	16.8
Local bus	65	16.3
Rental car	45	11.3
Coach	32	8.0
Bicycle	5	1.3
Other (eg. Friend's car (1.1%), Van (2.8%)	15	3.8
Total	**495**	**124.1**
Time spent on the road in Phuket (Per day)		
Less than 1 hour	114	28.5
1 hour	67	16.8
2 hours	104	26.0
3 hours	33	8.3
More than 3 hours	80	20.0
Other (eg. More than 4 hours (0.5%)	2	0.5
Total	**400**	**100**

Table 4.2 Continued

Behavior related to road safety and driving	Frequency	Percentage (%)
Period of time on the roadin Phuket. **(Multiple answers)**		
06.00 - 09.00 AM	75	18.8
09.01 – 12.00 AM	156	39.0
12.01 – 15.00 PM	161	40.3
15.01 – 18.00 PM	125	31.3
18.01 – 21.00 PM	101	25.3
21.01 – 24.00 PM	62	15.5
Total	**680**	**170.2**
Have you ever witnessed any road accident in Phuket?		
No	334	83.5
Yes (eg. Motorbike crashes, minor accident)	66	16.5
Total	**400**	**100**
Obtaining road safety informationin Phuket. **(Multiple answers)**		
I haven't known / received any information	178	44.5
Travel magazine	35	8.8
Internet	99	24.8
Travel Agent	47	11.8
Travel guidebook	46	11.5
Friends / Relatives	46	11.5
Tour company brochures	37	9.3
Billboard / Advertisements	33	8.3
Television / Radio	14	3.5
Newspaper / Local Newspaper	10	2.5
Total	**545**	**136.5**

Table 4.2 presents the descriptive analysis of behavior related to road safety and driving in Phuket. The majority of the respondents did not drive in Phuket (79.8 percent), while the remaining (20.3 percent) drove in Phuket. Most of the international tourists (48.3 percent) travelled by local taxi in Phuket, and 16.8 percent travelled by taxi meter and 18.3 percent on rental motorbikes. The majority of the respondents (28.5 percent) spent less than one hour on the road each day and were closely followed by respondents who spent two hours (26.0 percent) on road each day. The percentage of international tourists using the roads in Phuket between the times 12.01–15.00 was 40.3 percent (highest), 09.01–12.00 was 39.0 percent, and 15.01–18.00 was 31.3 percent.

Most respondents (83.5 percent) had not witnessed any road accident, while the rest accident (16.5 percent) had witnessed a road accident. However, it presents that most of the respondents (45.5 percent) did not know/receive any information and some (24.8 percent) obtained the information through the Internet.

Table 4.3 Mean summary of Tourist's perception on road safety.

	Mean	**SD.**	**Level of Perception**
Road traffic laws and regulations in Phuket	**3.77**	**.837**	**High**
It is mandatory to have a valid driving license when driving in Phuket.	4.15	.972	High
I understand and accept the traffic laws and regulations in Phuket.	3.39	1.073	Neutral
Seatbelts and Helmets used in Phuket	**4.27**	**.940**	**Highest**
It is necessary to wear a helmet when using a motorcycle and/ or scooter in Phuket.	4.35	1.013	Highest
Using seat belts is important for drivers and passengers in Phuket.	4.18	1.124	High
Road conditions in Phuket.	**3.19**	**.698**	**Neutral**
Condition and maintenance of roads in Phuket are generally good.	3.24	1.012	Neutral

Table 4.3 Continued

	Mean	SD.	Level of Perception
There is adequate lighting on Phuket's roads.	3.24	.893	Neutral
Lane widths are appropriate in Phuket.	3.15	1.010	Neutral
Paved shoulders are safe for road users in Phuket.	3.15	.932	Neutral
Traffic conditions in Phuket.	**3.43**	**.782**	**High**
Traffic lights in Phuket are in good condition.	3.44	.961	High
Road traffic signs are easy to understand in Phuket.	3.42	.920	High
Other road safety conditions in Phuket.	**3.57**	**.611**	**High**
Enforcing the speed limit helps lower the number of driving accidents in Phuket.	4.16	.911	High
It is easy to use the measure of kilometer for the distance and speed in Phuket road.	3.61	.875	High
Using public transportation services are safe in Phuket.	3.57	.862	High
Local people drive carefully in Phuket.	2.95	1.128	Neutral
Emotions and feelings during using the road in Phuket.	**3.29**	**.726**	**Neutral**
I do not feel confused about driving on the left side of the road in Phuket.	3.45	1.123	High
I feel safe to travel on the road in Phuket.	3.21	1.000	Neutral
I do not feel stressed in Phuket traffic jams.	3.19	.954	Neutral
Orientation about road safety in Phuket.	**3.77**	**1.035**	**High**
It is a must to be informed about how to drive safely in Phuket before arrival.	3.77	1.035	High
Unfamiliar on road in Phuket.	**3.08**	**.895**	**Neutral**
It is easy to become accustomed to an unfamiliar vehicle in Phuket.	3.23	.909	Neutral
It is not dangerous to travel on the roads in Phuket for the first time.	2.93	1.195	Neutral

Table 4.3 Continued

	Mean	SD.	Level of Perception
Distracted driving on the road in Phuket.	**4.28**	**.954**	**Highest**
It is not good to use mobile phone while driving in Phuket.	4.28	.954	Highest
Feeling safe as a passenger, driver, and pedestrian on the road in Phuket.	**2.98**	**.835**	**Neutral**
As a passenger, I feel safe using the roads.	3.15	.955	Neutral
As a driver, I feel safe using the roads in Phuket.	3.10	.959	Neutral
As a pedestrian, I feel safe using the roads in Phuket.	2.95	1.065	Neutral
As a pedestrian, I feel safe when crossing the streets in Phuket.	2.74	1.070	Neutral
Overall experienceaboutroad safety in Phuket	**3.15**	**.850**	**Neutral**
Overall, my road experience in Phuket is satisfactory.	3.15	.850	Neutral

N= 400

Table 4.3 presents the descriptive analysis of international tourist's perception on road safety in Phuket. Based on the mean score of 11 items, international tourists had the highest level of agreement on "Distracted driving on the road in Phuket." (Mean 4.28), followed by "Seatbelts and Helmets used in Phuket." (Mean 4.27).

International tourists also had high level of agreement on "Orientation about road safety in Phuket and Road traffic laws and regulations in Phuket." (Mean 3.77), followed by "Other road safety conditions in Phuket" (Mean 3.57), and Traffic conditions in Phuket (Mean 3.43).

The neutral agreement they considered was "Emotions and feelings while using the road in Phuket." (Mean 3.29), followed by "Road conditions in Phuket.' (Mean 3.19), "Overall road safety in Phuket."(Mean 3.15), "Unfamiliar of the road in Phuket" (Mean 3.08), and "Feeling safe as a passenger, driver, and pedestrian on the road in Phuket" (Mean 2.98).

4.3 Comparison of perception of international tourists and the respondent's profile.

Table 4.4 Comparison of gender and perception of international tourists on road safety.

Tourist's perception on road safety in Phuket.	Male		Female		t	Sig
	$\overline{X}$	S.D.	$\overline{X}$	S.D.		
Road traffic laws and regulations in Phuket.	3.83	.803	3.70	.871	1.617	.107
Seatbelts and Helmets used in Phuket.	4.19	.948	4.35	.925	-1.758	.079
Road conditions in Phuket.	3.22	.706	3.17	.690	.750	.454
Traffic conditions in Phuket.	3.47	.790	3.38	.773	1.176	.240
Other road safety conditions in Phuket	3.60	.589	3.54	.635	1.016	.310
Emotions and feelings during using the road in Phuket.	3.35	.742	3.21	.703	1.954	.051
Orientation about road safety in Phuket.	3.68	1.002	3.87	1.065	-1.892	.059
Unfamiliar on road in Phuket.	3.10	.861	3.05	.935	.529	.597
Distracted driving on the road in Phuket.	4.28	.964	4.28	.945	-.018	.986
Feeling safe as a passenger, driver, and pedestrian on the road in Phuket.	3.02	.781	2.95	.894	.865	.388
Overall experienceabout road safety in Phuket.	3.18	.839	3.13	.867	.587	.557

* P< 0.05 level.

Based on the independent sample T-test, the result in table 4.4 shows that there were no significant differences between the male and female international tourists' perception. This suggested that gender has no effect on the international tourists' perception related to road safety in Phuket.

Table 4.5 Comparison the perceptions related to road safety in Phuket and age group.

	20 or younger	**21-30 years**	**31-40 years**	**41-50 years**	**51-60 years**	**Older than 60 years**	**Total**	**F**	**Sig**
Road traffic laws and regulations in Phuket.	3.94	3.63	3.88	3.97	3.99	3.67	3.77	2.640	.053
Seatbelts and Helmets used in Phuket.	4.25	4.21	4.38	4.22	4.05	4.79	4.27	2.233	***.040****
Road conditions in Phuket.	3.30	3.22	3.27	3.26	3.10	2.67	3.19	3.041	***.010****
Traffic conditions in Phuket.	3.47	3.41	3.55	3.43	3.38	3.12	3.43	1.150	.333
Other road safety conditions in Phuket	3.44	3.54	3.70	3.42	3.63	3.52	3.57	1.520	.182
Emotions and feelings during using the road in Phuket.	3.33	3.27	3.34	3.27	3.38	3.98	3.29	1.019	.406
Orientation about road safety in Phuket.	3.25	3.82	3.63	3.93	3.94	3.67	3.77	1.699	.134
Unfamiliar on road in Phuket.	3.63	3.07	3.26	2.90	3.11	2.95	3.08	1.914	.091
Distracted driving on the road in Phuket.	4.31	4.25	4.32	4.37	4.19	4.48	4.28	.374	.867
Feeling safe as a passenger, driver, and pedestrian on the road in Phuket.	3.27	3.00	3.11	2.97	2.86	2.36	2.98	3.451	***.005****
Overall experience about road safety in Phuket.	3.50	3.14	3.24	3.13	3.15	2.67	3.16	2.144	.060

* P< 0.05 level,

Table 4.5 shows the comparison between the perception levels of international tourists related to road safety in Phuket and the age groups. It was found that there were significant differences between the international tourists' perception and age groups at $p < 0.05$. There were three dimensions that were significant, for instance; seatbelts and helmets used in Phuket ($F = 2.233$, $P = .040$), road conditions in Phuket ($F = 3.041$, $P = .010$), and feeling safe as a passenger, driver, and pedestrian on the road in Phuket ($F = 3.451$, $P = .005$).

Table 4.6 The comparison of age and perception in terms of "Seatbelts and Helmets used in Phuket."

Dependent variables		**SS**	**df**	**MS**	**F**	**Sig.**
Seatbelts and	Between Groups	9.709	5	1.942	2.233	.040*
Helmets used in	Within Groups	342.701	394	.870		
Phuket.	**Total**	**352.410**	**399**			

Scheffe Test

Age group	**Mean**	**≤ 20**	**21-30**	**31-40**	**41-50**	**51-60**	**≥ 60**
	3.94	*3.94*	*3.63*	*3.88*	*3.97*	*3.99*	*3.67*
≤ 20 years	*3.94*	-	1.000	.998	1.000	.991	.701
21-30 years	*3.63*		-	.834	1.000	.953	**.000****
31-40 years	*3.88*			-	.981	.563	**.014***
41-50 years	*3.97*				-	.990	.468
51-60 years	*3.99*					-	**.002***
≥ 60 Years	*3.67*						-

* P< 0.05 level, ** p< 0.01

Table 4.6 presents the significant differences among these age groups. To results the Scheffe's Post Test between these age groups and international tourist's perception in terms of the importance of using seatbelts and helmets in Phuket. It was found that people who fell in the age group of over 60 years ($M = 3.67$) had a different perception level as compared to those in the 21–30 ($M = 3.63$), 31–40 ($M = 3.88$), and 51–60 ($M = 3.99$) age group.

As a result, international tourists who were older than 60 emphasized more on the importance of using seatbelts and helmets in Phuket than tourists who were in the 21–30, 31–40, and 51–60 age groups.

Table 4.7 The comparison of age and perception in terms of "Road conditions in Phuket."

Dependent variables		**SS**	**df**	**MS**	**F**	**Sig.**
Road conditions in Phuket.	Between Groups	7.232	5	1.446	3.041	.005
	Within Groups	187.377	394	.476		
	Total	**194.609**	**399**			

Scheffe Test

Age group	**Mean**	**≤ 20**	**21-30**	**31-40**	**41-50**	**51-60**	**≥ 60**
		3.30	*3.22*	*3.27*	*3.26*	*3.10*	*2.67*
≤ 20 years	*3.30*	-	.999	1.000	1.000	.965	.183
21-30 years	*3.22*		-	.994	1.000	.957	**.036***
31-40 years	*3.27*			-	1.000	.854	**.022***
41-50 years	*3.26*				-	.966	.108
51-60 years	*3.10*					-	.332
≥ 60 Years	*2.67*						-

* P< 0.05 level, ** p< 0.01

Table 4.7 presents the significant differences among these age groups. To results the Scheffe's Post Test between these age groups and international tourist's perception in terms of road conditions in Phuket. It was found that the age group more than 60 years old (M = 2.67), had a different perception level as compared to those in the 21-30 years (M = 3.22), and 31-40 years (M = 3.27) age group.

As a result, international tourists who were older than 60 were acknowledged more on the condition of Phuket road than tourists who were in the 21-30 and 31-40 age groups.

Table 4.8 The comparison of age and perception in terms of "Feeling safe as a passenger, driver, and pedestrian on the road in Phuket."

Dependent variables		**SS**	**df**	**MS**	**F**	**Sig.**
Feeling safe as a passenger, driver, and pedestrian on the road in Phuket.	Between Groups	11.680	5	2.336	3.451	.010
	Within Groups	266.714	394			
	Total	**278.394**	**399**			

Scheffe Test

Age group	**Mean**	**≤ 20**	**21-30**	**31-40**	**41-50**	**51-60**	**≥ 60**
		3.27	*3.00*	*3.11*	*2.97*	*2.86*	*2.36*
≤ 20 years	*3.27*	-	.911	.992	.926	.719	.052
21-30 years	*3.00*		-	.962	1.000	.953	**.042***
31-40 years	*3.11*			-	.985	.737	**.016***
41-50 years	*2.97*				-	.998	.240
51-60 years	*2.86*					-	.364
≥ 60 Years	*2.36*						-

* P< 0.05 level, ** p< 0.01

Table 4.8 presents the significant differences among these age groups. To results the Scheffe's Post Test between these age groups and international tourist's perception in terms of feeling safe as a passenger, driver, and pedestrian on the road in Phuket. It was found that people who fell in the age group of over 60 years (M = 2.36) had a different perception level as compared to those in the 21-30 (M = 3.00) and 31-40 (M = 3.11) age groups.

As a result, international tourists who were older than 60 were felt safer as a passenger, driver, and pedestrian on the road in Phuket than tourists who were in the 21-30 and 31-40 age groups.

Table 4.9 Comparison the perceptions related to road safety in Phuket and Education.

	Primary	High School	Diploma	Undergraduate	Graduate up	Other	Total	F	Sig
	Mean								
Traffic laws and regulations in Phuket.	3.33	3.72	3.71	4.00	3.73	3.50	3.77	1.626	.152
Seatbelts and Helmets used in Phuket.	4.50	4.12	4.22	4.51	4.25	4.17	4.27	1.502	.188
Road conditions in Phuket.	3.33	3.16	3.08	3.360	3.28	3.42	3.19	1.508	.186
Traffic conditions in Phuket.	3.33	3.36	3.40	3.38	3.54	3.67	3.43	.717	.611
Other road safety conditions in Phuket.	3.58	3.49	3.49	3.76	3.59	3.83	3.57	2.419	***.035****
Emotions and feelings during using the road in Phuket.	3.11	3.22	3.18	3.47	3.34	3.33	3.29	39.540	.062
Orientation about road safety in Phuket.	4.00	3.62	3.69	4.10	3.74	3.33	3.77	2.303	***.044****
Unfamiliar on road in Phuket.	3.33	2.99	2.97	3.17	3.20	3.17	3.08	1.087	.367
Distracted driving on the road in Phuket.	4.00	3.94	4.38	4.34	4.34	4.39	4.28	18.479	.069
Feeling safe as a passenger, driver, and pedestrian on the road in Phuket.	3.08	3.09	2.89	3.09	2.94	3.08	2.98	.939	.456
Overall about road safety in Phuket.	3.67	3.22	3.09	3.17	3.17	2.67	3.16	.660	.654

* P< 0.05 level

Table 4.9 showed the comparison between the perception levels of international tourists related to road safety in Phuket and education. It was found that there were significant differences between the international tourist's perception and educational p< 0.05. There were two dimensions significant for instance; other road safety conditions in Phuket. (F = 2.419, P = .035), and orientation about road safety in Phuket. (F = 2.303, P =.044).

Table 4.10 The comparison of Levels of education and perception in terms of "Other road safety conditions in Phuket."

Dependent variables		**SS**	**df**	**MS**	**F**	**Sig.**
Other road safety conditions in Phuket.	Between Groups	4.433	5	.887	2.419	.035
	Within Groups	144.438	394	.367		
	Total	**148.871**	**399**			

Scheffe Test

		Primary	**High School**	**Diploma**	**Undergraduate**	**Graduate or higher**
	Mean	*3.58*	*3.49*	*3.49*	*3.76*	*3.59*
Primary School	3.58	-	1.000	1.000	.992	1.000
High School	3.49		-	.085	.102	.094
Diploma	3.49			-	***.029****	.966
Undergraduate	3.76				-	.635
Graduate or higher	3.59					-

* P< 0.05 level

Table 4.10 presents the significant differences among these education levels. To results the Scheffe's Post Test between these education levels and international tourist's perception in terms of other road safety conditions in Phuket. It was found that international tourists with undergraduate level (M = 3.76) had a difference perception level as compared to the diploma level (M = 3.49).

As a result, international tourists who were in undergraduate level acknowledged more on the road safety conditions in Phuket (enforcing the speed limit, measuring the kilometer for the distance and speed, using public transportation services, and local people driving in Phuket) than tourist who were in the diploma level.

Table 4.11 The comparison of Levels of education and perception in terms of "Orientation about road safety in Phuket."

Dependent variables		**SS**	**df**	**MS**	**F**	**Sig.**
Orientation about road safety in Phuket.	Between Groups	12.136	5	2.427	2.303	.044
	Within Groups	415.241	394	1.054		
	Total	**427.378**	**399**			

Scheffe Test

		Primary	**High School**	**Diploma**	**Undergraduate**	**Graduate or higher**
	Mean	*4.00*	*3.62*	*3.69*	*4.10*	*3.74*
Primary School	4.00	-	.997	1.000	1.000	1.000
High School	3.62		-	1.000	***.040****	1.000
Diploma	3.69			-	.051	1.000
Undergraduate	4.10				-	.155
Graduate or higher	3.74					-

* P< 0.05 level

Table 4.11 presents the significant differences among these education levels. To results the Scheffe's Post Test between these education levels and international tourist's perception in terms of orientation about road safety Phuket. It was found that international tourists with undergraduate level (M = 4.10) had a difference perception level as compared to the high school level (M = 3.62).

As a result, international tourists who were in the undergraduate level acknowledged more on the orientation about road safety in Phuket (informing about how to drive safely in Phuket before arrival) than tourist who were in the high school level

Table 4.12 Comparison the perceptions related to road safety in Phuket and monthly income.

	≤500 USD	501-1,500 USD	1,501-2,500 USD	2,501-3,500 USD	3,501-4,500 USD	Over 4,501 USD	Total	F	Sig
Traffic laws and regulations in Phuket.	3.63	3.82	3.65	3.73	3.95	3.88	3.77	1.226	.296
Seatbelts and Helmets used in Phuket.	4.23	4.29	4.26	4.09	4.30	4.41	4.27	.962	.441
Road conditions in Phuket.	3.06	3.35	3.07	3.34	3.93	3.22	3.19	3.537	***.004****
Traffic conditions in Phuket.	3.27	3.48	3.43	3.49	3.11	3.54	3.43	2.033	.073
Other road safety conditions in Phuket.	3.31	3.65	3.50	3.45	3.54	3.82	3.57	4.996	***.000****
Emotions and feelings during using the road in Phuket.	3.16	3.23	3.31	3.38	3.20	3.32	3.29	.718	.610
Orientation about road safety in Phuket.	3.43	3.69	3.71	3.88	3.89	3.88	3.77	1.255	.283
Unfamiliar on road in Phuket.	2.98	3.04	3.14	3.12	3.83	3.17	3.08	.960	.442
Distracted driving on the road in Phuket.	4.27	4.27	4.02	4.41	4.11	4.59	4.28	3.617	***.004****
Feeling safe as a passenger, driver, and pedestrian on the road in Phuket.	2.85	3.06	2.98	2.97	2.97	2.98	2.98	.283	.922
Overall experienceabout road safety in Phuket.	3.10	3.25	3.19	3.03	2.92	3.28	3.16	1.469	.200

* P< 0.05 level, ** p< 0.01

Table 4.12 shows the comparison between perception levels of international tourists related to road safety in Phuket and occupation. It was found that there were significant differences between international tourist's perception and occupation at p< 0.05. There were three dimensions that were significant, for instance; Road conditions in Phuket. (F = 3.537, P = .004), other road safety conditions in Phuket. (F = 4.996, P = .000), and distracted driving on the road in Phuket. (F = 3.617, P =.004).

Table 4.13 The comparison of monthly income and perception in terms of "Road conditions in Phuket."

Dependent variables		**SS**	**df**	**MS**	**F**	**Sig.**
Road conditions in Phuket.	Between Groups	8.360	5	1.672	3.537	.004
	Within Groups	186.249	394	.473		
	Total	**194.609**	**399**			

Scheffe Test

		≤500 USD	**501-1,500**	**1,501-2,500**	**2,500-3,500**	**3,501-4,500**	**≥4,501 USD**
	Mean	*3.06*	*3.35*	*3.07*	*3.34*	*2.93*	*3.22*
≤ 500 USD	*3.06*	-	.517	1.000	.660	1.000	.988
501-1,500 USD	*3.35*		-	0.74	1.000	***.046****	.967
1,501-2,500 USD	*3.07*			-	.236	.994	.892
2,500-3,500 USD	*3.34*				-	.094	.995
3,501-4,500 USD	*2.93*					-	.438
≥4,501 USD	*3.22*						-

* P< 0.05 level

Table 4.13 presents the significant differences among monthly incomes. To results the Scheffe's Post Test between monthly incomes and international tourist's perception in terms of

the road conditions in Phuket. It was found that people who received the monthly income between 3,501-4,500 USD (M = 2.93) had a difference perception level as compared to those in the 501-1,500 USD (M = 3.35).

As a result, international tourist who received the monthly income between 3,501-4,500 USD acknowledged more on the road conditions in Phuket (adequate lighting, appropriate lane widths and the safety of paved shoulders) than tourist who received the monthly income between 501-1,500 USD.

Table 4.14 The comparison of monthly income and perception in terms of "Other road safety conditions in Phuket."

Dependent variables		**SS**	**df**	**MS**	**F**	**Sig.**
Other road safety conditions in Phuket.	Between Groups	8.875	5	1.775	4.996	.004
	Within Groups	139.996	394	.355		
	Total	**148.871**	**399**			

Scheffe Test

		≤ 500 USD	**501-1,500**	**1,501-2,500**	**2,500-3,500**	**3,501-4,500**	**≥4,501 USD**
	Mean	*3.31*	*3.65*	*3.50*	*3.45*	*3.54*	*3.82*
≤ 500 USD	*3.31*	-	.195	.797	.949	.773	***.009****
501-1,500 USD	*3.65*		-	.705	.446	.966	.701
1,501-2,500 USD	*3.50*			-	.997	1.000	***.038****
2,500-3,500 USD	*3.45*				-	.987	***.014****
3,501-4,500 USD	*3.54*					-	.366
≥4,501 USD	*3.82*						-

* P< 0.05 level

Table 4.14 presents the significant differences among monthly incomes. To results the Scheffe's Post Test between among monthly incomes and international tourist's perception in terms of other road safety conditions in Phuket. It was found that people who received the monthly income over 4,501 USD (M = 3.82) had a difference perception level as compared to those in the ≤500 USD (M = 3.31), 1,501-2,500 USD (M = 3.50), and 2,500-3,500 USD (M = 3.45).

As a result, international tourists who received the monthly income over 4,501 USD acknowledged more on the other road safety conditions (enforcing the speed limit, measuring the kilometer for the distance and speed, using public transportation services, and local people driving in Phuket) that tourist who received the monthly income ≤ 500 USD, 1,501-2,500 USD and 2,500-3,500 USD.

Table 4.15 The comparison of monthly income and perception in terms of "Distracted driving on the road in Phuket."

Dependent variables		**SS**	**df**	**MS**	**F**	**Sig.**
Distracted driving on the road in Phuket.	Between Groups	16.355	5	3.271	3.717	.004
	Within Groups	346.722	394	.880		
	Total	**363.078**	**399**			

Scheffe Test

		≤500 USD	**501-1,500**	**1,501-2,500**	**2,500-3,500**	**3,501-4,500**	**≥4,501 USD**
	Mean	*3.43*	*3.69*	*3.71*	*3.88*	*3.89*	*3.88*
≤ 500 USD	*3.43*	-	1.000	.968	1.000	1.000	.703
501-1,500 USD	*3.69*		-	.713	.997	1.000	.139
1,501-2,500 USD	*3.71*			-	.169	1.000	***.001****
2,500-3,500 USD	*3.88*				-	.907	.958
3,501-4,500 USD	*3.89*					-	.241
≥4,501 USD	*3.88*						-

* P< 0.05 level

Table 4.15 presents the significant differences among monthly incomes. To results the Scheffe's Post Test between monthly incomes and international tourist's perception in terms of distracted driving on the road in Phuket. It was found that people who received the monthly income over 4,501 USD (M = 3.88) had a difference perception level as compared to those in the 1,501-2,500 USD (M = 3.71)

As a result, international tourist who received the monthly income over 4,501 USD acknowledged more on using mobile phone while driving in Phuket than tourist who received the monthly income between 1,501-2,500 USD.

4.4 T-Test comparing between perception of international tourists on road safety by behavior related to road safety and driving in Phuket.

Table 4.16 T- test comparing the tourist's perception and type of road user.

Tourist's perception on road safety in Phuket.	**Driving in Phuket**		**Not driving in Phuket**		**t**	**P**
	$\overline{X}$	**S.D.**	$\overline{X}$	**S.D.**		
Traffic laws and regulations in Phuket.	3.97	.739	3.72	.854	2.628	***.010****
Seatbelts and Helmets used in Phuket.	4.41	.856	4.23	.958	1.530	.127
Road conditions in Phuket.	3.20	.750	3.19	.686	.099	.921
Traffic conditions in Phuket.	3.41	.876	3.43	.758	-.195	.845
Other road safety conditions in Phuket	3.52	.642	3.58	.603	-.778	.437
Emotions and feelings during using the road in Phuket.	3.31	.786	3.28	.712	.373	.709
Orientation about road safety in Phuket.	3.51	1.097	3.83	1.010	-2.562	***.011****
Unfamiliar on road in Phuket.	3.16	.951	3.06	.881	.920	.358

Table 4.16 Continued

Tourist's perception on road safety in Phuket.	Driving in Phuket		Not driving in Phuket		t	P
	$\overline{X}$	S.D.	$\overline{X}$	S.D.		
Distracted driving on the road in Phuket.	4.16	1.101	4.31	.912	-1.290	.198
Feeling safe as a passenger, driver, and pedestrian	3.11	.980	2.95	.793	1.325	.188
Overall experience about road safety in Phuket.	3.04	.928	3.18	.828	-1.400	.162

* P< 0.05 level.

Based on the independent sample T-test, the result in table 4.16 shows that there were significant differences of behavior related to road safety toward the international tourists' perceptionamong international tourists who were driving and those who were not driving in Phuket. This suggested that behaviors related to road safety among the international tourists who were both driving and not driving in Phuket have an effect on the international tourists' perception related to road safety in Phuket in terms of traffic laws and regulations (t = 2.628, F = .010) and Orientation about road safety (t = 2.562, F = .011)

4.5 Tourist's perception that affects road safety.

Table 4.17 Problems and concerns while travelling on the road in Phuket

Tourist's perception that affects road safety in Phuket	Frequency	Percentage (%)
Problem and concerns		
People drive very fast in Phuket.	58	12.9
Busy traffic and lot of vehicles in Phuket.	50	11.1
People do not follow the traffic rules and regulations.	44	9.8
Drivers not pay attention to pedestrians in Phuket.	39	8.7
No proper lane in Phuket for motorbikes.	33	7.3

Table 4.17 Continued

Tourist's perception that affects road safety in Phuket	Frequency	Percentage (%)
Driving with recklessness in Phuket.	26	5.7
Roads are narrow in Phuket	26	5.8
No helmet and seatbelt used while driving in Phuket.	21	4.7
Driving on the road in Phuket is dangerous.	18	4.0
There are not adequate traffic lights in Phuket roads.	12	2.6
Inexperienced drivers in Phuket.	11	2.4
Road traffic signs in Phuket are in bad condition.	8	1.8
There is no road safety information in Phuket.	7	1.6
Footbaths need to be improved in Phuket.	5	1.1
Driving motorbike is the most dangerous in Phuket.	3	0.7
No answer	89	19.8
Total	**361**	**100**

Table 4.17 showed that the concern and problem of international tourists while travelling on the road in Phuket were people drive very fast in Phuket (12.9 percent), followed by busy traffic and lot of vehicles in Phuket (11.1 percent), people do not follow the traffic rules and regulations in Phuket (9.8 percent), drivers not pay attention to pedestrians in Phuket (8.7 percent), no proper lane in Phuket for motorbikes (7.3 percent), driving with recklessness in Phuket (5.7 percent), roads are narrow in Phuket (5.8 percent), no helmet and seatbelt used in Phuket (4.7), driving on the road in Phuket is dangerous (4.0 percent), there are no adequate traffic lights in Phuket road (2.6), inexperienced drivers in Phuket. (2.4 percent), road traffic signs are in bad condition in Phuket (1.6 percent), there is no road safety information in Phuket (1.6 percent), footbaths needs to be improved in Phuket (1.1 percent), and driving motorbike is the most dangerous in Phuket (0.7 percent).

Table 4.18 Road safety recommendation

Tourist's perception that affects road safety.	Frequency	Percentage (%)
Road Safety Recommendation		
Enforcing regulations, laws and penalty on the roads in Phuket.	84	18.6
The condition of zebra crossing and proper footpaths for pedestrians in Phuket.	48	10.7
Speed control by increasing more speed bumps and police check points in Phuket.	34	7.5
Influence of an enforcement campaign on seat-belt and Helmet wearing in Phuket.	30	6.7
Proper lane usage in Phuket by using lane support systems or improve wider lanes.	30	6.7
Improving traffic jams in Phuket.	22	4.9
Safety program for tourists or road safety information tips and guide in Phuket.	20	4.4
Condition of traffic lights control in Phuket.	18	4.0
Road Safety Recommendation		
Policy enforcement on using the mobile phone while driving in Phuket.	11	2.4
Driving with license mandatory for all road users.	9	2.0
English traffic signs in Phuket are a must.	8	1.8
Increasing more street lighting in Phuket.	4	0.9
Roads in Phuket are in bad condition, it needs to be fixed.	4	0.9
Need more public transportation in Phuket.	3	0.7
No answer	125	27.8
Total	**325**	**72.2**

Table 4.18 showed that most respondents recommended through enforcing regulations, laws and penalty on the road in Phuket. (18.6 percent), followed safety zebra crossing and proper footpaths for pedestrians in Phuket. (10.7 percent), Speed control by increasing more speed bumps and police check points in Phuket. (7.5 percent), Influence of an enforcement campaign on seat-belt and Helmet wearing in Phuket. (6.7 percent), proper lane usage in Phuket by using lane support systems or improve wider lanes. (6.7 percent), Improving traffic jams in Phuket. (4.9 percent), Safety program for tourists or road safety information tips and guide in Phuket. (4.4 percent), Condition of traffic lights control in Phuket. (4.0 percent), Policy enforcement on using the mobile phone while driving in Phuket. (2.4 percent), driving with license mandatory for all road users in Phuket (2.0 percent), English traffic signs in Phuket are a must. (1.8 percent), Increasing more street lighting in Phuket (0.9 percent), Roads in Phuket are in bad condition, it needs to be fixed (0.9 percent), Need more public transportation in Phuket (0.7 percent),

4.6 How road experience affect the visiting in the future.

Table 4.19 Non effect from road experience to next re-visiting.

Non effect from road experience to next re-visiting.	**Frequency**	**Percentage (%)**
It was ok for me, I can aware of potential danger on the road in Phuket when travelling.	46	10.2
The road safety in Phuket is on the control and it can be avoid.	43	9.5
I don't think the issue of road experience in Phuket will affect the travel plan	41	9.1
Road experience in Phuket has no effect at all and I don't care	32	7.1
Road experience in Phuket is not a bad issue, every country is the same	27	6.0
Road experience in Phuket has no effect but better to have more strictly rule on the roads.	15	3.3
No answer	228	50.8
Total	**222**	**49.2**

Table 4.19 showed that the road experience will not affect the decision for the revisit. The factor are; it was ok for me, I can aware of potential danger on the road in Phuket when travelling abroad. (10.2 percent), followed by the road safety in Phuket is on the control and it can be avoid (9.5 percent), I don't think the issue of road experience in Phuket will affect the travel plan (9.1 percent), Road experience in Phuket has no effect at all and I don't care (7.1 percent), Road experience in Phuket is not a bad issue, every country is the same (6.0 percent), Road experience in Phuket has no effect but better to have more strictly rule on the roads (3.3 percent).

Table 4.20 The effect from road experience for the re-visiting.

Effect from road experience to next re-visiting.	**Frequency**	**Percentage (%)**
Road safety in Phuket is very important.	22	4.9
Bad traffic jams in Phuket.	16	3.6
If I have children, I won't come.	9	2
If I have to drive, I won't come.	6	1.4
	397	88.1
Total	**53**	**11.9**

Table 4.20 showed that the road experience will effect the decision for the re-visit. In terms of Road safety in Phuket is very important (4.9 percent), Bad traffic jams in Phuket. (3.6 percent), if I have children, I won't come (2 percent), if I have to drive, I won't come (1.4 percent)

CHAPTER 5

CONCLUSION AND DISCUSSION

5.1 Conclusion

Since the number of international tourists visiting Phuket is rising, it has become essential to creating an image of the place that reflects its safe and risk-free roads as well as the environment. Therefore, adhering to the rules that ensure road safety has become quite important in Phuket. This research aims at understanding the perceptions, needs as well as the concerns of international tourists in terms of road safety in Phuket. These aims must be studied in order to improve road safety for planning and better guiding the updated information for further research studies.

This studies' objectives were: (1) examining international tourists' perception in terms of road safety in Phuket, (2) investigating the behaviors and driving of international tourists, which eventually affects the perception of road safety in Phuket, (3) identifying the concerns and problems that international tourists might face while traveling on the roads in Phuket, and (4) suggesting ways in which Phuket can improve its road safety in the near future.

A total of 400 questionnaire sets were distributed so that the recorded information can then represent all the respondents. The questionnaires then collected were taken under analysis by the quantitative features. Further, the SPSS program was used for coding and analyzing. The key findings have been summarized as follows; (1) the results obtained after comparing the perception of road safety and demographic profiles of international tourists. (2) The obtained results on behaviors of the international tourists in terms of road safety and driving and how it affects the tourists' perspective of road safety in Phuket. (3) The results about the problems and concerns raised by international tourists while they are using the road transport in Phuket. (4) The results must improve on the road safety conditions in Phuket. (5) Recommendations.

5.2 Main findings

5.2.1 Respondent's profile

400 international tourists were involved in the data collection process in the Phuket province. The majority of respondents were male, 53.3 %, aged between 21-40 years old, 48.8 %, and European 30.3 %. They graduated at the diploma level, 32.3%, worked as employees in the company 32.5 %, the majority of them were married 43.5% and single 42.3%. On an average, the respondents' monthly income was 1,501 - 2,500 USD 24.0%

5.2.2 Behavior of international tourist related to road safety and driving

Most of the respondents were not driving (79.8%) but they did use the local Phuket (48.3). They travelled on the roads for less than one hour a day on an average (28.5); most of these travels happened during the time span of 12:01-15:00 PM. (40.3%) Additionally, the majority of respondents said that they had not experienced any road accidents during their stay in Phuket (95.3%). It was also found that most of the respondents were unaware of the road safety information or instructions in Phuket (44.5%).

5.2.3 Overall tourist's perception of road safety.

Most of the international tourists agreed on the use of seatbelts and helmets in Phuket (Mean 4.27) and admitted that using mobile phones or other distractions while driving was not good (Mean 4.28). The international tourists also admitted that knowledge about road safety in Phuket is a must and showed a desire to be informed about it before their arrival in the city (Mean 3.77). This knowledge includes the road traffic laws and regulations in Phuket, for instance having a valid driver's license that allows one to drive in Phuket while also following the traffic laws, rules and regulations in the city (Mean 3.77), followed by other safety regulations such as speed limit enforcement, measuring the speed and distance in the city, and the use of public transport in the city, which is deemed to be safe (Mean 3.57), and traffic condition in Phuket; for instance, the condition of traffic lights and traffic signs (Mean 4.43)

The respondents were neutral about the feelings they had while driving in Phuket, including driving on the left side of the road, safety while travelling on the road and the stress in Phuket's traffic jams (Mean 3.29), followed by the city's road conditions such as adequate lighting,

appropriate land width and safe pavements (Mean 3.19). Also in terms of Phuket's overall road safety (Mean 3.15), the unfamiliarity of Phuket's roads (Mean 3.08), and a general feeling of safety as a passenger, driver or pedestrian on the road (Mean 2.98).

5.2.4 Comparison the perception of international tourists on road safety and the respondent's profile. (Gender, Age, Education, and Monthly Income)

In regards to the gender, the results showed that it had no effect on the tourists' perception in terms of road safety in Phuket.

In regards to the different age groups, the results were evidence of the fact that with an increase in age, the perceived agreement about road safety also agreed. The age group above 60 years of age had significant differences than that from the age groups 21-30 years, 31-40 years, and 51-60 years old. There were three significant dimensions; for instance, the use of seatbelts and helmets(P =.040), road conditions (P =.010), and the feeling of safety as a passenger, driver, or pedestrian on the roads, in Phuket (P =.005).

When it came to education, the results showed that the participants who were undergraduates agreed more about the safety issues on the road than the ones who were diploma holders or were taking higher education; for instance, they asserted how they thought enforcement of speed limit would help avoid the accidents, and measurement of kilometers would be easier for measuring speed and distance and how the use of public transport was the safest (P = .035), they also believed that learning to drive safely before arriving in Phuket was a must and would, in fact, be helpful (P = .044)

The results obtained in terms of the monthly income of the participants showed a pattern where, with the increase in the participants' monthly income, their perception of road safety seemed to increase. There were quite some significant differences in the 3,501-4,500 USD group, as compared to the 501-1,500 USD group, in that their levels of agreement about the condition and maintenance of roads in Phuket, the essential width of lanes and pavement of roads differed (P =.004) On the other hand, the 4,501 USD, as compared to the less than 3,500 USD group, in agreed that the enforcement of speed limit could help decrease the driving accidents and also agreed that measuring the speed and distance in kilometers would be easier and that public transport was the safest in Phuket

(P =.000). And ≥ 4,501 USD, as compared with 1,501-2,500 USD in that they believed the use of mobile phones while driving in Phuket to be unsafe (P =.004).

5.2.5 T-Test comparing between perceptions of international tourists on road safety and behavior related to road safety and driving in Phuket.

The findings revealed that there was huge difference in the perceptions of tourists who drove in Phuket as against the ones who did not, in terms of traffic laws and road safety (understanding of the traffic laws and the importance of having a driver's license when driving in Phuket (F=.010), orientation about road safety in Phuket in terms of it is a must to be informed about how to drive safely in Phuket before arrival (F=.011).

5.3 Discussion

This part discussed the findings of the study and findings are based on the objectives of the study are presented as follow:

Objective 1: Examine the comparing of international tourist's perception and demographic profiles on road safety in Phuket.

In the opinion of Taneerananon (2013), the tourists' perception in terms of road safety in Phuket is not influenced by the experience of the travel, but also by the personality of every traveling individual. The literature from the previous studies of Suriyawongpaisal & Kanchanasut (2013); Nordfjaer et al., (2014) and Eiamtrakun et al., (2015) showed how the personal characteristics or the internal factors related to gender, age, education and monthly income were significant in some respect. Thus, the individuals tend to build their own mental pictures from their own characters and background experiences before going on to create their personal perceptions of the environment around them (Wichasin & Doungphummes (2012).

The study of Suriyawongpaisal & Kanchanasut(2013) emphasized that gender could influence perception. The females looked at driving on unfamiliar roads in a positive light. The males, in contrast, recognized driving in unfamiliar places to be a challenging experience. Rhodes &Pivik (2011) affirmed this by stating that women thought positively and emotionally, whereas men were more aggressive, competing, fun and sought things for the sake of excitement. Wu (2015)

agreed that the gender of the tourists affected their perception. On the other hand, this study found that in terms of the perception of road safety in Phuket, gender difference did not bring about any major changes.

It is apparent that gender did not impact the perception of road safety. This study was congruous to the Social Cognitive Theory (Bandura, 2001) which posited that neither male nor female tourists are concerned about road safety in Phuket towing to personal reasons (feeling, attitude and emotion) This is because road safety is not considered important enough to spending time over during the holiday. As per the theory, most tourists tend to focus more on relaxing, travelling and various other aspects instead of thinking too much about road safety. In addition, road accident appears to be normal phenomenon that unfolds rather frequently.

However, it was found that age does have a significant impact on perception. International tourists who were over the age of 60 were more likely to signify the importance of wearing helmets and seatbelts when driving as compared to those who were 20, 21-30, 31-40, and 51-60 years old. Similarly, Marzuki's story (2012) mentioned people in the age group of 15-40 did not exhibit any major concerns about safety on the road while driving on unfamiliar roads, as unlike their older counterparts. However, it was for this precise reason that most accidents occurred to people between the age group of 15-40.

Education was also known to play an important factor. The group of tourists who were undergraduates was more aware about speed limit enforcement in Phuket and knew that informing drivers about this issue before arriving in the city was indispensable. Those who were diploma holders or were pursuing higher education did not seem to get concerned by safety on the road. This finding was analogous to the revelations of Haworth (2000) who pointed out that the difference in perceptions was predicated on the individuals' educational levels. The research arrived at the consensus that that people with a good education background were more likely to acknowledge this issue and make relevant adjustments.

Another important factor that influenced the road safety perception was income. It was found that the group earning 3,501-4,500 USD acknowledged road safety more than the group that had a lower income. A study conducted by Maneerat (2002) found that the income

bandwidth significantly affected certain types of road safety perceptions. It seemed that people with higher income were more likely agree about the importance of road safety and security. Bandura (2001) mentioned that the feeling of safety in terms of condition and maintenance of well-lit roads in Phuket, the essential width of lanes and pavement of roads helped such tourists feel relaxed. On the other hand, the group earning $\geq$ 4,501 USD was more concerned about the enforcement of speed limit in Phuket, in terms of the locals' driving, use of public transport and use of mobile phones while driving in the city.

It could be stated that the income of tourists is a clear indicator of their perception about road safety in Phuket, given the fact that high-income individuals will seek good places without worrying about price and other factors. Yannis (2007) and Yao & Wu (2012) said in their studies that with regard to safety, those with high income are likely to have greater awareness on this as compared to other issues. This study concluded that most people tend to prefer taxi and are willing to pay for the service rather than driving around Phuket since it can reduce the stress arising due to accidents.

Objective 2: investigate the international tourists' behaviors in terms of road safety and driving affecting tourist's perception of road safety in Phuket.

This research aims at identifying the significance of the relationship between international tourist behaviors in terms of road safety and driving, which may affect the tourists' perception.

Like the other reviews about tourist behaviors (Eiamtrakul et al., 2015), it is confirmed that the behaviors of tourists in terms of driving are strongly related to the tourists' perception. It depicted that most of the international tourists in Phuket, although not driving, were in agreement about the road traffic laws and regulations such as using helmet while riding bikes in Phuket. It was identified that they had realized the dangers of riding a motorbike without wearing a helmet (Sota et al., 2011; Marzuki, 2012; The Phuket Provincial Public Health office, 2011). Moreover, they also agreed that it was necessary to wear seatbelts for both the passengers and the drivers.

It was also demonstrated in this study that tourists who decide not to drive have a greater sense of awareness than those who do drive within Phuket, owing to the fact that people who do not drive are bothered with the challenges associated with driving in an unfamiliar environment and under different traffic rules)Wu, 2015). According to the study of Rhodes &Pivik(2011), tourists feel more comfortable and relaxed as passengers and are impressed by the scenery when travelling, which is not the same as driving on their own. International tend to have this attitude since the tourists who drive in Phuket are confident about their environment and are less concerned about road on safety.

Objective 3: To identify the concerns and problems of international tourists while travelling on the road in Phuket.

In terms of the average road accidents in Phuket, international tourists can face such incidents generally three days after their arrival in the city as motorcyclists, cyclists or users of public transport (Suriyawongpaisal&Kanchanasut, 2013). International tourists are very concerned about the reckless driving of the local people as it endangers the pedestrians in the city area.

Secondly,international tourists also mentioned about the traffic regulations in Phuket like the use of helmets, seatbelts and the possession of a valid driver's license. International tourists also seemed to be concerned about the conditions of the roads in that they were too narrow, the footpaths needed improvements, the traffic lights needed to be better and more in number and the road traffic signs needed to be easier for understanding. Lastly, it was also deemed important that the road safety information in Phuket is improved so that the international tourists can understand the local laws and traffic culture before commuting on the roads of Phuket.

Objective 4: To suggest how Phuket should improve the road safety in the future.

Most of the international tourists suggested the 14 main issues in accordance to road safety in Phuket to make improvements in the future.

1. Enforcement of regulations, laws and penalty on the roads of Phuket.
2. Safe zebra crossings and proper footpaths for the pedestrians in Phuket.
3. Keeping a control over the speed by introducing more speed bumps and police checkpoints in Phuket.

4. Introduction of an enforcement campaign that underlines the importance of seatbelt and helmets in Phuket.

5. Ensuring lanes are used properly in Phuket by using the lane support system or creating wider lanes.

6. Improving road conditions to tackle traffic jams in Phuket.

7. Program for tourists that gives safety tips and information and guides tourists in Phuket.

8. Controlling the conditions of traffic lights in Phuket.

9. Enforcing strict prohibition of mobile phones while driving in Phuket.

10. Mandatory possession of driving license for all road users in Phuket

11. Traffic signs must be written in English in Phuket.

12. Increasing the number of street lights in Phuket.

13. The roads in Phuket are in a bad condition and they need to be fixed.

14. There is a need for more public transportation in Phuket.

5.4 Recommendation

1. According to the study, it was evident that the tourists aged over 60 will become aware of road safety the most. Therefore, the relating unit such as the Phuket organizations should provide facilities in order to elevate the standard of road safety by enlarging signs and symbols for easy reading and being strict to the traffic rules more, for example, driving speed, wearing a helmet, and wearing a seatbelt.

2. The tourists who do not drive in Phuket mostly have the awareness and see the importance of road safety. In contrast, the tourists who drive will regard this topic less important or do not give priority to road safety in Phuket. Nonetheless, the Ministry of Tourism and Sport and other Phuket Organizations should do the campaign and increase the measure to enforce the tourists who prefer to drive in the province, for example, giving advice or information about driving in Phuket through brochure or leaflet to them before delivering the vehicle.

3. The officers that in charge in Phuket must be strict with the motorcycles or car rentals. Only the ones with driving licenses must be allowed to rent, and the use of helmet must be emphasized. This must be done because some entrepreneurs are likely to disregard the safety management in that they may not inspect the motorcyclist's driving licenses and may not emphasize the use of helmets.

5.5 Limitation of the study and suggestion for further research

1. The respondents were Europeans, Austrians, Canadians, Americans, and Asians, but not include Chinese, which the main group arrived in Phuket. Thus, it might lead to biased results. Therefore, the further research should examine this target group in order to represent all the subgroups equally and more accurate result.

2. This data provides data only about the international tourists in Phuket. It does not consider the general tourists arriving in Phuket as they can also be domestic Thai tourists. Thus, further research can be conducted by collecting data from both the target groups to have a broadened understanding of the subject.

3. Since the questionnaire was long, some could not participate in the survey due to time constraints.

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Appendix A

QUESTIONNAIRE

Dear Respondents,

Thank you very much for your participation and assistance in taking part in this survey. The study is conducted as part of a MBA thesis on “Perception of international tourists on road safety in Phuket” by Miss Sudarat Kamnerdtong, a student at Prince of Songkla University, Phuket Campus, Thailand. Please answer the following questions. There are no ‘right’ or ‘wrong’ answer and no trick questions. If you find some of the questions difficult, please ask the researcher.

The information given in this study will be treated confidentially and your information will not be used in any commercial way.

The questionnaire is divided into 3 sections.

Section 1: Tourist’s perception related to road safety in Phuket

Section 2: Behavior related to road safety and driving

Section 3: Respondent’s demographic profile

Part 1 .Tourist's perception that affects road safety in Phuket

Instruction: Please check(/) in the box that best matches your perception or experience level regarding to road safety in Phuket. Select one field per line only.

5 = strongly agree, 4 = Agree, 3 = Average, 2 = Disagree, 1 = Strongly Disagree

Tourist's perception	level of perception				
	Strongly Agree 5	**Agree 4**	**Average 3**	**Disagree 2**	**Strongly Disagree 1**
I understand the traffic laws and regulations in Phuket.					
It is mandatory to have a valid driver license when driving in Phuket.					
Using seat belts is important for drivers and passengers in Phuket.					
It is necessary to wear a helmet when using a motorcycle and/ or scooter in Phuket.					
Condition and maintenance of roads in Phuket are generally good.					
Lane widths are appropriate in Phuket					
Paved shoulders are safe for road users in Phuket.					
There is adequate lighting on Phuket's roads.					
Traffic lights in Phuket are in good condition.					

	level of perception				
Tourist's perception	**Strongly Agree 5**	**Agree 4**	**Average 3**	**Disagree 2**	**Strongly Disagree 1**
Road traffic signs are easy to understand in Phuket.					
It is easy to use the measure of kilometer for the distance and speed in Phuket road.					
Enforcing the speed limit helps lower the number of driving accidents in Phuket.					
Using public transportation services are safe in Phuket.					
Local people drive carefully in Phuket.					
I feel safe to travel on the road in Phuket.					
I do not feel stressed in traffic jams of Phuket.					
I do not feel confused about driving on the left side of the road in Phuket.					
It is a must, to learning how to drive safely in Phuket before arrival.					
It is not dangerous to travel on the roads ofPhuket for the first time.					
It is easy to get use to unfamiliar vehicle in Phuket.					

Tourist's perception	level of perception				
	Strongly Agree 5	**Agree 4**	**Average 3**	**Disagree 2**	**Strongly Disagree 1**
It is easy to get use to unfamiliar vehicle in Phuket.					
It is not good to use mobile phone while driving in Phuket.					
As a driver, I feel safe using roads in Phuket.					
As a pedestrian, I feel safe using roads in Phuket.					
As a passenger, I feel safe using roads in Phuket.					
Overall, my road experience in Phuket is satisfactory.					

Section 2: Behavior related to road safety and driving

Instruction: Please write down or check / in ( ) which corresponds to your answer.

1). Do you drive in Phuket?

( ) No

( ) Yes , What kind of vehicle? ……..……..……..……

2). How do you get around in Phuket?

( ) By driving ( ) By taxi ( ) By Cycling

( ) By bus ( )Other (Please specify)……

3). What type of vehicle did you use most while travelling in Phuket?

( ) Taxi Meter ( ) Local Taxi

( )Local Bus ( ) Bicycle

( ) Coach ( ) Rental Car

( )Rental motorbike ( ) Other (Please specify)…….

4). How much time did you spend on the roads of Phuket in each days?

( ) Less than 1 hour ( ) 1 hours

( ) 2 hours ( ) 3 hours

( ) More than 3 hours ( )Other (Please specify)…….

5). At what time did you travel the most on the roads in Phuket?

( )06:00 – 09:00 AM. ( )09:01 - 12:00 AM.

( ) 12:01 - 15:00 PM. ( )15:01 - 18:00 PM.

( )18:01 - 21:00 PM. ( ) 21:01 – 24:00 PM.

( ) Other (Please specify)……

6). Did you have any road accident during your stay in Phuket?

( ) No

( ) Yes, What is the accident? ……..……..……..…….

7).During you travel in Phuket, where did you find about road safety information?

(Multiple answers are allowed)

( ) Travel Magazine ( ) Newspaper / Local Newspaper

( ) Television/ Radio ( ) Travel Agent

( ) Tour company brochures ( ) Friends / Relatives

( ) Travel Guidebook ( ) Billboard/ Advertisements

( ) Internet ( ) Other (Please specify)……

8). How did you find out about road safety problems in Phuket?

……

……

……

9). How would you recommendation about road safety in Phuket, as a tourist attraction.

……

……

Part 3 Respondent's demographic profile

Instruction: Please check(/) the respective box before the word or sentence, which is true for you.

1). Gender

( ) Male ( ) Female

2). Age

( ) 20 years or younger ( ) 21-30 years ( ) 31-40 years

( ) 41-50 years ( ) 51-60 years ( ) Older than 60 years

3). Nationality

( ) Asia (Please specify) ……..

( ) Europe (Please specify) …….

( ) Australia (Please specify) ……...

( ) North America (Please specify) ……

( ) South America (Please specify) ……

( ) Africa (Please specify) ……

4). Status

( ) Single ( ) Married ( ) Separated

( ) Divorced ( ) Other (Please specify) …….

5). Education level

( ) Primary school ( ) High school ( ) Diploma

( ) Undergraduate ( ) Graduate or higher ( ) No education

( ) Other (Please specify) ……

6). Occupation

( ) Student ( ) Employee

( ) Housewife/unpaid family worker ( ) Business man / women

( ) Government and Military Personal ( ) Professionals

( ) Salesman ( ) Agriculture workers

( ) Retired ( ) Unemployed

( ) Other (Please specify) ……

7). Income / month

( ) 500 USD or less than ( ) 501-1,500 USD

( ) 1,501-2,500 USD ( ) 2,501-3,500 USD

( ) 3,501-4,500 USD ( ) Over 4,501 USD

8). Would you recommend your friends or relatives to travel in Phuket in the future?

( ) Yes, (Please give the reason)……...

( ) No, (Please give the reason)……

Thank you for your cooperation

VITAE

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Student ID: 5630120020

Education Attainment

Degree	Name of Institution	Year of Graduation
Bachelor of Business Administration	Prince of Songkla University	2010

Work - Position and Address:

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List of Publication and Proceedings

Sudarat Kamnerdtong (2018) Perception of International Tourist on Road Safety in Phuket. Journal of International Studies, Prince of Songkla University.