**TOKYO METROPOLITAN UNIVERSITY**

# UNDERSTANDING THE INFLUENCE OF DRIVING SATISFACTION ON TOURISM ACTIVITIES AND OVERALL SATISFACTION: THE CASE OF DESARU JOHOR MALAYSIA

**A DOCTORAL DISSERTATION SUBMITTED**
**TO**
**THE GRADUATE SCHOOL OF URBAN ENVIRONMENTAL SCIENCES**
**IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE DEGREE OF DOCTOR OF TOURISM SCIENCE**

DEPARTMENT OF TOURISM SCIENCE

BY
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SEPTEMBER, 2016

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## ACKNOWLEDGEMENT

Without the blessing and grace of Allah S.W.T nothing that we attempt will ever be realized. With sincere appreciation I would like to share my gratefulness to all individuals and group of people that have been very helpful since the beginning of my study.

Firstly, I would like to express deepest gratitude to my supervisor, Professor Tetsuo Shimizu for the valuable guidance and advice with significant ideas and suggestions until the end of this study. Without his guidance, much of the important information in this research would be rumpled. I am also very grateful to my dissertation reading committee Assoc. Prof. Taketo Naoi, Prof. Susumu Kawahara and Assoc. Prof. Yu Okamura for their useful comments and advices on my research and my future research and teaching works.

I gratefully acknowledge Tokyo Metropolitan Government and Tokyo Metropolitan University for providing me the Asian Human Resources Fund (AHRF) scholarship throughout the duration of my doctoral studies.

To the respondents, enumerators, and government officials, thank you for your kind assistance and cooperation. My sincere appreciation also extends to my culture and nature based tourism colleagues, and others who have provided assistance at various occasions. The sweet friendship, view and tips indeed are valuable.

Lastly, to my beloved family members and my husband, thank you very much for your understanding, kindness and support. I would like to wish everyone happy always.

## ABSTRACT

### Motivation and objectives of the research

Transport is one of the essential elements of tourism that takes tourist to the destination and providing methods of moving around within the destination area. Destination and overall tourist satisfaction has been a topic of significant researches in tourism field. A lot of previous studies examining the relationship between destination characteristics and then further investigated the connection of destination satisfaction to the destination revisit intention, destination loyalty, and other tourism metrics. On the other side, previous studies in scenic tourism shows that many researches have more interest in understanding the profile of the tourists and their travel motivation. However, these studies targeted only motor touring tourists and assessed tourist satisfaction to the specific scenic routes and facilities. Previous studies understand tourist overall satisfaction, however, these studies neglected to understand the influenced of driving for self-drive tourists especially the drivers that drive to the destination to the tourism activities and overall satisfaction.

It was frequently observed that private car share in the destination among domestic traveler in Malaysia is almost eighty percent during weekends and holidays. Severe congestion in the access and egress part to major tourism destinations will lead to delay in arrivals. Such bad driving experiences predicted to have an effects to the tourist activities or overall satisfaction. Therefore, the objectives of this study are, 1) to identify the important driving satisfaction factors in highway, en route to/from the destination and within the destination road segments, 2) to examine the effects of driving satisfaction to the tourism activities and overall satisfaction and to understand the driver behaviors and satisfaction toward the proposed model and 3) to propose a policy or strategies for roadway facilities and service improvement in Malaysia.

**Research methodology**

Two questionnaire surveys were conducted among Malaysian self-driving tourists. The first survey was conducted through online survey to the various government and private institutions, aiming to find the factors that are important for driving satisfaction to be included in the second survey. The survey was conducted in January 2015 and one hundred and three participants answered the survey sheet. The questionnaire outlined multi-component driving satisfaction such as speed, driving comfort, road safety infrastructure, low travel cost and beautiful natural surroundings. Chi square analysis was used to analyze 23 factors related to driving satisfaction among the three types of road segment: 'on the highway', 'en route to/from the destination' and 'within the destination'. Then Mann-Whitney test conducted to understand the differences among the group of demographic profiles, car ownership and driving experiences, attitudes toward car and driving preferences.

The present finding outlines seven important driving satisfaction factors in highway and eight factors in the destination road segment to be further examined in second survey. The result revealed that these factors: - *less traffic volume, less number of stop at intersection* and *driving at preferred speed* (speed factor), *experiencing beautiful natural and townscape along the route* (beautiful natural and surrounding factor), *quality of road surface* and *a good road design for safety* (road safety infrastructure factor), *a well-developed route network* and *good technical support during unforeseen situation* and *good traveler information services* (driving comfort factor), *availability of parking space* and *comfortable rest area and related services along the routes* (roadside facilities factor) are most striking driving factors to be observed for Desaru self-drive tourists.

## Case study

The second survey conducted at Desaru beach area, Johor, Malaysia from July to August 2015. The aim of this survey is to evaluate the relationship between driving satisfaction and tourism activities and overall tourist satisfaction in Desaru, one of tourism destination in Malaysia. Convenient sampling was used to select four hundreds qualified self-drive to answer the questionnaire survey. The target respondents mainly for the self-drive tourists that driving a car in the majority of road segments and also performed tourism activities. The questionnaire design in this survey was divided into four sections, the respondents' attitudes toward car and driving preferences, the driving satisfaction on highway and within the destination, the tourism activities satisfaction and the demographic background. A Structural Equation Model (SEM) was used to analyze the study hypotheses/ the relationship between driving satisfaction (on highways and within the destination road segment), tourism activities satisfaction, and overall satisfaction. This main target in this model is to examine the direct or indirect relationship of driving satisfaction to tourism activities and overall satisfaction.

## Findings

The hypothesized model was assessed with the structural equation model, and exhibited a good fit; based on the chi-squared statistics = 266.602, with 119 degrees of freedom, it displayed a statistically significant level of 0.00.and had RMSEA= 0.60, AGFI= .880, GFI= 0.92, PNFI= 0.69, CFI= 0.93, TLI= 0.91, and NFI= 0.88. The standardize coefficients were used to determine the relationship existed among the construct and all the hypotheses. It was found that the overall driving satisfaction in highway and the destination road segments does not significantly influence overall tourist satisfaction in Desaru. The finding reflected consistent result from previous studies which indicated that for the short distance trip, traveler usually have neutral to positive driving behaviors. In addition,

interesting result demonstrated that the highway overall satisfaction has significant influence to the tourism activities satisfaction. Rating on a *good road design for safety* have the greatest influenced for Senai Desaru Expressway overall satisfaction ($\beta$ = 0.88). Moreover, the aspect of *quality of road surface* ($\beta$ =0.80) and *a good technical support during unforeseen situatio*n ($\beta$ =0.79) are both significant and positively related to driving satisfaction. It can be concluded that the greater the safety infrastructure on highway lead to the greater significant for highway overall satisfaction (HOS) in the case of Senai Desaru Expressway. However, in contrast the overall driving satisfaction (DOS) within the destination is not significantly effect to the tourism activities. However, the driving factors (*driving at preferred speed* ($\beta$ =0.73), *a good technical support during unforeseen situation* ($\beta$ =0.62), and *well developed road network* ($\beta$ =0.65) in this road segment shows significant positive relationship to the overall in the destination driving satisfaction. This indicated that self-drive tourists are demanded to experience good road infrastructure within the destination which expected to enhance the driving speed. Total effects of HOS ($\beta$ = 167) go on tourism activities is statistically significant at ($P$ = 0.008) but the total effect to overall satisfaction ($\beta$ = -0.34) was not statistical significant ($P$ = 0.40).

The differences in SEM-path model satisfaction was then examined to a given set of driver behaviors (attitudes towards cars and driving preferences). Overall, it was found that drivers are significantly different in satisfaction at each path model. A *good road safety design (path H4)* was critical driving satisfaction factor for tourism trips on highway for all drivers. Risky group of driver have larger driving satisfaction factors in order to achieve the driving satisfaction as well as tourism activities and overall satisfaction. Moreover, drivers that has less important attitude on *car means independence* and *bad for environment* have positive effect between driving on highway and satisfaction with tourism activities. Only drivers that feel *green energy* is important in their driving has negative effect between highway driving satisfaction and tourism activities. Drivers that have important feeling on driving is *bad for environment*, and *adventurous seeking* have negative

effect between driving on destination and satisfaction to the tourism activities. Those drivers feel important in *listening music while driving* have positive effect between driving on destination and satisfaction to the tourism activities.

**Suggestions for policy improvements**

This study found that the existing transport tourism related policies indicated that the national government highly focus on the congestion or speed related management. Therefore, based on findings this study suggested that the national government should also highlighted the road safety infrastructure management in some conditions in order to improve the domestic tourism. Moreover, the differences in drivers background profiles, attitudes toward car and driving preferences also important input in further develop transport tourism related policies.

This study makes noteworthy contribution in enhancing our understanding of the driving satisfaction factors that important to increase that increase drivers driving satisfaction for the tourism trips. Speed, beautiful natural and surrounding, road safety infrastructure, driving comfort, and roadside facilities factors was emerged from the first survey as an important factor to be further investigated. This study understand that overall driving satisfaction on highway have significant effects to the tourism activities satisfaction compare to the overall tourist satisfaction. Generally, safety aspect of *good road safety design (path H4)* was critical factor for tourism trips especially on highway road segments to all drivers' behaviours. Moreover, this study found that risky group of driver have larger driving satisfaction factors in order to achieve satisfaction. Current focus on existing transport tourism related policies highly targeted to reduce the congestion or speed related management. Therefore, consistent with study findings, it should be more proposal on the road safety infrastructure management in some destination in order to improve the tourism activities and overall tourist satisfaction by the Malaysia national government.

The results presented in this study may facilitate the improvements in the transportation and tourism planning. In the future, further investigations into different tourism destinations and travel distances are needed to enhance on understanding of overall driving satisfaction to tourism activities and overall satisfaction.

**Keywords:** ***driving satisfaction, self-drive tourist, tourism activities satisfaction and overall satisfaction***

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## LIST OF ABBREVIATIONS

| | | |
|---|---|---|
| HOS | - | Highway overall satisfaction |
| DOS | - | Destination overall satisfaction |
| OVS | - | Overall satisfaction |
| TA | - | Tourism activities satisfaction |
| SDE | - | Senai Desaru Expressway |

## LIST OF SYMBOLS

| | | |
|---|---|---|
| $\hat{p}$ | - | The sample proportion |
| $x$ | - | The characteristics of interest |
| $n$ | - | Sample size |
| $\alpha$ | - | Type I error, significant level |
| $\beta$ | - | Type II error |
| $P$ | - | The population proportion |
| $H_0$ | - | The null hypothesis |
| $H_I$ | - | The alternative hypothesis |
| $z$ | - | The normal test statistic |

# LIST OF APPENDICES

# CHAPTER 1

# INTRODUCTION TO RESEARCH

## 1.1 Background

According to a recent World Bank report, as of 2011, Malaysia had the highest level of car ownership in Southeast Asia, with 341 cars per 1000 people (figure 1.1 and 1.2). The same report also showed that there are, on average, about 70 vehicles per kilometer of road (World Bank, 2015). Furthermore, reports from national planning agencies consistently show the necessity of private car usage in daily activities throughout Malaysia were at the ratio of 70 to 30 percent of private car usage compare to other mode of transport (JPBD, 2010). Despite previous evidence of private car usage in national planning, the Iskandar Regional Development Authority (IRDA) reported that nearly 80% of domestic tourists travelled by car to the tourism destinations (figure 1.3). This situation is consistent with (Denstadli & Jacobsen, 2011), (Prideaux and Calson, 2011) which stressed that the use of a private car for holiday travel is a common choice due to convenience factor.

Since car usage is common for all travel purposes in Malaysia, therefore during the tourism peak period, most of the drivers experienced to be involved in traffic congestion, time consuming for using parking lots and service area, longer que to reach the toll gate and also delay in arrival to the destinations. These occurrences not only hinder the total journey but expected may cause the self-driving tourist frustration, fatigue or dissatisfaction while driving to the tourist destinations or to do tourism activities.

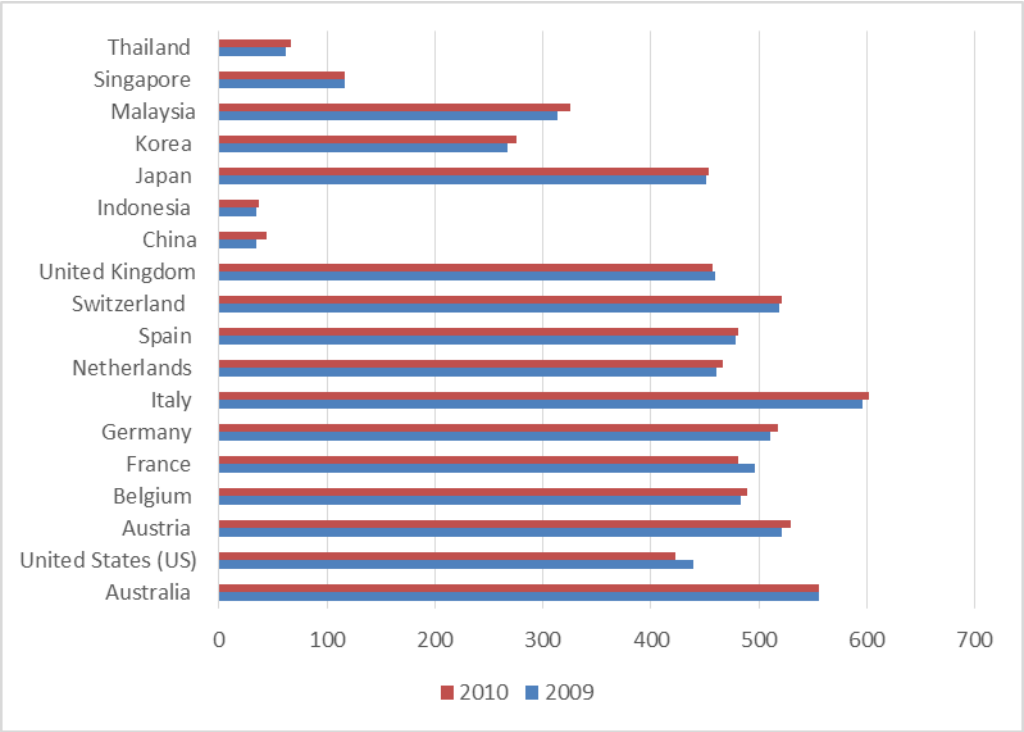



**Figure 1.1**: Passenger car per 1000 people in 2009 and 2010

Source: World Bank, 2015

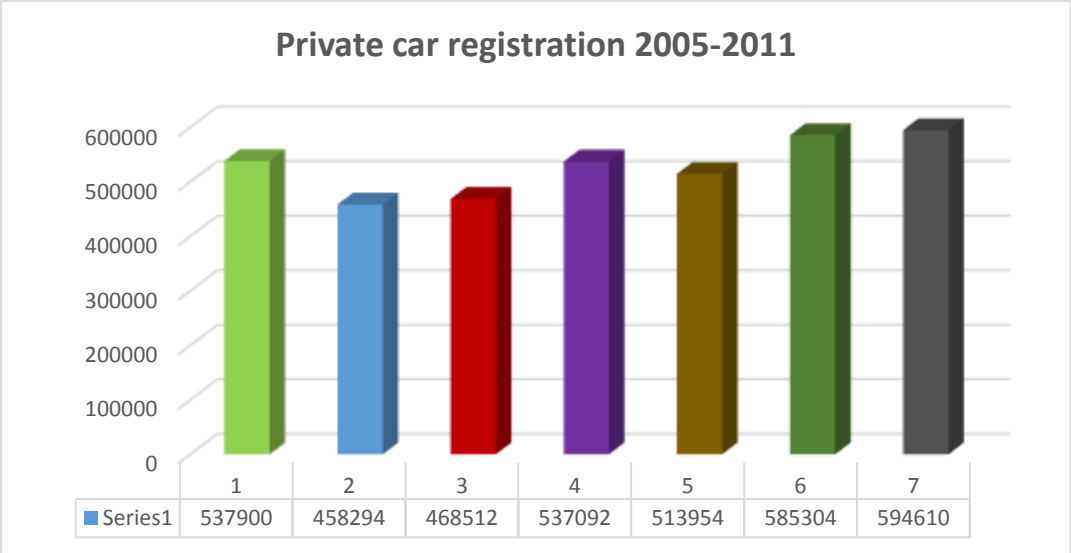



**Figure 1.2**: Private car registration in Malaysia from 2005 to 2011

Source: Road Transport Department Malaysia, 2014

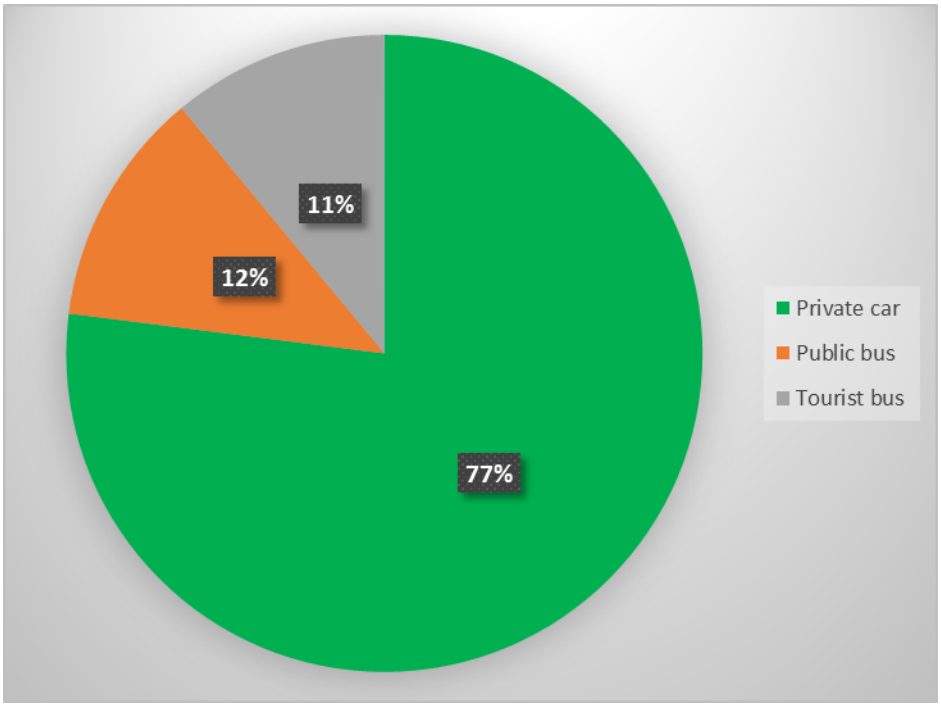



**Figure 1.3**: Domestic tourist transportation mode to the destination

Source: IRDA, 2009

Moreover, the arrival of domestic tourist by private car to the destination is expected to growth annually. This trends consistent with the growth in car ownership in Malaysia. Therefore, to reduce the impact of the above mentions situation, the attention to improve the level of service on the access and egress route network has been recognized by the national government in the review policy document titled "Strategic Review of Malaysia's Tourism Industry Policy and Implementation" (SRMTIPI) (Ministry of Tourism Malaysia, 2013). This document shows that the government have an interest to improve the self-driving journey for the new tourism destinations by given more focus to the road infrastructure improvement. However, this study found that the document lacks to include more aspect of drivers' preferences while driving for tourism trips.

Therefore the aim of this study was to incorporate and examine driving satisfaction, both on the highway and within the destination in evaluating of overall tourist satisfaction. This paper contributes to our understanding of overall tourist satisfaction by providing insights into how drivers are likely to vary with regard to

highway and destination driving experiences, and how these differences will affect tourist activities and levels of overall satisfaction. The findings of this study will help not only to increase overall tourist satisfaction in getting to and from tourist destinations but will also suggest guidelines for suitable policies and tourism development plans relating to road infrastructure design and relevant improvement along routes to tourist destinations.

## 1.2 Problem Statement

A large number of tourism studies have been conducted in order to examine the impact of various characteristics of tourism destinations on overall tourist satisfaction or dissatisfaction (Chi and Qu 2008; De Rojas and Caman 2008; Kozak and Rimmington 2000). These studies showed that overall tourist satisfaction is strongly related to elements such as accommodation, food and restaurants, attractions, weather, natural environment, transportation, and shopping facilities. Furthermore, Chi and Qu (2008) showed that high levels of tourist satisfaction can have a positive impact on destination loyalty (i.e., intent to revisit). However, few studies have examined the effects of specific tourist travel mode experiences on overall satisfaction. The aforementioned studies fail to evaluate basic travel satisfaction as proposed by Clawson and Knetsch (1971), which takes into account pre-trip, en-route, in-destination and return trip experiences for travellers.

On the other hand, studies focusing on scenic tourism routes have investigated tourist satisfaction in the travel phrases mentioned above. Del Bosque & Martín (2008); Assaker et al. (2011); Hardy (2003); Denstadli & Jacobsen (2011); and Taylor & Prideaux (2008) examined self-drive tourist driving satisfaction regarding the aspects of tourism novelty seeking, theme tourism and drive tourism. Denstadli & Jacobsen (2011) found that driver satisfaction with scenic routes is highly influenced by driving motivation and the quality of roadside facilities. This study also found that the roadside facilities also contribute to destination loyalty. This finding is consistent with Hardy (2003), who revealed that, in the context of driving satisfaction and touring routes, relevant tourism route developments and higher quality of driving performance factors are likely to increase intention to revisit

and the recruitment of new tourists to the destination. Although Hardy (2003) stresses the contribution of driving quality and revisit intention, driving satisfaction among different travel phrases is ignored. Similarly, the above studies focusing on overall tourist satisfaction focused only upon specific tourism routes and related tourism destination factors.

However, reliable evidence has also been found to indicate that self-drivers' satisfaction differs before the trip compared to during the trip (Ettema et al., 2013). This study assessed the effects of road conditions on driver satisfaction using the travel satisfaction scale. The results of this study indicated that the satisfaction travel scale was influenced by traffic safety, annoyance with other road users, fatigue, distraction by billboards, and lack of speed and freedom over lane choice. These findings are consistent with those of Flannery et al. (2006), who suggested that comprehensive assessment of roadway level-of-service (LOS) should include drivers' expectations, road operational condition, population density, pavement quality and landscape quality factors that correlate well with customer satisfaction.

Thus far, the method for measuring the roadway performance is based only on the LOS performance of the roadway itself. Furthermore, several studies have attempted to address the limitations of conventional LOS assessment by taking the driver's perspective into account (Hussain et al., 2014). For example, Sakai et al. (2011) produced LOS metrics consistent with drivers' subjective evaluations. However, this study analysed customer satisfaction in terms of drivers' perceptions only with respect to specific traffic flow segments and the number of highway lanes. In addition, the study evaluated a limited set of metrics, including speed, freedom in driving, traffic interference, amenities and convenience. Interestingly, the results showed major differences between the new LOS model evaluation and that of the Highway Capacity Manual (HCM 2000) for the selected road section.

Many interesting findings on the factors contributing to overall tourist satisfaction and driver satisfaction have been reported by Ettema et al. (2013); Denstadli & Jacobsen (2011); and Hardy (2003). However, most studies do not comprehensively examine the effects of driving conditions on tourist satisfaction. For example, previous studies have shown that self-drive tourists are affected by

roadway conditions. However, no study has evaluated the influence of road infrastructure, transport facilities design, traffic operation, scenic highway environments, and tourism destination characteristics upon overall satisfaction. Therefore this study aims:

**To understand the effect of driving satisfaction to the tourism activities and tourist overall satisfaction.**

The finding of this study then later will be helped to improve the existing country's tourism and transportation related policies.

## 1.3 Research Objectives

The objectives of this research are:

1. To understand the driving satisfaction factors that important to increase the self-drive tourist driving satisfaction in the highway, link to the destination and within the destination.

2. To examine the effects of driving satisfaction to the tourism activities satisfaction and overall tourist satisfaction in the study area by using structural equation modelling.

3. To understand the differences between the drivers behaviors and satisfaction toward the path model.

4. To propose a policy or strategies improvement in the existing policy plan.

## 1.4 Research Questions

To achieve the above aims and objectives, this study ought to answer the following questions:

1. What are the factors that are important to increase drivers' driving satisfaction?

2. What is the effect of driving satisfaction to the tourism activities satisfaction and the overall tourist satisfaction in study area?

3. What is the effect of overall satisfaction path model to different group of drivers?

4. How the study results can be adopted for suggestion in policy improvement?

## 1.5 Thesis Organization

This thesis has been organized as follows:

Chapter 2 contains a comprehensive literature review of related researches. Firstly, studies that related to the overall tourist satisfaction and driving satisfaction was investigated in order to construct the study hypotheses and to proposed study method. Then, the proposed study framework was subtracted after understand the interrelationship among the subjects.

Chapter 3 provides an overview of first survey. Firstly this topic explained the framework of the first study objectives, then followed by the method and determination of the most important driving satisfaction factors to be included in the second survey.

Chapter 4 explains the background of second survey. This chapter describes on study area, questionnaire design, sampling method and technique. The respondents demographic and travel characteristics were explained in percentages to show the information on the variables.

Chapter 5 revealed the results on SEM path analysis. This chapter introduce the model and shows summary factor loading results and hypotheses test. Moreover, drivers attitudes toward car and driving preferences also checked to the SEM model in further understand the differences among two groups of drivers.

Chapter 6 encompasses the overall study conclusions, the contribution of the study on the policies improvements and limitations in this study for future research.

# CHAPTER 2

# DRIVING AND TOURISM ACTIVITIES SATISFACTION

This chapter present the reviewed of the main studies that applied in evaluating tourist overall satisfaction. In addition, this chapter also outline the study variables and hypotheses deducted.

## 2.1 Tourism activities satisfaction

The aim of this study is to evaluate tourist overall satisfaction. Previous studies in tourist overall satisfaction widely recognized that various destination activities and experience elements, including accommodation, food and restaurants, attractions, weather, natural environment, transportation, and shopping facilities, among others, affect tourist's overall satisfaction or dissatisfaction (Chi & Qu, 2008; Kozak, 2002; Kozak, 2001; and Kozak & Rimmington, 2000;Ragavan et al. 2014). In these studies, transportation was highlighted as one of the important attributes to the overall tourist satisfaction.

Transportation attributes was measured in the aspect of availability and performance of public transportation. However, the effects of public transportation performance towards road conditions and experiences was less emphasize in previous studies. Moreover, tourists that use public transportation in the destination less effected with road conditions and performance compare to those who drive to or within the destination. Previous tourism studies failed to include road conditions experiences in transportation attributes in evaluating overall tourist satisfaction. Therefore, this study would like to evaluate the tourist overall satisfaction in the combination of destination activities and road condition experiences satisfaction by focusing to the self –driving tourists.

## 2.2 Tourism and travel mode

Transport is important part of tourism. Transport normally the element of tourism that takes tourist to the destination, linking the generating region to the destination area and providing methods of moving around within the destination area.

In the tourism trips, the travel to the destination is mean getting from "A to B" and there are often differ form of transport modes involved of number of ways such as coaches, trains, planes and self-drive vehicle. Self-drive vehicles differs in term as its more independent, flexible and dispersed (less directly engaged within tourism transport industry).

Transportation or road research usually based on the assumption that the goal of the road user is to reach the destination safely in order to undertake activities at the destination. However, Prideaux & Carson (2011), found that the self-drive tourists' trips is based on the perceived values of experiences which include the combination of speed, cost, convenience, novelty, distance and destination. Moreover, the nature of the self-drive tourism trips impact to the destination differently and associated with users of particular regions, demographics, history, culture and infrastructure. Compare to other countries, self-drive tourism in Malaysia often associated with privately owned vehicles travelled for tourism purposes.

The effects of self-driving tourists in Malaysia have gained attention with the regard to the driving speed and convenience in the access or egress part to the tourism destination by the national government in major road infrastructure development. However, it was found that the existing infrastructure or policy plan less highlighted to the aspect of driving experiences toward travel cost, driving comfort and convenience, road infrastructure needs, novelty seeking, travel distance and destination attractions connectivity. Therefore, this study explores the effect between the driving experiences toward those aspects in understanding the driving satisfaction, activities satisfaction and overall satisfaction.

## 2.3 Self-drive and driving satisfaction

Driving activities are essential for tourism because it shows the ability for tourists to move between the generating and destinations region, as well as to move around (Saenz-de-Miera & Rossello, 2012). Moreover, Guiver et al. (2008), said that the utility of the tourism journey may only be undertaken occasionally or only once compare to a daily journey which commonly have one specific location, time and can be repeated on a daily or weekly basis. Compare to the journeys to work, tourism journey usually involved with many number of possible destinations and can be decided in spontaneous time. Therefore, the interest in understanding traveler driving experiences and assessment to the satisfaction particularly in tourism destinations has been given more focused in scenic routes and recreational vehicle topic.

Denstadli & Jacobsen, (2011); and Hardy, (2003) have evaluated driving and overall satisfaction. These studies primarily focused on the tourism destination routes. Denstadli & Jacobsen (2011) found that self-driving tourists' satisfaction with scenic routes is highly influenced by the driving motivation factors and the provision of roadside facilities. This finding is consistent with Hardy (2003) and which revealed that, in the context of tourist routes, relevant route developments and higher quality driving experiences are likely to increase self-driving tourists' satisfaction.

These studies successfully showed the relationship between road conditions and overall self-drive tourist satisfaction. Denstadli & Jacobsen (2011), measured attribute satisfaction based on self-drive tourist experiences on landscapes and attractions, outdoor recreation, off the beaten track, suitable road and a variations of travel experiences. This study magnified route facilities and the quality of those facilities along the route. Toilets, rest areas, trails and visual experience (quickest route, beautiful view, interesting landscape and natural attractions) were significantly important in the case of scenic highway.

In the case of normal highway, Ettema et al., (2013) showed road conditions influenced to car drivers' satisfaction. The drivers in this study indicated their subjective evaluation of specific points of the roads to the following road conditions such as crowded, unsafe, limited speed, annoyed by other drivers, insulted by other

drivers, problems finding way, distracted by billboards and their trip is tiring while driving in four highway of Netherlands. This study evaluated drivers subjective well-being (SWB) using satisfaction with travel scale (STS) method. The results showed that the recreational trip purposes have positively and higher score for SWB.

Ettema et al., (2013), shows reliable evidence indicated that drivers' satisfaction differs before the trip compared to during the trip. The output of this study is consistent with Flannery et al. (2006), who suggested that comprehensive assessment of roadway level-of-service (LOS) should include a combination of drivers' expectations, road operational condition, population density, road pavement and landscape quality factors that correlated well with customer satisfaction. Thus far, the method for measuring the roadway performance is based only on the LOS performance of the roadway itself. Furthermore, several studies have attempted to address the limitations of conventional LOS assessment by taking the driver's perspective into account (Hussain et al., 2014).

An example, Sakai et al. (2011) produced new LOS metrics by including drivers' subjective evaluations while driving. This study included customer satisfaction in terms of drivers' perceptions with respect to the specific traffic flow segments and the number of highway lanes as an additional factors to the existing LOS metrics (speed, freedom in driving, traffic interference, safety, amenities and convenience). Interestingly, the results showed major differences between the new LOS model evaluation and the Highway Capacity Manual (HCM 2000) for the selected road section.

Flannery et al. (2006); Sakai et al. (2011) and Hussain et al., (2014) revealed the effects on LOS metrics and drivers' subjective evaluations to the driving performance and satisfaction. These studies successfully showed the impact of performance on LOS to the drivers in limited point of highway segment. However, we found that the evaluation on specific drivers or travel purposes in this study was neglected. Moreover, this study also found that the effect on level of service performance in the tourism routes has been discussed in route facilities and development perspectives. This study found that there is a gap between studies in tourism and transportation theme on the evaluation of overall satisfaction.

Therefore in this study, we would like to fill the gap by incorporating the effect on driving performance to one group of drivers (tourism purposes self-drive tourists) in different road segments. This study not only evaluate the effects on driving satisfaction performance, but also evaluate the driving satisfaction performance to the tourism activities satisfaction and overall tourist satisfaction.

In order to evaluate the study model, this study borrowed the concept in transportation studies in measuring drivers' satisfaction towards level of service performance. This study adopted the LOS metrics (speed, freedom in driving, traffic interference, safety, amenities and convenience) in measuring the driving satisfaction. Moreover, this study also borrowed the concept in tourism studies in evaluating tourism activities and overall tourist satisfaction. As previous studies in scenic routes mixed between driving experiences and limited tourism activities, this study also evaluate limited number of tourism activities.

## 2.4 Hypotheses

The model shown in figure 2.1 below based on the previous overview and depicts the relationship that were investigated in this study. The overall structure builds based on overall tourist satisfaction studies and describes the effect between attributes driving satisfaction in two road segments (highway and within the destination segments), tourism activities satisfaction and overall tourist satisfaction. This structure has not previously been addressed both in tourism and transportation studies. Driving satisfaction in different road segments for tourism trips and their satisfaction with tourism activities satisfaction is proposed to be crucial determinants of overall satisfaction. The following new hypotheses included driving satisfaction and overall satisfaction are then suggested as follows:

$H_1$: At the tourist destination, driving satisfaction factors have significant effects on overall destination driving satisfaction

$H_2$: Highway driving satisfaction factors have significant effects on overall highway driving satisfaction

$H_3$: Overall highway driving satisfaction has significant effects on tourism activity satisfaction

$H_4$: Overall destination driving satisfaction has a significant effect on tourism activity satisfaction

$H_5$: Overall, destination driving satisfaction has a significant effect on overall tourist satisfaction

$H_6$: Overall, highway driving satisfaction has significant effects on overall tourist satisfaction

$H_7$: Tourist activities satisfaction has a significant effect on overall tourist satisfaction

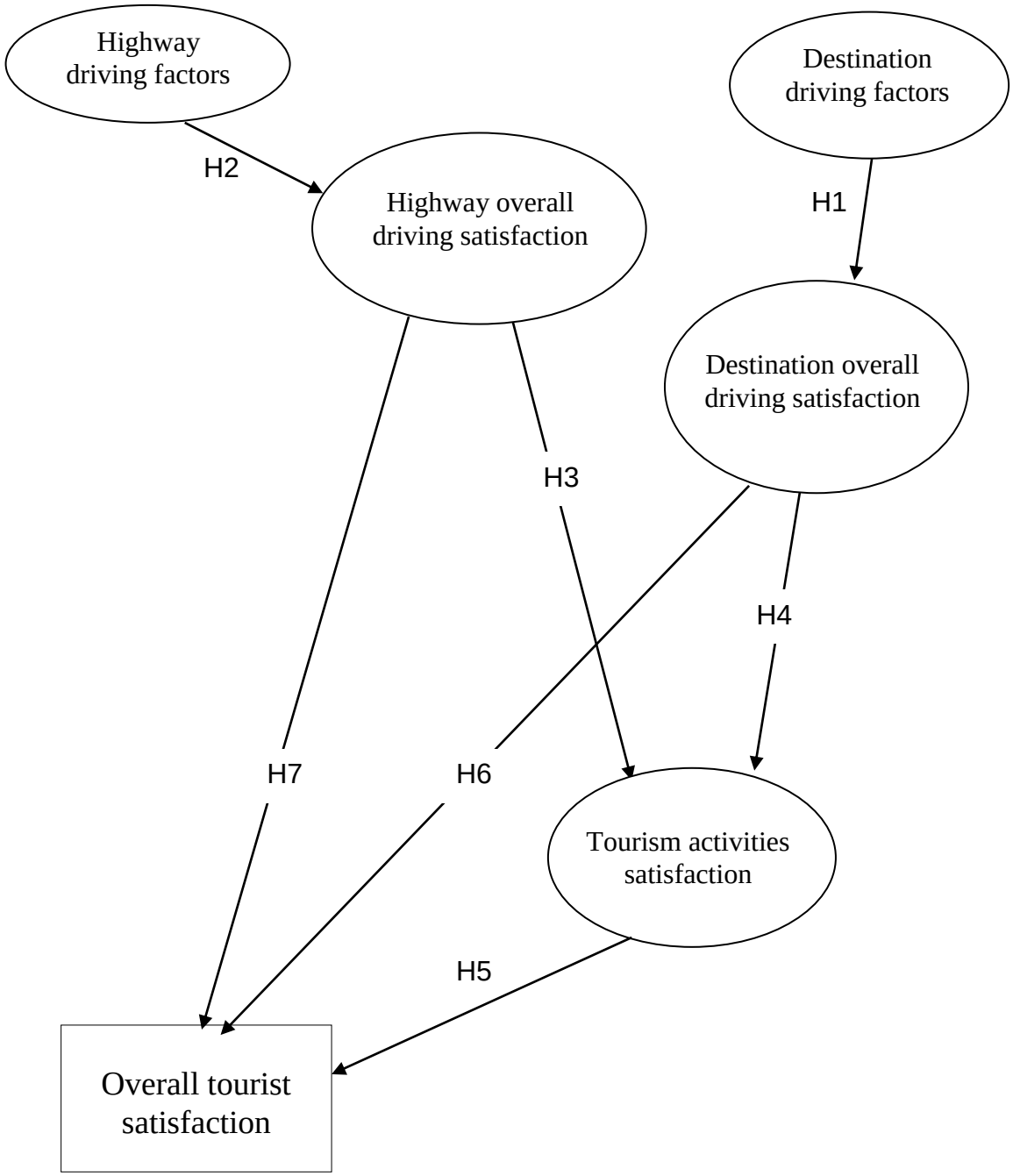



**Figure 2.1:** Hypotheses model path

# CHAPTER 3

# IDENTIFICATION OF IMPORTANT FACTORS IN ORDER TO INCREASE THE SELF-DRIVE TOURIST IN HIGHWAY, EN-ROUTE TO OR FROM THE DESTINATION AND WITHIN THE DESTINATION

## 3.1 General framework

The aim of this chapter is to understand the important driving satisfaction factors to be included in the second survey. To understand the overall research, this study was conducted to the following framework shown in figure 3.1:

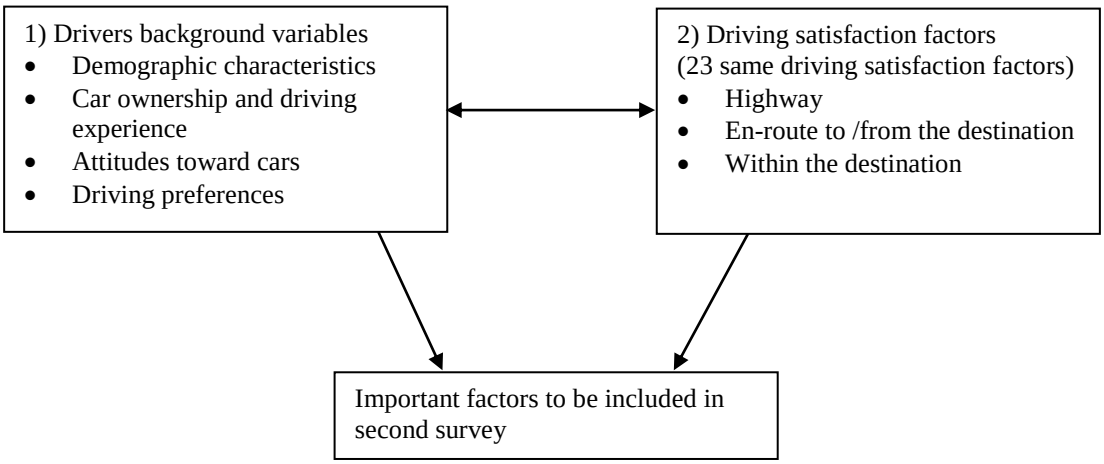



**Figure 3.1:** Research framework

As shown in figure 3.1, the first section outlines aspects of a driver's background that may influence various driving satisfaction factors for three road segments: 'highway', 'en route to/from to the destination', and 'within the destination'. Demographic characteristics, car ownership and driving experience, attitudes towards car and driving preferences are taken into account in order to understand the influences of different driver behaviors upon various driving satisfaction factors. Finally, the most important of driving satisfaction factors for each road segment included for the second survey.

## 3.2 Group of factors

There are mixed driving satisfaction factors summarized accordingly to the respective category, Table 3.1. These factors classed adopted from previous studies that assessed roadway level-of-service (LOS).

**Table 3.1:** Category of driving satisfaction factors

| Driving satisfaction factors | Category of factors |
|---|---|
| 1. Experiencing beautiful natural and town scape along the route | Beautiful natural surrounding |
| 1. Cheap travel costs<br>2. Discounted price on highway fares | Low travel cost |
| 1. More direct highways or links to enable better access to and from the destination<br>2. Congestion information through various media during journey<br>3. Usage of familiar routes in road segments<br>4. Driving in good weather conditions<br>5. Visible signage during the journey<br>6. Appropriate traffic signal settings | Driving comfort |
| 1. Quality of road surface<br>2. More than two lanes on roadway to facilitate car movement<br>3. Physically divided roadway to support car movement in dangerous areas<br>4. Flat, straight roadways | Road safety infrastructure |
| 1. Easily available parking facilities at rest stops<br>2. Comfortable rest areas, attractions and related services along the route | Roadside facilities |
| 1. Drive at preferred speed on leisure trip<br>2. Reduce driving speed or stop less frequently<br>3. Speed while driving<br>4. Low levels of road construction to improve traffic movement<br>5. Arriving at the destination within the expected time<br>6. Driving in lower traffic volume<br>7. Consistency of travel time to the destination<br>8. Optimizing roadway width to ease congestion | Travel speed |

### 3.3 Sampling method and questionnaire structure

In this research, online questionnaire was conducted to equal number of male and female drivers aged 18 and older in private companies and Malaysian universities. The questionnaire sheet was distributed through email and social networking site. Convenience sampling was applied in order to make sure equal number of participant from both gender. One hundred and three respondents answered to the online questionnaire within one month survey period in January 2015.

The questions items divided into three sections 1) attitudes toward car 2) important factors for driving satisfaction on highway, en-route to/from the destination and within the destination 3) and the demographic characteristics of respondents (refer to Appendix A). For section one respondent were asked about their agreement to the attitudes towards car and driving preferences in five-point scales. For section two, respondents were asked about their driving satisfaction based on their experiences on the previous tourism trip and evaluated how the conditions important in achieving their driving satisfaction. The driving satisfaction is measured with five-point scale where 1= unimportant, 2= little important, 3= moderate important, 4= important and 5= very important. The twenty three driving items from various aspects which include road infrastructure, safety, traffic conditions, road design, driving experience and level of service was rated based on their previous 6 months tourism trip driving experiences at each of road segments.

#### 3.3.1 Data analysis

SPSS version 22 was used for data management and analysis. Chi-square tests of independence were used to determine the relationships between driving satisfaction factors and demographic profiles; attitudes toward cars; and driving preferences on the highway, en route to/from the destination and within the destination. Data analysis was carried out as described below for each road segment.
Example of hypothesis statement for each of variables:

Demographic characteristics (gender, age group, education and household income level)

- Ho=Demographic characteristics (example: *age*) and (driving satisfaction factor: *driving at preferred speed*) car are independent.

- H1=Demographic characteristics (example: *age*) and (driving satisfaction factor: *driving at preferred speed*) are not independent.

- Significant threshold: P = 0.05

The significant dependent factors then further evaluated by looking at differences between different groups using the Mann-Whitney test (refer to Appendix B).

### 3.4 Background of respondent

The discussion of the results begins with a brief explanation of respondent profiles, then followed by the results of the important driving satisfaction factors on highway, enroute to/ from the destination and within the destination.

#### 3.4.1 Sample profiles

Young adults (55.3%), including both male (50.5%) and female (49.5%) drivers, were the tourists who have used private vehicles for holidays in Malaysia. Both men and women generally reported acceptable driving experience (i.e., 1–10 years of driving experience) and driving between 1–10 times per year for tourism trips. Nearly 80% of drivers were highly educated, and more than half were full-time workers (Table 3.2). Drivers mainly fell into the middle (RM2,000–RM5,000) and high (RM6,000 or more) categories of gross household income. The majority of the drivers came from households including four or fewer persons, which is similar to the average national household size about 4.3 persons (Penny et al., 2011).

**Table 3.2:** Sample profiles

| **Characteristics** | **Percentage (%)** | **Characteristics** | **Percentage (%)** |
|---|---|---|---|
| 1.Gender | | 2.Car ownership | |
| Male | 50.5 | No | 15.5 |
| Female | 49.5 | Yes | 84.5 |
| 3. Age level | | 4.Education level | |
| Young (Below 30 years) | 55.3 | Non-graduate | 20.4 |
| Old (31 years & above) | 44.7 | Graduate | 79.6 |
| 5.Employment | | 6.Household size | |
| Not employed | 31.1 | 4 persons and less | 70.3 |
| Employed | 68.9 | 5 persons and more | 29.7 |
| 7.Driving experience | | 8.Annual tourism trips | |
| 1 to 10 years | 67.0 | 1 to 10 trips | 83.5 |
| More than 10 years | 33.0 | More than 10 trips | 16.5 |
| 9.Household income level | | | |
| Lower income level | 25.2 | | |
| Middle income level | 42.7 | | |
| Upper income level | 32.0 | | |

Note: Total respondents = 103

### 3.4.2 Drivers' attitudes toward car

This figures suggests that overall drivers have high level on the attitudes toward car (figure 4.1). Six items in the data set shows that the median scores is four indicated that the respondents strongly believed that *driving car is important thing in my life* (1), *driving a car means independence* (2), *driving a car is a part of growing up* (3), *I can afford the responsibilities to have a car* (4), *driving a car carries some risk to lives* (6) and *driving a car with green energy is important for me* (8).

Moreover, the box plot is comparatively tall suggested that drivers hold a quite different opinions on the drivers' attitudes to the *driving a car means independence* (2), *driving a car is a part of growing up* (3) and *driving a car with green energy is important for me* (8). Compare to the *driving car is important thing in my life* (1), this box plot is comparatively short. It's indicated that the Malaysian drivers believed car highly important for them. This result reflected with the current situation where car highly used for every travel purposes.

The same shape occurred for the drivers with attitude that *I can afford the responsibilities to have a car* (4), *I feel lost without car* (5), *driving car carries some risk to lives* (6) and *driving car is bad for the environment* (7). Its shows that many drivers have similar views at certain parts of the scales but different distribution on the opinions toward the individual attitudes.

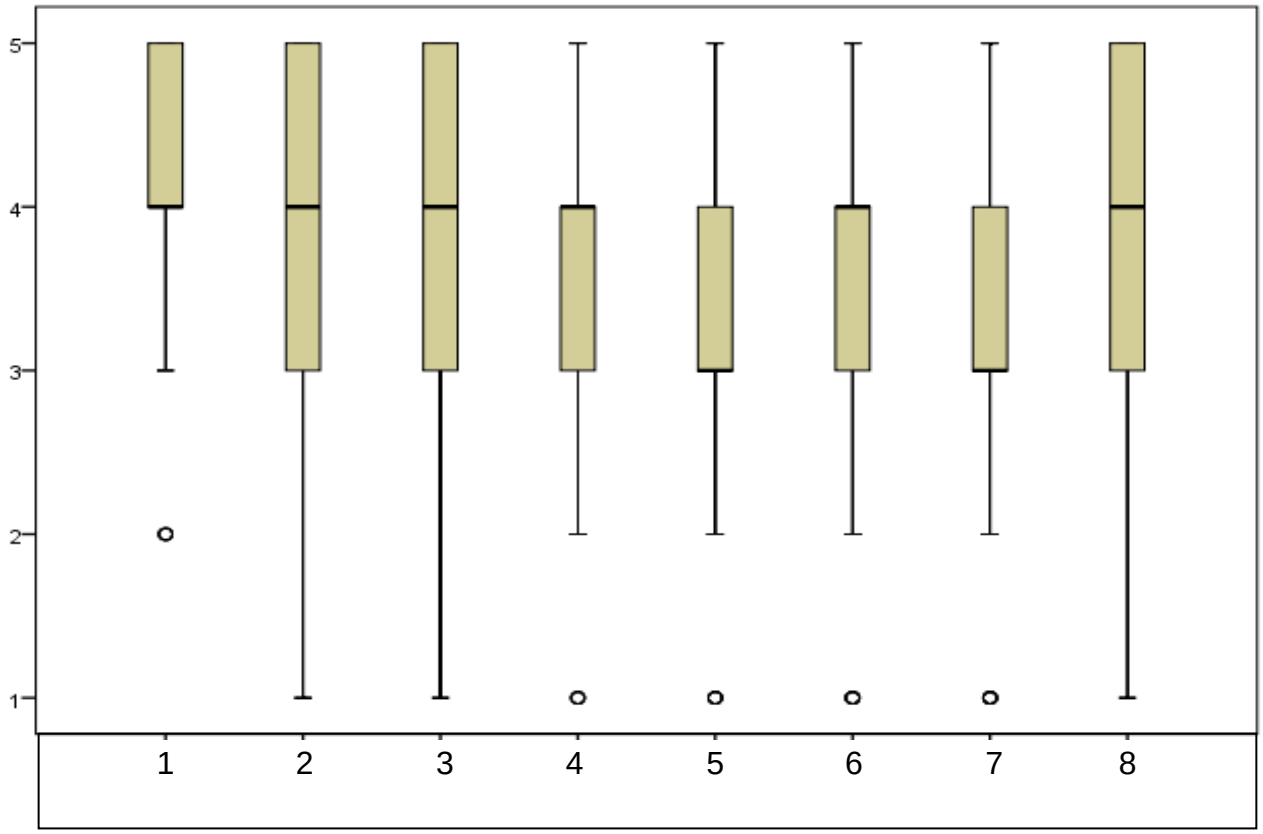



**Figure 3.2:** Boxplot on Attitude toward Car

## 3.5 Results: Driving satisfaction factors on the highway, en route to/from the destination and within the destination

This section summarizes the significant dependent driving satisfaction factors and its group effects on the highway, en route to/from the destination and within the destination based on the driver's background demographic characteristics (DC), car ownership and driving experience (CO & DE), attitudes toward cars (ATC) and driving preferences (DP) (refer to Table 3.3, Table 3.4 and Table 3.5).

### (a) Demographic characteristics

Overall, the demographic characteristics have a little relationship on driving satisfaction factors among all road segments, particularly the highway. However, this study found that factors such as discounted highway fare ($\chi^2$ = 6.683, *df* = 2, *P* = 0.035), and the quality of road surface ($\chi^2$ = 7.735, *df* = 2, *P* = 0.021) have significant relationship to increase driving satisfaction for female drivers and male in the 'en route to/from the destination' road segment. Discounted highway fare factor is more important for female driver (Mdn =56.93), U=1074, *z* = -2.27, *P* < 0.05. and the quality of road surface level did not significantly different to the driver (Mdn male =52.56), (Mdn female =51.43), U=1297, *z* = -0.33, *P* > 0.05. In addition, the important on the quality of road surface and a number of lanes did not significantly different for income (Mdn L=50.41, Mdn H= 55.38) and household size (Mdn 4= 48.49, Mdn 5= 56.95) level.

Moreover, the important to have consistency in travel time to the destination ($\chi^2$ = 7.047, *df* = 2, *P* = 0.029) especially in tourism area did not significantly different for the tourist with less than 4 (Mdn =50.33) or more family members (Mdn = 52.58). Finally the travel speed factors (speeding while driving) and travel cost ($\chi^2$ = 6.676, *df* = 2, *P* = 0.036) are more important within the destination compared to other road segments to all drivers.

**(b) Car ownership and driving experience**

The results showed that there is no significant different between occasional and frequent self-driving tourist in evaluating the important factors in highway road segment. The ease of journey factors such as low levels of road construction (U = 404, $z$ = -0.510, $P$ > 0.05), more than two lanes on roadway (U = 413, $z$ = -0.340, $P$ > 0.05) and physically divided roadway (U = 408, $z$ = -0.432, $P$ > 0.05) significantly important to increase the driving satisfaction in highway. In addition, the presence of beautiful natural and urban landscapes ($\chi^2$ = 12.39, $df$ = 3, $P$ = 0.015) and the quality of road surface ($\chi^2$ = 7.041, $df$ = 2, $P$ = 0.03) was important on the en route to/from the destination compared with other road segments. However, these factors did not differ significantly from the car ownership, driving experiences level and total annual tourism trips.

**(c) Attitudes toward car**

Table 3.3, 3.4 and 3.5 illustrate that there are significant differences between drivers who responded that ‘driving cars is an important thing in my life’ and those who had other attitudes. Interestingly, these results show that drivers who perceived cars as being important in their lives manifest a large number of factor influences to their driving satisfaction. These factors include driving speed, travel time, safety infrastructure, ease of driving and availability of good road network connectivity.

The result shows that most of these factors are very important to increase driving satisfaction particularly ‘on the highway’ and ‘en route to/from the destination’ road segments as the results show that most of the mean rank score are more than 50.00 (Mdn = 50.00 >). Furthermore, the drivers who responded ‘I feel lost without a car’ on the highway segment shared similar driving satisfaction factors but less influenced by the driving speed factor. On the other hand, this result also showed that there are more factors affecting driving satisfaction for self-drive tourists in the ‘within the destination’ road segment, regardless of their attitudes toward cars.

**(d) Driving preferences**

The present findings show that, in general, drivers who prefer performance (Doing well in life) are affected by various driving satisfaction factors in the 'en route to/from the destination' and 'within the destination' road segments. This group of drivers agrees on the importance of road safety infrastructure, viewing beautiful panoramas during the journey, and having good parking and service area facilities on the highway and en route to/from the destination. However, not only that, factors such as travel time ('*speed while driving*,' '*arriving at the destination within the expected time'*), road safety infrastructure ('*more than two lanes on roadway to facilitate car movement*,' '*physically divided roadway*' and '*suitable roadway width*'), cost ('*discounted price on highway fare*') and ease of transit ('*congestion information through various media for a smoother journey*,' '*driving with visibility signs*', '*flat and straight roadways*' and '*easily available parking*') are more important to drivers with the same driving preferences within the destination than in the other two road segments.

The second major finding shows that, many factors have a strong influence to increase driving satisfaction on the highway for drivers with '*practical considerations*'. Furthermore, drivers that 'e*njoy listening to music, news and talk shows*' while driving place great importance factors on the 'en route to/from the destination' road segment. Overall, this section indicates that the factors that influence to the overall driving satisfaction is varied depending on driving preferences.

**Table 3.3:** Results of Mann-Whitney analysis on 'highway' road segment

| | Highway | DC | | | | | CO & DE | | | ATC | | | | | | | | DP | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Driving satisfaction items | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| 1 | Drive at preferred speed on leisure trip | | | | | | | | | VI** | | | | VI | | | | | | | | | |
| 2 | Reduce driving speed or stop less frequently | | | | | | | | | | | | | | | | | | | | VI** | VI** | |
| 3 | Speed while driving | | | | | | | | | | | | | | | | | | | | | VI** | |
| 4 | Arriving at the destination within the expected time | | | | | | | | | VI** | | | | | | | VI | | VI** | | | | |
| 5 | Driving in lower traffic volume | | | | | | | | | VI*** | | | | | | | | | | | VI** | | |
| 6 | More direct highways/links for better access to & from the destination | | | | | | | | | VI** | | | | | VI** | | | | | | | | |
| 7 | Congestion information through various media during journey | | | | | | | | | VI** | | | | | | | | | | | | | |
| 8 | Usage of familiar routes in road segments | | | | | | | | | | | | | VI** | | | | | | | | | VI** |
| 9 | Low levels of road construction to improve traffic movement | | | | | | | | L | | | | | | | | | | VI | | | | |
| 10 | Cheap travel costs | | | | | | | | | | | | | | | | | | | | | | |
| 11 | Discounted price on highway fares | | | | | | | | | | | | | | | | | | | | | | |
| 12 | Driving in good weather conditions | | | | | | | | | VI** | | | VI** | | | | | VI** | | | VI** | | |
| 13 | Consistency of travel time to the destination | | | | | | | | | VI | | | | VI** | | | VI** | | | VI** | VI | VI** | VI** |
| 14 | Quality of road surface | | | | | | | | | VI** | | VI | | | | | | | VI** | VI** | VI** | VI | |
| 15 | More than two lanes on roadway to facilitate car movement | | | | | | | | M | VI*** | | | VI** | VI | | | | | | | VI** | VI | |
| 16 | Physically divided roadway to support car movement in dangerous areas | | | | | | | | M | VI** | | | | VI | | | | | | | VI | VI** | VI |
| 17 | Optimizing roadway width to ease congestion | | | | | | Y** | | | VI | | | | VI** | | | | | | | VI | | |
| 18 | Visible signage during the journey | | | | | | | | | VI** | | | | VI** | | | | | | | VI | | VI** |
| 19 | Appropriate traffic signal settings | | | | | | | | | VI | | | | | | | | | | | VI | | VI** |
| 20 | Flat , straight roadways | | | | | | | | | | | VI | | | | | | | | | VI | | VI** |
| 21 | Easily available parking facilities at rest stops | | | | | | | | | VI** | | | | VI | | | | | | | VI** | VI** | VI** |
| 22 | Experiencing beautiful natural and town scape along the route | | | | | | | | | | | | VI** | | | | | | | | VI | VI | VI** |
| 23 | Comfortable rest areas, attractions and related services along the route | | | | | | | | | | | | | | | | | | | | VI** | | VI** |

Note: Details on table explanations are in page 29

**Table 3.4**: Results of Mann-Whitney analysis on ‘en route to/from the destination’ road segment

| | En route to/from the destination | DC | | | | | CO & DE | | | ATC | | | | | | | | DP | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Driving satisfaction items | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| 1 | Drive at preferred speed on leisure trip | | | | | | | | | VI** | | | | VI | | | | | | | | VI** | |
| 2 | Reduce driving speed or stop less frequently | | | | | | | | | | | VI** | | VI** | | | | | VI** | | | | |
| 3 | Speed while driving | | | | | | | | | | | | | | | | VI** | | | | | | |
| 4 | Arriving at the destination within the expected time | | | | | | | | | VI*** | | | | | | | | | VI*** | | | | |
| 5 | Driving in lower traffic volume | | | | | | | | | VI** | | | | | | | | | | VI** | | | |
| 6 | More direct highways/links for better access to & from the destination | | | | | | | | | VI** | | | | | | | | | VI*** | | | | |
| 7 | Congestion information through various media during journey | | | | | | | | | VI** | | | VI** | | | | | | | | | | VI |
| 8 | Usage of familiar routes in road segments | | | | | | | | | | | | | | | | | VI** | VI*** | | VI | VI | VI |
| 9 | Low levels of road construction to improve traffic movement | | | | | | | | | VI*** | | | | VI** | | | | | | | | | VI*** |
| 10 | Cheap travel costs | | | | | | | | | VI** | | | | | | | VI | | VI | | | | |
| 11 | Discounted price on highway fares | F** | | | | | | | | VI | | VI** | | | | | | | | | | | VI |
| 12 | Driving in good weather conditions | | | | | | | | | VI** | | | | | | | | | | | | | VI** |
| 13 | Consistency of travel time to the destination | | | | | | | | | VI** | | | | VI | | | VI** | | | | | | VI |
| 14 | Quality of road surface | M | | | L | | Y | | | VI** | | | | | | | VI** | | VI | | VI** | VI | VI** |
| 15 | More than two lanes on roadway to facilitate car movement | | | | | M | | | | VI** | | | | | | | | | VI** | | | | |
| 16 | Physically divided roadway to support car movement in dangerous areas | | | | | | | | M | VI** | | | VI** | | | | | | | | VI | VI** | VI** |
| 17 | Optimizing roadway width to ease congestion | | | | | | | | | | | | | | | | | | VI** | | | | |
| 18 | Visible signage during the journey | | | | | | | | | | | | | VI** | | | | | | | | | VI |
| 19 | Appropriate traffic signal settings | | | | | | | | | | | | | | | | | | VI** | | | | |
| 20 | Flat , straight roadways | | | | | | | | | VI** | | VI** | | | | | | | VI** | | | | |
| 21 | Easily available parking facilities at rest stops | | | | | | | | | | | | | | | | | | | | VI** | VI | VI** |
| 22 | Experiencing beautiful natural and town scape along the route | | | | | | | L | | | | | | | | | | | | | VI | VI | VI |
| 23 | Comfortable rest areas, attractions and related services along the route | | | | | | | | | | | | | | | | | | VI** | | | | VI** |

Note: Details on table explanations are in page 29

**Table 3.5**: Results of Mann-Whitney analysis on ‘within the destination’ road segment

| | within the destination | DC | | | | | CO & DE | | | ATC | | | | | | | | DP | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Driving satisfaction items | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| 1 | Drive at preferred speed on leisure trip | | | | | | | | | | | VI** | | VI | | | | | | | VI*** | | |
| 2 | Reduce driving speed or stop less frequently | | | | | | | | | | | VI** | | VI** | | | | | | VI** | VI** | | |
| 3 | Speed while driving | | Y | | | | | | | | | | | | | | VI | | | | | | VI** |
| 4 | Arriving at the destination within the expected time | | | | | | | | | VI** | | | | | | | | | | | | | VI** |
| 5 | Driving in lower traffic volume | | | | | | | | | | | | | | | | | | | | VI | | |
| 6 | More direct highways/links for better access to & from the destination | | | | | | | | | VI** | | | | | | | | | | | | | |
| 7 | Congestion information through various media during journey | | | | | | | | | | | | VI** | | | | | | | | | | VI |
| 8 | Usage of familiar routes in road segments | | | | | | | | | | | | | | | | | VI** | | | | | VI** |
| 9 | Low levels of road construction to improve traffic movement | | | | | | | | | VI** | | | | VI** | | | | | | | | | VI |
| 10 | Cheap travel costs | | Y | | | | | | | | | VI** | | | VI** | | VI | | VI** | | | | |
| 11 | Discounted price on highway fares | | | | | | | | | | | VI** | VI** | | VI*** | | | | VI | | | VI | VI** |
| 12 | Driving in good weather conditions | | | | | | | | | VI** | | | | | | | | | | | | | VI** |
| 13 | Consistency of travel time to the destination | | | | | M | | | | VI*** | | | | | | | | | | | | | |
| 14 | Quality of road surface | | | | | | | | | VI** | | | | | | | VI | | | | VI** | | |
| 15 | More than two lanes on roadway to facilitate car movement | | | | | | | | | | VI** | | | | | | VI | | | | | | VI |
| 16 | Physically divided roadway to support car movement in dangerous areas | | | | | | | | | | | | VI | VI** | | | | | VI** | | | | VI |
| 17 | Optimizing roadway width to ease congestion | | | | | | | | L | | | | VI | | | | | | | | | | VI** |
| 18 | Visible signage during the journey | | | | | | | | | VI** | | | | VI** | | | | | | | | | VI** |
| 19 | Appropriate traffic signal settings | | | | | | | | | | | | | | | | | | | | VI | | |
| 20 | Flat , straight roadways | | | | | | | | | | | VI** | | | | | | | | | VI** | | VI** |
| 21 | Easily available parking facilities at rest stops | | | | | | | | | | | | | | | | | | | | | | VI** |
| 22 | Experiencing beautiful natural and town scape along the route | | | | | | | | | | | | | | | | | | | VI | VI | | |
| 23 | Comfortable rest areas, attractions and related services along the route | | | | | | | | | | | | | | | VI | | | | | | | |

Note: Details on table explanations are in page 29

**Table Explanations**

**Demographic Characteristics, Car Ownership and Driving Experiences**

1 – gender (Male, Female) 2 – age (Young, Old), 3 – education (Non graduate, Graduate), 4 - household income (Low, High), 5 - household size (Low, More), 6 - car ownership (No, Yes), 7 - driving experience (Less, Experienced) 8 - total annual tourism trips (Less, More)

**Attitudes toward car**

9 - 'driving a car is an important thing in my life'(Less Important, Very Important ), 10 - 'driving a car means independence (Less Important, Very Important ),' 11 - 'driving a car is a part of growing up'(Less Important, Very Important ), 12 - 'I can afford the responsibility of owning a car (Less Important, Very Important )', 13 - 'I feel lost without a car'(Less Important, Very Important ), 14 - 'driving a car entails some risk to lives (Less Important, Very Important )', 15 - 'driving cars is bad for the environment, (Less Important, Very Important )' 16 - 'it is important to drive an energy-efficient car'(Less Important, Very Important )

**Driving preferences**

17 - 'having fun talking with passengers'(Less Important, Very Important ), 18 - 'enjoy listening to music etc. on the radio'(Less Important, Very Important ), 19 - the feeling that is experienced after driving (Less Important, Very Important ), 20 - practicality in relation to journey considerations (Less Important, Very Important ) , 21 - takes risks in driving style (Less Important, Very Important ) and 22 - 'driving a car means doing well in life' (Less Important, Very Important )

Significant value $P < 0.05$ **, $P < 0.001$ ***

### 3.6 Summary

Overall, the results obtained indicated that many driving factors effected drivers based on their demographic profiles, car ownership and driving experiences, attitude toward car and driving preferences. It showed that many driving factors are important to increase drivers driving satisfaction consistent with previous studies conducted by Mokhtarian and Solomon (2001) and Joen et al (2014). From the summarized table above, this study manually counted the category of driving satisfaction items to the individual factors demographic characteristics (DC), car ownership and driving experiences (CO&DE), attitudes toward car (ATC) and driving preferences (DP). Items that have more than ten (10) relationship have more arrow thickness compare to less than ten (10) to zero (0).

From the summarized table above, this study found that speed factors frequently appeared as important driving factors to those who have strong feeling or attitudes toward car (figure 3.3 and figure 3.4) in highway and within the destination road segment as this factor have the highest items compare to different categories. Moreover, the result revealed that other factors such as driving comfort, low travel cost, road safety infrastructure, roadside facilities also demanded by self-drive tourists while travelling.

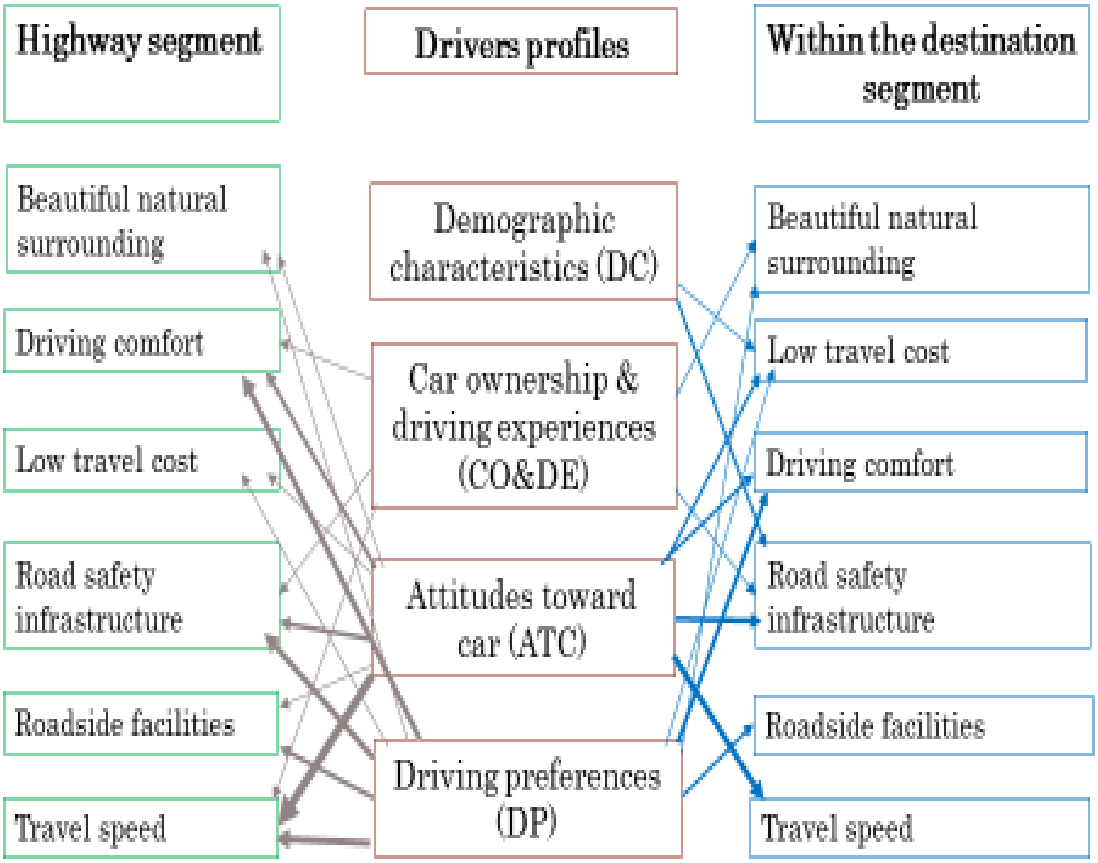



**Figure 3.3:** Summary of important driving satisfaction factors

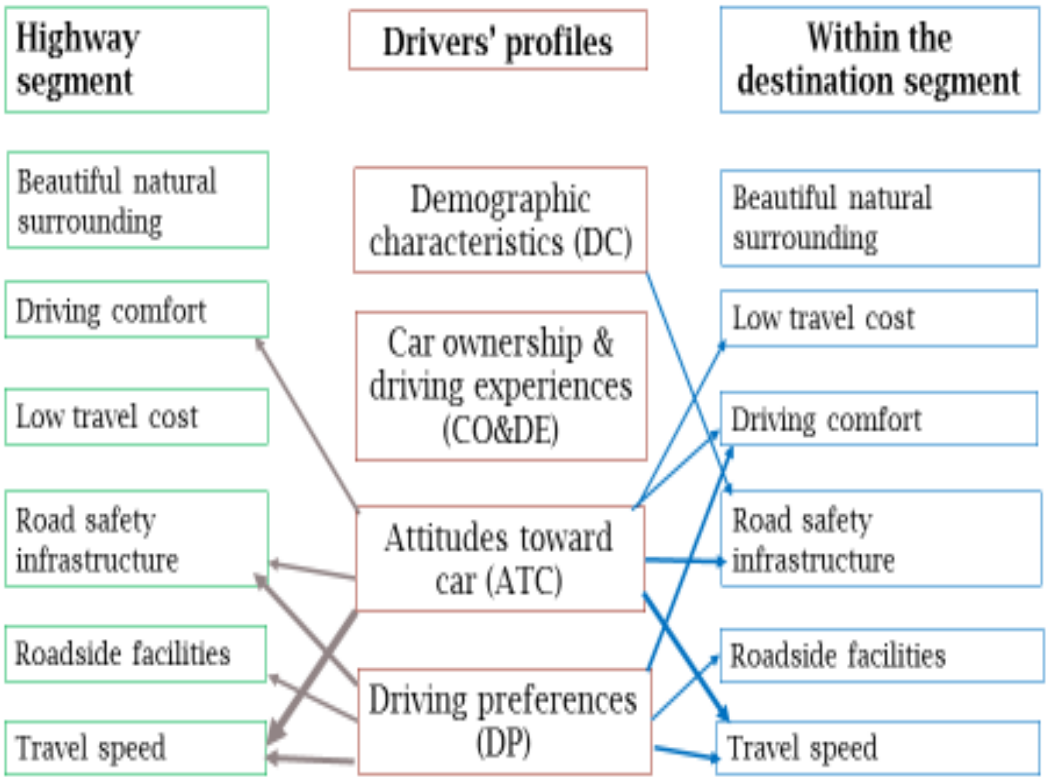



**Figure 3.4:** Summary of important driving satisfaction factors

Finally, the present finding outlines seven important driving satisfaction factors in highway and eight factors in the destination road segment to be further examined in second survey. The result selected factors as follows to represent the overall driving satisfaction factors : - *less traffic volume, less number of stop at intersection* and *driving at preferred speed* (speed factor), *experiencing beautiful natural and townscape along the route* (beautiful natural and surrounding factor), *quality of road surface* and *a good road design for safety* (road safety infrastructure factor), *a well-developed route network* and *good technical support during unforeseen situation* and *good traveler information services* (driving comfort factor), *availability of parking space* and *comfortable rest area and related services along the routes* (roadside facilities factor) (Table 3.6 and Table 3.7). Moreover, there also some factors included in this study even though it was not from the very tick arrows group due to the important of the variables in the scenic routes studies such as experiencing beautiful natural and town scape along the route.

**Table 3.6:** Highway road segment

| **Driving satisfaction factors** | **Category of factors** |
|---|---|
| Experiencing beautiful natural and town scape along the route | Beautiful natural surrounding |
| | Low travel cost |
| Good traveler information services<br>Good technical support during unforeseen situation | Driving comfort |
| Quality of road surface<br>A good road design for safety | Road safety infrastructure |
| Comfortable rest areas, attractions and related services along the route | Roadside facilities |
| Drive at preferred speed on leisure trip | Travel speed |

**Table 3.7:** Within the destination segment

| **Driving satisfaction factors** | **Category of factors** |
|---|---|
| Experiencing beautiful natural and town scape along the route | Beautiful natural surrounding |
| | Low travel cost |
| A well-developed route network<br>A good technical support during unforeseen situation | Driving comfort |
| Quality of road surface | Road safety infrastructure |
| Easily available parking facilities at rest stops | Roadside facilities |
| Drive at preferred speed on leisure trip<br>Driving in lower traffic volume<br>Less number of stops at intersections | Travel speed |

However, out of three road segments, this study only focused to understand the effects of driving satisfaction to the highway and within the destination due to factors as follows:

**a) Operational difficulties**

In the first survey, the tourism destination wasn't specified to the specific study area. Participants had difficulties to distinguish among three road segments and lead to same evaluation on each road segments. In order to avoid this weakness this study only focus to the highway and within the destination road segment which clearly different roadway segment. Moreover, the study area selected in the second survey is accessible by highway directly connect to the destination.

# CHAPTER 4

# SECOND SURVEY AND EXPLORATORY RESULTS

This chapter present the research method conducted in second survey. This chapter comprises of overall study framework in the second survey, selection of study area and questionnaire design and exploratory analysis.

## 4.1 Study framework

The aim of second survey is to understand the effect of driving satisfaction to the tourism activities and tourist overall satisfaction. Figure 4.1 shows framework of the study.

There are five basic components in this study. Firstly the driving satisfaction component. Driving satisfaction in this study was defined as the drivers driving experiences during the trips for tourism purposes. As explained in previous chapter, the roadway segments are classified into highway and within the destination. The factors that influenced to the driving satisfaction in this component was decided after analyzing the first survey. There are seven factors included in highway section which include- *driving at preferred speed, good traveler information services, quality of road surface, a good road design for safety, good technical support for sight distance during unforeseen situation, experiencing beautiful natural and town scape along the route* and *comfortable rest area and related services along the route*. The same factor also included in within the destination road segment with other factors such as driving on less traffic volume in the destination, less number of stops at intersections, *availability of parking space* and *a well-developed road network in the destination*. Drivers driving experiences toward those factors was measured by four scales of satisfaction from very dissatisfied to very satisfy.

Secondly, the tourism satisfaction component. This component measured satisfaction toward the activities performed by the drivers in study area. The tourism activities were expected to have direct impact based on the drivers driving experiences for tourism trips. As, this study selected Desaru area for a case study therefore the beach and natural environment activities was included. Desaru was selected as study area in order to control the number of tourism activities and to reduce the impact of various travel motivation among the drivers. There are ten tourists' activities that are important in Desaru area which include the *enjoyment of picnic, enjoyment of food, ability to relax, to appreciate the local town scape, to enjoy outdoor recreation over the island or coastal area, to appreciate good and sandy beach, to experience the richness of natural environment, to appreciate a spectacular scenery, to experience water sports and activities* and *accommodation*. The destination activities satisfaction was evaluated using the same scales of satisfaction.

Next component is the drivers' behaviors and demographic characteristics. The function of this section is to understand the effects of different drivers' behaviors and various demographic profiles to the driving satisfaction, tourism satisfaction and overall satisfaction components. St-Louis, E et al., (2014) shows that the influence of attitudes toward car and driving preferences explained the behavior intention, the important level of car use and the emotions. Moreover the same study also explained that the demographic characteristic highly influence the individual lifestyles. There are eight item classified to measure the attitudes toward car which include *driving car is important thing in my life, driving a car means independence, I can afford the responsibilities to have a car, I feel lost without car, driving a car carries some risk to lives, driving a car is a part of growing up, driving a car is bad for the environment* and *driving a car with green energy is important for me*. In addition, the driving preferences included *I am having fun time talking with other passenger, I enjoy listening to music, news or talk show on the radio, I feel adventurous, I seek excitement on driving and I always seek the fastest route to the destination*. Therefore, understanding the role of attitude toward car, driving preferences and demographic profiles to the overall satisfaction may improve the effectiveness of policy proposal or improvement in final section.

Finally, this study discuss and test the relationship among the model constructs. At first this study confirm the relationship then a policies proposal or improvement will be integrated into the model in order to examine its contribution to enhance the existing policies.

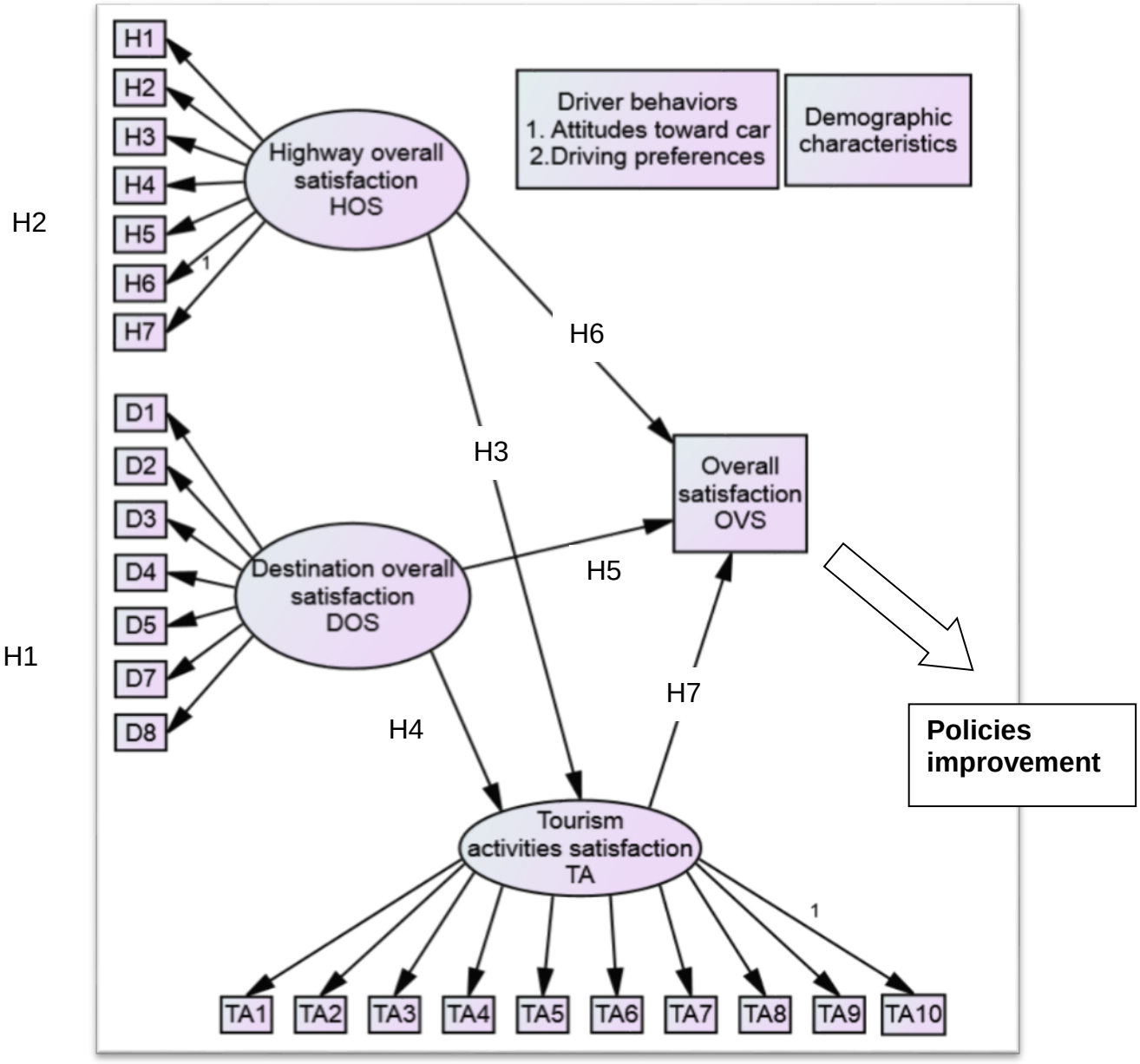



**Figure 4.1:** Research framework

## 4.2 Study area

Second survey was conducted in Desaru, Johor, Malaysia. Desaru is located in the south part of Kota Tinggi district. The area covers up to 3,433km. Total population in Kota Tinggi is about 193,210 (Department of statistic Malaysia, 2010). Desaru is value as one of tourism destination for Johor and nearby residents including from Singapore. Major tourism attractions in Desaru include beach attractions, local fruit and fisheries product, golf and etc. The tourism development in Desaru currently is getting more important in year 2012 with good road network linking with nearby districts and Johor Bahru city center (figure 4.2, figure 4.3 and figure 4.4).

The reason for selecting Desaru as location to distribute questionnaire is because:

1) Desaru area is well connected with Senai Desaru Expressway. So, the assessment on highway driving satisfaction is referring to Senai Desaru Expressway.

2) The tourist activities in Desaru is related to the beach and natural environment. This mirrors the travel motivation of the tourist to the destination which related to the tourist who would like to perform or enjoying the beach and natural environment activities. Driving conditions have different influence to the physical or involvement activities compare to the visiting cultural sites.

3) Moreover, the variety of tourism attractions can be focused only to the beach and natural attractions compare to other tourists destination that have a lot of attractions which may lead to less reliability in the results.

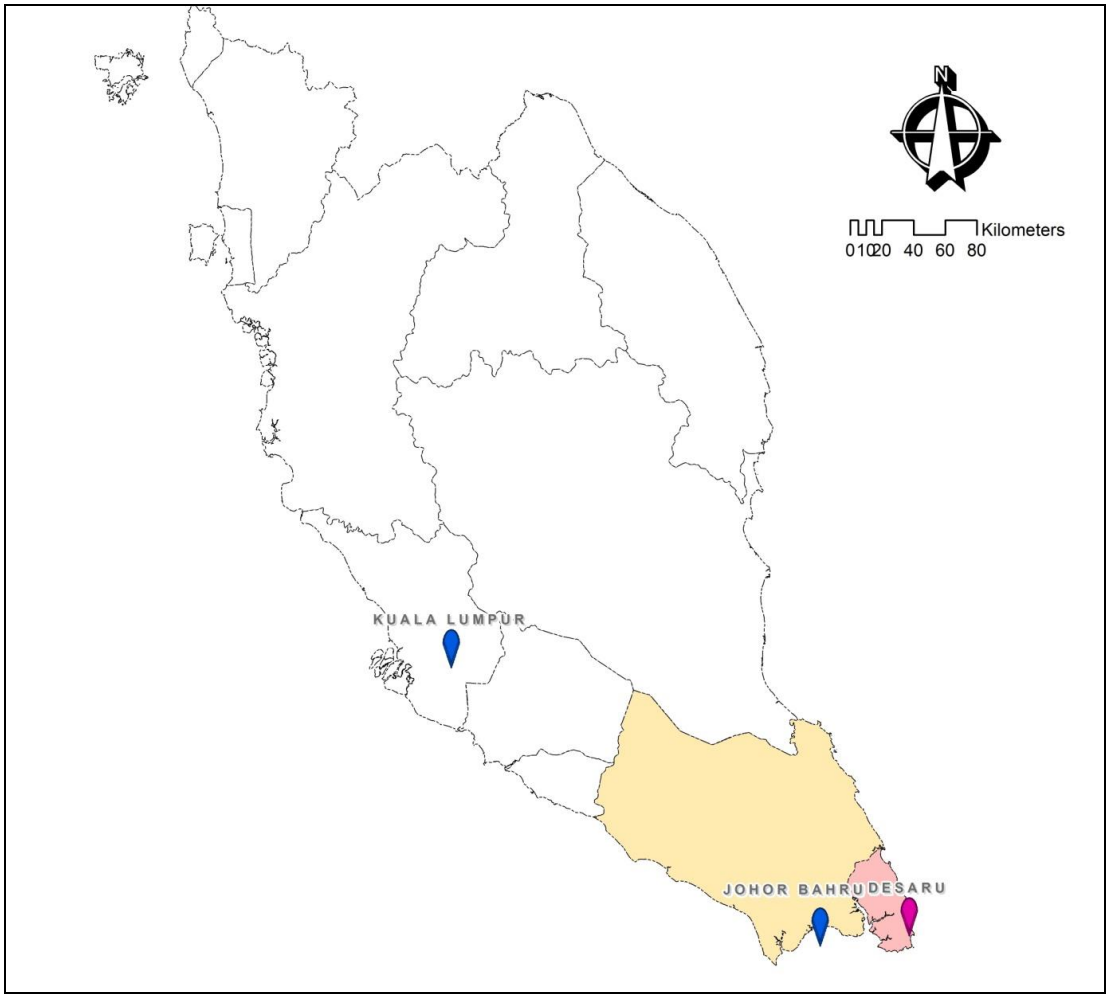



**Figure 4.2:** Site location

Source: JPBD (2010)


**Figure 4.3:** Place of attractions close to Desaru

Source: Kejora (2010)

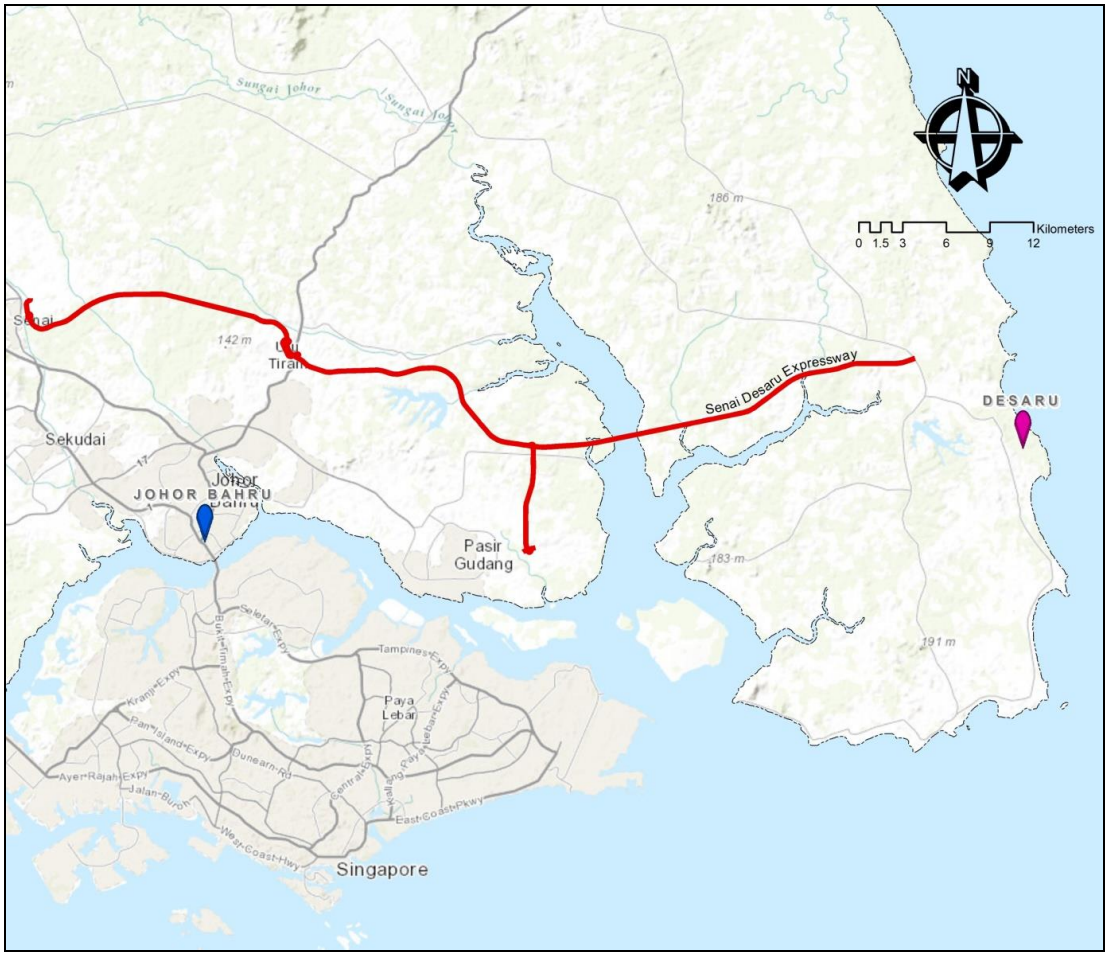



**Figure 4.4:** Senai Desaru Expressway (SDE)

Source: Senai Desaru Expressway (2008)

## 4.3. Questionnaire design

A quantitative method was employed to evaluate overall tourist satisfaction. A questionnaire interview was conducted among self-driving visitors who stopped at the Desaru public beach area in the weekends from end of July to August 2015.

The questionnaire design consisted of four major sections, with four-point satisfaction scales. Based on first survey experiences, this study decided to employ four point satisfaction scales as to remove many neutral answer in the questionnaire. Section one was introduced to understand the driver's attitude towards the car (in general) and their driving preferences. This section is similar as in the first survey.

The second section measured levels of tourist satisfaction with roadway facilities and driving conditions on highways and within the destination road segments, followed by section three, which measured tourists` activity satisfaction. Further, the respondents also asked on their satisfaction level toward unexpected delay in travel time in case of delay from 30 minutes to one hour and two to three hours in both road segments.

Multiple-choice questions established the respondent's demographic characteristics in section four. Four hundred respondents participated in this study. Figure 4.5 shows a graphical overview of section two and three in questionnaire sheet.

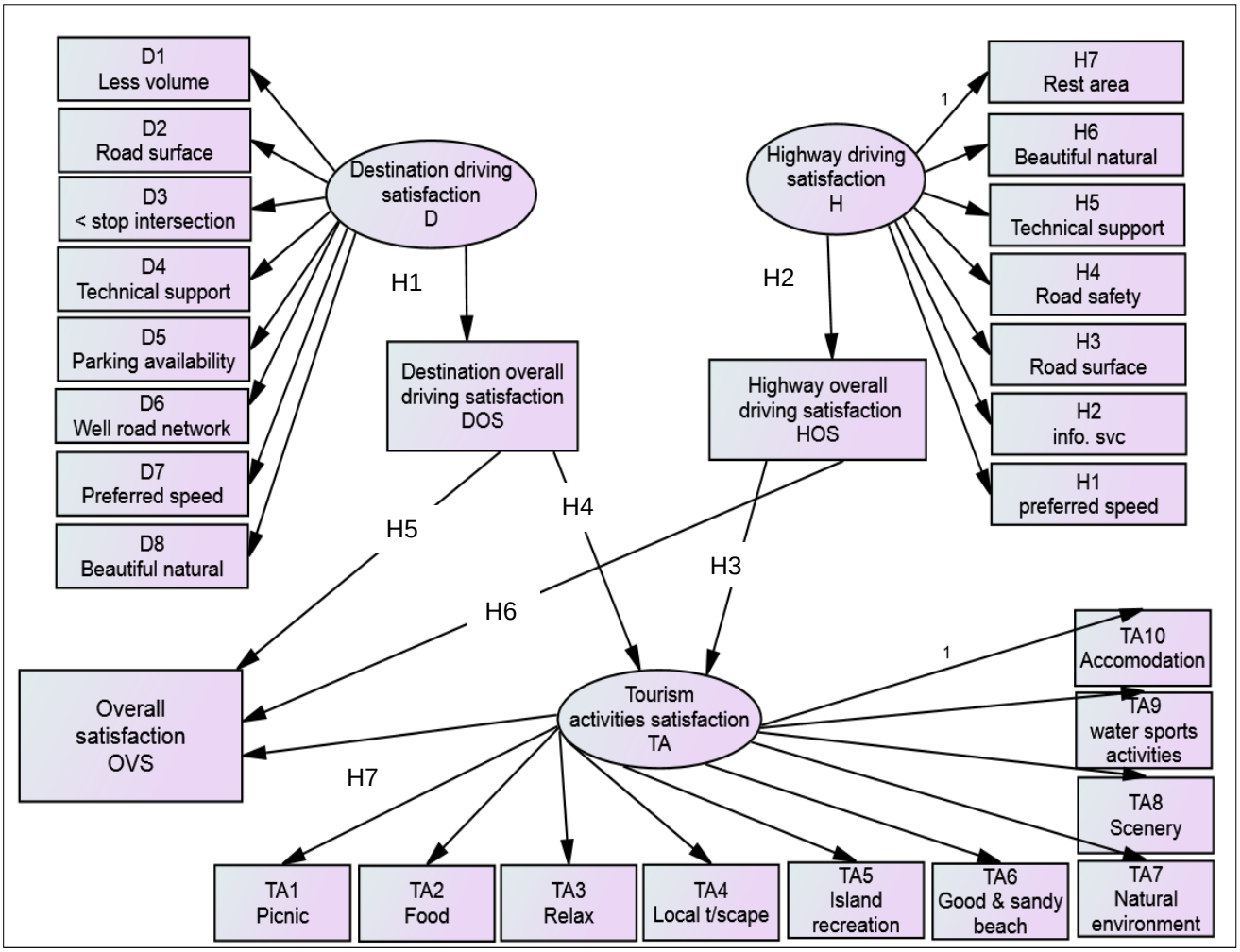



**Figure 4.5:** Details on driving satisfaction and tourism activities factors

## 4.4 Sampling design

This section will discussed more about study population, determining sample size and sampling technique.

### 4.4.1 Target population and qualified respondents

This study targeted all local (Malaysian) tourists in the Desaru area as a target population. However, this study defined several important criteria in selecting the qualified respondents to ensure the consistency of the answer from the survey.
The criteria include:-

- A respondent in this study is referring to the driver that driving in the majority of all road segments and also performed tourist activities in Desaru. Before handle questionnaire sheet to the drivers, enumerators have to ensure that respondents were fulfilled to the stated criteria.

- This study excluded the drivers from Johor Bahru as travel distance is concern. But accepted those first time users to Senai Desaru Expressway. This study expected that the first time users are more sensitive on their driving experiences on SDE compare to frequent users.

- This study targeted daily visitor to Desaru area. We excluded overnight tourists as we predicted that this tourist have different level of satisfaction to the tourism activities and driving conditions.

### 4.4.2 Sample size computation and sampling technique

This study adopted method from Chi and Qu, (2008) for obtaining sample size. This method is widely applied in social research. The formula to obtain sample size is at 95 percent confidence level and the amount of variability of population is estimated to be 50 percent. The z value is the standard error associated with chosen level of confidence. Convenience sampling approach was used to select the survey participant in the study area due to challenges facing in finding the qualified respondents.

$$n = \frac{z^2\ (pq)}{e^2} = \frac{1.96^2\,(0.5 \times 0.5)}{0.05^2} = 385 \qquad (3.1)$$

## 4.5 Data management and analysis

SPSS version 22 was used for data management and analysis. The background of respondents was comprehend by checking the frequencies among the demographic characteristics. Of 400 questionnaire distributed, 86 percent (342 questionnaire) of valid questionnaire used in this study. The valid questionnaire in this study have no issues with missing data. In addition, in the case of tourism activities satisfaction, the value for not performing tourism activities is equal to 0 together with four point of satisfaction scales.

The multivariate analysis technique was applied to analyze the inter relationship among the construct effectively as shown in study framework (Awang, 2015). First, SEM-path model was used to evaluate the hypotheses, as stated in the literature review section. Then, the differences among groups of drivers' behavior towards the overall satisfaction were also checked using the same SEM-path models. AMOS graphic was employed to model the research framework.

## 4.6 Background of respondents

Of the 400 questionnaire, (342) 86 percent are valid questionnaires evaluated. There were 69 percent from male respondents and 31 percent from female respondents. Majority of the respondents are from Malay ethnic group (90%). 18 percent of respondents had monthly high household income more than RM 4001 and the majority (44 percent) were had income between RM 2001 to RM 4000. In addition, more than half of respondents have driving experiences between 1 to 10 years (68.7 percent) and more than 10 years (31.3 percent) driving for tourism trips. The majority (71.6 percent) of drivers were have formal education and all of them are full time workers.

It was found that the many of respondents works in education field (8.8 percent or 35 respondents), electricity, gas, steam and air conditioning supply (8.3 percent), manufacturing (8.8 percent) and having job from home such as conducting home child care service, homemade bakery and sewing activities (activities of households as employers) (8.0 percent) (figure 4.6). Less respondents involved in mining and quarrying, water supply, sewerage and waste management (1.0 percent), real estate activities, human health and social works and arts, entertainment and recreation (1.5 percent). Overall this study found that the self-drive tourist that visited Desaru are from various working grounds. In addition, the majority of drivers came from households including four or fewer person which is similar to the average national household size (refer table 4.1).

**Table 4.1:** Respondent profiles

| **Characteristics** | **Percentage (%)** | **Characteristics** | **Percentage (%)** |
|---|---|---|---|
| 1.Gender | | 2.Car ownership | |
| Male | 69 | No | 49.1 |
| Female | 31 | Yes | 50.9 |
| 3. Age level | | 4.Education level | |
| Young | | Non-graduate | 71.6 |
| (Below 30 years) | 49.1 | | |
| Old | | Graduate | 28.4 |
| (31 years & above) | 50.8 | | |
| 5. Household income level | | 6.Household size | |
| Lower income level | 37.7 | 4 persons and less | 73.1 |
| Middle income level | 44.2 | 5 persons and more | 26.9 |
| Upper income level | 18.1 | | |
| 7.Driving experiences | | 8.Annual tourism trips | |
| 1 to 10 years | 68.7 | 1 to 10 trips | 75 |
| More than 10 years | 31.3 | More than 10 trips | 25 |


**Figure 4.6:** Employment fields

## 4.7 Trip characteristics

This section included the information about purpose of trips, factors influence self-drive tourist to visit Desaru, activities performed in Desaru and usage of Senai Desaru Expressway.

### 4.7.1 Purpose of the trips

This study found that the majority of self-drive tourist visited Desaru for holidays, leisure and recreation (78.2 percent) as their main travel purposes. This data shows that on weekends many tourist would like to enjoy or performed beach and natural environment activities. Followed by 16.5 percent of self-drive tourist visited Desaru to visit friends and relatives. In addition, the 4.0 percent of tourist have several reasons for visiting Desaru such as attending wedding party.

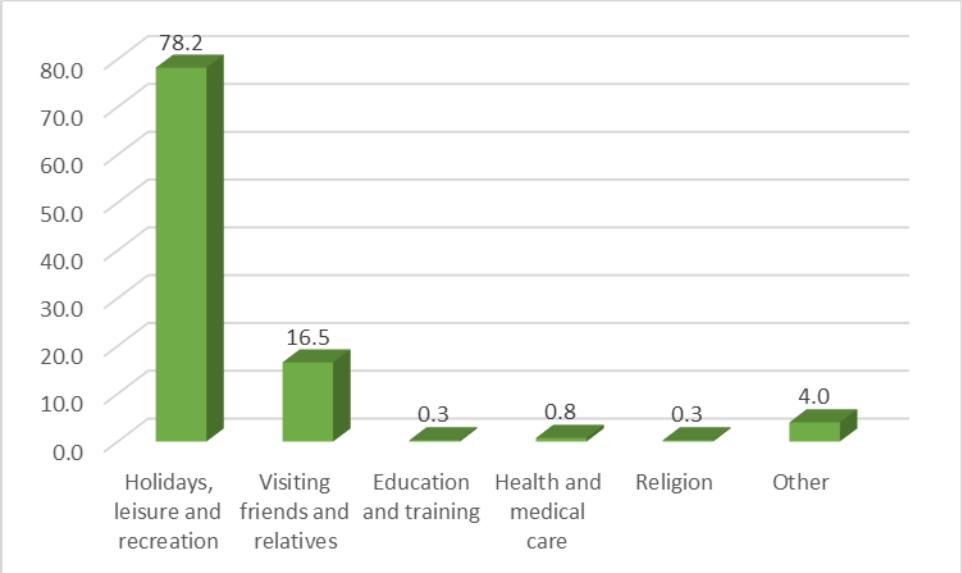



**Figure 4.7:** Trips purposes

### 4.7.2 Influencing person or factor to visit the destination

This study found that friends (32.1 percent) and relatives (29.1 percent) have strong influenced for self- drive tourist to visit Desaru compare to spouses (7.0 percent), social network site (6.8 percent) and advertisement (5.0 percent). It showed that "word of mouth" have strong influenced for domestic tourists in order to promote the Desaru area.

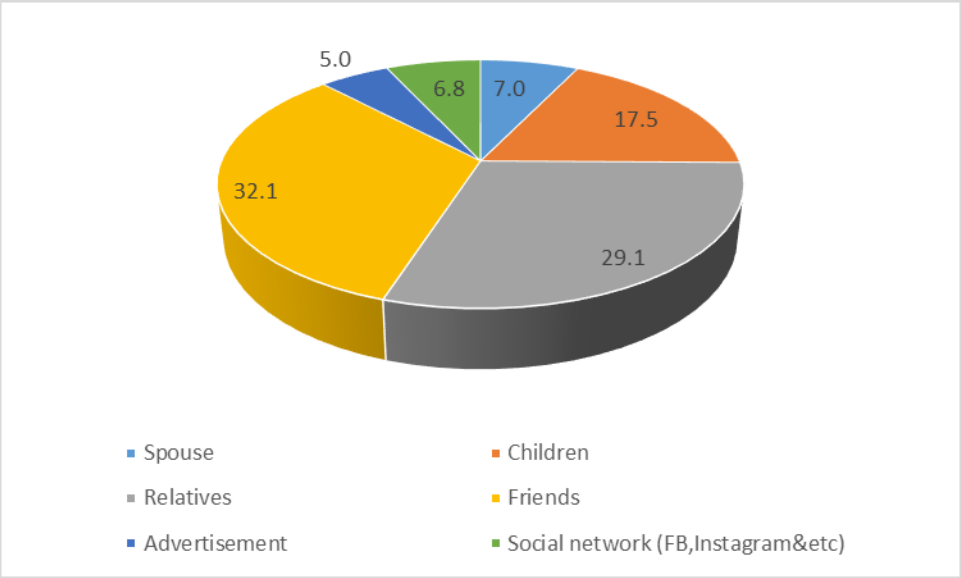
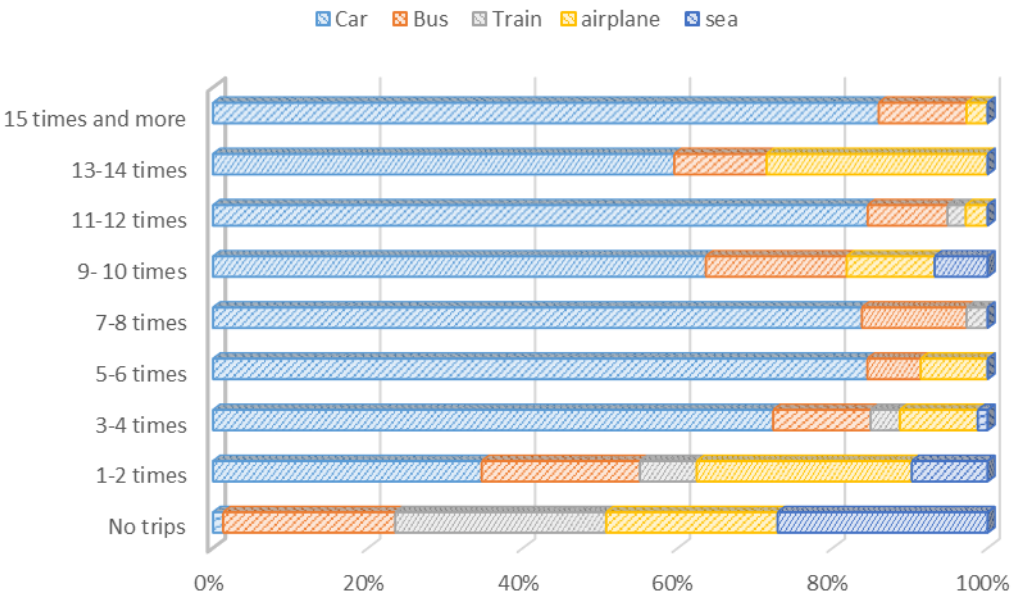



**Figure 4.8:** Influencing person or factors to visit Desaru area

### 4.7.3 Annual tourism trips by mode of transport

Figure 4.9 shows number of annual tourism trips made by different transportation mode include by car, intercity bus, train, airplane and sea transport. The data clearly shows that private car were highly used for tourism trips. This data is consistent with the national documents that revealed nearly 80 percent the share of private car in the tourism destination. Moreover, this data reflected the country situation on private car ownership and the weaknesses of public transportation system.

This study also found that besides using private car, intercity bus and airplane were frequently used between 1 to 2 times and 3 to 4 times for tourism trips. Sea transport have less number of users as it highly depend on the location of the destination.




| | No trips | 1-2 times | 3-4 times | 5-6 times | 7-8 times | 9- 10 times | 11-12 times | 13-14 times | 15 times and more |
|---|---|---|---|---|---|---|---|---|---|
| Car | 4.5 | 21.3 | 28.8 | 12.3 | 7.8 | 5.6 | 9.0 | 1.3 | 9.5 |
| Bus | 76.2 | 12.5 | 5.0 | 1.0 | 1.3 | 1.6 | 1.1 | 0.3 | 1.3 |
| Train | 93.5 | 4.5 | 1.5 | 0.0 | 0.3 | 0.0 | 0.3 | 0.0 | 0.0 |
| airplane | 75.9 | 17.0 | 4.0 | 1.3 | 0.0 | 1.0 | 0.3 | 0.6 | 0.3 |
| sea | 93.0 | 6.0 | 0.5 | 0.0 | 0.0 | 0.6 | 0.0 | 0.0 | 0.0 |

**Figure 4.9:** Annual tourism trips by mode of transport

### 4.7.8 The usage of Senai Desaru Expressway (SDE)

This study found that respondent in this study have past experiences in the usage of Senai Desaru Expressway (SDE). The data shows that more than half of respondents were new users to this expressway (55.4 percent) and another group have experiences using SDE from 3 times to more than 11 times (44.6 percent). The data

shows that nearly half of drivers were familiar with the highway conditions. However, this study found that many self-drive tourists were new to SDE route conditions and possibly have different opinions on driving satisfaction on the new expressway.

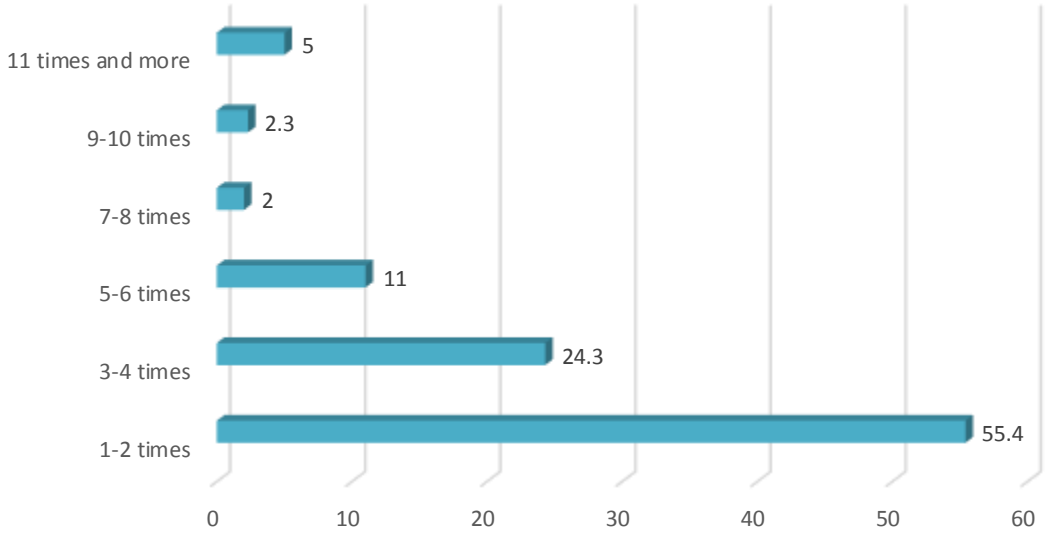



**Figure 4.10:** The usage of Senai Desaru Expressway

## 4.8 Scenario basis situation

This section shows data on changes in driving satisfaction due to unexpected delay scenarios driving situation. In addition, this section also asked on changes in satisfaction level toward tourism activities due to delay in travel time. The delay scenarios were divided into the trip from home to Desaru and from Desaru to home. This situation only focused on delay in travel time from 30 minutes to one hour and delay from two hours to three hours on both trips (from home to Desaru and Desaru to home).

### 4.8.1 Changes in driving satisfaction (Trip from home to Desaru)

The figure below indicated that there are two groups of drivers in the case of delay between 30 minutes to one hour on the way from home to the Desaru. Half of self-drive tourists were dissatisfied (50.1 percent) and another half of the drivers (49.9 percent) still can satisfy with the driving condition in the case of delay in arrival time. However, the majority (70.3 percent) of self-drive tourists were dissatisfied with the driving conditions if they involved in delay from 2 hours to 3 hours to the Desaru area. Surprising data also shows that about 30 percent of drivers are still satisfied with the driving conditions even though they involved between two to three hours delay to the destination.

This data indicated that self-drive tourists are acceptable to be involve in delay to the destination within 30 minutes to one hour. However, in the case of delay between two to three hours, about 30 percent of the drivers still have good feeling on their tourism trips.

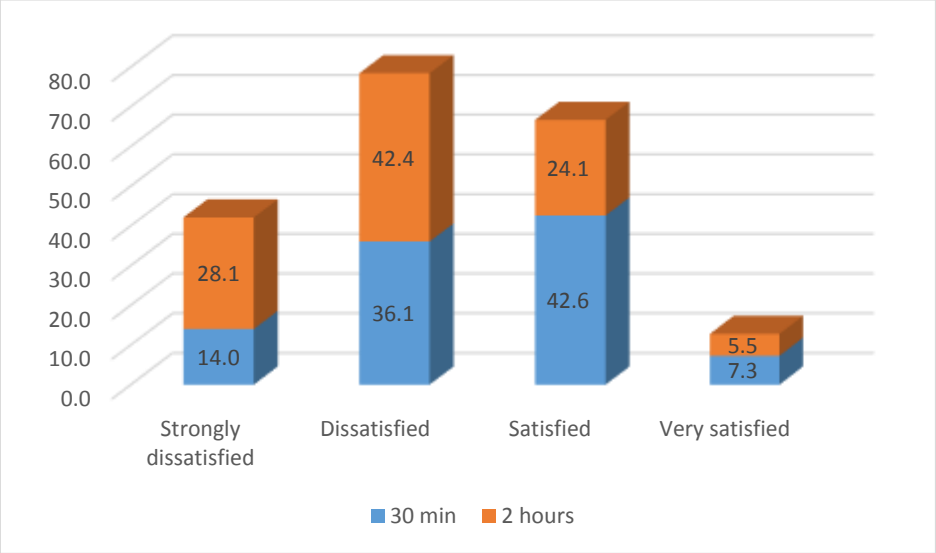



**Figure 4.11:** Changes in driving satisfaction level for the trip from home to Desaru

### 4.8.2 Changes in driving satisfaction (Trip from Desaru to home)

On the return trips (from Desaru to home), this study found that higher percentage of self-drive tourist are dissatisfied (69 percent) with the driving satisfaction level compare to on the trip to the tourists destination. Majority of the drivers are not acceptable to be involved in 30 minutes to one hour delay. The same trend occurred in more severe case of delay. Higher number of self-drive tourist (76.4 percent) reported will dissatisfied with their driving satisfaction level.

In comparison, this study found that drivers have different satisfaction effect regarding delay on travel time on the trip to the tourist destination and return trip. Self-drive tourist are expected to have good or positive feeling on the trips for tourism purposes. However, severe effects on driving satisfaction level was found during return trips as the tourist would like to reach home smoothly. The delay on return trip will increase their driving fatigue or dissatisfaction after performing some tourism activities.

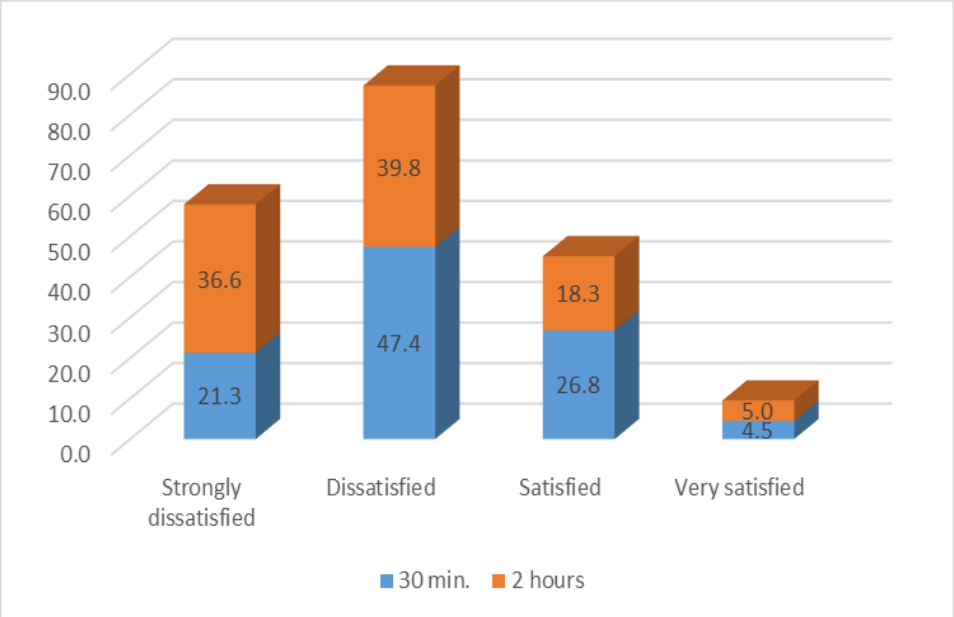
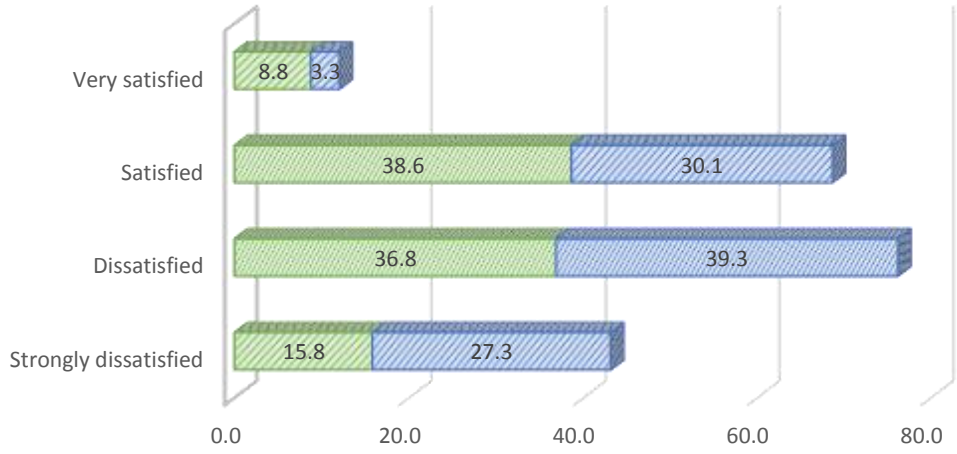



**Figure 4.12:** Changing in driving satisfaction level for the return trip

### 4.8.3 Changes in tourism activities satisfaction (Trip from home to Desaru)

Figure 4.13 shows the effect of delay in travel time and changes in the tourism activities satisfaction. It was found that 52.6 percent of self-drive tourist were dissatisfied and 47.4 percent were satisfied with their tourism activities in the scenario involving 30 minutes to one hour delay on trips to the Desaru.

The same trend also found in the scenario from two to three hours delay in arrival time. In this situation the majority of self-drive tourists (66.6 percent) are likely to dissatisfy with the tourism activities satisfaction. A number of tourist (47.4 percent) are still satisfy with the tourism activities if they involve within 30 minutes to one hour delay and about 33.4 percent of self-drive tourist still enjoying the tourism activities.

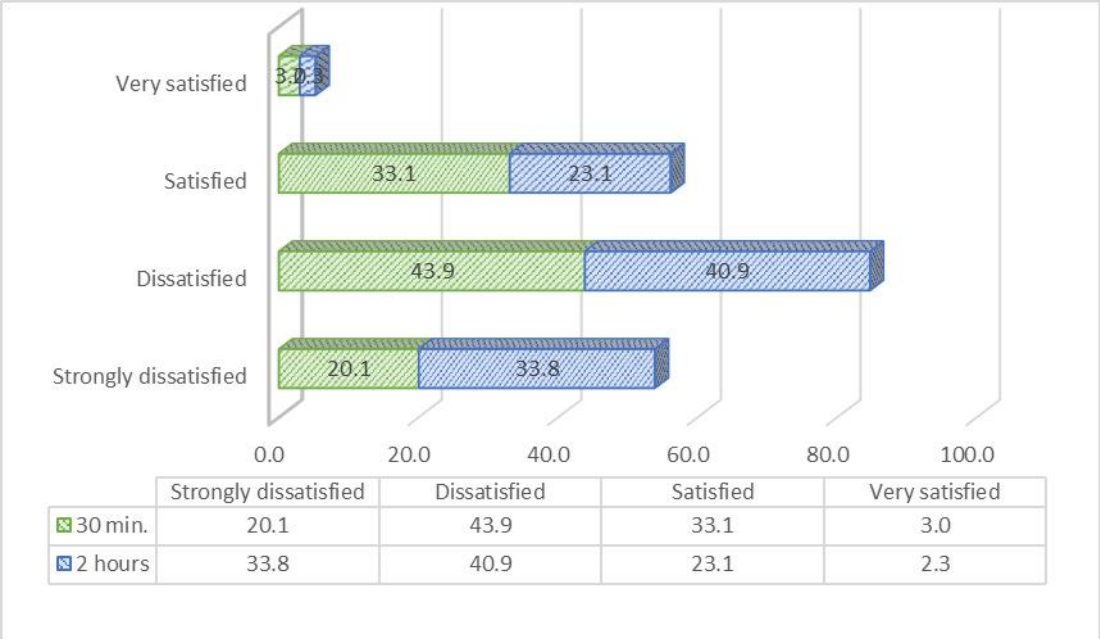



| | Strongly dissatisfied | Dissatisfied | Satisfied | Very satisfied |
|---|---|---|---|---|
| 30 min. | 15.8 | 36.8 | 38.6 | 8.8 |
| 2 hours | 27.3 | 39.3 | 30.1 | 3.3 |

**Figure 4.13:** Comparison graph changes in tourism activities satisfaction (Trip from home to Desaru)

### 4.8.4 Changes in tourism activities satisfaction (Return trip)

This study found that the delay in traveling time on the return trips have more impact to the changes in tourism activities satisfaction level. Figure below shows that (64 percent) of self-drive tourists likely to dissatisfied although only involved in 30 minutes delay. Moreover, 74.7 percent of tourist are dissatisfied with tourism activities if they involved from two to three hours delay in travel time. Less number of tourist are satisfy with the tourism activities after involved in delay on the return trips. This study revealed that delay in return trips have effects not only to the driving satisfaction itself but also to the tourism activities satisfaction.




| | Strongly dissatisfied | Dissatisfied | Satisfied | Very satisfied |
|---|---|---|---|---|
| 30 min. | 20.1 | 43.9 | 33.1 | 3.0 |
| 2 hours | 33.8 | 40.9 | 23.1 | 2.3 |

**Figure 4.14:** Comparison graph changes in tourism activities satisfaction (Trip from Desaru to home)

## 4.10 Summary

Firstly, this chapter discusses the framework of second survey, study area, questionnaire structure and sampling method. Questionnaire survey was conducted in Desaru area. Convenience sampling was employed to distribute the questionnaire set after successful identified a qualified respondents.

Then, this section discussed about the background of the respondents, the trip characteristics and finally the scenario case. This study found that the majority of respondents in this survey is male and from Malay ethnic group. This study also found that the main purpose of the majority of self-drive tourists to Desaru were for holiday, leisure and vacation and also to visit friends and relatives. Friends and relatives were their main influenced for self-drive tourists to visit Desaru area. This study also found that delay in travel time on return trips have more severe impact for the self-drive tourists in their satisfaction level toward driving satisfaction and tourism activities satisfaction.

# CHAPTER 5

# THE EFFECTS OF DRIVING SATISFACTION, TOURISM ACTIVITIES AND OVERALL SATISFACTION

The aim of this chapter is to examine the relationship between in highway and within the destination driving satisfaction, tourism activities and overall tourist satisfaction in the Desaru, Johor.

## 5.1 Introduction to SEM Model

The hypothesized model was assessed with the structural equation model. The following model represent the hypothesized relationships between the three variables below.

Driving Satisfaction⟶Tourism Activities Satisfaction⟶ Overall Satisfaction

In the process to select the variables to be included in the SEM model for highway and within the destination driving satisfaction, initially, this study conducted exploratory factor analysis for both road segment separately. A principal component analysis (PCA) was conducted on 7 items of highway driving factor and 8 items of destination driving factors with orthogonal rotation (varimax).The Kaiser-Meyer-Olkin (KMO) measure verified the sampling adequately for the analysis, KMO = 0.804. The Bartlett's test of Sphericity was significant ($X^2$ (21) =971.863, P<0.001) (Table 5.1). It was found that only the first two factors have eigenvalues over 1.00 and together explained over 67 percent of the total variability in the data. The one factor solution was preferred because of the leaving off of Eigen values on the scree-plot after two factor and the insufficient number of primary loadings of 0.7 or above (Table 5.2). Overall, the analysis indicated the three distinct factors for

highway segment (a good road design for safety, good technical support for sight distance during unforeseen situation and quality of road surface).

**Table 5.1**: KMO and Bartlett`s test (Highway)

| | | |
|---|---|---|
| Kaiser-Meyer-Olkin Measure of sampling adequacy. | | .804 |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 971.863 |
| | df | 21 |
| | Sig. | .000 |

**Table 5.2**: Component matrix (Highway)

| | Component | |
|---|---|---|
| | 1 | 2 |
| H4: a good road design for safety | .851 | |
| H5: good technical support for sight distance during unforeseen situation | .829 | |
| H3: quality of road surface | .793 | |
| H2: good traveler information services | .680 | -.462 |
| H1: driving at preferred speed | .645 | -.486 |
| H7: comfortable rest area and related services along the route | .610 | .592 |
| H6: experiencing beautiful natural and town scape along the route | .510 | .585 |
| Percentage of variance | 50.721 | 16.453 |
| Cumulative percentage | 50.721 | 67.174 |
| Eigenvalues | 3.550 | 1.152 |

Method: Principal component analysis (PCA)

The same procedure also conducted for within the destination road segment. The Kaiser-Meyer-Olkin (KMO) measure verified the sampling adequately for the analysis where, KMO = 0.831 (Table 5.3). The Bartlett's test of Sphericity was significant ($\mathcal{X}^2$ (28) $=684.448$ $P<0.001$) (Table 5.3). It was found that only the one factors had eigenvalues over 1.00 and explained 50.27 percent of the total variability in the data. The one factor solution was preferred because of the leaving off of Eigen values on the scree-plot and the insufficient number of primary loadings of 0.7 or above (Table 5.3). Overall, the analysis indicated the three distinct factors for within the destination road segment (good technical support for sight distance during

unforeseen situation, driving at preferred speed and a well-developed road network in the destination).

To investigate the causal effects among driving satisfaction factors towards the overall driving satisfaction in each of road segments, this study separated the driving satisfaction factors (D and H) and the destination overall driving satisfaction (DOS) and highway overall driving satisfaction (HOS). Moreover, for the tourism activities satisfaction (TA) this study measured all factors as one factors as shown in previous tourism destination satisfaction studies (Chi and Qu 2008) (Figure 5.1).

Using this model, this study tested all the hypotheses statement that mentioned in chapter two, no. 2.4. Further, this study also evaluated the differences among two group of drivers with possess important or less important feeling or believe to attitudes toward car and driving preferences. Moreover, this study also checked direct and indirect effects of drivers' attitudes toward car and driving preferences to the SEM model.

**Table 5.3**: KMO and Bartlett`s test (Destination)

| | | |
|---|---|---|
| Kaiser-Meyer-Olkin Measure of sampling adequacy. | | .831 |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 684.448 |
| | df | 28 |
| | Sig. | .000 |

**Table 5.4**: Component matrix (Destination)

| | Component 1 |
|---|---|
| D4: good technical support for sight distance during unforeseen situation | .714 |
| D7: driving at preferred speed | .709 |
| D6: a well-developed road network in the destination | .683 |
| D3: less number of stops at intersections | .663 |
| D1: less traffic volume in the destination | .633 |
| D5: availability of parking space | .616 |
| D2: quality of road surface | .614 |
| D8: experiencing beautiful natural and town scape along the route | .582 |
| Percentage of variance | 42.687 |
| Cumulative percentage | 50.721 |
| Eigenvalues | 3.415 |

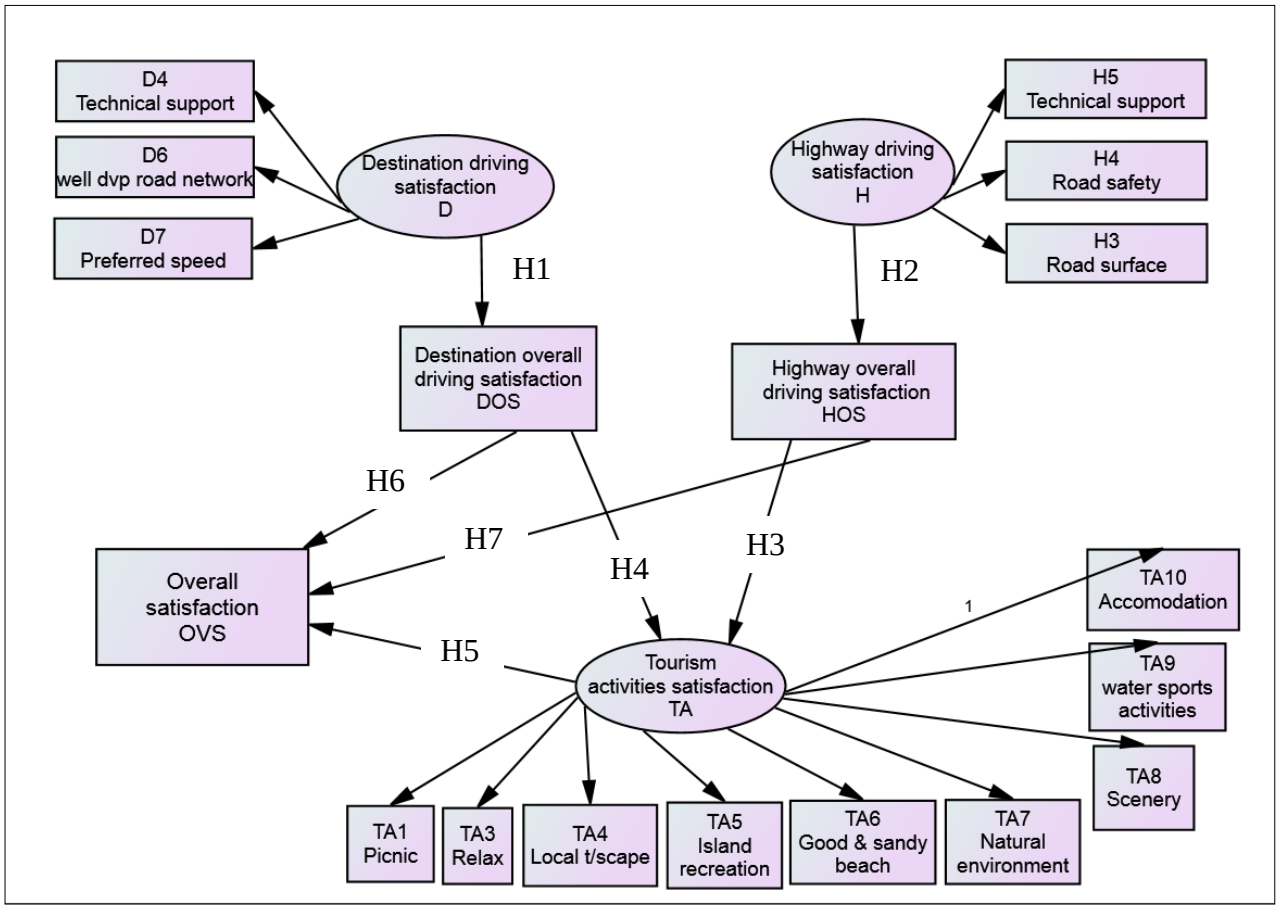



**Figure 5.1:** SEM model

## 5.2 SEM model fit

The hypothesized model was assessed with the structural equation model, and exhibited a good fit; based on the chi-squared statistics = 266.602, with 119 degrees of freedom, it displayed a statistically significant level of 0.00. and had RMSEA= 0.60, AGFI= .880, GFI= 0.92, PNFI= 0.69, CFI= 0.93, TLI= 0.91, and NFI= 0.88. Model modification indices has been applied to improve model fit by forming the correlated errors between measurement error and variables. After modification process, only significant factors retained in the model (figure 5.2).

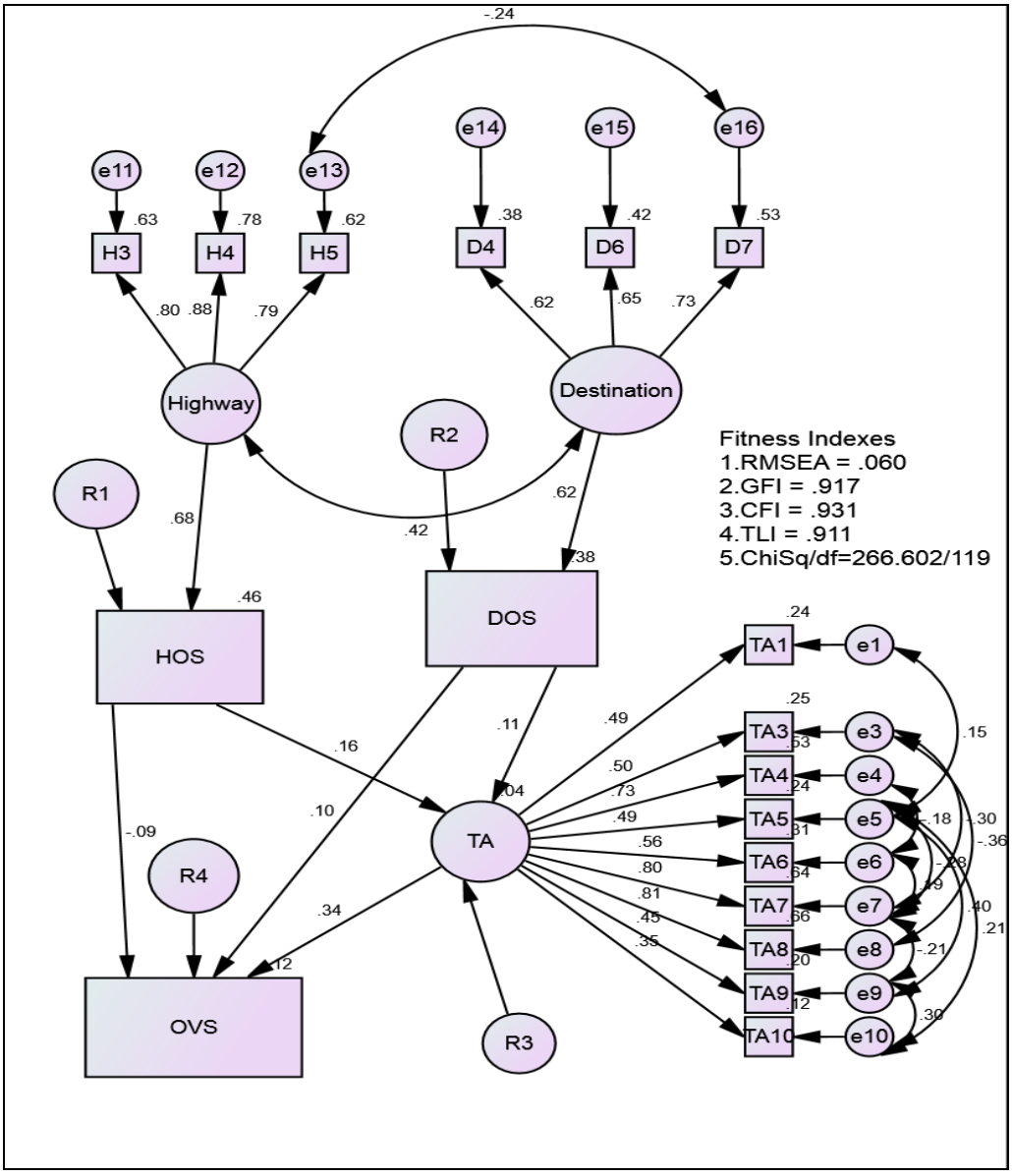



**Figure 5.2:** Overall model fit

### 5.2.1 Measurement models and hypotheses relationship

The standardized coefficients were analyzed to determine the relationship existed among the construct and all the hypotheses. Confirmatory factor analyses (CFA) of measurement models specifying the hypothesized relationship of the observed variables. Table 5.5 displayed the standardized loadings from CFAs and squared multiple correlation coefficient (SMC). Results show that each of the factor loadings was significant at the 0.001 level. However, the squared multiple correlation coefficient for some of the items is low. The SMC lies from 0 to 1 which indicated that the closer to 1 is better for the variables to serves of the latent construct (Ho, 2014).

**Table 5.5**: Standardized factor loadings of measurement model

| Construct | Items | Standardized loadings | Squared multiple correlations (SMC) |
|---|---|---|---|
| Destination overall satisfaction (DOS) | Destination | .619*** | |
| Highway overall satisfaction (HOS) | Highway | .680*** | |
| Tourism activities satisfaction | HOS | .155** | |
| | DOS | .112 | |
| | TA1 (picnic) | .486 | .236 |
| | TA3 (relax) | .505*** | .255 |
| | TA4 (local townscape) | .727*** | .528 |
| | TA5 (island recreation) | .491*** | .241 |
| | TA6 (good & sandy beach) | .560*** | .314 |
| | TA7 (natural environment) | .797*** | .636 |
| | TA8 (scenery) | .810*** | .656 |
| | TA9 (water sports activities) | .450*** | .203 |
| | TA10 (accommodation) | .351*** | .123 |
| Highway factor | H3 (road surface) | .796*** | .634 |
| | H4 (road safety) | .882*** | .777 |
| | H5 (technical support) | .785*** | .617 |
| Destination factor | D4 (technical support) | .617*** | .380 |
| | D6 (well develop road network) | .646*** | .418 |
| | D7 (preferred speed) | .727*** | .528 |
| Overall tourist satisfaction | TA | .335*** | .043 |
| | DOS | .096 | .383 |
| | HOS | -.085 | .462 |

Note *** $P$ <0.01

### 5.2.2 Hypotheses relationship

The present results showed that hypotheses H1, H2 to H3 and H5 were supported at the $p < 0.001$ significant level, hypotheses H4, H6 and H7 were rejected because the returned *P* value above 0.05 as shown in Table 5.6 below.

In general, the hypotheses results for the SEM-path model provide evidence that driving satisfaction does not have a significant effect on overall tourist satisfaction in the case of Desaru. Hypotheses (H6) and (H7) were rejected. Driving experiences on (Senai Desaru Expressway) highway and within the destination (Desaru) does not provide significant relationship to the overall tourist satisfaction. The results of this study contrast with Denstadli & Jacobsen, (2011) which shows that the road facilities play crucial role in achieving overall tourist satisfaction among motor tourist. However, this results are likely to be influenced by research in transportation fields which shows that drivers usually have positive evaluation on the trip for tourism purposes (Ettema et al., 2013).

Although this study lack evidence to shows that driving satisfaction influenced to the tourist overall satisfaction, however, this study found that there are positive and strong correlation between driving satisfaction factors on overall driving satisfaction at the destination (H1) and on overall highway driving satisfaction (H2). This finding suggest that road infrastructure and design aspects including various service types and environment would be worthwhile to improve both in highway and at the destination road segments as this factors have strong influence to the overall driving satisfaction.

Moreover, this study found that there is significant and positive influence of overall driving satisfaction on access and egress highway road segment to the tourism activities satisfaction (H3). This results shows that the road conditions or driving performance directly effects the driving satisfaction as well as the enjoyment or satisfaction to the tourism activities satisfaction. This finding is important and supported the previous studies conducted by Ory & Mokhtarian, (2005) and Handy et al. (2005) which shown that the reasons for driving or travel is by choice might

influenced by positive utility such as travel to the interesting destination, to escape from routines or tensions at work or home and to have exposure to the environment.

In the case of hypothesis five (H5). This study found that tourism activities indeed influence to the overall tourist satisfaction. This results consistent with previous studies that shows the important of destination attributes or tourism activities to the overall tourist satisfaction (Chi & Qu, 2008; Kozak, 2002; Kozak, 2001; Kozak & Rimmington, 2000; and Ragavan et al. 2014).

Since, previous studies lack in examining the impact of driving to the tourist activities satisfaction, this findings will be serving for enhancing on understanding the relationship of driving satisfaction and tourism activities satisfaction. Although, this study shows a clear evidence that overall driving satisfaction in the destination and in highway was not significantly effect to the overall tourist satisfaction, however, this present study makes noteworthy contribution in understanding there is an effects of driving in highway road segment and tourism activities satisfaction.

**Table 5.6:** The results of hypothesis testing for the respected paths

| **Hypothesis statement of path analysis** | **Estimate** | **P-value** | **Result & Decision** |
|---|---|---|---|
| $H_1$: At the destination, driving satisfaction factors have significant effects on overall driving satisfaction at the destination | 0.619 | 0.001 | Significant & supported |
| $H_2$: Access and egress highway driving satisfaction factors have significant effects on overall access and egress highway driving satisfaction | 0.680 | 0.001 | Significant & supported |
| $H_3$: Overall access and egress highway driving satisfaction has significant effects on tourism activities satisfaction | 0.155 | 0.008 | Significant & supported |
| $H_4$: Overall driving satisfaction at the destination has significant effects on tourism activities satisfaction | 0.112 | 0.052 | Not significant |
| $H_5$: Tourism activities satisfaction has significant effects on overall tourist satisfaction | 0.335 | 0.001 | Significant & supported |
| $H_6$: Overall driving satisfaction at the destination has significant effects on overall tourist satisfaction | 0.096 | 0.065 | Not significant |
| $H_7$: Overall access and egress highway driving satisfaction has significant effects on overall tourist satisfaction | 0.085 | 0.105 | Not significant |

## 5.3 SEM path model and drivers behaviors

The relationship between the SEM-path model and a group of drivers was then examined based on confidence or likelihood score of the respondents to a given set of attitudes towards cars and driving preferences. Table 5.6 and Table 5.7 summarizes the result of the z-statistic between the two groups of drivers (important and less important toward a given set of drivers' behavior) (Appendix E). This study used AMOS software to evaluate the differences among two group of drivers using the same model depicted in figure 5.2.

Overall, this investigation shows that drivers significantly different in their satisfaction in many model path except for path H-H4. Interesting results shows that both drivers with attitude *driving a car carries some risk to life* have no significant different on satisfaction for all model paths. This result reflects with study conducted by Harre et al., (2000) and Harre et al., (1996), which found that greater enjoyment in driving highly related to accept more risky in driving style. In this study we found that majority of the respondents have past experiences in the Desaru road and driving conditions. Therefore the prediction on driving risk among the drivers is within the acceptable expectation and less effect to differences for both group of drivers in the case of Desaru.

In the highway segment, for the path H to H4 (*a good road design for safety*) factor, it clearly demonstrates that the demand to experience/drive in good road safety aspects is not significantly different to all drivers with various attitudes toward car and driving preferences. It show that all drivers demanded to have a good road design for safety in highway. For the path H to H5 (*good technical support for sight distance during unforeseen situation*) the drivers' likelihood with attitudes to accept the responsibility of owning a car and environmentally concern have significantly different to the satisfaction in this path. The important group have more effect compare to less important group of drivers toward the responsibility of owning car (important=1.0, less important=0.76) and environmentally concern (important =0.98, less important =0.73). Moreover, in the driving preferences table (Table 5.7) all drivers same opinion in this path that a good technical support for sight distance during unforeseen situation important for the driving satisfaction.

Compare with within the destination road segment, it was found that strong and positive relationship occurred in D to D7 (*driving at preferred speed*) between speed factor to the overall driving satisfaction in the SEM model. This results consistent with Bassani *et al*., (2014) which shows that speed highly affected by drivers' characteristics as well as road geometric and conditions. Table 5.6 and Table 5.7 show that various drivers' attitudes toward car (driving a car is important in my life, driving a car means independence, driving a car is a part of growing up and driving a car with green energy is important) and driving preferences (I enjoy listening to music, news, or talk shows on the radio, I feel adventurous and I seek excitement in driving) differently affected in this factor. Local/ collector roads usually available in the destination road segment which unable to cater for high number of vehicles during peak time. Therefore, speed improvement within the destination prone to attract more tourists to the destination. In addition a well-developed road network in the destination also greatly affected drivers with enjoyment and environmental concern.

In addition, those prefer to have fun talking with passengers while driving only effect differently in the path (D to DOS) destination to destination overall satisfaction and (HOS to OVS) highway overall satisfaction to the overall satisfaction. This result explain that the enjoyment with while driving activities, lead to different satisfaction in overall destination driving satisfaction and overall satisfaction to the different drivers on their attitudes toward car and driving preferences.

Furthermore, driver with attitude driving car is important in my life (T7,T8,T9), I can afford the responsibility of owning a car (T7,T8,T9), I feel lost without car (T7,T8,T9) and also with driving preferences to enjoy listening to music, news or talk shows on the radio (T7,T8,T9), to feel adventurous (T7,T8,T9) and to seek excitement in driving (T7,T8,T9) significantly different in satisfaction towards same tourism activities such as experiencing natural environment (T7), and appreciated spectacular scenery (T8) and enjoyment in water sport activities (T9) as depicted in Table 5.6 and Table 5.7.

This study also found double influence occurred to the drivers that feel less important on enjoying listening to music, news or talk shows on the radio and seek excitement in driving on satisfaction compare to the important group (Appendix D). This finding consistent with Pecher, et al (2009) explained that enjoying listening to music, news or talk shows on the radio impact on drivers' attention. This result provide evidence that there are some influence of music to the drivers' attentional behavior toward enjoyment of outdoor recreation over the island or coastal area and destination driving conditions. Therefore, it can be suggested that to provide enjoyment music in the destination which will improve the drivers' attentional behavior toward satisfaction.

Table 5.7: Summary of z-statistics test on the attitudes toward car

| **Attitudes toward Car** | **SEM Paths** | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | D → DOS | H → HOS | HOS → TA | DOS → TA | TA → TA3 | TA → TA4 | TA → TA5 | TA → TA6 | TA → TA7 | TA → TA8 | TA → TA9 | H → H4 | H → H5 | D → D6 | D → D7 | TA → OVS | DOS → OVS | HOS → OVS |
| Driving a car is important in my life | -2.6*** | | | | 2.54** | 3.21*** | | | 3.43*** | 3.6*** | 1.76* | | | | -2.04** | | 1.8** | |
| Less important | | | | | 0.82 | 1.9 | | | 1.5 | 1.7 | 1.3 | | | | | | | |
| Important | 1.3 | | | | | | | | | | | | | | 1.72 | | | |
| Driving a car means independence | | | 2.37** | | | | | | | | | | | | 2.0** | | 1.8** | -2.5** |
| Less important | | | 0.22 | | | | | | | | | | | | 1.4 | | 0.3 | -0.19 |
| Important | | | | | | | | | | | | | | | | | | |
| I can afford the responsibility of owning a car | | | | | | 1.7* | | | 2.0** | 1.9* | 3.0*** | | -1.6* | | | | | 2.9*** |
| Less important | | | | | | 2.0 | | | 1.6 | 1.8 | 2.0 | | 1.0 | | | | | |
| Important | | | | | | | | | | | | | | | | | | -0.20 |
| I feel lost without a car | 1.9* | | | -2.7*** | | -3.0*** | | | -2.7*** | -4.5*** | -3.3*** | | | 1.8* | | -2.0 | | |
| Less important | | | | -0.47 | | | | | | | | | | 1.3 | | 0.4 | | |
| Important | | | | | | 1.9 | | | 1.4 | 1.7 | 1.4 | | | | | | | |
| Driving a car carries some risk to my life | | | | | | | | | | | | | | | | | | |
| Less important | | | | | | | | | | | | | | | | | | |
| Important | | | | | | | | | | | | | | | | | | |
| Driving a car is a part of growing up | | -2.0** | | | | | | 1.9* | 1.8* | 2.64*** | | | | 1.7* | 2.8*** | 2.5** | | -3.02*** |
| Less important | | | | | | | | 1.10 | 1.4 | 1.8 | | | | 1.20 | 1.4 | 0.5 | | -0.19 |
| Important | | 0.82 | | | | | | | | | | | | | | | | |

Legend: DOS-Destination overall satisfaction, HOS-Highway overall satisfaction, OVS-Overall tourist satisfaction TA-Tourism activities and TA1 to TA10 (Refer to figure 5.2)
p-value <0.01***, p-value <0.05** , p-value <0.10*

Table 5.7: Summary of z-statistics test on the attitudes toward car (continue)

| **Attitudes toward Car** | **SEM Paths** | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | D → DOS | H → HOS | HOS → TA | DOS → TA | TA → TA3 | TA → TA4 | TA → TA5 | TA → TA6 | TA → TA7 | TA → TA8 | TA → TA9 | H → H4 | H → H5 | D → D6 | D → D7 | TA → OVS | DOS → OVS | HOS → OVS |
| Driving a car is bad for the environment | | | 1.75* | -1.92 | -2.0** | | | | | -2.0 | | | -1.7* | | | | | |
| Less important | | | 0.31 | | | | | | | | | | 1.0 | | | | | |
| Important | | | | 0.22 | 1.05 | | | | | 2.0 | | | | | | | | |
| Driving a car with green energy is important | -3.3*** | | -2.02 | | | 1.7* | | | 2.07** | 2.21** | | | | | -1.8* | | | 2.2** |
| Less important | | | | | | 2.64 | | | 2.3 | 2.8 | | | | | | | | |
| Important | 0.94 | | 0.23 | | | | | | | | | | | | 1.22 | | | -0.17 |
| Legend: DOS-Destination overall satisfaction, HOS-Highway overall satisfaction, OVS-Overall tourist satisfaction TA-Tourism activities and TA1 to TA10 (Refer to figure 5.2)<br>p-value <0.01***, p-value <0.05** , p-value <0.10* | | | | | | | | | | | | | | | | | | |

Table 5.8: Summary of z-statistics test on driving preferences

| **Driving preferences** | **SEM Paths** | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | D → DOS | H → HOS | HOS → TA | DOS → TA | TA → TA3 | TA → TA4 | TA → TA5 | TA → TA6 | TA → TA7 | TA → TA8 | TA → TA9 | H → H4 | H → H5 | D → D6 | D → D7 | TA → OVS | DOS → OVS | HOS → OVS |
| I have fun talking with other passengers | -2.6 ** | | | | | | | | | | | | | | | | | -2.5 ** |
| Less important | | | | | | | | | | | | | | | | | | -0.3 |
| Important | 0.87 | | | | | | | | | | | | | | | | | |
| I enjoy listening to music, news, or talk shows on the radio | | | | 2.92 *** | 2.2** | 5.11 *** | | | 5.13 *** | 5.31 *** | 2.37 ** | | | -2.00 ** | -2.04 ** | | | |
| Less important | | | | -1.01 | 0.78 | 2.00 | | | 1.51 | 1.76 | 1.34 | | | | | | | |
| Important | | | | | | | | | | | | | | 2.5 | 3.00 | | | |
| I feel adventurous | 1.7 * | -2.24 ** | | -3.9 *** | | -3.43 *** | | | -3.9 *** | -4.7 ** | -2.2 ** | | | | 1.9 * | -1.73* | 2.8 *** | |
| Less important | 2.2 | | | -1.0 | | | | | | | | | | | 4.7 | | 0.71 | |
| Important | | 0.78 | | | | 2.1 | | | 1.64 | 2.1 | 1.3 | | | | | 0.5 | | |
| I seek excitement in driving | -2.6 *** | | | | 2.5** | 3.21 *** | | | 3.4 *** | 3.6 *** | 1.8 * | | | | -2.0 ** | | | |
| Less important | | | | | 0.82 | 1.9 | | | 1.5 | 1.6 | 1.3 | | | | | | | |
| Important | 1.3 | | | | | | | | | | | | | | 1.7 | | | |
| I always seek the fastest route to the destination | | | | | 2.4** | 1.7* | | 2.11 ** | | | | | | | | | | |
| Less important | | | | | 0.89 | 1.8 | | 1.0 | | | | | | | | | | |
| Important | | | | | | | | | | | | | | | | | | |

Legend: DOS-Destination overall satisfaction, HOS-Highway overall satisfaction, OVS-Overall tourist satisfaction TA-Tourism activities and TA1 to TA10 (Refer to figure 5.2)
p-value <0.01***, p-value <0.05** , p-value <0.10*

## 5.4 The effects of driving satisfaction on the tourism activities and overall satisfaction.

### 5.4.1 Attitudes toward car

This study further investigated the total, direct and indirect effects of driving satisfaction to the tourism activities and overall tourist satisfaction (Table 5.8, Table 5.9 and Table 5.10). Using the same model in figure 5.3 this study checked the overall highway driving satisfaction, destination overall driving satisfaction to tourism activities satisfaction and overall satisfaction toward (important and less important) attitudes toward car and driving preferences listed items. With 1000 bootstrap method and at 95 percent bias corrected confidence interval, this study checked the direct and indirect effects by referring to the two tailed significance value estimates. In the process to calculate the result this study followed instructions by AMOS software which lead to differences in the total effects between within 0.1 to 0.2 from the previous model 5.3.

It was found that drivers disagree/less important toward *driving a car is important in their life* has significant impact in destination driving satisfaction to the overall satisfaction (DOS-OVS). Moreover, the same group have significant effect to the tourism activities and overall satisfaction compare to the important drivers. This study found that indirect effect between HOS-OVS occurred for this group of drivers by 0.007 increases in standard deviation indirectly will increase in overall satisfaction.

A small direct effect of driving satisfaction within the destination (DOS) segment to the OVS was found segments for all drivers (0.11). No significant direct or indirect effect was found for the drivers that believed *driving car means independent, I feel lost without a car, driving a car carries some risk to my life, driving a car is a part of growing up* and *driving a car is bad for the environment* to the overall satisfaction.

There is negative total effects between HOS to the OVS for less group of drivers in the attitude of *driving car is important in my life (-0.01), driving a car means independence (-0.13), I can afford the responsibility of owning a car (-0.14), driving a car carries some risk to my life (-0.08), driving a car is a part of growing up (-0.08) and driving a car is bad for environment (-0.08).* However, results indicated that there is indirect effect in the highway overall satisfaction (HOS) to OVS and to the tourism activities (TA) at $p$ = 0.05, (between 0.016 to 0.186). The indirect effects get more influence from the less important / disagree group of drivers.

Driver behavior *that driving a car is a part of growing up* attitude have significant indirect effect in overall satisfaction (OVS) within the destination driving satisfaction (0.03). DOS increase by 0.03 standard deviation will lead to increase on every one standard deviation in OVS. There was insignificant direct relationship on driving satisfaction in highway (HOS) road segments to the overall tourist satisfaction (OVS) for drivers that have more concern on green energy (*driving car with green energy is important*). Drivers that have less feeling on the important of the environmental attitude (*driving a car is bad for the environment* and *driving car with green energy is important*) have significant effect in enjoyment of tourism activities compare to the important group of drivers.

On the other side, both group of drivers that believe *driving a car means independence* and *I feel lost without car* have significant direct effect to the tourism activities. However, the indirect effects shows that, highway road segment have more significantly affect the important group in the attitude *I feel lost without car* toward satisfaction in tourism activities. This study also shows that within the destination driving satisfaction (DOS) have indirect effects to OVS and tourism activities for less important group of drivers.

Overall, the table shows that majority of drivers with less feeling /less important group in the following attitudes *driving a car is important in my life, driving a car means independence, I can afford the responsibility of owning a car, I feel lost without car, driving a car carries some risk to my life, driving a car is a part of growing up, driving a car is bad for the environment* and *driving a car with*

*green energy is important* have significant direct and indirect effects in HOS to OVS and tourism activities. The present finding suggest that the highway conditions indirectly effected self-driving tourist in enjoyment of the tourism activities as well as overall satisfaction. The indirect connection between driving experiences toward the roadway conditions revealed positive effect to the tourism activities satisfaction as well as overall satisfaction. The more improvements to the tourism routes in the aspect of driving speed, beautiful natural and surrounding view, road safety infrastructure, driving comfort and roadside facilities factors will lead to the higher the tendency to increase in the tourism activities satisfaction and overall tourist satisfaction.

**Table 5.9:** Standardized total effects for two group of drivers

| Attitudes toward Car | Standardized total effects | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | HOS ↓ TA | DOS ↓ TA | HOS ↓ OVS | DOS ↓ OVS | TA ↓ OVS | HOS ↓ TA10 | HOS ↓ TA9 | HOS ↓ TA8 | HOS ↓ TA7 | HOS ↓ TA6 | HOS ↓ TA5 | HOS ↓ TA4 | HOS ↓ TA3 | HOS ↓ TA1 |
| Driving a car is important in my life | 0.18 | | | 0.13 | 0.33 | 0.07 | 0.09 | 0.14 | 0.13 | 0.10 | 0.09 | 0.12 | 0.07 | 0.09 |
| Less important | 0.25 | | -0.01 | 0.17 | 0.28 | 0.09 | 0.12 | 0.19 | 0.19 | 0.16 | 0.13 | 0.17 | 0.09 | 0.13 |
| Important | | | | | | | | | | | | | | |
| Driving a car means independence | 0.18 | | | 0.13 | 0.33 | 0.7 | 0.9 | 0.13 | 0.13 | 0.1 | 0.12 | 0.12 | 0.07 | 0.09 |
| Less important | 0.16 | | -0.13 | | 0.34 | 0.7 | 0.5 | 0.12 | 0.11 | 0.11 | 0.9 | 0.11 | 0.09 | 0.09 |
| Important | 0.22 | | | | 0.36 | 0.09 | 0.14 | 0.17 | 0.17 | 0.11 | 0.10 | 0.15 | 0.06 | 0.11 |
| I can afford the responsibility of owning a car | 0.18 | | | 0.13 | 0.33 | 0.07 | 0.09 | 0.13 | 0.13 | 0.10 | 0.09 | 0.12 | 0.07 | 0.09 |
| Less important | 0.16 | | -0.14 | 0.14 | 0.34 | 0.07 | 0.05 | 0.12 | 0.11 | 0.11 | 0.09 | 0.11 | 0.08 | 0.09 |
| Important | | | | | | | | | | | | | | |
| I feel lost without a car | 0.18 | | | 0.13 | 0.33 | 0.08 | 0.08 | 0.13 | 0.13 | 0.10 | 0.09 | 0.12 | 0.07 | 0.09 |
| Less important | 0.23 | | | | 0.37 | 0.11 | 0.13 | 0.17 | 0.18 | 0.15 | 0.15 | 0.17 | 0.10 | 0.12 |
| Important | 0.16 | 0.19 | | | 0.30 | 0.06 | 0.07 | 0.13 | 0.11 | 0.09 | 0.07 | 0.11 | 0.06 | 0.08 |
| Driving a car carries some risk to my life | 0.18 | | | 0.13 | 0.33 | 0.08 | 0.09 | 0.14 | 0.13 | 0.10 | 0.10 | 0.13 | 0.07 | 0.09 |
| Less important | 0.23 | | -0.08 | | 0.37 | 0.07 | 0.10 | 0.19 | 0.19 | 0.15 | 0.09 | 0.15 | 0.09 | 0.10 |
| Important | | | | | | | | | | | | | | |
| Driving a car is a part of growing up | 0.18 | | | 0.13 | 0.33 | 0.08 | 0.09 | 0.14 | 0.13 | 0.10 | 0.10 | 0.13 | 0.07 | 0.09 |
| Less important | 0.23 | | -0.08 | | 0.37 | 0.07 | 0.10 | 0.19 | 0.19 | 0.15 | 0.09 | 0.15 | 0.09 | 0.10 |
| Important | | | | | | | | | | | | | | |
| Driving a car is bad for the environment | 0.18 | | | 0.13 | 0.33 | 0.08 | 0.14 | 0.13 | 0.13 | 0.10 | 0.10 | 0.13 | 0.07 | 0.09 |
| Less important | 0.24 | | -0.08 | | 0.34 | 0.10 | 0.11 | 0.17 | 0.17 | 0.16 | 0.14 | 0.16 | 0.11 | 0.15 |
| Important | | | | | | | | | | | | | | |
| Driving a car with green energy is important | 0.18 | | | 0.13 | 0.33 | 0.08 | 0.09 | 0.14 | 0.13 | 0.10 | 0.10 | 0.13 | 0.07 | 0.09 |
| Less important | 0.23 | | | 0.14 | 0.33 | 0.10 | 0.12 | 0.16 | 0.16 | 0.14 | 0.12 | 0.16 | 0.11 | 0.13 |
| Important | | | | | | | | | | | | | | |

Legend: DOS-Destination overall satisfaction, HOS-Highway overall satisfaction, OVS-Overall tourist satisfaction TA-Tourism activities and TA1 to TA10 (Refer to figure 5.2)

**Table 5.10:** Standardized direct effects for two group of drivers

| Attitudes toward Car | Standardized direct effects | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | HOS → TA | DOS → TA | HOS → OVS | DOS → OVS | TA → OVS | HOS → TA10 | HOS → TA9 | HOS → TA8 | HOS → TA7 | HOS → TA6 | HOS → TA5 | HOS → TA4 | HOS → TA3 | HOS → TA1 |
| Driving a car is important in my life | 0.18 | | | 0.11 | 0.33 | 0.43 | 0.50 | 0.77 | 0.75 | 0.60 | 0.55 | 0.72 | 0.41 | 0.53 |
| Less important | 0.25 | | -0.17 | 0.16 | 0.28 | 0.37 | 0.49 | 0.75 | 0.75 | 0.64 | 0.52 | 0.70 | 0.38 | 0.54 |
| Important | | | | | | | | | | | | | | |
| Driving a car means independence | 0.18 | | | 0.11 | 0.33 | 0.43 | 0.50 | 0.77 | 0.75 | 0.60 | 0.55 | 0.72 | 0.41 | 0.53 |
| Less important | 0.16 | | -0.19 | | 0.34 | 0.43 | 0.33 | 0.74 | 0.72 | 0.68 | 0.57 | 0.73 | 0.54 | 0.57 |
| Important | 0.22 | | | | 0.36 | 0.42 | 0.65 | 0.79 | 0.8 | 0.55 | 0.47 | 0.68 | 0.3 | 0.50 |
| I can afford the responsibility of owning a car | 0.18 | | | 0.11 | 0.33 | 0.43 | 0.50 | 0.77 | 0.75 | 0.60 | 0.55 | 0.72 | 0.41 | 0.53 |
| Less important | 0.17 | | -0.19 | 0.11 | 0.34 | 0.43 | 0.33 | 0.74 | 0.72 | 0.68 | 0.58 | 0.73 | 0.54 | 0.57 |
| Important | | | | | | | | | | | | | | |
| I feel lost without a car | 0.18 | | | 0.11 | 0.33 | 0.43 | 0.50 | 0.77 | 0.75 | 0.60 | 0.55 | 0.72 | 0.41 | 0.53 |
| Less important | 0.23 | | | | 0.34 | 0.47 | 0.54 | 0.72 | 0.78 | 0.63 | 0.64 | 0.72 | 0.42 | 0.53 |
| Important | 0.16 | 0.19 | | | 0.30 | 0.40 | 0.45 | 0.82 | 0.72 | 0.55 | 0.48 | 0.71 | 0.39 | 0.52 |
| Driving a car carries some risk to my life | 0.18 | | | 0.11 | 0.36 | 0.43 | 0.50 | 0.77 | 0.75 | 0.60 | 0.55 | 0.72 | 0.41 | 0.53 |
| Less important | 0.23 | | -0.16 | | 0.37 | 0.32 | 0.45 | 0.84 | 0.83 | 0.66 | 0.41 | 0.66 | 0.39 | 0.44 |
| Important | | | | | | | | | | | | | | |
| Driving a car is a part of growing up | 0.18 | | | 0.11 | 0.33 | 0.43 | 0.50 | 0.77 | 0.75 | 0.60 | 0.55 | 0.72 | 0.41 | 0.53 |
| Less important | 0.23 | | -0.16 | | 0.34 | 0.32 | 0.45 | 0.84 | 0.83 | 0.66 | 0.41 | 0.66 | 0.39 | 0.44 |
| Important | | | | | | | | | | | | | | |
| Driving a car is bad for the environment | 0.18 | | | 0.11 | 0.33 | 0.43 | 0.50 | 0.77 | 0.75 | 0.60 | 0.54 | 0.72 | 0.41 | 0.53 |
| Less important | 0.24 | | -0.16 | | 0.34 | 0.41 | 0.46 | 0.70 | 0.72 | 0.67 | 0.59 | 0.68 | 0.46 | 0.62 |
| Important | | | | | | | | | | | | | | |
| Driving a car with green energy is important | 0.18 | | | 0.11 | 0.33 | 0.43 | 0.50 | 0.77 | 0.75 | 0.60 | 0.55 | 0.72 | 0.41 | 0.53 |
| Less important | 0.23 | | | 0.13 | 0.33 | 0.46 | 0.51 | 0.72 | 0.70 | 0.61 | 0.52 | 0.70 | 0.48 | 0.56 |
| Important | | | | | | | | | | | | | | |

Legend: DOS-Destination overall satisfaction, HOS-Highway overall satisfaction, OVS-Overall tourist satisfaction TA-Tourism activities and TA1 to TA10 – Refer to figure 5.2

**Table 5.11:** Standardized indirect effects for two group of drivers

| Attitudes toward Car | Standardized indirect effects | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | HOS ↓ TA | DOS ↓ TA | HOS ↓ OVS | DOS ↓ OVS | TA ↓ OVS | HOS ↓ TA10 | HOS ↓ TA9 | HOS ↓ TA8 | HOS ↓ TA7 | HOS ↓ TA6 | HOS ↓ TA5 | HOS ↓ TA4 | HOS ↓ TA3 | HOS ↓ TA1 |
| Driving a car is important in my life | | | | 0.03 | | 0.08 | 0.09 | 0.14 | 0.13 | 0.10 | 0.10 | 0.12 | 0.07 | 0.09 |
| Less important | | | 0.07 | 0.01 | | 0.09 | 0.12 | 0.19 | 0.19 | 0.16 | 0.13 | 0.17 | 0.09 | 0.14 |
| Important | | | | | | | | | | | | | | |
| Driving a car means independence | | | | 0.03 | | 0.08 | 0.09 | 0.14 | 0.13 | 0.10 | 0.10 | 0.13 | 0.07 | 0.09 |
| Less important | | | 0.06 | | | 0.07 | 0.05 | 0.12 | 0.12 | 0.11 | 0.09 | 0.12 | 0.09 | 0.09 |
| Important | | | | | | 0.09 | 0.14 | 0.17 | 0.17 | 0.12 | 0.10 | 0.15 | 0.06 | 0.11 |
| I can afford the responsibility of owning a car | | | | 0.03 | | 0.08 | 0.09 | 0.14 | 0.13 | 0.10 | 0.10 | 0.13 | 0.07 | 0.09 |
| Less important | | | 0.06 | 0.03 | | 0.07 | 0.05 | 0.12 | 0.12 | 0.11 | 0.09 | 0.12 | 0.09 | 0.09 |
| Important | | | | | | | | | | | | | | |
| I feel lost without a car | | | 0.06 | 0.03 | | 0.08 | 0.09 | 0.14 | 0.13 | 0.10 | 0.10 | 0.13 | 0.07 | 0.09 |
| Less important | | | | | | | | | | | | | | |
| Important | | | | | | 0.06 | 0.07 | 0.13 | 0.11 | 0.09 | 0.07 | 0.11 | 0.06 | 0.08 |
| Driving a car carries some risk to my life | | | | 0.03 | | 0.08 | 0.09 | 0.14 | 0.13 | 0.10 | 0.10 | 0.13 | 0.07 | 0.09 |
| Less important | | | 0.08 | | | 0.07 | 0.10 | 0.19 | 0.19 | 0.15 | 0.09 | 0.15 | 0.09 | 0.10 |
| Important | | | | | | | | | | | | | | |
| Driving a car is a part of growing up | | | | 0.03 | | 0.08 | 0.09 | 0.14 | 0.13 | 0.10 | 0.10 | 0.13 | 0.07 | 0.09 |
| Less important | | | 0.08 | | | 0.07 | 0.10 | 0.19 | 0.19 | 0.15 | 0.09 | 0.15 | 0.08 | 0.10 |
| Important | | | | | | | | | | | | | | |
| Driving a car is bad for the environment | | | | 0.03 | | 0.08 | 0.09 | 0.14 | 0.13 | 0.10 | 0.10 | 0.13 | 0.07 | 0.09 |
| Less important | | | 0.08 | | | 0.10 | 0.11 | 0.17 | 0.17 | 0.16 | 0.14 | 0.16 | 0.11 | 0.15 |
| Important | | | | | | | | | | | | | | |
| Driving a car with green energy is important | | | | 0.03 | | 0.08 | 0.09 | 0.14 | 0.13 | 0.10 | 0.10 | 0.13 | 0.07 | 0.09 |
| Less important | | | | 0.02 | | 0.10 | 0.12 | 0.16 | 0.16 | 0.14 | 0.12 | 0.16 | 0.11 | 0.13 |
| Important | | | | | | | | | | | | | | |

Legend: DOS-Destination overall satisfaction, HOS-Highway overall satisfaction, OVS-Overall tourist satisfaction TA-Tourism activities and TA1 to TA10 – Refer to figure 5.2

### 5.4.2 Driving preferences

This section revealed the results of total effect, direct effect and indirect effect to the driving preferences items. Overall, this study found that driving satisfaction on highway road segment (HOS) have direct and indirect effects toward the tourism activities. Drivers that enjoy while driving (*fun talking with other passengers* and *enjoyed listening to music, news, or talk shows on the radio)* and feel adventurous (*I feel adventurous*) showed significant effect between within destination driving satisfaction and tourism activities (DOS to TA). The small direct and indirect effect of driving satisfaction to the TA was found in highway road segments compare to the within the destination segment (Table 5.12, Table 5.13 and Table 5.14).

All drivers that prefer to have *fun talking with other passengers* and *enjoyed listening to music, news, or talk shows on the radio* has significant direct and indirect impact in the path HOS to TA. Less important drivers that *enjoyed listening to music, news, or talk shows on the radio* have significant direct effects in destination road segment (DOS) to overall satisfaction (OVS) and all tourism activities. Its shows that increases by 0.033 in destination driving satisfaction (DOS) the same value of one standard deviation increases in overall satisfaction (OVS).

Interestingly, it was found that HOS significantly direct and indirectly effect for drivers that felt less important in all driving preferences items. This indicated that highway driving conditions have more effects to the drivers with less preferences on driving. Further, it was found that driving in the destination have more effect to all drivers in the path DOS to OVS.

This study showed that highway overall satisfaction (HOS) has significant indirect effect to the tourism activities (TA). Overall, less important attitudes toward driving preferences have more indirect effects to the tourism activities. In the case of drivers that *seek excitement in driving* less important drivers have more indirect effect found in tourism activities (TA) $P$ = 0.05, TA=0.019 (0.012 - 0.292). Drivers that less *seek on excitement* while driving for tourism purposes indirectly affected

OVS on within the destination condition driving experiences compare to within the destination road segment $P = 0.05$, OVS = 0.003, (0.018 - 0.119).

The finding provides evidence that driving experiences in highway road conditions have influence to the tourism activities satisfaction as well as overall satisfaction. Table 5.12, Table 5.13 and Table 5.14 revealed that self-driving tourists in Desaru highly affected to the highway driving conditions compare to the within the destination road segments. This finding suggested that more improvements to the highway road segment in the aspect of driving speed, beautiful natural and surrounding panorama, road safety infrastructure, driving comfort and roadside facilities are well suit to increase the tourism activities satisfaction and overall tourist satisfaction.

The results indicated that the improvement on the highway driving conditions may encourage less group of drivers toward car to increase their likelihood toward driving preferences and also will improve the driving satisfaction as well as tourism activities and overall satisfaction.

**Table 5.12:** Standardized total effects for two group of drivers

| **Driving preferences** | **Standardized TOTAL effects** | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | HOS ↓ TA | DOS ↓ TA | HOS ↓ OVS | DOS ↓ OVS | TA ↓ OVS | HOS ↓ TA10 | HOS ↓ TA9 | HOS ↓ TA8 | HOS ↓ TA7 | HOS ↓ TA6 | HOS ↓ TA5 | HOS ↓ TA4 | HOS ↓ TA3 | HOS ↓ TA1 |
| I have fun talking with other passengers | 0.18 | | | 0.13 | 0.33 | 0.08 | 0.09 | 0.14 | 0.13 | 0.10 | 0.10 | 0.13 | 0.07 | 0.09 |
| Less important | 0.19 | | | | 0.31 | 0.07 | 0.09 | 0.15 | 0.15 | 0.11 | 0.10 | 0.14 | 0.06 | 0.09 |
| Important | | -0.26 | | | 0.36 | 0.09 | 0.09 | 0.11 | 0.12 | 0.13 | 0.10 | 0.09 | 0.12 | 0.14 |
| I enjoy listening to music, news, or talk shows on the radio | 0.18 | | | 0.13 | 0.33 | 0.08 | 0.09 | 0.14 | 0.13 | 0.10 | 0.10 | 0.13 | 0.07 | 0.09 |
| Less important | 0.23 | -0.30 | | 0.23 | 0.33 | 0.10 | 0.10 | 0.12 | 0.15 | 0.16 | 0.12 | 0.16 | 0.14 | 0.18 |
| Important | 0.16 | 0.17 | | | 0.35 | 0.06 | 0.07 | 0.13 | 0.13 | 0.09 | 0.07 | 0.11 | 0.05 | 0.07 |
| I feel adventurous | 0.18 | 0.08 | | 0.13 | 0.33 | 0.08 | 0.09 | 0.14 | 0.13 | 0.10 | 0.10 | 0.13 | 0.07 | 0.09 |
| Less important | 0.17 | 0.15 | | | 0.30 | 0.06 | 0.07 | 0.13 | 0.13 | 0.10 | 0.08 | 0.12 | 0.06 | 0.08 |
| Important | | | | | | | | | | | | | | |
| I seek excitement in driving | 0.18 | | | 0.13 | 0.33 | 0.08 | 0.09 | 0.14 | 0.13 | 0.10 | 0.10 | 0.13 | 0.07 | 0.09 |
| Less important | 0.18 | | | | 0.33 | 0.07 | 0.08 | 0.14 | 0.14 | 0.11 | 0.09 | 0.13 | 0.07 | 0.09 |
| Important | | | | | | | | | | | | | | |
| I always seek the fastest route to the destination | 0.18 | | | 0.13 | 0.33 | 0.07 | 0.09 | 0.14 | 0.13 | 0.10 | 0.10 | 0.13 | 0.07 | 0.09 |
| Less important | 0.17 | | | 0.19 | 0.34 | 0.08 | 0.09 | 0.13 | 0.13 | 0.10 | 0.10 | 0.12 | 0.07 | 0.09 |
| Important | | | | | | | | | | | | | | |
| Legend: DOS-Destination overall satisfaction, HOS-Highway overall satisfaction, OVS-Overall tourist satisfaction TA-Tourism activities and TA1 to TA10 – Refer to figure 5.3 | | | | | | | | | | | | | | |

**Table 5.13:** Standardized direct effects for two group of drivers

| **Driving preferences** | **Standardized estimate direct effects** | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | HOS ↓ TA | DOS ↓ TA | HOS ↓ OVS | DOS ↓ OVS | TA ↓ OVS | HOS ↓ TA10 | HOS ↓ TA9 | HOS ↓ TA8 | HOS ↓ TA7 | HOS ↓ TA6 | HOS ↓ TA5 | HOS ↓ TA4 | HOS ↓ TA3 | HOS ↓ TA1 |
| I have fun talking with other passengers | 0.18 | | | 0.11 | 0.34 | 0.43 | 0.50 | 0.77 | 0.75 | 0.60 | 0.55 | 0.72 | 0.41 | 0.53 |
| Less important | 0.19 | | | | 0.31 | 0.39 | 0.48 | 0.80 | 0.76 | 0.58 | 0.53 | 0.74 | 0.34 | 0.47 |
| Important | | -0.26 | | | 0.36 | 0.52 | 0.51 | 0.65 | 0.70 | 0.80 | 0.58 | 0.52 | 0.73 | 0.83 |
| I enjoy listening to music, news, or talk shows on the radio | 0.18 | | | 0.11 | 0.34 | 0.43 | 0.50 | 0.77 | 0.75 | 0.60 | 0.55 | 0.72 | 0.41 | 0.53 |
| Less important | 0.23 | -0.23 | | 0.33 | 0.33 | 0.43 | 0.43 | 0.55 | 0.65 | 0.69 | 0.55 | 0.70 | 0.64 | 0.78 |
| Important | 0.16 | 0.17 | | | 0.35 | 0.40 | 0.45 | 0.86 | 0.82 | 0.57 | 0.47 | 0.70 | 0.30 | 0.43 |
| I feel adventurous | 0.18 | 0.10 | | 0.11 | 0.33 | 0.43 | 0.50 | 0.77 | 0.75 | 0.60 | 0.55 | 0.72 | 0.41 | 0.53 |
| Less important | 0.17 | 0.15 | | | 0.30 | 0.38 | 0.46 | 0.79 | 0.78 | 0.61 | 0.49 | 0.71 | 0.37 | 0.47 |
| Important | | | | | | | | | | | | | | |
| I seek excitement in driving | 0.18 | | | 0.11 | 0.33 | 0.43 | 0.50 | 0.77 | 0.75 | 0.60 | 0.55 | 0.72 | 0.41 | 0.53 |
| Less important | 0.18 | | | | 0.33 | 0.40 | 0.48 | 0.78 | 0.76 | 0.60 | 0.51 | 0.72 | 0.40 | 0.50 |
| Important | | | | | | | | | | | | | | |
| I always seek the fastest route to the destination | 0.18 | | | 0.11 | 0.33 | 0.43 | 0.50 | 0.77 | 0.75 | 0.60 | 0.55 | 0.72 | 0.41 | 0.53 |
| Less important | 0.18 | | | 0.15 | 0.34 | 0.46 | 0.53 | 0.75 | 0.73 | 0.59 | 0.56 | 0.71 | 0.43 | 0.51 |
| Important | | | | | | | | | | | | | | |
| Legend: DOS-Destination overall satisfaction, HOS-Highway overall satisfaction, OVS-Overall tourist satisfaction TA-Tourism activities and TA1 to TA10 – Refer to figure 5.3 | | | | | | | | | | | | | | |

**Table 5.14:** Standardized indirect effects for two group of drivers

| **Driving preferences** | **Standardized indirect effects** | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | HOS ↓ TA | DOS ↓ TA | HOS ↓ OVS | DOS ↓ OVS | TA ↓ OVS | HOS ↓ TA10 | HOS ↓ TA9 | HOS ↓ TA8 | HOS ↓ TA7 | HOS ↓ TA6 | HOS ↓ TA5 | HOS ↓ TA4 | HOS ↓ TA3 | HOS ↓ TA1 |
| I have fun talking with other passengers | | | | 0.03 | | 0.08 | 0.09 | 0.14 | 0.13 | 0.10 | 0.10 | 0.13 | 0.07 | 0.09 |
| Less important | | | | | | 0.07 | 0.09 | 0.15 | 0.15 | 0.11 | 0.10 | 0.14 | 0.06 | 0.09 |
| Important | | | | | | 0.09 | 0.09 | 0.11 | 0.12 | 0.13 | 0.10 | 0.09 | 0.12 | 0.14 |
| I enjoy listening to music, news, or talk shows on the radio | | | | 0.03 | | 0.07 | 0.09 | 0.14 | 0.13 | 0.10 | 0.10 | 0.13 | 0.07 | 0.09 |
| Less important | | | | -0.09 | | 0.07 | 0.10 | 0.12 | 0.15 | 0.16 | 0.12 | 0.16 | 0.14 | 0.18 |
| Important | | | | 0.05 | | 0.06 | 0.07 | 0.13 | 0.13 | 0.09 | 0.07 | 0.11 | 0.05 | 0.07 |
| I feel adventurous | | | | 0.03 | | 0.08 | 0.09 | 0.14 | 0.13 | 0.10 | 0.10 | 0.13 | 0.07 | 0.09 |
| Less important | | | | 0.05 | | 0.06 | 0.07 | 0.13 | 0.13 | 0.10 | 0.08 | 0.11 | 0.06 | 0.08 |
| Important | | | | | | | | | | | | | | |
| I seek excitement in driving | | | | 0.03 | | 0.08 | 0.09 | 0.14 | 0.13 | 0.10 | 0.10 | 0.13 | 0.07 | 0.09 |
| Less important | | | | | | 0.07 | 0.08 | 0.14 | 0.14 | 0.11 | 0.09 | 0.13 | 0.07 | 0.09 |
| Important | | | | | | | | | | | | | | |
| I always seek the fastest route to the destination | | | | -0.02 | | 0.08 | 0.09 | 0.13 | 0.13 | 0.10 | 0.10 | 0.12 | 0.07 | 0.09 |
| Less important | | | | 0.05 | | 0.08 | 0.09 | 0.13 | 0.13 | 0.10 | 0.10 | 0.12 | 0.08 | 0.09 |
| Important | | | | | | | | | | | | | | |

Legend: DOS-Destination overall satisfaction, HOS-Highway overall satisfaction, OVS-Overall tourist satisfaction TA-Tourism activities and TA1 to TA10 – Refer to figure 5.3

## 5.5 Summary

This paper presented results on the effects of driving satisfaction on highways and within the destination road segments on overall tourist satisfaction. From this investigation, it can be concluded that overall tourist satisfaction in Desaru was less influenced by driving satisfaction. However, another findings show that driving in highway road segments has positive effects on tourist activities satisfaction. The following points emerged from the present investigation include:

- Drivers that accept risk in their driving styles have a tendency to have same opinion in driving and also in tourism activities satisfaction (Table 5.6). Overall, drivers differently satisfied toward the SEM path model (Table 5.6 and Table 5.7). By understand the variations of driver's background, it can be served as a fundamental for traffic facilities improvement in tourism route, as well as tourism activities.

- The finding shows that in the highway segment, the self-drive tourists have more concern in safety journey (H4) to the tourism destination, whereas in the destination segment the self-drive tourist prefers to experience seamless journey (D7) and more roadway options (D6) in order to reach the tourist destination. In addition, the demand to experience on safety road design (H4) become more important to all drivers with various attitudes toward car and driving preferences in Senai Desaru Expressway (Table 5.6 and Table 5.7).

- This study shows that destination attraction influenced by a well-developed road network to the destination and within the destination itself. Self-drive tourist normally want to visit many tourism points in limited time, therefore driving at preferred speed within the destination will be important challenges in maintaining the destination attractiveness.

- The present finding suggested that highway driving satisfaction indirectly effected self-driving tourist enjoyment on tourism activities as well as overall satisfaction. The indirect association between driving satisfaction toward the

roadway conditions revealed positive effect to the tourism activities satisfaction as well as overall satisfaction. It can be suggested that the more improvements to the tourism routes in the aspect of driving speed, beautiful natural and surrounding view, good road safety infrastructure, driving comfort and roadside facilities factors will lead to higher the tendency to increase in the tourism activities satisfaction and overall tourist satisfaction.

# CHAPTER 6

# CONCLUSION AND RECOMMENDATIONS

This chapter summarizes the main points in study objectives and recommendations for policies improvement. Finally this chapter provide study limitations and suggestion for future research.

## 6.1 Conclusion

### 6.1.1 Objective 1

**To understand the driving satisfaction factors that important to increase self-drive tourist driving satisfaction in the highway, link to the destination and within the destination.**

The present finding outlines seven important driving satisfaction factors in highway and eight factors in the destination road segment to be further examined in second survey. The result revealed that these factors: - *less traffic volume, less number of stop at intersection* and *driving at preferred speed* (speed factor), *experiencing beautiful natural and townscape along the route* (beautiful natural and surrounding factor), *quality of road surface* and *a good road design for safety* (road safety infrastructure factor), *a well-developed route network* and *good technical support during unforeseen situation* and *good traveler information services* (driving comfort factor), *availability of parking space* and *comfortable rest area and related services along the routes* (roadside facilities factor) are most important driving factors to be observed in the case Desaru self-drive tourists. In addition, this finding also consistent with previous studies shown that multi component effected drivers' behaviours and reasons for travelling (Mokhtarian & Solomon, (2001), (Joen et al., (2014) in achieving satisfaction.

However, this study excluded the driving factors in the link to the destination road segments to be included in second survey as explained in previous chapter.

### 6.1.2 Objective 2

**To examine the effects of driving satisfaction to the tourism activities satisfaction and overall tourist satisfaction in the study area using structural equation modelling.**

The standardize coefficients were used to determine the relationship existed among the construct and all the hypotheses. The hypothesized model exhibited a good fit; based on the chi-squared statistics = 266.602, with 119 degrees of freedom, it displayed a statistically significant level of 0.00, and had RMSEA= 0.60, AGFI= .880, GFI= 0.92, PNFI= 0.69, CFI= 0.93, TLI= 0.91, and NFI= 0.88.

It was found that the overall driving satisfaction in highway and the destination road segments does not significantly influence overall tourist satisfaction in Desaru. The finding reflected consistent result from previous studies which indicated that for the short distance trip, traveler usually have neutral to positive driving behaviors. In addition, interesting result demonstrated that the highway overall satisfaction (HOS) has significant influence to the tourism activities satisfaction. Rating on a *good road design for safety* (H4) have the greatest influenced for Senai Desaru Expressway overall satisfaction ($\beta$ = 0.88). Moreover, the aspect of *good quality of road surface* ($\beta$ =0.80) (H3) and *a good technical support during unforeseen situatio*n ($\beta$ =0.79) (H5) are both significant and positively related to driving satisfaction. It can be concluded that the greater the safety infrastructure on highway lead to the greater significant for highway overall satisfaction (HOS) in the case of Senai Desaru Expressway.

However, in contrast the overall driving satisfaction (DOS) within the destination is not significantly effect to the tourism activities. However, the driving factors (*driving at preferred speed* ($\beta$ =0.73) (D7), *a good technical support during unforeseen situation* ($\beta$ =0.62) (D4), and *well developed road network* ($\beta$ =0.65) (D6)

in the destination road segment shows significant positive relationship to the overall destination driving satisfaction (DOS). This indicated that self-drive tourists are demanded to experience good road infrastructure within the destination which expected to enhance the driving speed. Total effects of HOS ($\beta$ = 0.167) go on tourism activities is statistically significant at $P$ = 0.008 but the total effect to overall satisfaction ($\beta$ = -0.34) was not statistical significant ($P$ = 0.40) (Table 5.2).

Moreover, the present finding also suggested that highway driving satisfaction indirectly effected self-driving tourist enjoyment on tourism activities as well as overall satisfaction. The indirect association between driving satisfaction toward the roadway conditions revealed that there is positive effect to the tourism activities satisfaction as well as overall satisfaction (Table 5.8-Table 5.12). It can be suggested that the more improvements to the tourism routes in the aspect of driving speed, beautiful natural and surrounding view, good road safety infrastructure, driving comfort and roadside facilities factors will lead to higher the tendency to increase in the tourism activities satisfaction and overall tourist satisfaction.

### 6.1.3 Objective 3

**To understand the differences between the drivers behaviors and satisfaction toward the path model.**

The differences in SEM-path model satisfaction was then examined to the two groups of drivers' behaviors (attitudes towards cars and driving preferences). Overall, it was found that drivers are significantly different in satisfaction at each path model except for path H4. A *good road safety design (path H4)* was critical driving satisfaction factor for tourism trips on highway for all drivers.

Moreover, drivers that has less important attitude on *car means independence* and *bad for environment* have positive effect between driving on highway and satisfaction with tourism activities. Only drivers that feel *green energy* is important in their driving has negative effect between highway driving satisfaction and tourism activities. Drivers that have important feeling on driving is *bad for environment*, and *adventurous seeking* have negative effect between driving on destination and satisfaction to the tourism activities. Those drivers feel important in *listening music while driving* have positive effect between driving on destination and satisfaction to the tourism activities (Table 5.6 and Table 5.7).

### 6.1.4 Objective 4

**To propose a policy or strategies improvement in the existing policy plan**

The latest Malaysia`s tourism policy document, titled "Strategic Review of Malaysia's Tourism Industry Policy and Implementation" (SRMTIPI) presented 12 new policies improvement to support for the tourism industry. This policies plan emerge various fields include the government, accessibility and connectivity, taxi service, rail service, infrastructure, public transport, human resources, destination management, accommodation, marketing and promotion, safety and business environment (MOT, 2013).

This document discussed more on destination accessibility and connectivity by various modes of transport particularly by public transportation. However, only infrastructure segment provides action plans that include road improvement for self-drive tourist in highway segment and other traffic facilities for tourism development. The document also shows that the policies were planned at macro level, as the policy is just to reduce traffic congestion along major highways approaching tourism destinations during weekends and school holidays, by embarking on road widening program at congestion area along PLUS Expressway, to improve road signage for new tourism attractions and to have tourist information kiosks at rest and service area.

Overall, we found that this document:

- Lack of detailed tourism locations and road segments involved to the destination. The document just mentions one destination but in actual, many tourism destinations also need for road improvement.

- Lack of concern on the demand for quality of road surface, travel safety, cost efficiency and travel attractiveness in different road segments, which results to no priority in policies planning as it will create conflict with tourist overall satisfaction.

- Lack of concern on drivers' perception toward the tourism trips utility – Concerning the drivers demographic and preferences will result in diverse policy action regarding road facilities to the tourism destinations.

To improve the existing policies this study proposed that the government should evaluate a variety of traveller demographic and driving behaviour characteristics when proposing new policies related to the road infrastructure. Thus, the present study deals only with tourist satisfaction while driving to or from tourist destination in three road segments. Understand the major driving satisfaction criteria not only important towards improving policies related to self-drive tourism or road infrastructure but also applicable to determine the successful of self-drive tourism sectors consistent with study by (Lee & Lee, 2015), that effectively determined the priorities in policies for Korean creative tourist industry. Therefore, this study outlined the possibility for improving the existing policies by including the roles of demographic and driver behaviour characteristics to the driving satisfaction factors.

**(1) Role of demographic characteristics**

This study shows that less demographic characteristics influence to driving satisfaction factors. However, it was found that self-drive tourist has a tendency to satisfy or dissatisfy with driving speed, quality of road surface and travel cost factor. The proposal to widen roadways on highways in SRMTIPI is not sufficient because the results show that self-drive tourist give more attention in enroute to/from destination, and within destination compares to the highway road segment. Highway road widening action is not so important, but the government should provide more quality of roadway within tourism destination and enroute to /from tourist destination as this factor is significantly important to the driver regardless their gender and income group.

In addition, this study suggested that discounted fare on the highway (figure3.5) should be promoted during long school holidays to encourage traffic redistribution to various tourism destinations. This action plan also will encourage travel frequency choice as an effect by the dynamic of highway fare choices as mentioned by (Savage, 2010).

**(2) Role of car ownership and driving experiences**

It was found that self-drive tourist with different car ownership and driving experiences group has a tendency to satisfy or dissatisfy in the driving factors such as ease of driving (low level of road construction, more than two lanes, and quality of road surface), road safety infrastructure (physically divided roadway, roadway width) and beautiful panorama in highway and en route to/from destination road segment compare to within destination segment. This finding shows that the government proposal to have highway road widening is not sufficient without enhancing more quality of road surface, increasing road safety aspect and improving roadway beautiful panorama.

Furthermore, finding shows that experiencing beautiful natural and urban landscapes along the journey begin at en route to/from the destination. This study recommended that, this factor can be improved by providing facilities such as roadside stop space at beautiful sport along the route. This activity will enhance tourist appreciation on the journey and overall satisfaction.

In addition, future policy plan should also include improvement on roadway landscapes as it reduce driving stress, provide better visual quality and roadway safety to the traveller (Chen et al., 2016)

**(3) Role of attitudes towards car**

The driver satisfaction and dissatisfaction heavily depended on their attitudes towards car. The result shows that drivers who believed that driving a car is an important thing in my life are sensitive to multiple aspect on driving factors especially in highway and en route to/from destination. Moreover, drivers differently concern on driving at preferred speed, time making to the destination, travel information, quality of road surface and easily parking availability. Therefore, the government should mix the aspects of driving speed, travel information, quality on road surface in order to enhance the existing policy plan.

The speed factor gained considerable attention in all road segments especially to the driver that believe that driving a car is an important thing in my life (figure 3.3). Therefore, it is recommended that a comprehensive measures designed action in each road sections should be considered especially within the destination by monitoring the amount of car at one time. Too many car enter the tourism destination may lead to severe congestion in both highway and en route to/from the destination such an example of Cameron Highlands, Malaysia. This action indirectly improves the consistency of travel time to the destination and as well as experiencing comfortable rest areas

**(4) Role of driving preferences**

Overall, it can be seen that self-drive tourist who believed that driving car means doing well in life and practicality in relation to journey have more tendency to satisfy or dissatisfy with multiple aspects in driving factor for all road segments. Moreover, this group of driver is significantly different in evaluating each factors effect to their driving satisfaction.

**(5) Highway driving satisfaction**

This study understand that overall driving satisfaction on highway have significant effects to the tourism activities satisfaction and indirectly effects to the overall tourist satisfaction. The present finding also suggest that safety aspect (a *good road safety design (path H4)*) was critical factor for tourism trips especially on highway road segments to all drivers' behaviors (Table 5.6). Moreover, this study also found that risky group of driver not significantly different in driving and performing tourism activities in all SEM model paths.

Current focus on existing transport tourism related policies highly targeted to reduce the congestion or speed related management. Therefore, consistent with the study findings, the national government should be more proposal highlighted the road safety infrastructure management in some conditions in order to improve the domestic tourism. Moreover, the differences in drivers background profiles, attitudes

toward car and driving preferences also important input in further develop transport tourism related policies.

## 6.2 Study limitations and future research

Results from this study highly depend on survey instruments and selection of study area. A limitation on this study include:

1) **Tourist origin and travel distance**

   The participants in this study highly from the nearby residents especially from Johor Bahru and the travel distance by Senai Desaru Expressway is considered short distance. The overall rating of driving satisfaction toward distance travel is predicted to provide different results. Further studies can be conducted to short and long distance in examining the effect of driving satisfaction to the tourism activities and overall tourist satisfaction (Figure 6.1).

2) **Past experiences on E22**

   The past experiences in the usage of Senai Desaru Expressway (SDE) also expected to influence the results of study (Figure 6.2).

The current findings add to a growing body of literature aimed at understanding overall tourist satisfaction from driving and tourist activities. In future studies, the relationship between driving satisfaction on highways with different levels of service should be investigated further for various tourism destinations from various perspectives, such as tourism policies, tourism marketing, and transportation planning.

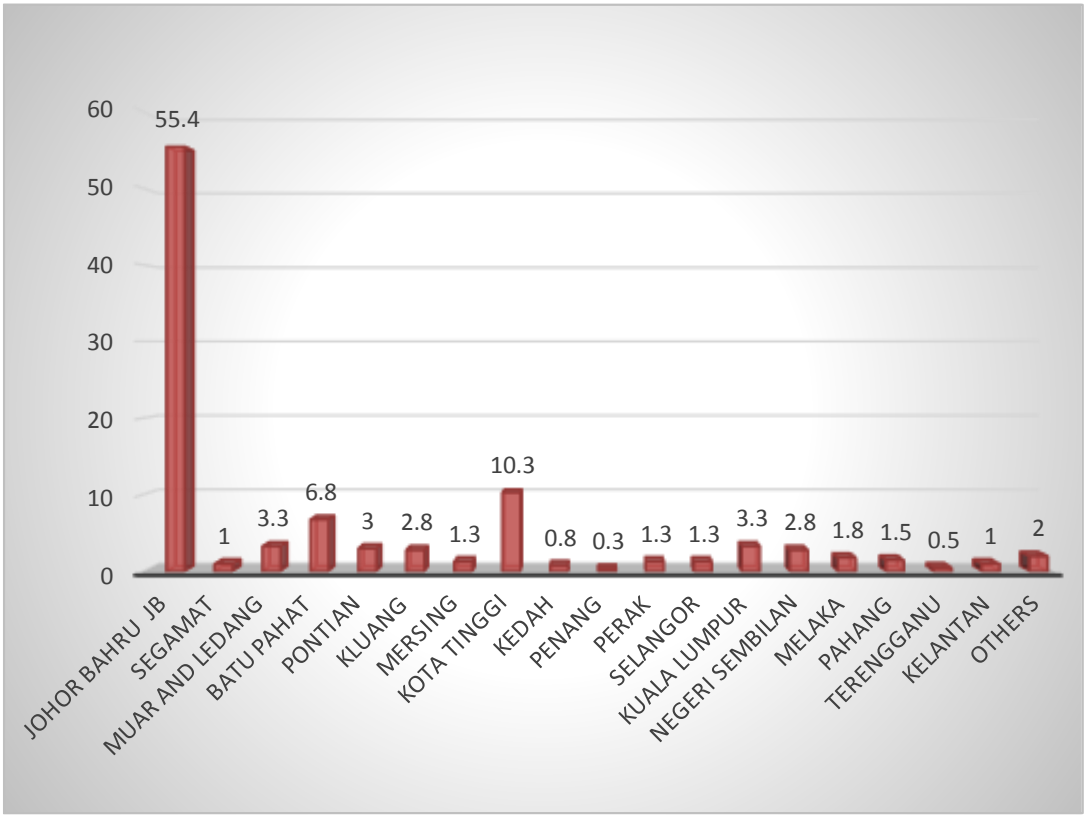



**Figure 6.1:** Tourist's origin

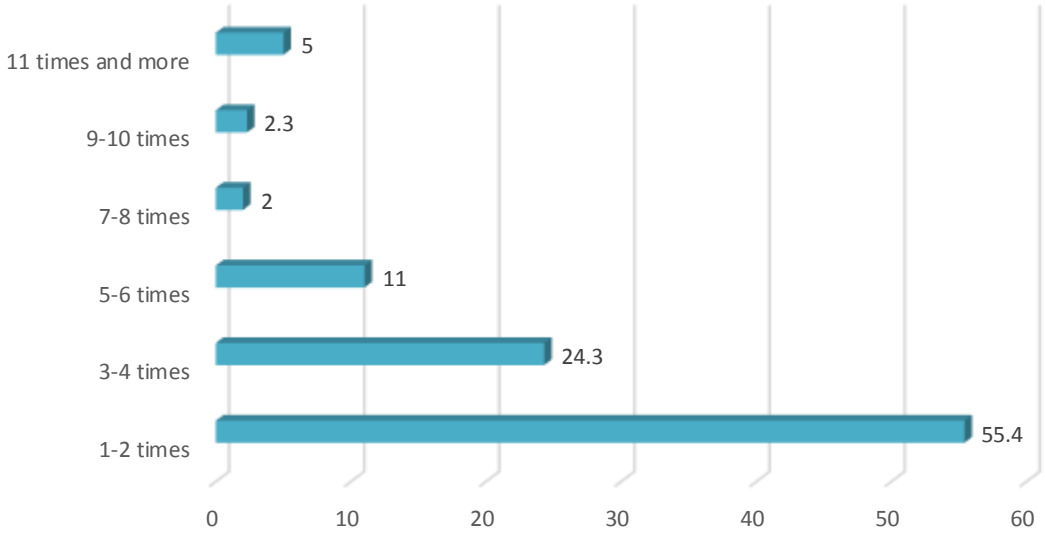



**Figure 6.2:** Respondent past experience on E22

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# Appendix A

PART A: ATTITUDES TOWARD CAR AND DRIVING PREFERENCES.PLEASE CIRCLE THE SCALES THAT MATCH YOUR PREFERENCES.*BAHAGIAN A.SIKAP TERHADAP KERETA DAN PILIHAN MEMANDU.TANDAKAN JAWAPAN PADA SKALA YANG DISEDIAKAN BERSESUAIAN DENGAN PILIHAN ANDA.*

| No | Items/ *perkara* | in which scale do you agree or you disagree<br>*pada skala manakah anda setuju atau tidak bersetuju* | | | | |
|---|---|---|---|---|---|---|
| | | Strongly disagree<br>*Sangat tidak setuju*<br>1 | Disagree<br>*Tidak setuju*<br>2 | Neutral<br>*Neutral*<br>3 | Agree<br>*Setuju*<br>4 | Strongly agree<br>*Sangat setuju*<br>5 |
| **A** | **Attitudes toward car /*Sikap terhadap kereta*** | | | | | |
| 1) | Driving a car is the important thing in my life<br>*memandu kereta adalah perkara yang penting dalam hidup saya* | | | | | |
| 2) | Driving a car means independence<br>*Memandu kereta bermaksud bebas* | | | | | |
| 3) | Driving a car is a part of adult growing up<br>*Memandu kereta adalah sebahagian daripada menjadi dewasa* | | | | | |
| 4) | I can afford the responsibilities to have a car<br>Saya mampu bertanggugjawab untuk memiliki kereta | | | | | |
| 5) | I feel lost without a car<br>*Saya merasa kosong tanpa kereta* | | | | | |
| 6) | Driving a car carries some risk to lives<br>*Memandu kereta membawa risiko kepada nyawa* | | | | | |
| 7) | Driving a car is bad for the environment<br>*Memandu kereta tidak baik untuk alam sekitar* | | | | | |
| 8) | Driving a car with green energy is important for me<br>*Memandu kereta dengan tenaga hijau penting buat saya* | | | | | |

DRIVING PREFERENCES / *PILIHAN PEMANDUAN*

| No | Items/ *Perkara* | in which scale do you agree or you disagree<br>*pada skala manakah anda setuju atau tidak bersetuju* | | | | |
|---|---|---|---|---|---|---|
| | | Strongly disagree<br>*Sangat tidak setuju*<br>1 | Disagree<br>*Tidak setuju*<br>2 | Neutral<br>*Neutral*<br>3 | Agree<br>*Setuju*<br>4 | Strongly agree<br>*Sangat setuju*<br>5 |
| | When driving a car for tourism purposes, I prefer (continue with statements below)……<br>*Apabila memandu kereta untuk melancong saya memilih (sambung dengan kenyataan di bawah)……* | | | | | |
| 1 | I am having fun time talking with other passenger(s)<br>*saya mempunyai masa yang menyeronokkan bercakap dengan penumpang lain* | | | | | |
| 2 | I enjoy listening to music, news or talk show on the radio<br>*saya suka mendengar muzik, berita atau perbincangan di radio* | | | | | |
| 3 | The feeling that I get from driving car is important<br>*Perasaan yang saya dapat daripada memandu kereta adalah penting* | | | | | |
| 4 | Practicality (cost and speed) is important consideration in my journey<br>*Praktikal (kos dan kelajuan) adalah pertimbangan yang penting dalam perjalanan saya* | | | | | |
| 5 | I am risk taker in the driving style that I completed<br>*Saya mengambil risiko dalam gaya pemanduan yang saya lakukan* | | | | | |
| 6 | Means I am doing well in life<br>*Bermakna saya berjaya dalam kehidupan* | | | | | |

PART B: ROAD LEVEL OF SERVICE AND DRIVING SATISFACTION/ TAHAP PERKHIDMATAN JALAN DAN KEPUASAN PEMANDUAN. *BAHAGIAN B: CIRI-CIRI PERJALANAN DAN KESELURUHAN TAHAP KEPUASAN PEMANDUAN.*

Please rate the following statement based on your previous 6 months tourism trip.

| **Highway/ *Lebuhraya***<br>(Item statements) + is important in term of driving satisfaction | **How important are these elements to achieve your driving satisfaction especially in this trip?**<br>***Bagaimanakah elemen berikut penting untuk mencapai tahap kepuasan pemanduan khususnya dalam perjalanan kali ini?*** | | | | |
|---|---|---|---|---|---|
| **Elements of driving satisfaction**<br>***Elemen kepuasan pemanduan*** | Scale: 1= Unimportant, 2= Little importance, 3= Moderately importance, 4= Important , 5= Very important | | | | |
| 1) Driving at preferred speed on leisure trip | 1 | 2 | 3 | 4 | 5 |
| 2) Reduce driving speed or stop less frequently | 1 | 2 | 3 | 4 | 5 |
| 3) Speed while driving | 1 | 2 | 3 | 4 | 5 |
| 4) Arriving at the destination within the expected time | 1 | 2 | 3 | 4 | 5 |
| 5) Driving in lower traffic volume | 1 | 2 | 3 | 4 | 5 |
| 6) More direct highways/links for better access to & from the destination | 1 | 2 | 3 | 4 | 5 |
| 7) Congestion information through various media during journey | 1 | 2 | 3 | 4 | 5 |
| 8) Usage of familiar routes in road segments | 1 | 2 | 3 | 4 | 5 |
| 9) Low levels of road construction to improve traffic movement | 1 | 2 | 3 | 4 | 5 |
| 10) Cheap travel costs | 1 | 2 | 3 | 4 | 5 |
| 11) Discounted price on highway fares | 1 | 2 | 3 | 4 | 5 |
| 12) Driving in good weather conditions | 1 | 2 | 3 | 4 | 5 |
| 13) Consistency of travel time to the destination | 1 | 2 | 3 | 4 | 5 |
| 14) Quality of road surface | 1 | 2 | 3 | 4 | 5 |
| 15) More than two lanes on roadway to facilitate car movement | 1 | 2 | 3 | 4 | 5 |
| 16) Physically divided roadway to support car movement in dangerous areas | 1 | 2 | 3 | 4 | 5 |
| 17) Optimizing roadway width to ease congestion | 1 | 2 | 3 | 4 | 5 |
| 18) Visible signage during the journey | 1 | 2 | 3 | 4 | 5 |
| 19) Appropriate traffic signal settings | 1 | 2 | 3 | 4 | 5 |
| 20) Flat , straight roadways | 1 | 2 | 3 | 4 | 5 |
| 21) Easily available parking facilities at rest stops | 1 | 2 | 3 | 4 | 5 |
| 22) Experiencing beautiful natural and town scape along the route | 1 | 2 | 3 | 4 | 5 |
| 23) Comfortable rest areas, attractions and related services along the route | 1 | 2 | 3 | 4 | 5 |

| **En route to and from the destination**<br>***Link ke atau dari destinasi***<br>(Item statements) + is important in term of driving satisfaction | **How important are these elements to achieve your driving satisfaction especially in this trip?**<br>***Bagaimanakah elemen berikut penting untuk mencapai tahap kepuasan pemanduan anda khususnya dalam perjalanan kali ini?*** | | | | |
|---|---|---|---|---|---|
| **Elements of driving satisfaction**<br>***Elemen kepuasan pemanduan*** | Scale/*Skala*: 1= Unimportant, 2= Little importance, 3= Moderately importance, 4= Important 5= Very important | | | | |
| 1) Driving at preferred speed on leisure trip | 1 | 2 | 3 | 4 | 5 |
| 2) Reduce driving speed or stop less frequently | 1 | 2 | 3 | 4 | 5 |
| 3) Speed while driving | 1 | 2 | 3 | 4 | 5 |
| 4) Arriving at the destination within the expected time | 1 | 2 | 3 | 4 | 5 |
| 5) Driving in lower traffic volume | 1 | 2 | 3 | 4 | 5 |
| 6) More direct highways/links for better access to & from the destination | 1 | 2 | 3 | 4 | 5 |
| 7) Congestion information through various media during journey | 1 | 2 | 3 | 4 | 5 |
| 8) Usage of familiar routes in road segments | 1 | 2 | 3 | 4 | 5 |
| 9) Low levels of road construction to improve traffic movement | 1 | 2 | 3 | 4 | 5 |
| 10) Cheap travel costs | 1 | 2 | 3 | 4 | 5 |
| 11) Discounted price on highway fares | 1 | 2 | 3 | 4 | 5 |
| 12) Driving in good weather conditions | 1 | 2 | 3 | 4 | 5 |
| 13) Consistency of travel time to the destination | 1 | 2 | 3 | 4 | 5 |
| 14) Quality of road surface | 1 | 2 | 3 | 4 | 5 |
| 15) More than two lanes on roadway to facilitate car movement | 1 | 2 | 3 | 4 | 5 |
| 16) Physically divided roadway to support car movement in dangerous areas | 1 | 2 | 3 | 4 | 5 |
| 17) Optimizing roadway width to ease congestion | 1 | 2 | 3 | 4 | 5 |
| 18) Visible signage during the journey | 1 | 2 | 3 | 4 | 5 |
| 19) Appropriate traffic signal settings | 1 | 2 | 3 | 4 | 5 |
| 20) Flat , straight roadways | 1 | 2 | 3 | 4 | 5 |
| 21) Easily available parking facilities at rest stops | 1 | 2 | 3 | 4 | 5 |
| 22) Experiencing beautiful natural and town scape along the route | 1 | 2 | 3 | 4 | 5 |
| 23) Comfortable rest areas, attractions and related services along the route | 1 | 2 | 3 | 4 | 5 |

| **Within the destination**<br>***Destinasi***<br>(Item statements) + is important in term of driving satisfaction | **How important are these elements to achieve your driving satisfaction especially in this trip?**<br>***Bagaimanakah elemen berikut penting untuk mencapai tahap kepuasan pemanduan anda khususnya dalam perjalanan kali ini?*** | | | | |
|---|---|---|---|---|---|
| **Elements of driving satisfaction**<br>***Elemen kepuasan pemanduan*** | Scale/*Skala*: 1= Unimportant, 2= Little importance, 3= Moderately importance, 4= Important 5= Very important | | | | |
| 1) Driving at preferred speed on leisure trip | 1 | 2 | 3 | 4 | 5 |
| 2) Reduce driving speed or stop less frequently | 1 | 2 | 3 | 4 | 5 |
| 3) Speed while driving | 1 | 2 | 3 | 4 | 5 |
| 4) Arriving at the destination within the expected time | 1 | 2 | 3 | 4 | 5 |
| 5) Driving in lower traffic volume | 1 | 2 | 3 | 4 | 5 |
| 6) More direct highways/links for better access to & from the destination | 1 | 2 | 3 | 4 | 5 |
| 7) Congestion information through various media during journey | 1 | 2 | 3 | 4 | 5 |
| 8) Usage of familiar routes in road segments | 1 | 2 | 3 | 4 | 5 |
| 9) Low levels of road construction to improve traffic movement | 1 | 2 | 3 | 4 | 5 |
| 10) Cheap travel costs | 1 | 2 | 3 | 4 | 5 |
| 11) Discounted price on highway fares | 1 | 2 | 3 | 4 | 5 |
| 12) Driving in good weather conditions | 1 | 2 | 3 | 4 | 5 |
| 13) Consistency of travel time to the destination | 1 | 2 | 3 | 4 | 5 |
| 14) Quality of road surface | 1 | 2 | 3 | 4 | 5 |
| 15) More than two lanes on roadway to facilitate car movement | 1 | 2 | 3 | 4 | 5 |
| 16) Physically divided roadway to support car movement in dangerous areas | 1 | 2 | 3 | 4 | 5 |
| 17) Optimizing roadway width to ease congestion | 1 | 2 | 3 | 4 | 5 |
| 18) Visible signage during the journey | 1 | 2 | 3 | 4 | 5 |
| 19) Appropriate traffic signal settings | 1 | 2 | 3 | 4 | 5 |
| 20) Flat , straight roadways | 1 | 2 | 3 | 4 | 5 |
| 21) Easily available parking facilities at rest stops | 1 | 2 | 3 | 4 | 5 |
| 22) Experiencing beautiful natural and town scape along the route | 1 | 2 | 3 | 4 | 5 |
| 23) Comfortable rest areas, attractions and related services along the route | 1 | 2 | 3 | 4 | 5 |

PART C: DEMOGRAPHIC CHARACTERISTICS. PLEASE COMPLETE THE FOLLOWING QUESTIONS. *BAHAGIAN D. CIRI-CIRI DEMOGRAPHI. SILA LENGKAPKAN SOALAN BERIKUT.*

*1.* Gender / *Jantina*
   a. Male / *Lelaki*
   b. Female / *Perempuan*

2. Race / *Bangsa*
   *a.* Malay/*Melayu*
   b. Chinese/*Cina*
   *c.* India/*India*
   d. Others/ *Lain-lain*:_____

*3.* What is your monthly household income group? */ Apakah kumpulan pendapatan isi rumah anda?*
   a. Up to RM 1,000
   b. RM 1,001 to RM 2,000
   c. RM 2,001 to RM 3,000
   d. RM 3,001 to RM 4,000
   e. RM 4,001 to RM 5,000
   f. RM 5,001 to RM 6,000
   g. RM 6,001 to RM 7,000
   h. RM 7,001 to RM 8,000
   i. RM 8,001 to RM 9,000
   j. RM 9,001 to RM10,000
   k. More than RM10,000

4. What is your age group? /*Apakah kumpulan umur anda?*
   a. Below 20 years/*Bawah 20 tahun*
   b. 20-30 years/*20-30 tahun*
   c. 31-40 years/*31-40 tahun*
   d. 41-50 years/*41-50 tahun*
   e. 51-60 years/*51-60 tahun*
   f. More than 60 years/*lebih dari 60 tahun*

*5.* What is your highest education level? *Apakah tahap pendidikan tertinggi anda?*
   a. Sijil Pelajaran Malaysia (SPM)
   b. Certificate of skill / *Sijil kemahiran*
   c. Diploma/*Diploma*
   d. Bachelor degree/ *Ijazah pertama*
   e. Master degree/ *Ijazah sarjana*
   f. PhD/ *Ijazah kedoktoran*
   g. Other/ *lain-lain*:_____

6. Employment Status / *Status pekerjaan*
   *a.* Employed full time /*Bekerja sepenuh masa*
   b. Employed part time /*Bekerja separuh masa*
   c. University student/ *Pelajar universiti*
   d. Unemployed/*Tidak bekerja*

*7.* Household size (Including yourself) / *Bilangan isi rumah (termasuk anda)*
   a. 2 persons/*2 orang*
   b. 3 persons/*3 orang*
   c. 4 persons/*4 orang*
   d. 5 persons/*5 orang*
   e. 6 persons /*6 orang*
   f. More than 6 persons/ *lebih dari 6 orang*
   g. Other/*lain-lain*:_____

8. Do you own a car (s)? *Adakah anda memiliki kereta?*
   a. Yes/ *Ya*
   *b.* No/ *Tidak*

9. Driving experiences/ *Pengalaman memandu*:
_____(Years of driving/ *tahun pengalaman memandu*)

10. Travel frequency (tourism purpose only) by mode of transport (How many times) in 2014
*Kekerapan perjalanan (tujuan pelancongan sahaja) berdasarkan jenis pengangkutan dalam tahun 2014 (nyatakan berapa kali bilangan perjalanan).*

    a. Motorcycle/ Motosikal _____

    b. Car/*Kereta* _____

    c. Express bus/*Bas express* _____

    d. Train/*Keretapi*_____

    e. Airplane/*Kapal terbang* _____

    f. Sea transport /*Kenderaan laut* _____

11. Total household tourism travel consumption in 2014
(Total no of trips)
*Jumlah bilangan perjalanan pelancongan isi rumah pada tahun 2014 (Jumlah bilangan perjalanan)*

    _____

END OF QUESTIONNAIRE/*TAMAT SOALAN*

# Appendix B

Car ownership and driving experiences

| Highway | | Car ownership | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | Chi-square test | | | Null hypothesis | | Relationship | |
| | Driving satisfaction items | Value | df | Asymp.Sig. (2-sided) | Accept | Reject | Sig. | Not sig. |
| 1 | driving at preferred speed on leisure trip | 0.128 | 2 | 0.938 | / | | | / |
| 2 | less frequently reduce the driving speed or stop | 4.12 | 2 | 0.127 | / | | | / |
| 3 | speeding while driving | 0.308 | 2 | 0.857 | / | | | / |
| 4 | arrived to the destination within expected time | 1.267 | 2 | 0.531 | / | | | / |
| 5 | driving on less traffic volume | 2.327 | 2 | 0.312 | / | | | / |
| 6 | more direct highways or links to enable more access and egress to the destination | 0.681 | 2 | 0.711 | / | | | / |
| 7 | congestion information through various media to smoother journey | 1.174 | 2 | 0.556 | / | | | / |
| 8 | and usage of familiar routes at any road segments | 2.737 | 2 | 0.254 | / | | | / |
| 9 | less road construction at any road segments to improve the traffic movement | 3.523 | 2 | 0.172 | / | | | / |
| 10 | cheapest travel cost | 1.746 | 2 | 0.418 | / | | | / |
| 11 | discounted price on highway fare | 4.925 | 2 | 0.085 | / | | | / |
| 12 | driving in good weather condition | 0.894 | 2 | 0.639 | / | | | / |
| 13 | the consistency of travel time to the destination | 1.125 | 2 | 0.57 | / | | | / |
| 14 | quality of road surface | 3.966 | 2 | 0.138 | / | | | / |
| 15 | more than two lanes on roadway to facilitate the car movement | 4.633 | 2 | 0.099 | / | | | / |
| 16 | physically divided roadway to support car movement in dangerous area | 2.268 | 2 | 0.322 | / | | | / |
| 17 | fitting roadway width at each road segments smoothness the driving | 7.663 | 2 | 0.022 | | / | / | |
| 18 | driving with visibility signs along the journey to smother the traffic | 1.334 | 2 | 0.513 | / | | | / |
| 19 | appropriate traffic signal setting | 0.285 | 2 | 0.867 | / | | | / |
| 20 | flat and less curve roadway | 4.837 | 2 | 0.089 | / | | | / |
| 21 | available and easy parking facilities for taking rest | 1.047 | 2 | 0.593 | / | | | / |
| 22 | experiencing beautiful natural and city scape along the route | 3.042 | 2 | 0.218 | / | | | / |
| 23 | comfortable rest area, attractions and related services along the route | 3.875 | 2 | 0.144 | / | | | / |

| Highway | | Driving experiences | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | Chi-square test | | | Null hypothesis | | Relationship | |
| | Driving satisfaction items | Value | df | Asymp.Sig. (2-sided) | Accept | Reject | Sig. | Not sig. |
| 1 | driving at preferred speed on leisure trip | 4.84 | 3 | 0.304 | / | | | / |
| 2 | less frequently reduce the driving speed or stop | 1.806 | 3 | 0.771 | / | | | / |
| 3 | speeding while driving | 0.832 | 3 | 0.934 | / | | | / |
| 4 | arrived to the destination within expected time | 6.659 | 3 | 0.155 | / | | | / |
| 5 | driving on less traffic volume | 7.937 | 3 | 0.094 | / | | | / |
| 6 | more direct highways or links to enable more access and egress to the destination | 6.127 | 3 | 0.19 | / | | | / |
| 7 | congestion information through various media to smoother journey | 4.707 | 3 | 0.319 | / | | | / |
| 8 | and usage of familiar routes at any road segments | 3.775 | 3 | 0.437 | / | | | / |
| 9 | less road construction at any road segments to improve the traffic movement | 1.428 | 3 | 0.839 | / | | | / |
| 10 | cheapest travel cost | 3.574 | 3 | 0.467 | / | | | / |
| 11 | discounted price on highway fare | 9.314 | 3 | 0.054 | | / | / | |
| 12 | driving in good weather condition | 5.679 | 3 | 0.224 | / | | | / |
| 13 | the consistency of travel time to the destination | 4.056 | 3 | 0.399 | / | | | / |
| 14 | quality of road surface | 2.818 | 3 | 0.589 | / | | | / |
| 15 | more than two lanes on roadway to facilitate the car movement | 4.585 | 3 | 0.333 | / | | | / |
| 16 | physically divided roadway to support car movement in dangerous area | 2.89 | 3 | 0.576 | / | | | / |
| 17 | fitting roadway width at each road segments smoothness the driving | 1.195 | 3 | 0.879 | / | | | / |
| 18 | driving with visibility signs along the journey to smother the traffic | 4.018 | 3 | 0.404 | / | | | / |
| 19 | appropriate traffic signal setting | 1.87 | 3 | 0.76 | / | | | / |
| 20 | flat and less curve roadway | 4.513 | 3 | 0.341 | / | | | / |
| 21 | available and easy parking facilities for taking rest | 1.918 | 3 | 0.751 | / | | | / |
| 22 | experiencing beautiful natural and city scape along the route | 1.393 | 3 | 0.845 | / | | | / |
| 23 | comfortable rest area, attractions and related services along the route | 3.233 | 3 | 0.52 | / | | | / |

| | Highway | Total tourism trips | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | Chi-square test | | | Null hypothesis | | Relationship | |
| | Driving satisfaction items | Value | df | Asymp.Sig. (2-sided) | Accept | Reject | Sig. | Not sig. |
| 1 | driving at preferred speed on leisure trip | 5.75 | 3 | 0.219 | / | | | / |
| 2 | less frequently reduce the driving speed or stop | 1.077 | 3 | 0.898 | / | | | / |
| 3 | speeding while driving | 6.632 | 3 | 0.157 | / | | | / |
| 4 | arrived to the destination within expected time | 4.164 | 3 | 0.384 | / | | | / |
| 5 | driving on less traffic volume | 0.72 | 3 | 0.949 | / | | | / |
| 6 | more direct highways or links to enable more access and egress to the destination | 2.036 | 3 | 0.729 | / | | | / |
| 7 | congestion information through various media to smoother journey | 7.688 | 3 | 0.104 | / | | | / |
| 8 | and usage of familiar routes at any road segments | 1.976 | 3 | 0.74 | / | | | / |
| 9 | less road construction at any road segments to improve the traffic movement | 16.83 | 3 | 0.002 | | / | / | |
| 10 | cheapest travel cost | 6.53 | 3 | 0.163 | / | | | / |
| 11 | discounted price on highway fare | 9.432 | 3 | 0.051 | | / | / | |
| 12 | driving in good weather condition | 6.578 | 3 | 0.16 | / | | | / |
| 13 | the consistency of travel time to the destination | 6.31 | 3 | 0.177 | / | | | / |
| 14 | quality of road surface | 5.013 | 3 | 0.286 | / | | | / |
| 15 | more than two lanes on roadway to facilitate the car movement | 11.37 | 3 | 0.023 | | / | / | |
| 16 | physically divided roadway to support car movement in dangerous area | 9.991 | 3 | 0.041 | | / | / | |
| 17 | fitting roadway width at each road segments smoothness the driving | 8.317 | 3 | 0.081 | / | | | / |
| 18 | driving with visibility signs along the journey to smother the traffic | 3.785 | 3 | 0.436 | / | | | / |
| 19 | appropriate traffic signal setting | 2.621 | 3 | 0.623 | / | | | / |
| 20 | flat and less curve roadway | 5.659 | 3 | 0.226 | / | | | / |
| 21 | available and easy parking facilities for taking rest | 7.858 | 3 | 0.097 | / | | | / |
| 22 | experiencing beautiful natural and city scape along the route | 12.39 | 3 | 0.015 | | / | / | |
| 23 | comfortable rest area, attractions and related services along the route | 1.291 | 3 | 0.863 | / | | | / |

| | En route to / from destination | car ownership | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | Chi-square test | | | Null hypothesis | | Relationship | |
| | Driving satisfaction items | Value | df | Asymp.Sig. (2-sided) | Accept | Reject | Sig. | Not sig. |
| 1 | driving at preferred speed on leisure trip | 2.475 | 2 | 0.29 | / | | | / |
| 2 | less frequently reduce the driving speed or stop | 1.694 | 2 | 0.429 | / | | | / |
| 3 | speeding while driving | 0.299 | 2 | 0.861 | / | | | / |
| 4 | arrived to the destination within expected time | 1.178 | 2 | 0.555 | / | | | / |
| 5 | driving on less traffic volume | 2.83 | 2 | 0.243 | / | | | / |
| 6 | more direct highways or links to enable more access and egress to the destination | 0.169 | 2 | 0.919 | / | | | / |
| 7 | congestion information through various media to smoother journey | 0.361 | 2 | 0.835 | / | | | / |
| 8 | and usage of familiar routes at any road segments | 0.402 | 2 | 0.818 | / | | | / |
| 9 | less road construction at any road segments to improve the traffic movement | 2.19 | 2 | 0.335 | / | | | / |
| 10 | cheapest travel cost | 2.991 | 2 | 0.224 | / | | | / |
| 11 | discounted price on highway fare | 4.728 | 2 | 0.094 | / | | | / |
| 12 | driving in good weather condition | 1.016 | 2 | 0.602 | / | | | / |
| 13 | the consistency of travel time to the destination | 3.265 | 2 | 0.195 | / | | | / |
| 14 | quality of road surface | 7.041 | 2 | 0.03 | | / | / | |
| 15 | more than two lanes on roadway to facilitate the car movement | 0.829 | 2 | 0.661 | / | | | / |
| 16 | physically divided roadway to support car movement in dangerous area | 0.682 | 2 | 0.711 | / | | | / |
| 17 | fitting roadway width at each road segments smoothness the driving | 1.189 | 2 | 0.552 | / | | | / |
| 18 | driving with visibility signs along the journey to smother the traffic | 0.699 | 2 | 0.705 | / | | | / |
| 19 | appropriate traffic signal setting | 1.342 | 2 | 0.511 | / | | | / |
| 20 | flat and less curve roadway | 0.917 | 2 | 0.632 | / | | | / |
| 21 | available and easy parking facilities for taking rest | 1.59 | 2 | 0.452 | / | | | / |
| 22 | experiencing beautiful natural and city scape along the route | 1.23 | 2 | 0.541 | / | | | / |
| 23 | comfortable rest area, attractions and related services along the route | 4.432 | 2 | 0.109 | / | | | / |

| | En route to / from destination | Driving experiences | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | Chi-square test | | | Null hypothesis | | Relationship | |
| | Driving satisfaction items | Value | df | Asymp.Sig. (2-sided) | Accept | Reject | Sig. | Not sig. |
| 1 | driving at preferred speed on leisure trip | 4.56 | 3 | 0.335 | / | | | / |
| 2 | less frequently reduce the driving speed or stop | 0.926 | 3 | 0.921 | / | | | / |
| 3 | speeding while driving | 2.724 | 3 | 0.605 | / | | | / |
| 4 | arrived to the destination within expected time | 3.653 | 3 | 0.455 | / | | | / |
| 5 | driving on less traffic volume | 3.037 | 3 | 0.552 | / | | | / |
| 6 | more direct highways or links to enable more access and egress to the destination | 1.756 | 3 | 0.781 | / | | | / |
| 7 | congestion information through various media to smoother journey | 8.218 | 3 | 0.084 | / | | | / |
| 8 | and usage of familiar routes at any road segments | 1.119 | 3 | 0.891 | / | | | / |
| 9 | less road construction at any road segments to improve the traffic movement | 8.591 | 3 | 0.072 | / | | | / |
| 10 | cheapest travel cost | 5.646 | 3 | 0.227 | / | | | / |
| 11 | discounted price on highway fare | 8.914 | 3 | 0.063 | / | | | / |
| 12 | driving in good weather condition | 1.508 | 3 | 0.825 | / | | | / |
| 13 | the consistency of travel time to the destination | 5.592 | 3 | 0.232 | / | | | / |
| 14 | quality of road surface | 5.866 | 3 | 0.209 | / | | | / |
| 15 | more than two lanes on roadway to facilitate the car movement | 1.467 | 3 | 0.832 | / | | | / |
| 16 | physically divided roadway to support car movement in dangerous area | 4.575 | 3 | 0.334 | / | | | / |
| 17 | fitting roadway width at each road segments smoothness the driving | 8.511 | 3 | 0.075 | / | | | / |
| 18 | driving with visibility signs along the journey to smother the traffic | 4.362 | 3 | 0.359 | / | | | / |
| 19 | appropriate traffic signal setting | 2.085 | 3 | 0.72 | / | | | / |
| 20 | flat and less curve roadway | 1.849 | 3 | 0.763 | / | | | / |
| 21 | available and easy parking facilities for taking rest | 6.896 | 3 | 0.141 | / | | | / |
| 22 | experiencing beautiful natural and city scape along the route | 9.775 | 3 | 0.044 | | / | / | |
| 23 | comfortable rest area, attractions and related services along the route | 5.136 | 3 | 0.274 | / | | | / |

| | En route to / from destination | Total tourism trips | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | Chi-square test | | | Null hypothesis | | Relationship | |
| | Driving satisfaction items | Value | df | Asymp.Sig. (2-sided) | Accept | Reject | Sig. | Not sig. |
| 1 | driving at preferred speed on leisure trip | 4.059 | 3 | 0.398 | / | | | / |
| 2 | less frequently reduce the driving speed or stop | 1.98 | 3 | 0.739 | / | | | / |
| 3 | speeding while driving | 3.74 | 3 | 0.442 | / | | | / |
| 4 | arrived to the destination within expected time | 3.817 | 3 | 0.431 | / | | | / |
| 5 | driving on less traffic volume | 4.456 | 3 | 0.348 | / | | | / |
| 6 | more direct highways or links to enable more access and egress to the destination | 4.423 | 3 | 0.352 | / | | | / |
| 7 | congestion information through various media to smoother journey | 5.337 | 3 | 0.254 | / | | | / |
| 8 | and usage of familiar routes at any road segments | 2.042 | 3 | 0.728 | / | | | / |
| 9 | less road construction at any road segments to improve the traffic movement | 6.203 | 3 | 0.184 | / | | | / |
| 10 | cheapest travel cost | 2.14 | 3 | 0.71 | / | | | / |
| 11 | discounted price on highway fare | 7.714 | 3 | 0.103 | / | | | / |
| 12 | driving in good weather condition | 4.18 | 3 | 0.382 | / | | | / |
| 13 | the consistency of travel time to the destination | 3.444 | 3 | 0.486 | / | | | / |
| 14 | quality of road surface | 1.382 | 3 | 0.847 | / | | | / |
| 15 | more than two lanes on roadway to facilitate the car movement | 4.842 | 3 | 0.304 | / | | | / |
| 16 | physically divided roadway to support car movement in dangerous area | 14.7 | 3 | 0.005 | | / | / | |
| 17 | fitting roadway width at each road segments smoothness the driving | 2.165 | 3 | 0.705 | / | | | / |
| 18 | driving with visibility signs along the journey to smother the traffic | 7.059 | 3 | 0.133 | / | | | / |
| 19 | appropriate traffic signal setting | 0.797 | 3 | 0.939 | / | | | / |
| 20 | flat and less curve roadway | 8.132 | 3 | 0.087 | / | | | / |
| 21 | available and easy parking facilities for taking rest | 0.654 | 3 | 0.957 | / | | | / |
| 22 | experiencing beautiful natural and city scape along the route | 8.867 | 3 | 0.065 | / | | | / |
| 23 | comfortable rest area, attractions and related services along the route | 2.498 | 3 | 0.645 | / | | | / |

| Within the destination | | car ownership | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | Chi-square test | | | Null hypothesis | | Relationship | |
| | Driving satisfaction items | Value | df | Asymp.Sig. (2-sided) | Accept | Reject | Sig. | Not sig. |
| 1 | driving at preferred speed on leisure trip | 0.327 | 2 | 0.849 | / | | | / |
| 2 | less frequently reduce the driving speed or stop | 0.466 | 2 | 0.792 | / | | | / |
| 3 | speeding while driving | 0.074 | 2 | 0.964 | / | | | / |
| 4 | arrived to the destination within expected time | 3.493 | 2 | 0.174 | / | | | / |
| 5 | driving on less traffic volume | 0.649 | 2 | 0.723 | / | | | / |
| 6 | more direct highways or links to enable more access and egress to the destination | 3.588 | 2 | 0.166 | / | | | / |
| 7 | congestion information through various media to smoother journey | 0.723 | 2 | 0.697 | / | | | / |
| 8 | and usage of familiar routes at any road segments | 2.295 | 2 | 0.317 | / | | | / |
| 9 | less road construction at any road segments to improve the traffic movement | 1.518 | 2 | 0.468 | / | | | / |
| 10 | cheapest travel cost | 4.095 | 2 | 0.129 | / | | | / |
| 11 | discounted price on highway fare | 3.639 | 2 | 0.162 | / | | | / |
| 12 | driving in good weather condition | 1.016 | 2 | 0.602 | / | | | / |
| 13 | the consistency of travel time to the destination | 1.403 | 2 | 0.496 | / | | | / |
| 14 | quality of road surface | 0.7 | 2 | 0.705 | / | | | / |
| 15 | more than two lanes on roadway to facilitate the car movement | 0.984 | 2 | 0.611 | / | | | / |
| 16 | physically divided roadway to support car movement in dangerous area | 0.783 | 2 | 0.676 | / | | | / |
| 17 | fitting roadway width at each road segments smoothness the driving | 1.134 | 2 | 0.567 | / | | | / |
| 18 | driving with visibility signs along the journey to smother the traffic | 0.15 | 2 | 0.928 | / | | | / |
| 19 | appropriate traffic signal setting | 0.067 | 2 | 0.967 | / | | | / |
| 20 | flat and less curve roadway | 0.445 | 2 | 0.8 | / | | | / |
| 21 | available and easy parking facilities for taking rest | 1.389 | 2 | 0.499 | / | | | / |
| 22 | experiencing beautiful natural and city scape along the route | 0.3 | 2 | 0.861 | / | | | / |
| 23 | comfortable rest area, attractions and related services along the route | 0.133 | 2 | 0.936 | / | | | / |

| | Within the destination | Driving experiences | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | Chi-square test | | | Null hypothesis | | Relationship | |
| | Driving satisfaction items | Value | df | Asymp.Sig. (2-sided) | Accept | Reject | Sig. | Not sig. |
| 1 | driving at preferred speed on leisure trip | 1.613 | 3 | 0.806 | / | | | / |
| 2 | less frequently reduce the driving speed or stop | 0.947 | 3 | 0.918 | / | | | / |
| 3 | speeding while driving | 5.661 | 3 | 0.226 | / | | | / |
| 4 | arrived to the destination within expected time | 3.411 | 3 | 0.492 | / | | | / |
| 5 | driving on less traffic volume | 0.37 | 3 | 0.985 | / | | | / |
| 6 | more direct highways or links to enable more access and egress to the destination | 4.605 | 3 | 0.33 | / | | | / |
| 7 | congestion information through various media to smoother journey | 5.101 | 3 | 0.277 | / | | | / |
| 8 | and usage of familiar routes at any road segments | 7.252 | 3 | 0.123 | / | | | / |
| 9 | less road construction at any road segments to improve the traffic movement | 6.493 | 3 | 0.165 | / | | | / |
| 10 | cheapest travel cost | 7.646 | 3 | 0.105 | / | | | / |
| 11 | discounted price on highway fare | 7.801 | 3 | 0.099 | / | | | / |
| 12 | driving in good weather condition | 1.508 | 3 | 0.825 | / | | | / |
| 13 | the consistency of travel time to the destination | 1.978 | 3 | 0.74 | / | | | / |
| 14 | quality of road surface | 3.585 | 3 | 0.465 | / | | | / |
| 15 | more than two lanes on roadway to facilitate the car movement | 4.355 | 3 | 0.36 | / | | | / |
| 16 | physically divided roadway to support car movement in dangerous area | 3.802 | 3 | 0.433 | / | | | / |
| 17 | fitting roadway width at each road segments smoothness the driving | 5.219 | 3 | 0.266 | / | | | / |
| 18 | driving with visibility signs along the journey to smother the traffic | 4.433 | 3 | 0.351 | / | | | / |
| 19 | appropriate traffic signal setting | 6.282 | 3 | 0.179 | / | | | / |
| 20 | flat and less curve roadway | 2.535 | 3 | 0.638 | / | | | / |
| 21 | available and easy parking facilities for taking rest | 6.587 | 3 | 0.159 | / | | | / |
| 22 | experiencing beautiful natural and city scape along the route | 5.321 | 3 | 0.256 | / | | | / |
| 23 | comfortable rest area, attractions and related services along the route | 2.564 | 3 | 0.633 | / | | | / |

| Within the destination | | Total tourism trips | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | Chi-square test | | | Null hypothesis | | Relationship | |
| | Driving satisfaction items | Value | df | Asymp.Sig. (2-sided) | Accept | Reject | Sig. | Not sig. |
| 1 | driving at preferred speed on leisure trip | 1.96 | 3 | 0.743 | / | | | / |
| 2 | less frequently reduce the driving speed or stop | 2.366 | 3 | 0.669 | / | | | / |
| 3 | speeding while driving | 5.856 | 3 | 0.21 | / | | | / |
| 4 | arrived to the destination within expected time | 1.726 | 3 | 0.786 | / | | | / |
| 5 | driving on less traffic volume | 0.4 | 3 | 0.982 | / | | | / |
| 6 | more direct highways or links to enable more access and egress to the destination | 8.829 | 3 | 0.066 | / | | | / |
| 7 | congestion information through various media to smoother journey | 3.596 | 3 | 0.463 | / | | | / |
| 8 | and usage of familiar routes at any road segments | 1.915 | 3 | 0.751 | / | | | / |
| 9 | less road construction at any road segments to improve the traffic movement | 3.703 | 3 | 0.448 | / | | | / |
| 10 | cheapest travel cost | 5.541 | 3 | 0.236 | / | | | / |
| 11 | discounted price on highway fare | 7.09 | 3 | 0.131 | / | | | / |
| 12 | driving in good weather condition | 4.18 | 3 | 0.382 | / | | | / |
| 13 | the consistency of travel time to the destination | 8.11 | 3 | 0.088 | / | | | / |
| 14 | quality of road surface | 3.866 | 3 | 0.424 | / | | | / |
| 15 | more than two lanes on roadway to facilitate the car movement | 8.084 | 3 | 0.089 | / | | | / |
| 16 | physically divided roadway to support car movement in dangerous area | 13.82 | 3 | 0.008 | / | | | / |
| 17 | fitting roadway width at each road segments smoothness the driving | 11.25 | 3 | 0.024 | | / | / | |
| 18 | driving with visibility signs along the journey to smother the traffic | 2.101 | 3 | 0.717 | / | | | / |
| 19 | appropriate traffic signal setting | 3.81 | 3 | 0.432 | / | | | / |
| 20 | flat and less curve roadway | 6.116 | 3 | 0.191 | / | | | / |
| 21 | available and easy parking facilities for taking rest | 2.478 | 3 | 0.649 | / | | | / |
| 22 | experiencing beautiful natural and city scape along the route | 2.706 | 3 | 0.608 | / | | | / |
| 23 | comfortable rest area, attractions and related services along the route | 3.089 | 3 | 0.543 | / | | | / |

# Appendix C

MannWhitney Test Car Ownership and Driving Experiences

Highway road segment

Car ownership

**Descriptive Statistics**

| | N | Mean | Std. Deviation | Minimum | Maximum |
|---|---|---|---|---|---|
| Hrecodewidth | 103 | 1.83 | .382 | 1 | 2 |
| Car ownership | 103 | .84 | .364 | 0 | 1 |

**Ranks**

| | Car ownership | N | Mean Rank | Sum of Ranks |
|---|---|---|---|---|
| Hrecodewidth | No | 16 | 41.69 | 667.00 |
| | Yes | 87 | 53.90 | 4689.00 |
| | Total | 103 | | |

**Test Statistics[a]**

| | Hrecodewidth |
|---|---|
| Mann-Whitney U | 531.000 |
| Wilcoxon W | 667.000 |
| Z | -2.284 |
| Asymp. Sig. (2-tailed) | .022 |
| Exact Sig. (2-tailed) | .033 |
| Exact Sig. (1-tailed) | .033 |
| Point Probability | .026 |

a. Grouping Variable: Car ownership

Total annual tourism trips

**Descriptive Statistics**

| | N | Mean | Std. Deviation | Minimum | Maximum |
|---|---|---|---|---|---|
| Hrecodelessroadconstr | 103 | 1.83 | .382 | 1 | 2 |
| Recodetotaltrip | 103 | 1.23 | .564 | 1 | 3 |

**Ranks**

| | Recodetotaltrip | N | Mean Rank | Sum of Ranks |
|---|---|---|---|---|
| Hrecodelessroadconstr | 1 to 10 trips | 86 | 48.80 | 4197.00 |
| | 11 to 20 trips | 10 | 45.90 | 459.00 |
| | Total | 96 | | |

**Test Statistics[a]**

| | Hrecodelessroadconstr |
|---|---|
| Mann-Whitney U | 404.000 |
| Wilcoxon W | 459.000 |
| Z | -.510 |
| Asymp. Sig. (2-tailed) | .610 |
| Exact Sig. (2-tailed) | .636 |
| Exact Sig. (1-tailed) | .447 |
| Point Probability | .288 |

a. Grouping Variable: Recodetotaltrip

**Descriptive Statistics**

| | N | Mean | Std. Deviation | Minimum | Maximum |
|---|---|---|---|---|---|
| Hrecodetwolanes | 103 | 1.83 | .373 | 1 | 2 |
| Recodetotaltrip | 103 | 1.23 | .564 | 1 | 3 |

**Ranks**

| | Recodetotaltrip | N | Mean Rank | Sum of Ranks |
|---|---|---|---|---|
| Hrecodetwolanes | 1 to 10 trips | 86 | 48.30 | 4154.00 |
| | 11 to 20 trips | 10 | 50.20 | 502.00 |
| | Total | 96 | | |

**Test Statistics[a]**

| | Hrecodetwolanes |
|---|---|
| Mann-Whitney U | 413.000 |
| Wilcoxon W | 4154.000 |
| Z | -.344 |
| Asymp. Sig. (2-tailed) | .731 |
| Exact Sig. (2-tailed) | 1.000 |
| Exact Sig. (1-tailed) | .594 |
| Point Probability | .379 |

a. Grouping Variable: Recodetotaltrip

**Descriptive Statistics**

| | N | Mean | Std. Deviation | Minimum | Maximum |
|---|---|---|---|---|---|
| Hrecodephysicallydividedroadway | 103 | 1.85 | .354 | 1 | 2 |
| Recodetotaltrip | 103 | 1.23 | .564 | 1 | 3 |

**Ranks**

| | Recodetotaltrip | N | Mean Rank | Sum of Ranks |
|---|---|---|---|---|
| Hrecodephysicallydividedroadway | 1 to 10 trips | 86 | 48.24 | 4149.00 |
| | 11 to 20 trips | 10 | 50.70 | 507.00 |
| | Total | 96 | | |

**Test Statistics[a]**

| | Hrecodephysicallydividedroadway |
|---|---|
| Mann-Whitney U | 408.000 |
| Wilcoxon W | 4149.000 |
| Z | -.432 |
| Asymp. Sig. (2-tailed) | .666 |
| Exact Sig. (2-tailed) | 1.000 |
| Exact Sig. (1-tailed) | .553 |
| Point Probability | .364 |

a. Grouping Variable: Recodetotaltrip

MannWhitney Test Car Ownership and Driving Experiences

En route to and from the destination segment

Car Ownership

**Descriptive Statistics**

| | N | Mean | Std. Deviation | Minimum | Maximum |
|---|---|---|---|---|---|
| Erecodequalityroadsurface | 103 | 1.87 | .334 | 1 | 2 |
| Car ownership | 103 | .84 | .364 | 0 | 1 |

**Ranks**

| | Car ownership | N | Mean Rank | Sum of Ranks |
|---|---|---|---|---|
| Erecodequalityroadsurface | No | 16 | 45.63 | 730.00 |
| | Yes | 87 | 53.17 | 4626.00 |
| | Total | 103 | | |

**Test Statistics[a]**

| | Erecodequalityroadsurface |
|---|---|
| Mann-Whitney U | 594.000 |
| Wilcoxon W | 730.000 |
| Z | -1.614 |
| Asymp. Sig. (2-tailed) | .106 |
| Exact Sig. (2-tailed) | .212 |
| Exact Sig. (1-tailed) | .116 |
| Point Probability | .087 |

a. Grouping Variable: Car ownership

Driving experiences

**Descriptive Statistics**

| | N | Mean | Std. Deviation | Minimum | Maximum |
|---|---|---|---|---|---|
| Erecodebeautifulnatural | 103 | 1.80 | .405 | 1 | 2 |
| recodedrivingexperience | 103 | 1.42 | .650 | 1 | 3 |

**Ranks**

| | recodedrivingexperience | N | Mean Rank | Sum of Ranks |
|---|---|---|---|---|
| Erecodebeautifulnatural | 1 to 10 years | 69 | 48.01 | 3312.50 |
| | 11 to 20 years | 25 | 46.10 | 1152.50 |
| | Total | 94 | | |

**Test Statistics[a]**

| | Erecodebeautifulnatural |
|---|---|
| Mann-Whitney U | 827.500 |
| Wilcoxon W | 1152.500 |
| Z | -.460 |
| Asymp. Sig. (2-tailed) | .645 |
| Exact Sig. (2-tailed) | .757 |
| Exact Sig. (1-tailed) | .427 |
| Point Probability | .211 |

a. Grouping Variable: recodedrivingexperience

Total annual tourism trips

**Descriptive Statistics**

| | N | Mean | Std. Deviation | Minimum | Maximum |
|---|---|---|---|---|---|
| Erecodephysiallydivided | 103 | 1.75 | .437 | 1 | 2 |
| Recodetotaltrip | 103 | 1.23 | .564 | 1 | 3 |

**Ranks**

| | Recodetotaltrip | N | Mean Rank | Sum of Ranks |
|---|---|---|---|---|
| Erecodephysiallydivided | 1 to 10 trips | 86 | 47.78 | 4109.00 |
| | 11 to 20 trips | 10 | 54.70 | 547.00 |
| | Total | 96 | | |

**Test Statistics[a]**

| | Erecodephysiallydivided |
|---|---|
| Mann-Whitney U | 368.000 |
| Wilcoxon W | 4109.000 |
| Z | -1.021 |
| Asymp. Sig. (2-tailed) | .307 |
| Exact Sig. (2-tailed) | .446 |
| Exact Sig. (1-tailed) | .279 |
| Point Probability | .216 |

a. Grouping Variable: Recodetotaltrip

MannWhitney Test Car Ownership and Driving Experiences

Within the destination segment

Total annual tourism trips

**Descriptive Statistics**

| | N | Mean | Std. Deviation | Minimum | Maximum |
|---|---|---|---|---|---|
| Wrecoderoadwaywidth | 103 | 1.79 | .412 | 1 | 2 |
| recodeannualtrips | 103 | 1.17 | .373 | 1 | 2 |

**Ranks**

| | recodeannualtrips | N | Mean Rank | Sum of Ranks |
|---|---|---|---|---|
| Wrecoderoadwaywidth | 1 to 10 trips | 86 | 51.62 | 4439.50 |
| | more than 10 trips | 17 | 53.91 | 916.50 |
| | Total | 103 | | |

**Test Statistics[a]**

| | Wrecoderoadwaywidth |
|---|---|
| Mann-Whitney U | 698.500 |
| Wilcoxon W | 4439.500 |
| Z | -.407 |
| Asymp. Sig. (2-tailed) | .684 |
| Exact Sig. (2-tailed) | .761 |
| Exact Sig. (1-tailed) | .484 |
| Point Probability | .244 |

a. Grouping Variable: recodeannualtrips

# Appendix D

**Self-drive Tourist Survey Questionnaire**

This survey is carried out for the purpose of preparing doctoral research title "*Examining the Relationship of Driving Satisfaction, Destination Satisfaction and Overall Satisfaction*". All information will be strictly used for academic purposes and treated with confidential. Your kind assistance in completing this questionnaire is highly appreciated.

Thank you very much.

Researcher: Safizahanin Mokhtar
Tokyo Metropolitan University, Japan

*Kajian ini dilaksanakan bagi tujuan penyelidikan kedoktoran bertajuk "Menilai Hubungan Dalam Kepuasan Memandu, Kepuasan Destinasi dan Keseluruhan Kepuasan". Segala maklumat kaji selidik ini adalah untuk tujuan akademik dan adalah sulit. Kerjasama anda dalam menjawab soal selidik ini amat dihargai .*

*Penyelidik: Safizahanin Mokhtar*
Tokyo Metropolitan University, Jepun

---

Date of interview/survey / *Tarikh temubual* : / /
Interviewer name/ *Nama penemubual*:

Before proceeding to interview the respondent, please find out the following/ *Sebelum meneruskan untuk menemubual responden, anda perlu memastikan perkara yang berikut*:

1. The drivers from Johor Bahru are not qualified for this survey/*Pemandu dari Johor Bahru adalah tidak layak dalam kajian soalselidik ini*
2. Are you from Desaru? (in case of Layang rest and service area)/ *Adakah anda dari Desaru? (untuk kes kawasan rehat dan rawat Layang)*
    - Answer/*Jawapan*: Yes/ *Ya*
3. Do you drive in the majority of the trip? /*Adakah anda memandu dalam kebanyakan perjalanan?*
    - Answer/*Jawapan*: Yes/ *Ya*

If YES Proceed to questionnaire sheet
*jika YA teruskan ke soalan soal selidik*

SPSS DATA KEY IN INFORMATION
Date : _____

No. for this questionnaire:_____

Note for researcher:

PART A: ATTITUDES TOWARD CAR AND DRIVING PREFERENCES.PLEASE CIRCLE THE SCALES THAT MATCH YOUR PREFERENCES.*BAHAGIAN A.SIKAP TERHADAP KERETA DAN PILIHAN MEMANDU.TANDAKAN JAWAPAN PADA SKALA YANG DISEDIAKAN BERSESUAIAN DENGAN PILIHAN ANDA.*

| No | Items/ *perkara* | in which scale do you agree or you disagree *pada skala manakah anda setuju atau tidak bersetuju* | | | |
|---|---|---|---|---|---|
| | | Strongly disagree *Sangat tidak setuju* 1 | Disagree *Tidak setuju* 2 | Agree *Setuju* 3 | Strongly agree *Sangat setuju* 4 |
| **A** | **Attitudes toward car /*Sikap terhadap kereta*** | | | | |
| 1) | Driving a car is the important thing in my life<br>*memandu kereta adalah perkara yang penting dalam hidup saya* | | | | |
| 2) | Driving a car means independence<br>*Memandu kereta bermaksud bebas* | | | | |
| 3) | I can afford the responsibilities to have a car.<br>*Saya mampu bertanggugjawab untuk memiliki kereta* | | | | |
| 4) | I feel lost without a car<br>*Saya merasa kosong tanpa kereta* | | | | |
| 5) | Driving a car carries some risk to lives<br>*Memandu kereta membawa risiko kepada nyawa* | | | | |
| 6) | Driving a car is a part of growing up<br>*Memandu kereta adalah sebahagian daripada menjadi dewasa* | | | | |
| 7) | Driving a car is bad for the environment<br>*Memandu kereta tidak baik untuk alam sekitar* | | | | |
| 8) | Driving a car with green energy is important for me<br>*Memandu kereta dengan tenaga hijau penting buat saya* | | | | |

DRIVING PREFERENCES / *PILIHAN PEMANDUAN*

| No | Items/ *Perkara* | in which scale do you agree or you disagree<br>*pada skala manakah anda setuju atau tidak bersetuju* | | | |
|---|---|---|---|---|---|
| | | Strongly disagree<br>*Sangat tidak setuju*<br>1 | Disagree<br>*Tidak setuju*<br>2 | Agree<br>*Setuju*<br>3 | Strongly agree<br>*Sangat setuju*<br>4 |
| | When driving a car for tourism purposes, I prefer (continue with statements below)……<br>*Apabila memandu kereta untuk melancong saya memilih (sambung dengan kenyataan di bawah)……* | | | | |
| 1 | I am having fun time talking with other passenger(s)<br>*saya mempunyai masa yang menyeronokkan bercakap dengan penumpang lain* | | | | |
| 2 | I enjoy listening to music, news or talk show on the radio<br>*saya suka mendengar muzik, berita atau perbincangan di radio* | | | | |
| 3 | I feel adventurous<br>*Saya merasa pengembaraan* | | | | |
| 4 | I seek excitement on driving<br>*Mencari keseronokkan dalam pemanduan* | | | | |
| 5 | I always seek the fastest route to the destination<br>*Saya sentiasa mencari jalan yang paling cepat ke destinasi* | | | | |

PART B: TRIP CHARACTERISTICS AND OVERALL DRIVING SATISFACTION.
*BAHAGIAN B: CIRI-CIRI PERJALANAN DAN KESELURUHAN TAHAP KEPUASAN PEMANDUAN.*

TRIP CHARACTERISTICS / *CIRI–CIRI PERJALANAN*

1. Trip origin/*Permulaan perjalanan*:_____

2. Departure date and time from home to Desaru / *Tarikh dan masa bertolak dari rumah ke Desaru*

   a. Date /*Tarikh*: _____

   b. Time /*Masa*: _____am/pm

3. Departure date from Desaru to home / *Tarikh dan masa dari Desaru ke rumah*

   a. Date/*Tarikh*: _____

   b. Time/ *Masa*: _____am/pm

*4.* How many times have you visited Desaru in 2015? *Berapa kalikah anda melawat Desaru dalam 2015?*

_____

5. Who or what influenced you to visit Desaru? *Siapakah atau apakah yang mempengaruhi anda melawat Desaru?*

_____

*6.* Current and planning activities (current visit) and also previous trips activities /*Aktiviti semasa lawatan, aktiviti yang dirancang (lawatan sekarang) dan aktiviti semasa lawatan yang lalu*

| Places of interest that have been visited / *Tempat menarik yang dilawati* | Please tick your answer /*Tandakan jawapan anda* | | |
|---|---|---|---|
| | Current visit until last day of visit/ *destinasi sekarang dan destinasi seterusnya sehingga hari akhir lawatan* | | Previous visit in 2015/*lawatan yang terdahulu di 2015* |
| | Current destination / *lokasi sekarang* | Next destination to visit/ *destinasi berikutnya untuk dilawati* | |
| Desaru Beach/ *Pantai Desaru* | | | |
| Desaru Fruit Farm/*Ladang Buah Desaru* | | | |
| Sungai Lebam Wetlands/*Paya Sungai Lebam* | | | |
| Tanjung Balau Fishermen Museum/*Muzium Nelayan* | | | |
| Crocodile Farm/ *Ladang Buaya* | | | |
| Kota Tinggi Museum/ *Muzium Kota Tinggi* | | | |
| Kota Tinggi Waterfall/*Air terjun Kota Tinggi* | | | |
| Old Johor Fort/*Kota Johor Lama* | | | |
| Ostrich Farm/*Ladang Ostrich* | | | |
| Golf Resort/*Resort golf* | | | |
| Others/ *lain-lain* Specify *Nyatakan* | | | |

7. How many times have you used the Senai Desaru Expressway in 2015? *Berapa kalikah anda menggunakan Senai Desaru Highway dalam 2015?*

_____

8. What is the main purpose of the trip? *Apakah tujuan perjalanan?*
   a. Holidays, leisure and recreation/*Cuti riadah dan rekreasi*
   b. Visiting friends and relatives/*Melawat rakan dan saudara mara*
   c. Education and training /*Pendidikan dan latihan*
   *d.* Health and medical care /*Penjagaan kesihatan dan perubatan*
   e. Religion /*Keagamaan*
   f. Sports/*Sukan*
   *g.* Other/*Lain-lain*:_____

WHAT IS YOUR DRIVING SATISFACTION AND OVERALL SATISFACTION OF THE HIGHWAY, THE DESTINATION AND ACCESS TO MALAYSIA? PLEASE RATE THESE ELEMENTS ACCORDING TO THE SCALE PROVIDED.
*APAKAH TAHAP KEPUASAN PEMANDUAN ANDA DAN KESELURUHAN KEPUASAN DI LEBUHRAYA, DI DESTINASI DAN AKSES KE MALAYSIA? SILA JAWAB BERDASARKAN SKALA YANG DISEDIAKAN.*

ROAD SEGMENT: HIGHWAY */ SEGMEN JALAN: LEBUHRAYA*

| **Highway**<br>***Lebuhraya*** | **How important are these elements to achieve your driving satisfaction especially in this trip?**<br>***Bagaimanakah elemen berikut penting untuk mencapai tahap kepuasan pemanduan anda khususnya dalam perjalanan kali ini?*** | **Based on these driving satisfaction elements what is your driving satisfaction in this trip?**<br>***Berdasarkan elemen kepuasan pemanduan berikut apakah tahap kepuasan pemanduan anda dalam perjalanan ini?*** |
|---|---|---|
| **Elements of driving satisfaction**<br>***Elemen kepuasan pemanduan*** | Scale/*Skala*: 1= Strongly disagree/*Sangat tidak bersetuju*,<br>2= disagree/*Tidak bersetuju*,<br>3= agree/*Setuju*,<br>4= strongly agree/*Sangat setuju* | Scale/*Skala*: 1= Strongly dissatisfied/*Sangat tidak berpuas hati*, 2=Dissatisfied/*Tidak berpuas hati*, 3=Satisfied/*Berpuas hati*,<br>4=Very Satisfied/*Sangat berpuas hati*,<br>NA= not applicable/*Tidak berkaitan* |
| 1. Driving at my preferred speed<br>*Memandu dengan mengikut pilihan kelajuan* | 1 2 3 4 | 1 2 3 4 NA |
| 2. Good traveler information services<br>*Khidmat informasi perjalanan yang baik* | 1 2 3 4 | 1 2 3 4 NA |

| **Highway**<br>***Lebuhraya*** | **How important are these elements to achieve your driving satisfaction especially in this trip?**<br>***Bagaimanakah elemen berikut penting untuk mencapai tahap kepuasan pemanduan anda khususnya dalam perjalanan kali ini?*** | **Based on these driving satisfaction elements what is your driving satisfaction in this trip?**<br>***Berdasarkan elemen kepuasan pemanduan berikut apakah tahap kepuasan pemanduan anda dalam perjalanan ini?*** |
|---|---|---|
| **Elements of driving satisfaction**<br>***Elemen kepuasan pemanduan*** | Scale/*Skala*: 1= Strongly disagree/*Sangat tidak bersetuju*,<br>2= disagree/*Tidak bersetuju*,<br>3= agree/*Setuju*,<br>4= strongly agree/*Sangat setuju* | Scale/*Skala*: 1= Strongly dissatisfied/*Sangat tidak berpuas hati*, 2=Dissatisfied/*Tidak berpuas hati*, 3=Satisfied/*Berpuas hati*,<br>4=Very Satisfied/*Sangat berpuas hati*,<br>NA= not applicable/*Tidak berkaitan* |
| 3. Quality of road surface<br>*Kualiti permukaan jalan* | 1 2 3 4 | 1 2 3 4 NA |
| 4. A good road design for safety<br>*Reka bentuk jalan yang baik untuk keselamatan* | 1 2 3 4 | 1 2 3 4 NA |
| 5. Good technical support for sight distance during unforeseen situation<br>*Bantuan teknikal yang baik untuk jarak penglihatan ketika keadaan tidak terjangka* | 1 2 3 4 | 1 2 3 4 NA |
| 6. Experiencing beautiful natural and city scape along the route<br>*Menikmati pemandangan alam dan bandar yang cantik sepanjang perjalanan* | 1 2 3 4 | 1 2 3 4 NA |
| 7. Comfortable rest area and related services along the route<br>*Kawasan rehat dan perkhidmatan yang selesa sepanjang perjalanan* | 1 2 3 4 | 1 2 3 4 NA |
| Overall satisfaction<br>*keseluruhan tahap kepuasan* | **1 2 3 4** | |
| **Do unexpected following scenarios change your driving satisfaction?** ***Adakah senario tidak terjangka berikut mengubah tahap kepuasan pemanduan anda?***<br>**Refer to the same satisfaction scale above, circle your answer/** ***Dengan merujuk kepada skala tahap kepuasan diatas, bulatkan jawapan anda*** | | |
| *1.* Delay in travel time from 30 minutes to 1 hour in the trip from home to Desaru/ *Kelewatan masa perjalanan dari 30 minit hingga 1 jam dalam perjalanan dari rumah ke Desaru* | 1 2 3 4 | |

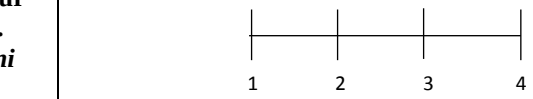
| **Do unexpected following scenarios change your driving satisfaction?** ***Adakah senario tidak terjangka berikut mengubah tahap kepuasan pemanduan anda?*** **Refer to the same satisfaction scale above, circle your answer/** ***Dengan merujuk kepada skala tahap kepuasan diatas, bulatkan jawapan anda*** | |
|---|---|
| 2. Delay in travel time from 2 hours to 3 hours in the trip from home to Desaru/ *Kelewatan masa perjalanan dari 2 hingga ke 3 jam dalam perjalanan dari rumah ke Desaru* | 1 2 3 4 |
| 3. Delay in travel time from 30 minutes to 1 hour in the trip from Desaru to home/ *Kelewatan masa perjalanan dari 30 minit hingga 1 jam dalam perjalanan dari Desaru ke rumah* | 1 2 3 4 |
| 4. Delay in travel time from 2 to 3 hours in the trip from Desaru to home/ *Kelewatan masa perjalanan dari 2 hingga ke 3 jam dalam perjalanan dari Desaru ke rumah* | 1 2 3 4 |

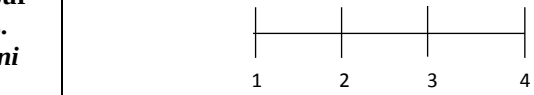
ROAD SEGMENT: IN THE DESTINATION/ *SEGMENT JALAN: DI DESTINASI*

| **In the destination** ***Di destinasi*** | **How important are these elements to achieve your driving satisfaction especially in this trip?** ***Bagaimanakah elemen berikut penting untuk mencapai tahap kepuasan pemanduan anda khususnya dalam perjalanan kali ini?*** | **Based on these driving satisfaction elements what is your driving satisfaction in this trip?** ***Berdasarkan elemen kepuasan pemanduan berikut apakah tahap kepuasan pemanduan anda dalam perjalanan ini?*** |
|---|---|---|
| **Elements of driving satisfaction** ***Elemen kepuasan pemanduan*** | Scale/*Skala*: 1= Strongly disagree/*Sangat tidak bersetuju*, 2= disagree/*Tidak bersetuju*, 3= agree/*Setuju*, 4= strongly agree/*Sangat setuju* | Scale/*Skala*: 1= Strongly dissatisfied/*Sangat tidak berpuas hati*, 2=Dissatisfied/*Tidak berpuas hati*, 3=Satisfied/*Berpuas hati*, 4=Very Satisfied/*Sangat berpuas hati*, NA= not applicable/*Tidak berkaitan* |
| 1. Driving on less traffic volume in the destination *Memandu dengan kurang kesesakan di destinasi* | 1 2 3 4 | 1 2 3 4 NA |
| 2. Good quality of road surface *Kualiti permukaan jalan* | 1 2 3 4 | 1 2 3 4 NA |

| **In the destination**<br>***Di destinasi*** | **How important are these elements to achieve your driving satisfaction especially in this trip?**<br>***Bagaimanakah elemen berikut penting untuk mencapai tahap kepuasan pemanduan anda khususnya dalam perjalanan kali ini?*** | **Based on these driving satisfaction elements what is your driving satisfaction in this trip?**<br>***Berdasarkan elemen kepuasan pemanduan berikut apakah tahap kepuasan pemanduan anda dalam perjalanan ini?*** |
|---|---|---|
| **Elements of driving satisfaction**<br>***Elemen kepuasan pemanduan*** | Scale/*Skala*: 1= Strongly disagree/*Sangat tidak bersetuju*,<br>2= disagree/*Tidak bersetuju*,<br>3= agree/*Setuju*,<br>4= strongly agree/*Sangat setuju* | Scale/*Skala*: 1= Strongly dissatisfied/*Sangat tidak berpuas hati*,<br>2=Dissatisfied/*Tidak berpuas hati*,<br>3=Satisfied/*Berpuas hati*,<br>4=Very Satisfied/*Sangat berpuas hati*,<br>NA= not applicable/*Tidak berkaitan* |
| 3. Less number of stops at intersections<br>*Kurang jumlah berhenti di persimpangan* | 1 2 3 4 | 1 2 3 4 NA |
| 4. Good technical support for sight distance during unforeseen situation<br>*Bantuan teknikal yang baik untuk jarak penglihatan ketika keadaan tidak terjangka* | 1 2 3 4 | 1 2 3 4 NA |
| 5. Availability of car parking space<br>Kesediaan ruang meletak kereta | 1 2 3 4 | 1 2 3 4 NA |
| 6. A well-developed road network in the destination<br>*Rangkaian jalanraya di destinasi yang baik* | 1 2 3 4 | 1 2 3 4 NA |
| 7. Driving at preferred speed<br>*Memandu dengan mengikut pilihan kelajuan* | 1 2 3 4 | 1 2 3 4 NA |
| 8. Experiencing beautiful natural and city scape along the route<br>*Menikmati pemandangan alam dan bandar yang cantik sepanjang perjalanan* | 1 2 3 4 | 1 2 3 4 NA |
| Overall satisfaction<br>*keseluruhan tahap kepuasan* | **1 2 3 4** | |

PART C: IN THE DESTINATION ACTIVITIES SATISFACTION. PLEASE CIRCLE THE FOLLOWING ITEMS TO THE SCALE PROVIDED.
*BAHAGIAN C: TAHAP KEPUASAN SEMASA DI DESTINASI. SILA BULATKAN JAWAPAN ANDA MENGIKUT SKALA YANG DISEDIAKAN*

| **Activities in the destination** ***Aktiviti semasa di destinasi*** | **Did you perform these activities on this trip? If YES proceed to answer your satisfaction level of the activities.** ***Adakah anda melakukan aktiviti ini pada kali ini? Sekiranya YA tandakan tahap kepuasan anda terhadap aktiviti tersebut.*** | **Satisfaction level /** ***Tahap kepuasan***   |
|---|---|---|
| 1. I enjoyed picnic *Saya menikmati berkelah* | ☐ No/*Tidak* ☐ Yes/*Ya* | 1 2 3 4 |
| 2. I enjoyed food *Saya menikmati makanan* | ☐ No/*Tidak* ☐ Yes/*Ya* | 1 2 3 4 |
| 3. I was able to relax *Saya dapat berehat* | ☐ No/*Tidak* ☐ Yes/*Ya* | 1 2 3 4 |
| 4. I appreciated the local town scape *Saya menghargai pemandagan bandar tempatan* | ☐ No/*Tidak* ☐ Yes/*Ya* | 1 2 3 4 |
| 5. I enjoyed outdoor recreation over the island or coastal area *Saya menikmati sukan rekreasi di pulau atau di sekitar kawasan pantai* | ☐ No/*Tidak* ☐ Yes/*Ya* | 1 2 3 4 |
| 6. I appreciated good and sandy beach *Saya menghargai pantai berpasir yang baik* | ☐ No/*Tidak* ☐ Yes/*Ya* | 1 2 3 4 |
| 7. I experienced the richness of natural environment *Saya mengagumi kekayaan alam semula jadi* | ☐ No/*Tidak* ☐ Yes/*Ya* | 1 2 3 4 |
| 8. I appreciated spectacular scenery *Saya menghargai pemandangan yang menakjubkan* | ☐ No/*Tidak* ☐ Yes/*Ya* | 1 2 3 4 |

| **Activities in the destination** *Aktiviti semasa di destinasi* | **Did you perform these activities on this trip? If YES proceed to answer your satisfaction level of the activities.** ***Adakah anda melakukan aktiviti ini pada kali ini? Sekiranya YA tandakan tahap kepuasan anda terhadap aktiviti tersebut.*** | **Satisfaction level /** ***Tahap kepuasan***   Very Dissatisfied *Sangat tidak berpuas hati* — Very Satisfied / Sangat *berpuas hati* |
|---|---|---|
| 9. I experienced water sports and activities *Saya berpengalaman aktiviti dan sukan air* | ☐ No/*Tidak* ☐ Yes/*Ya* | 1 2 3 4 |
| 10. Do you experienced worth accommodation in the destination? (if related). *Adakah penginapan anda di destinasi berbaloi? (sekiranya berkaitan)* | ☐ No/*Tidak* ☐ Yes/*Ya* | 1 2 3 4 |
| Overall satisfaction *Keseluruhan tahap kepuasan* | **1 2 3 4** | |

| **Do unexpected following scenarios change your destination activities satisfaction?** ***Adakah senario tidak terjangka berikut mengubah tahap kepuasan aktiviti di destinasi anda?*** **Refer to the same satisfaction scale above, circle your answer/** ***Dengan merujuk kepada skala tahap kepuasan diatas, bulatkan jawapan anda*** | |
|---|---|
| 1. Delay in travel time from 30 minutes to 1 hour in the trip from home to Desaru/ *Kelewatan masa perjalanan dari 30 minit hingga 1 jam dalam perjalanan dari rumah ke Desaru* | 1 2 3 4 |
| 2. Delay in travel time from 2 hours to 3 hours in the trip from home to Desaru/ *Kelewatan masa perjalanan dari 2 hingga ke 3 jam dalam perjalanan dari rumah ke Desaru* | 1 2 3 4 |
| 3. Delay in travel time from 30 minutes to 1 hour in the trip from Desaru to home/ *Kelewatan masa perjalanan dari 30 minit hingga 1 jam dalam perjalanan dari Desaru ke rumah* | 1 2 3 4 |
| 4. Delay in travel time from 2 to 3 hours in the trip from Desaru to home/ *Kelewatan masa perjalanan dari 2 hingga ke 3 jam dalam perjalanan dari Desaru ke rumah* | 1 2 3 4 |

PART D: DEMOGRAPHIC CHARACTERISTICS. PLEASE COMPLETE THE FOLLOWING QUESTIONS. *BAHAGIAN D. CIRI-CIRI DEMOGRAPHI. SILA LENGKAPKAN SOALAN BERIKUT.*

1. Gender / *Jantina*
   a. Male / *Lelaki*
   b. Female / *Perempuan*

2. Race / *Bangsa*
   a. Malay/*Melayu*
   b. Chinese/*Cina*
   c. India/*India*
   d. Others/ *Lain-lain*:_____

3. What is your monthly household income group? */ Apakah kumpulan pendapatan isi rumah anda?*
   a. Up to RM 1,000
   b. RM 1,001 to RM 2,000
   c. RM 2,001 to RM 3,000
   d. RM 3,001 to RM 4,000
   e. RM 4,001 to RM 5,000
   f. RM 5,001 to RM 6,000
   g. RM 6,001 to RM 7,000
   h. RM 7,001 to RM 8,000
   i. RM 8,001 to RM 9,000
   j. RM 9,001 to RM10,000
   k. More than RM10,000

4. What is your age group? /*Apakah kumpulan umur anda?*
   a. Below 20 years/*Bawah 20 tahun*
   b. 20-30 years/*20-30 tahun*
   c. 31-40 years/*31-40 tahun*
   d. 41-50 years/*41-50 tahun*
   e. 51-60 years/*51-60 tahun*
   f. More than 60 years/*lebih dari 60 tahun*

5. What is your highest education level? *Apakah tahap pendidikan tertinggi anda?*
   a. Sijil Pelajaran Malaysia (SPM)
   b. Certificate of skill / *Sijil kemahiran*
   c. Diploma/*Diploma*
   d. Bachelor degree/ *Ijazah pertama*
   e. Master degree/ *Ijazah sarjana*
   f. PhD/ *Ijazah kedoktoran*
   g. Other/ *lain-lain*:_____

6. Employment fields / *Bidang pekerjaan*
   a. Agriculture, forestry and fishing/*pertanian, perhutanan dan perikanan*
   b. Mining and quarrying/ *Perlombongan dan kuari*
   c. Manufacturing/ *Pembuatan*
   d. Electricity, gas, steam and air conditioning supply/ *Elektrik, gas, bekalan wap dan penyaman udara*
   e. Water supply, sewerage, waste management and remediation activities/*Bekalan air, pembentungan, pengurusan sisa dan aktiviti pemulihan*
   f. Construction/*Pembinaan*
   g. Wholesale and retail trade, repair of motor vehicles and motorcycles/ *Perdagangan borong dan runcit, pembaikan kenderaan bermotor dan motorsikal*
   h. Transportation and storage/ *pengangkutan dan penyimpanan*
   i. Accommodation and food service activities/*Penginapan dan aktiviti perkhidmatan makanan*
   j. Information and communication/*Maklumat dan komunikasi*
   k. Financial and insurance/*Kewangan dan insuran*
   l. Real estate activities/*Aktiviti hartanah*
   m. Professional, scientific and technical activities/*Aktiviti professional, saintifik dan teknikal*

*n.* Administrative and support service activities/*Aktiviti perkhidmatan pentadbiran dan sokongan*
*o.* Public administration and defense, compulsory social security/*Pentadbiran awam dan pertahanan, keselamatan sosial*
p. Education/ *Pendidikan*
q. Human health and social work activities/*kesihatan manusia dan aktiviti kerja sosial*
*r.* Arts entertainment and recreation/*Seni hiburan dan rekreasi*
s. Others service activities/*Lain-lain aktiviti perkhidmatan*
*t.* Activities of households as employers/*Aktiviti isi rumah sebagai majikan*

*7.* Household size (Including yourself) / *Bilangan isi rumah (termasuk anda)*
a. 2 persons/*2 orang*
b. 3 persons/*3 orang*
c. 4 persons/*4 orang*
d. 5 persons/*5 orang*
e. 6 persons /*6 orang*
f. More than 6 persons/ *lebih dari 6 orang*
g. Other/*lain-lain*:_____

8. Do you own a car (s)? *Adakah anda memiliki kereta?*
a. Yes/ *Ya*
*b.* No/ *Tidak*

9. Driving experiences/ *Pengalaman memandu*: _____(Years of driving/ *tahun pengalaman memandu*)

10. Travel frequency (tourism purpose only) by mode of transport (How many times) in 2014
*Kekerapan perjalanan (tujuan pelancongan sahaja) berdasarkan jenis pengangkutan dalam tahun 2014 (nyatakan berapa kali bilangan perjalanan).*

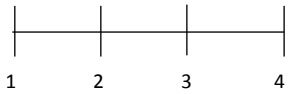
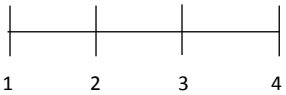
a. Car/*Kereta* _____
b. Express bus/*Bas express* _____
c. Train/*Keretapi*_____
d. Airplane/*Kapal terbang* _____
e. Sea transport /*Kenderaan laut* _____

11. Total household tourism travel consumption in 2014 (Total no of trips)
*Jumlah bilangan perjalanan pelancongan isi rumah pada tahun 2014 (Jumlah bilangan perjalanan)*

_____

PASSENGER OVERALL SATISFACTION/ *PENUMPANG KESELURUHAN TAHAP KEPUASAN*

Passenger /*Penumpang*

| (Road segment/ *Segment jalan*) | (Tourism destination/ *Di destinasi*) |
|---|---|
|  Very Dissatisfied *Sangat tidak berpuas hati* Very Satisfied / *Sangat berpuas hati* |  Very Dissatisfied *Sangat tidak berpuas hati* Very Satisfied / *Sangat berpuas hati* |
| Passenger1/ *Penumpang1* | Passenger1/ *Penumpang1* |
| Passenger2/ *Penumpang2* | Passenger2/ *Penumpang2* |

END OF QUESTIONNAIRE/*TAMAT SOALAN*

# Appendix E

**Drivers group differences (z-statistics)**

Driving a car is the important thing in my life

| | | | Important | | LessImportant | | |
|---|---|---|---|---|---|---|---|
| | | | Estimate | P | Estimate | P | z-stat |
| DOS | <--- | Destination | 1.262 | 0.000 | 0.596 | 0.000 | -2.618*** |
| HOS | <--- | Highway | 0.614 | 0.000 | 0.717 | 0.000 | 0.870 |
| TA | <--- | HOS | 0.149 | 0.317 | 0.111 | 0.032 | -0.238 |
| TA | <--- | DOS | -0.154 | 0.466 | 0.212 | 0.017 | 1.596 |
| TA3 | <--- | TA | 0.342 | 0.001 | 0.818 | 0.000 | 2.537** |
| TA4 | <--- | TA | 0.882 | 0.000 | 1.905 | 0.000 | 3.21*** |
| TA5 | <--- | TA | 1.134 | 0.000 | 1.391 | 0.000 | 0.781 |
| TA6 | <--- | TA | 0.958 | 0.000 | 0.984 | 0.000 | 0.102 |
| TA7 | <--- | TA | 0.647 | 0.000 | 1.469 | 0.000 | 3.43*** |
| TA8 | <--- | TA | 0.719 | 0.000 | 1.671 | 0.000 | 3.562*** |
| TA9 | <--- | TA | 0.681 | 0.003 | 1.267 | 0.000 | 1.756* |
| TA10 | <--- | TA | 0.702 | 0.003 | 0.897 | 0.000 | 0.630 |
| H4 | <--- | Highway | 1.165 | 0.000 | 1.072 | 0.000 | -0.652 |
| H5 | <--- | Highway | 0.844 | 0.000 | 0.948 | 0.000 | 0.848 |
| D6 | <--- | Destination | 1.042 | 0.000 | 1.023 | 0.000 | -0.066 |
| D7 | <--- | Destination | 1.720 | 0.000 | 1.001 | 0.000 | -2.043** |
| OVS | <--- | TA | 0.267 | 0.003 | 0.408 | 0.000 | 1.054 |
| OVS | <--- | DOS | 0.247 | 0.075 | 0.150 | 0.163 | -0.553 |
| OVS | <--- | HOS | -0.022 | 0.819 | -0.102 | 0.106 | -0.690 |

Notes: *** p-value < 0.01; ** p-value < 0.05; * p-value < 0.10

Driving a car means independence

| | | | Important | | LessImportant | | |
|---|---|---|---|---|---|---|---|
| | | | Estimate | P | Estimate | P | z-stat |
| DOS | <--- | Destination | 0.770 | 0.000 | 0.708 | 0.000 | -0.380 |
| HOS | <--- | Highway | 0.689 | 0.000 | 0.707 | 0.000 | 0.161 |
| TA | <--- | HOS | 0.015 | 0.772 | 0.224 | 0.002 | 2.373** |
| TA | <--- | DOS | 0.160 | 0.069 | 0.069 | 0.551 | -0.623 |
| TA3 | <--- | TA | 0.844 | 0.004 | 0.708 | 0.000 | -0.423 |
| TA4 | <--- | TA | 1.672 | 0.000 | 1.683 | 0.000 | 0.021 |
| TA5 | <--- | TA | 1.756 | 0.002 | 1.298 | 0.000 | -0.761 |
| TA6 | <--- | TA | 1.104 | 0.003 | 0.898 | 0.000 | -0.519 |
| TA7 | <--- | TA | 1.897 | 0.000 | 1.172 | 0.000 | -1.313 |
| TA8 | <--- | TA | 2.140 | 0.000 | 1.358 | 0.000 | -1.260 |
| TA9 | <--- | TA | 1.182 | 0.017 | 1.162 | 0.000 | -0.038 |
| TA10 | <--- | TA | 1.572 | 0.006 | 0.721 | 0.000 | -1.413 |
| H4 | <--- | Highway | 1.155 | 0.000 | 1.066 | 0.000 | -0.659 |
| H5 | <--- | Highway | 0.927 | 0.000 | 0.933 | 0.000 | 0.054 |
| D6 | <--- | Destination | 1.044 | 0.000 | 0.983 | 0.000 | -0.289 |
| D7 | <--- | Destination | 0.845 | 0.000 | 1.326 | 0.000 | 2.002** |
| OVS | <--- | TA | 0.695 | 0.003 | 0.328 | 0.000 | -1.476 |
| OVS | <--- | DOS | -0.020 | 0.851 | 0.305 | 0.015 | 1.977** |
| OVS | <--- | HOS | 0.072 | 0.303 | -0.185 | 0.013 | -2.519** |

Notes: *** p-value < 0.01; ** p-value < 0.05; * p-value < 0.10

I can afford the responsibilities to have a car

| | | | Important | | LessImportant | | |
|---|---|---|---|---|---|---|---|
| | | | Estimate | P | Estimate | P | z-stat |
| DOS | <--- | Destination | 0.694 | 0.000 | 0.833 | 0.000 | 0.684 |
| HOS | <--- | Highway | 0.687 | 0.000 | 0.752 | 0.000 | 0.504 |
| TA | <--- | HOS | 0.148 | 0.034 | 0.153 | 0.068 | 0.042 |
| TA | <--- | DOS | 0.144 | 0.238 | 0.095 | 0.407 | -0.296 |
| TA3 | <--- | TA | 0.578 | 0.000 | 0.867 | 0.000 | 1.098 |
| TA4 | <--- | TA | 1.220 | 0.000 | 1.987 | 0.000 | 1.729* |
| TA5 | <--- | TA | 1.316 | 0.000 | 1.270 | 0.000 | -0.124 |
| TA6 | <--- | TA | 1.058 | 0.000 | 0.827 | 0.000 | -0.914 |
| TA7 | <--- | TA | 0.954 | 0.000 | 1.645 | 0.000 | 1.969** |
| TA8 | <--- | TA | 1.054 | 0.000 | 1.770 | 0.000 | 1.886* |
| TA9 | <--- | TA | 0.580 | 0.000 | 2.012 | 0.000 | 3.029*** |
| TA10 | <--- | TA | 0.804 | 0.000 | 1.084 | 0.000 | 0.766 |
| H4 | <--- | Highway | 1.077 | 0.000 | 1.147 | 0.000 | 0.435 |
| H5 | <--- | Highway | 1.014 | 0.000 | 0.763 | 0.000 | -1.755* |
| D6 | <--- | Destination | 0.958 | 0.000 | 1.113 | 0.000 | 0.585 |
| D7 | <--- | Destination | 1.093 | 0.000 | 1.268 | 0.000 | 0.605 |
| OVS | <--- | TA | 0.386 | 0.000 | 0.393 | 0.000 | 0.051 |
| OVS | <--- | DOS | 0.209 | 0.089 | 0.117 | 0.310 | -0.547 |
| OVS | <--- | HOS | -0.202 | 0.004 | 0.112 | 0.170 | 2.931*** |

Notes: *** p-value < 0.01; ** p-value < 0.05; * p-value < 0.10

I feel lost without a car

| | | | Important | | LessImportant | | |
|---|---|---|---|---|---|---|---|
| | | | Estimate | P | Estimate | P | z-stat |
| DOS | <--- | Destination | 0.624 | 0.000 | 0.983 | 0.000 | 1.851* |
| HOS | <--- | Highway | 0.673 | 0.000 | 0.753 | 0.000 | 0.679 |
| TA | <--- | HOS | 0.137 | 0.009 | 0.027 | 0.874 | -0.623 |
| TA | <--- | DOS | 0.221 | 0.013 | -0.465 | 0.051 | -2.697*** |
| TA3 | <--- | TA | 0.772 | 0.000 | 0.513 | 0.000 | -1.462 |
| TA4 | <--- | TA | 1.853 | 0.000 | 0.950 | 0.000 | -2.905*** |
| TA5 | <--- | TA | 1.440 | 0.000 | 1.009 | 0.000 | -1.289 |
| TA6 | <--- | TA | 1.043 | 0.000 | 0.890 | 0.000 | -0.705 |
| TA7 | <--- | TA | 1.384 | 0.000 | 0.748 | 0.000 | -2.674*** |
| TA8 | <--- | TA | 1.690 | 0.000 | 0.497 | 0.000 | -4.485*** |
| TA9 | <--- | TA | 1.375 | 0.000 | 0.312 | 0.115 | -3.33*** |
| TA10 | <--- | TA | 0.923 | 0.000 | 0.720 | 0.000 | -0.704 |
| H4 | <--- | Highway | 1.070 | 0.000 | 1.176 | 0.000 | 0.699 |
| H5 | <--- | Highway | 0.899 | 0.000 | 1.016 | 0.000 | 0.863 |
| D6 | <--- | Destination | 0.876 | 0.000 | 1.323 | 0.000 | 1.753* |
| D7 | <--- | Destination | 1.226 | 0.000 | 0.942 | 0.000 | -1.162 |
| OVS | <--- | TA | 0.432 | 0.000 | 0.169 | 0.039 | -1.998** |
| OVS | <--- | DOS | 0.211 | 0.045 | 0.103 | 0.537 | -0.552 |
| OVS | <--- | HOS | -0.086 | 0.164 | -0.090 | 0.445 | -0.025 |

Notes: *** p-value < 0.01; ** p-value < 0.05; * p-value < 0.10

Driving a car carries some risk to lives

| | | | Important | | LessImportant | | |
|---|---|---|---|---|---|---|---|
| | | | Estimate | P | Estimate | P | z-stat |
| DOS | <--- | Destination | 0.769 | 0.000 | 0.736 | 0.000 | -0.179 |
| HOS | <--- | Highway | 0.908 | 0.000 | 0.655 | 0.000 | -1.450 |
| TA | <--- | HOS | 0.215 | 0.035 | 0.104 | 0.066 | -0.949 |
| TA | <--- | DOS | 0.005 | 0.970 | 0.265 | 0.011 | 1.527 |
| TA3 | <--- | TA | 0.779 | 0.000 | 0.697 | 0.000 | -0.352 |
| TA4 | <--- | TA | 1.592 | 0.000 | 1.686 | 0.000 | 0.246 |
| TA5 | <--- | TA | 1.484 | 0.000 | 1.257 | 0.000 | -0.605 |
| TA6 | <--- | TA | 0.966 | 0.000 | 0.845 | 0.000 | -0.472 |
| TA7 | <--- | TA | 1.407 | 0.000 | 1.152 | 0.000 | -0.852 |
| TA8 | <--- | TA | 1.415 | 0.000 | 1.513 | 0.000 | 0.292 |
| TA9 | <--- | TA | 1.258 | 0.000 | 1.120 | 0.000 | -0.366 |
| TA10 | <--- | TA | 0.912 | 0.000 | 0.902 | 0.000 | -0.030 |
| H4 | <--- | Highway | 1.328 | 0.000 | 1.028 | 0.000 | -1.283 |
| H5 | <--- | Highway | 1.103 | 0.000 | 0.915 | 0.000 | -0.922 |
| D6 | <--- | Destination | 0.868 | 0.000 | 1.067 | 0.000 | 0.839 |
| D7 | <--- | Destination | 1.125 | 0.000 | 1.145 | 0.000 | 0.074 |
| OVS | <--- | TA | 0.455 | 0.000 | 0.349 | 0.000 | -0.659 |
| OVS | <--- | DOS | 0.245 | 0.128 | 0.098 | 0.329 | -0.775 |
| OVS | <--- | HOS | -0.199 | 0.094 | -0.031 | 0.577 | 1.279 |

Driving a car is a part of growing up

| | | | Important | | LessImportant | | |
|---|---|---|---|---|---|---|---|
| | | | Estimate | P | Estimate | P | z-stat |
| DOS | <--- | Destination | 0.823 | 0.000 | 0.742 | 0.000 | -0.453 |
| HOS | <--- | Highway | 0.822 | 0.000 | 0.606 | 0.000 | -2.024** |
| TA | <--- | HOS | 0.062 | 0.582 | 0.179 | 0.002 | 0.927 |
| TA | <--- | DOS | 0.252 | 0.195 | 0.083 | 0.312 | -0.798 |
| TA3 | <--- | TA | 0.538 | 0.000 | 0.862 | 0.000 | 1.503 |
| TA4 | <--- | TA | 1.348 | 0.000 | 1.818 | 0.000 | 1.343 |
| TA5 | <--- | TA | 1.414 | 0.000 | 1.289 | 0.000 | -0.368 |
| TA6 | <--- | TA | 0.646 | 0.000 | 1.102 | 0.000 | 1.851* |
| TA7 | <--- | TA | 0.966 | 0.000 | 1.450 | 0.000 | 1.766* |
| TA8 | <--- | TA | 0.956 | 0.000 | 1.790 | 0.000 | 2.642*** |
| TA9 | <--- | TA | 0.838 | 0.000 | 1.310 | 0.000 | 1.347 |
| TA10 | <--- | TA | 1.079 | 0.000 | 0.809 | 0.000 | -0.838 |
| H4 | <--- | Highway | 1.114 | 0.000 | 1.082 | 0.000 | -0.249 |
| H5 | <--- | Highway | 0.924 | 0.000 | 0.900 | 0.000 | -0.211 |
| D6 | <--- | Destination | 0.813 | 0.000 | 1.201 | 0.000 | 1.716* |
| D7 | <--- | Destination | 0.728 | 0.000 | 1.401 | 0.000 | 2.778*** |
| OVS | <--- | TA | 0.183 | 0.016 | 0.545 | 0.000 | 2.531** |
| OVS | <--- | DOS | 0.271 | 0.026 | 0.127 | 0.244 | -0.888 |
| OVS | <--- | HOS | 0.112 | 0.110 | -0.191 | 0.007 | -3.028*** |

Notes: *** p-value < 0.01; ** p-value < 0.05; * p-value < 0.10

Driving a car is bad for the environment

| | | | Important | | LessImportant | | |
|---|---|---|---|---|---|---|---|
| | | | Estimate | P | Estimate | P | z-stat |
| DOS | <--- | Destination | 0.769 | 0.000 | 0.571 | 0.000 | -1.056 |
| HOS | <--- | Highway | 0.681 | 0.000 | 0.673 | 0.000 | -0.059 |
| TA | <--- | HOS | 0.061 | 0.155 | 0.309 | 0.022 | 1.749* |
| TA | <--- | DOS | 0.222 | 0.003 | -0.207 | 0.325 | -1.921* |
| TA3 | <--- | TA | 1.045 | 0.000 | 0.529 | 0.001 | -1.968** |
| TA4 | <--- | TA | 1.856 | 0.000 | 1.580 | 0.000 | -0.651 |
| TA5 | <--- | TA | 1.417 | 0.000 | 1.049 | 0.000 | -0.984 |
| TA6 | <--- | TA | 0.822 | 0.000 | 1.022 | 0.000 | 0.729 |
| TA7 | <--- | TA | 1.438 | 0.000 | 1.263 | 0.000 | -0.532 |
| TA8 | <--- | TA | 1.953 | 0.000 | 1.193 | 0.000 | -1.989** |
| TA9 | <--- | TA | 1.223 | 0.000 | 1.177 | 0.000 | -0.116 |
| TA10 | <--- | TA | 0.989 | 0.000 | 0.725 | 0.005 | -0.739 |
| H4 | <--- | Highway | 1.080 | 0.000 | 1.161 | 0.000 | 0.480 |
| H5 | <--- | Highway | 0.982 | 0.000 | 0.730 | 0.000 | -1.661* |
| D6 | <--- | Destination | 1.008 | 0.000 | 0.985 | 0.000 | -0.085 |
| D7 | <--- | Destination | 1.060 | 0.000 | 1.148 | 0.000 | 0.296 |
| OVS | <--- | TA | 0.507 | 0.000 | 0.270 | 0.008 | -1.481 |
| OVS | <--- | DOS | 0.134 | 0.199 | 0.194 | 0.235 | 0.309 |
| OVS | <--- | HOS | -0.097 | 0.129 | -0.012 | 0.907 | 0.700 |

Notes: *** p-value < 0.01; ** p-value < 0.05; * p-value < 0.10

Driving a car with green energy is important for me

| | | | Important | | LessImportant | | |
|---|---|---|---|---|---|---|---|
| | | | Estimate | P | Estimate | P | z-stat |
| DOS | <--- | Destination | 0.949 | 0.000 | 0.401 | 0.000 | -3.334*** |
| HOS | <--- | Highway | 0.677 | 0.000 | 0.722 | 0.000 | 0.323 |
| TA | <--- | HOS | 0.233 | 0.002 | 0.038 | 0.544 | -2.021** |
| TA | <--- | DOS | 0.053 | 0.658 | 0.209 | 0.058 | 0.957 |
| TA3 | <--- | TA | 0.674 | 0.000 | 0.872 | 0.008 | 0.574 |
| TA4 | <--- | TA | 1.277 | 0.000 | 2.635 | 0.000 | 1.671* |
| TA5 | <--- | TA | 1.231 | 0.000 | 1.647 | 0.003 | 0.718 |
| TA6 | <--- | TA | 0.923 | 0.000 | 0.884 | 0.004 | -0.119 |
| TA7 | <--- | TA | 0.877 | 0.000 | 2.297 | 0.000 | 2.065** |
| TA8 | <--- | TA | 0.981 | 0.000 | 2.845 | 0.000 | 2.208** |
| TA9 | <--- | TA | 0.920 | 0.000 | 1.865 | 0.004 | 1.430 |
| TA10 | <--- | TA | 0.708 | 0.000 | 1.502 | 0.008 | 1.357 |
| H4 | <--- | Highway | 1.062 | 0.000 | 1.214 | 0.000 | 0.866 |
| H5 | <--- | Highway | 0.924 | 0.000 | 0.906 | 0.000 | -0.118 |
| D6 | <--- | Destination | 1.071 | 0.000 | 0.803 | 0.000 | -1.264 |
| D7 | <--- | Destination | 1.224 | 0.000 | 0.823 | 0.000 | -1.843* |
| OVS | <--- | TA | 0.366 | 0.000 | 0.453 | 0.017 | 0.422 |
| OVS | <--- | DOS | 0.195 | 0.086 | 0.160 | 0.214 | -0.199 |
| OVS | <--- | HOS | -0.170 | 0.014 | 0.065 | 0.440 | 2.157** |

Notes: *** p-value < 0.01; ** p-value < 0.05; * p-value < 0.10

I am having fun time talking with other passenger(s)

| | | | Important | | LessImportant | | |
|---|---|---|---|---|---|---|---|
| | | | Estimate | P | Estimate | P | z-stat |
| DOS | <--- | Destination | 0.869 | 0.000 | 0.458 | 0.000 | -2.553** |
| HOS | <--- | Highway | 0.716 | 0.000 | 0.603 | 0.000 | -0.988 |
| TA | <--- | HOS | 0.173 | 0.005 | 0.057 | 0.545 | -1.025 |
| TA | <--- | DOS | 0.103 | 0.259 | 0.357 | 0.072 | 1.168 |
| TA3 | <--- | TA | 0.819 | 0.000 | 0.536 | 0.012 | -1.127 |
| TA4 | <--- | TA | 1.546 | 0.000 | 1.967 | 0.000 | 0.816 |
| TA5 | <--- | TA | 1.235 | 0.000 | 1.778 | 0.000 | 1.251 |
| TA6 | <--- | TA | 0.888 | 0.000 | 1.007 | 0.000 | 0.387 |
| TA7 | <--- | TA | 1.041 | 0.000 | 1.754 | 0.000 | 1.649 |
| TA8 | <--- | TA | 1.283 | 0.000 | 1.858 | 0.000 | 1.240 |
| TA9 | <--- | TA | 1.205 | 0.000 | 1.194 | 0.001 | -0.025 |
| TA10 | <--- | TA | 0.979 | 0.000 | 0.796 | 0.010 | -0.496 |
| H4 | <--- | Highway | 1.068 | 0.000 | 1.194 | 0.000 | 1.066 |
| H5 | <--- | Highway | 0.923 | 0.000 | 0.946 | 0.000 | 0.193 |
| D6 | <--- | Destination | 1.002 | 0.000 | 1.003 | 0.000 | 0.004 |
| D7 | <--- | Destination | 1.158 | 0.000 | 0.998 | 0.000 | -0.681 |
| OVS | <--- | TA | 0.357 | 0.000 | 0.462 | 0.009 | 0.536 |
| OVS | <--- | DOS | 0.170 | 0.052 | -0.008 | 0.974 | -0.689 |
| OVS | <--- | HOS | -0.004 | 0.946 | -0.342 | 0.005 | -2.501** |

Notes: *** p-value < 0.01; ** p-value < 0.05; * p-value < 0.10

I enjoy listening to music, news or talk show on the radio

| | | | Important | | LessImportant | | |
|---|---|---|---|---|---|---|---|
| | | | Estimate | P | Estimate | P | z-stat |
| DOS | <--- | Destination | 1.147 | 0.004 | 0.714 | 0.000 | -1.051 |
| HOS | <--- | Highway | 0.600 | 0.000 | 0.745 | 0.000 | 1.320 |
| TA | <--- | HOS | 0.207 | 0.203 | 0.135 | 0.015 | -0.418 |
| TA | <--- | DOS | -1.016 | 0.010 | 0.167 | 0.037 | 2.922*** |
| TA3 | <--- | TA | 0.419 | 0.000 | 0.784 | 0.000 | 2.195** |
| TA4 | <--- | TA | 0.449 | 0.000 | 2.000 | 0.000 | 5.114*** |
| TA5 | <--- | TA | 0.819 | 0.000 | 1.497 | 0.000 | 2.252** |
| TA6 | <--- | TA | 0.839 | 0.000 | 0.956 | 0.000 | 0.605 |
| TA7 | <--- | TA | 0.349 | 0.000 | 1.511 | 0.000 | 5.138*** |
| TA8 | <--- | TA | 0.378 | 0.000 | 1.756 | 0.000 | 5.312*** |
| TA9 | <--- | TA | 0.629 | 0.000 | 1.344 | 0.000 | 2.367** |
| TA10 | <--- | TA | 0.743 | 0.000 | 0.897 | 0.000 | 0.575 |
| H4 | <--- | Highway | 1.083 | 0.000 | 1.095 | 0.000 | 0.100 |
| H5 | <--- | Highway | 0.989 | 0.000 | 0.886 | 0.000 | -0.931 |
| D6 | <--- | Destination | 2.482 | 0.002 | 0.874 | 0.000 | -1.999** |
| D7 | <--- | Destination | 2.979 | 0.002 | 0.998 | 0.000 | -2.036** |
| OVS | <--- | TA | 0.215 | 0.006 | 0.419 | 0.000 | 1.594 |
| OVS | <--- | DOS | 0.322 | 0.186 | 0.160 | 0.099 | -0.616 |
| OVS | <--- | HOS | -0.098 | 0.310 | -0.077 | 0.246 | 0.177 |

Notes: *** p-value < 0.01; ** p-value < 0.05; * p-value < 0.10

I feel adventurous

| | | | Important | | LessImportant | | |
|---|---|---|---|---|---|---|---|
| | | | Estimate | P | Estimate | P | z-stat |
| DOS | <--- | Destination | 0.620 | 0.000 | 2.284 | 0.017 | 1.738* |
| HOS | <--- | Highway | 0.775 | 0.000 | 0.536 | 0.000 | -2.239** |
| TA | <--- | HOS | 0.091 | 0.067 | 0.276 | 0.039 | 1.294 |
| TA | <--- | DOS | 0.194 | 0.013 | -0.959 | 0.000 | -3.893*** |
| TA3 | <--- | TA | 0.830 | 0.000 | 0.536 | 0.000 | -1.438 |
| TA4 | <--- | TA | 2.088 | 0.000 | 0.822 | 0.000 | -3.434*** |
| TA5 | <--- | TA | 1.482 | 0.000 | 0.935 | 0.000 | -1.644 |
| TA6 | <--- | TA | 0.997 | 0.000 | 0.798 | 0.000 | -0.882 |
| TA7 | <--- | TA | 1.642 | 0.000 | 0.547 | 0.000 | -3.851*** |
| TA8 | <--- | TA | 2.066 | 0.000 | 0.448 | 0.000 | -4.71*** |
| TA9 | <--- | TA | 1.346 | 0.000 | 0.604 | 0.000 | -2.2** |
| TA10 | <--- | TA | 1.046 | 0.000 | 0.702 | 0.000 | -1.121 |
| H4 | <--- | Highway | 1.056 | 0.000 | 1.157 | 0.000 | 0.810 |
| H5 | <--- | Highway | 0.932 | 0.000 | 0.882 | 0.000 | -0.428 |
| D6 | <--- | Destination | 0.873 | 0.000 | 2.247 | 0.022 | 1.388 |
| D7 | <--- | Destination | 0.907 | 0.000 | 4.672 | 0.018 | 1.911* |
| OVS | <--- | TA | 0.496 | 0.000 | 0.242 | 0.004 | -1.733* |
| OVS | <--- | DOS | 0.054 | 0.592 | 0.712 | 0.000 | 2.836*** |
| OVS | <--- | HOS | -0.068 | 0.303 | -0.108 | 0.258 | -0.345 |

Notes: *** p-value < 0.01; ** p-value < 0.05; * p-value < 0.10

I seek excitement on driving

| | | | Important | | LessImportant | | |
|---|---|---|---|---|---|---|---|
| | | | Estimate | P | Estimate | P | z-stat |
| DOS | <--- | Destination | 1.262 | 0.000 | 0.596 | 0.000 | -2.618*** |
| HOS | <--- | Highway | 0.614 | 0.000 | 0.717 | 0.000 | 0.870 |
| TA | <--- | HOS | 0.149 | 0.317 | 0.111 | 0.032 | -0.238 |
| TA | <--- | DOS | -0.154 | 0.466 | 0.212 | 0.017 | 1.596 |
| TA3 | <--- | TA | 0.342 | 0.001 | 0.818 | 0.000 | 2.537** |
| TA4 | <--- | TA | 0.882 | 0.000 | 1.905 | 0.000 | 3.21*** |
| TA5 | <--- | TA | 1.134 | 0.000 | 1.391 | 0.000 | 0.781 |
| TA6 | <--- | TA | 0.958 | 0.000 | 0.984 | 0.000 | 0.102 |
| TA7 | <--- | TA | 0.647 | 0.000 | 1.469 | 0.000 | 3.43*** |
| TA8 | <--- | TA | 0.719 | 0.000 | 1.671 | 0.000 | 3.562*** |
| TA9 | <--- | TA | 0.681 | 0.003 | 1.267 | 0.000 | 1.756* |
| TA10 | <--- | TA | 0.702 | 0.003 | 0.897 | 0.000 | 0.630 |
| H4 | <--- | Highway | 1.165 | 0.000 | 1.072 | 0.000 | -0.652 |
| H5 | <--- | Highway | 0.844 | 0.000 | 0.948 | 0.000 | 0.848 |
| D6 | <--- | Destination | 1.042 | 0.000 | 1.023 | 0.000 | -0.066 |
| D7 | <--- | Destination | 1.720 | 0.000 | 1.001 | 0.000 | -2.043** |
| OVS | <--- | TA | 0.267 | 0.003 | 0.408 | 0.000 | 1.054 |
| OVS | <--- | DOS | 0.247 | 0.075 | 0.150 | 0.163 | -0.553 |
| OVS | <--- | HOS | -0.022 | 0.819 | -0.102 | 0.106 | -0.690 |

Notes: *** p-value < 0.01; ** p-value < 0.05; * p-value < 0.10

I always seek the fastest route to the destination

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | Important | | LessImportant | | |
| | | | Estimate | P | Estimate | P | z-stat |
| DOS | <--- | Destination | 0.778 | 0.000 | 0.711 | 0.000 | -0.406 |
| HOS | <--- | Highway | 0.748 | 0.000 | 0.656 | 0.000 | -0.797 |
| TA | <--- | HOS | 0.110 | 0.352 | 0.135 | 0.016 | 0.189 |
| TA | <--- | DOS | -0.155 | 0.464 | 0.217 | 0.013 | 1.623 |
| TA3 | <--- | TA | 0.399 | 0.002 | 0.890 | 0.000 | 2.4** |
| TA4 | <--- | TA | 1.207 | 0.000 | 1.784 | 0.000 | 1.673* |
| TA5 | <--- | TA | 1.064 | 0.000 | 1.446 | 0.000 | 1.040 |
| TA6 | <--- | TA | 0.564 | 0.000 | 1.014 | 0.000 | 2.114** |
| TA7 | <--- | TA | 1.046 | 0.000 | 1.346 | 0.000 | 1.151 |
| TA8 | <--- | TA | 1.242 | 0.000 | 1.567 | 0.000 | 1.087 |
| TA9 | <--- | TA | 0.755 | 0.006 | 1.329 | 0.000 | 1.567 |
| TA10 | <--- | TA | 0.463 | 0.088 | 1.027 | 0.000 | 1.640 |
| H4 | <--- | Highway | 1.202 | 0.000 | 1.065 | 0.000 | -1.008 |
| H5 | <--- | Highway | 0.997 | 0.000 | 0.884 | 0.000 | -0.880 |
| D6 | <--- | Destination | 0.991 | 0.000 | 0.993 | 0.000 | 0.009 |
| D7 | <--- | Destination | 1.272 | 0.000 | 1.028 | 0.000 | -1.015 |
| OVS | <--- | TA | 0.348 | 0.009 | 0.413 | 0.000 | 0.403 |
| OVS | <--- | DOS | -0.034 | 0.878 | 0.213 | 0.023 | 1.031 |
| OVS | <--- | HOS | -0.141 | 0.251 | -0.082 | 0.170 | 0.430 |

Notes: *** p-value < 0.01; ** p-value < 0.05; * p-value < 0.10

# Appendix F

**1. Driving car is important thing in my life**

Standardized Indirect Effects (Less important - Default model)

Standardized Indirect Effects - Lower Bounds (BC)
(Less important - Default model)

| | DOS | HOS | TA |
|---|---|---|---|
| TA | .000 | .000 | .000 |
| OVS | -.048 | .022 | .000 |
| TA10 | -.058 | .039 | .000 |
| TA9 | -.076 | .055 | .000 |
| TA8 | -.104 | .060 | .000 |
| TA7 | -.105 | .055 | .000 |
| TA6 | -.086 | .051 | .000 |
| TA5 | -.078 | .056 | .000 |
| TA4 | -.100 | .068 | .000 |
| TA3 | -.067 | .039 | .000 |
| TA1 | -.086 | .072 | .000 |

Standardized Indirect Effects - Upper Bounds (BC) (Less important - Default model)

| | DOS | HOS | TA |
|---|---|---|---|
| TA | .000 | .000 | .000 |
| OVS | .059 | .143 | .000 |
| TA10 | .067 | .153 | .000 |
| TA9 | .088 | .183 | .000 |
| TA8 | .136 | .304 | .000 |
| TA7 | .137 | .294 | .000 |
| TA6 | .120 | .259 | .000 |
| TA5 | .099 | .216 | .000 |
| TA4 | .128 | .276 | .000 |
| TA3 | .069 | .183 | .000 |
| TA1 | .095 | .243 | .000 |

Standardized Indirect Effects - Two Tailed Significance (BC) (Less important - Default model)

| | DOS | HOS | TA |
|---|---|---|---|
| TA | ... | ... | ... |
| OVS | .870 | .006 | ... |
| TA10 | .871 | .009 | ... |
| TA9 | .911 | .008 | ... |
| TA8 | .911 | .011 | ... |
| TA7 | .911 | .016 | ... |
| TA6 | .891 | .013 | ... |
| TA5 | .871 | .005 | ... |
| TA4 | .931 | .008 | ... |
| TA3 | .870 | .006 | ... |
| TA1 | .890 | .002 | ... |

Standardized Direct Effects (Less important - Default model)

Standardized Direct Effects - Lower Bounds (BC) (Less important - Default model)

| | DOS | HOS | TA |
|---|---|---|---|
| TA | -.142 | .089 | .000 |
| OVS | .064 | -.292 | .121 |
| TA10 | .000 | .000 | .262 |
| TA9 | .000 | .000 | .365 |
| TA8 | .000 | .000 | .575 |
| TA7 | .000 | .000 | .554 |
| TA6 | .000 | .000 | .467 |
| TA5 | .000 | .000 | .368 |
| TA4 | .000 | .000 | .569 |
| TA3 | .000 | .000 | .185 |
| TA1 | .000 | .000 | .389 |

Standardized Direct Effects - Upper Bounds (BC) (Less important - Default model)

| | DOS | HOS | TA |
|---|---|---|---|
| TA | .181 | .379 | .000 |
| OVS | .296 | -.049 | .422 |
| TA10 | .000 | .000 | .527 |
| TA9 | .000 | .000 | .626 |
| TA8 | .000 | .000 | .846 |
| TA7 | .000 | .000 | .858 |
| TA6 | .000 | .000 | .744 |
| TA5 | .000 | .000 | .664 |
| TA4 | .000 | .000 | .805 |
| TA3 | .000 | .000 | .542 |
| TA1 | .000 | .000 | .719 |

Standardized Direct Effects - Two Tailed Significance (BC) (Less important - Default model)

| | DOS | HOS | TA |
|---|---|---|---|
| TA | .911 | .012 | ... |
| OVS | .006 | .009 | .014 |
| TA10 | ... | ... | .004 |
| TA9 | ... | ... | .007 |
| TA8 | ... | ... | .026 |
| TA7 | ... | ... | .025 |
| TA6 | ... | ... | .019 |
| TA5 | ... | ... | .007 |
| TA4 | ... | ... | .010 |
| TA3 | ... | ... | .012 |
| TA1 | ... | ... | .005 |

## 2. Driving a car means independence

Matrices (All - Default model)

Total Effects (All - Default model)

| | DOS | HOS | TA |
|---|---|---|---|
| TA | .129 | .167 | .000 |
| OVS | .225 | -.034 | .357 |
| TA10 | .128 | .166 | .997 |
| TA9 | .155 | .201 | 1.205 |
| TA8 | .163 | .211 | 1.264 |
| TA7 | .137 | .178 | 1.065 |
| TA6 | .113 | .146 | .876 |
| TA5 | .179 | .232 | 1.388 |
| TA4 | .189 | .245 | 1.470 |
| TA3 | .071 | .092 | .552 |
| TA1 | .129 | .167 | 1.000 |

Standardized Total Effects (All - Default model)

| | DOS | HOS | TA |
|---|---|---|---|
| TA | .083 | .175 | .000 |
| OVS | .134 | -.033 | .329 |
| TA10 | .035 | .075 | .426 |
| TA9 | .041 | .087 | .498 |
| TA8 | .064 | .135 | .770 |
| TA7 | .062 | .130 | .745 |
| TA6 | .049 | .103 | .591 |
| TA5 | .045 | .095 | .545 |
| TA4 | .060 | .125 | .716 |
| TA3 | .034 | .071 | .407 |
| TA1 | .044 | .093 | .534 |

Direct Effects (All - Default model)

| | DOS | HOS | TA |
|---|---|---|---|
| TA | .129 | .167 | .000 |
| OVS | .179 | -.094 | .357 |
| TA10 | .000 | .000 | .997 |
| TA9 | .000 | .000 | 1.205 |
| TA8 | .000 | .000 | 1.264 |
| TA7 | .000 | .000 | 1.065 |
| TA6 | .000 | .000 | .876 |
| TA5 | .000 | .000 | 1.388 |
| TA4 | .000 | .000 | 1.470 |
| TA3 | .000 | .000 | .552 |
| TA1 | .000 | .000 | 1.000 |

Standardized Direct Effects (All - Default model)

| | DOS | HOS | TA |
|---|---|---|---|
| TA | .083 | .175 | .000 |
| OVS | .107 | -.091 | .329 |
| TA10 | .000 | .000 | .426 |
| TA9 | .000 | .000 | .498 |
| TA8 | .000 | .000 | .770 |
| TA7 | .000 | .000 | .745 |
| TA6 | .000 | .000 | .591 |
| TA5 | .000 | .000 | .545 |

| | DOS | HOS | TA |
|---|---|---|---|
| TA4 | .000 | .000 | .716 |
| TA3 | .000 | .000 | .407 |
| TA1 | .000 | .000 | .534 |

Indirect Effects (All - Default model)

| | DOS | HOS | TA |
|---|---|---|---|
| TA | .000 | .000 | .000 |
| OVS | .046 | .060 | .000 |
| TA10 | .128 | .166 | .000 |
| TA9 | .155 | .201 | .000 |
| TA8 | .163 | .211 | .000 |
| TA7 | .137 | .178 | .000 |
| TA6 | .113 | .146 | .000 |
| TA5 | .179 | .232 | .000 |
| TA4 | .189 | .245 | .000 |
| TA3 | .071 | .092 | .000 |
| TA1 | .129 | .167 | .000 |

Standardized Indirect Effects (All - Default model)

| | DOS | HOS | TA |
|---|---|---|---|
| TA | .000 | .000 | .000 |
| OVS | .027 | .058 | .000 |
| TA10 | .035 | .075 | .000 |
| TA9 | .041 | .087 | .000 |
| TA8 | .064 | .135 | .000 |
| TA7 | .062 | .130 | .000 |
| TA6 | .049 | .103 | .000 |
| TA5 | .045 | .095 | .000 |
| TA4 | .060 | .125 | .000 |
| TA3 | .034 | .071 | .000 |
| TA1 | .044 | .093 | .000 |

**3. I can afford the responsibility of owning a car**

Matrices (All - Default model)

Total Effects (All - Default model)

| | DOS | HOS | TA |
|---|---|---|---|
| TA | .129 | .167 | .000 |
| OVS | .225 | -.034 | .357 |
| TA10 | .128 | .166 | .997 |
| TA9 | .155 | .201 | 1.205 |
| TA8 | .163 | .211 | 1.264 |
| TA7 | .137 | .178 | 1.065 |
| TA6 | .113 | .146 | .876 |
| TA5 | .179 | .232 | 1.388 |
| TA4 | .189 | .245 | 1.470 |
| TA3 | .071 | .092 | .552 |
| TA1 | .129 | .167 | 1.000 |

Standardized Total Effects (All - Default model)

| | DOS | HOS | TA |
|---|---|---|---|
| TA | .083 | .175 | .000 |
| OVS | .134 | -.033 | .329 |
| TA10 | .035 | .075 | .426 |
| TA9 | .041 | .087 | .498 |
| TA8 | .064 | .135 | .770 |
| TA7 | .062 | .130 | .745 |
| TA6 | .049 | .103 | .591 |
| TA5 | .045 | .095 | .545 |
| TA4 | .060 | .125 | .716 |
| TA3 | .034 | .071 | .407 |
| TA1 | .044 | .093 | .534 |

Direct Effects (All - Default model)

| | DOS | HOS | TA |
|---|---|---|---|
| TA | .129 | .167 | .000 |
| OVS | .179 | -.094 | .357 |
| TA10 | .000 | .000 | .997 |
| TA9 | .000 | .000 | 1.205 |
| TA8 | .000 | .000 | 1.264 |
| TA7 | .000 | .000 | 1.065 |
| TA6 | .000 | .000 | .876 |
| TA5 | .000 | .000 | 1.388 |
| TA4 | .000 | .000 | 1.470 |
| TA3 | .000 | .000 | .552 |
| TA1 | .000 | .000 | 1.000 |

Standardized Direct Effects (All - Default model)

| | DOS | HOS | TA |
|---|---|---|---|
| TA | .083 | .175 | .000 |
| OVS | .107 | -.091 | .329 |
| TA10 | .000 | .000 | .426 |
| TA9 | .000 | .000 | .498 |
| TA8 | .000 | .000 | .770 |
| TA7 | .000 | .000 | .745 |
| TA6 | .000 | .000 | .591 |
| TA5 | .000 | .000 | .545 |
| TA4 | .000 | .000 | .716 |
| TA3 | .000 | .000 | .407 |
| TA1 | .000 | .000 | .534 |

Indirect Effects (All - Default model)

| | DOS | HOS | TA |
|---|---|---|---|
| TA | .000 | .000 | .000 |
| OVS | .046 | .060 | .000 |
| TA10 | .128 | .166 | .000 |
| TA9 | .155 | .201 | .000 |
| TA8 | .163 | .211 | .000 |
| TA7 | .137 | .178 | .000 |
| TA6 | .113 | .146 | .000 |
| TA5 | .179 | .232 | .000 |
| TA4 | .189 | .245 | .000 |
| TA3 | .071 | .092 | .000 |
| TA1 | .129 | .167 | .000 |

Standardized Indirect Effects (All - Default model)

| | DOS | HOS | TA |
|---|---|---|---|
| TA | .000 | .000 | .000 |
| OVS | .027 | .058 | .000 |
| TA10 | .035 | .075 | .000 |
| TA9 | .041 | .087 | .000 |
| TA8 | .064 | .135 | .000 |
| TA7 | .062 | .130 | .000 |
| TA6 | .049 | .103 | .000 |
| TA5 | .045 | .095 | .000 |
| TA4 | .060 | .125 | .000 |
| TA3 | .034 | .071 | .000 |
| TA1 | .044 | .093 | .000 |

## 4. I feel lost without a car

**Matrices (Less important - Default model)**

**Total Effects (Less important - Default model)**

| | DOS | HOS | TA |
|---|---|---|---|
| TA | -.078 | .249 | .000 |
| OVS | .247 | -.101 | .469 |
| TA10 | -.088 | .281 | 1.131 |
| TA9 | -.106 | .339 | 1.364 |
| TA8 | -.100 | .318 | 1.280 |
| TA7 | -.100 | .318 | 1.279 |
| TA6 | -.082 | .261 | 1.052 |
| TA5 | -.130 | .415 | 1.668 |
| TA4 | -.117 | .371 | 1.494 |
| TA3 | -.049 | .155 | .624 |
| TA1 | -.078 | .249 | 1.000 |

**Standardized Total Effects (Less important - Default model)**

| | DOS | HOS | TA |
|---|---|---|---|
| TA | -.052 | .231 | .000 |
| OVS | .130 | -.073 | .368 |
| TA10 | -.024 | .107 | .461 |
| TA9 | -.028 | .125 | .541 |
| TA8 | -.038 | .167 | .721 |
| TA7 | -.041 | .181 | .781 |
| TA6 | -.033 | .146 | .632 |
| TA5 | -.033 | .147 | .636 |
| TA4 | -.038 | .166 | .718 |
| TA3 | -.022 | .098 | .424 |
| TA1 | -.028 | .123 | .529 |

**Direct Effects (Less important - Default model)**

| | DOS | HOS | TA |
|---|---|---|---|
| TA | -.078 | .249 | .000 |
| OVS | .284 | -.217 | .469 |
| TA10 | .000 | .000 | 1.131 |
| TA9 | .000 | .000 | 1.364 |
| TA8 | .000 | .000 | 1.280 |
| TA7 | .000 | .000 | 1.279 |
| TA6 | .000 | .000 | 1.052 |
| TA5 | .000 | .000 | 1.668 |
| TA4 | .000 | .000 | 1.494 |
| TA3 | .000 | .000 | .624 |
| TA1 | .000 | .000 | 1.000 |

**Standardized Direct Effects (Less important - Default model)**

| | DOS | HOS | TA |
|---|---|---|---|
| TA | -.052 | .231 | .000 |
| OVS | .149 | -.159 | .368 |
| TA10 | .000 | .000 | .461 |
| TA9 | .000 | .000 | .541 |
| TA8 | .000 | .000 | .721 |

| | DOS | HOS | TA |
|---|---|---|---|
| TA7 | .000 | .000 | .781 |
| TA6 | .000 | .000 | .632 |
| TA5 | .000 | .000 | .636 |
| TA4 | .000 | .000 | .718 |
| TA3 | .000 | .000 | .424 |
| TA1 | .000 | .000 | .529 |

**Indirect Effects (Less important - Default model)**

| | DOS | HOS | TA |
|---|---|---|---|
| TA | .000 | .000 | .000 |
| OVS | -.037 | .117 | .000 |
| TA10 | -.088 | .281 | .000 |
| TA9 | -.106 | .339 | .000 |
| TA8 | -.100 | .318 | .000 |
| TA7 | -.100 | .318 | .000 |
| TA6 | -.082 | .261 | .000 |
| TA5 | -.130 | .415 | .000 |
| TA4 | -.117 | .371 | .000 |
| TA3 | -.049 | .155 | .000 |
| TA1 | -.078 | .249 | .000 |

**Standardized Indirect Effects (Less important - Default model)**

| | DOS | HOS | TA |
|---|---|---|---|
| TA | .000 | .000 | .000 |
| OVS | -.019 | .085 | .000 |
| TA10 | -.024 | .107 | .000 |
| TA9 | -.028 | .125 | .000 |
| TA8 | -.038 | .167 | .000 |
| TA7 | -.041 | .181 | .000 |
| TA6 | -.033 | .146 | .000 |
| TA5 | -.033 | .147 | .000 |
| TA4 | -.038 | .166 | .000 |
| TA3 | -.022 | .098 | .000 |
| TA1 | -.028 | .123 | .000 |

## 5. Driving a car carries some risk my life

**Matrices (All - Default model)**

**Total Effects (All - Default model)**

| | DOS | HOS | TA |
|---|---|---|---|
| TA | .129 | .167 | .000 |
| OVS | .225 | -.034 | .357 |
| TA10 | .128 | .166 | .997 |
| TA9 | .155 | .201 | 1.205 |
| TA8 | .163 | .211 | 1.264 |
| TA7 | .137 | .178 | 1.065 |
| TA6 | .113 | .146 | .876 |
| TA5 | .179 | .232 | 1.388 |
| TA4 | .189 | .245 | 1.470 |
| TA3 | .071 | .092 | .552 |
| TA1 | .129 | .167 | 1.000 |

**Standardized Total Effects (All - Default model)**

| | DOS | HOS | TA |
|---|---|---|---|
| TA | .083 | .175 | .000 |
| OVS | .134 | -.033 | .329 |
| TA10 | .035 | .075 | .426 |
| TA9 | .041 | .087 | .498 |
| TA8 | .064 | .135 | .770 |
| TA7 | .062 | .130 | .745 |
| TA6 | .049 | .103 | .591 |
| TA5 | .045 | .095 | .545 |
| TA4 | .060 | .125 | .716 |
| TA3 | .034 | .071 | .407 |
| TA1 | .044 | .093 | .534 |

**Direct Effects (All - Default model)**

| | DOS | HOS | TA |
|---|---|---|---|
| TA | .129 | .167 | .000 |
| OVS | .179 | -.094 | .357 |
| TA10 | .000 | .000 | .997 |
| TA9 | .000 | .000 | 1.205 |
| TA8 | .000 | .000 | 1.264 |
| TA7 | .000 | .000 | 1.065 |
| TA6 | .000 | .000 | .876 |
| TA5 | .000 | .000 | 1.388 |
| TA4 | .000 | .000 | 1.470 |
| TA3 | .000 | .000 | .552 |
| TA1 | .000 | .000 | 1.000 |

**Standardized Direct Effects (All - Default model)**

| | DOS | HOS | TA |
|---|---|---|---|
| TA | .083 | .175 | .000 |
| OVS | .107 | -.091 | .329 |
| TA10 | .000 | .000 | .426 |
| TA9 | .000 | .000 | .498 |

| | DOS | HOS | TA |
|---|---|---|---|
| TA8 | .000 | .000 | .770 |
| TA7 | .000 | .000 | .745 |
| TA6 | .000 | .000 | .591 |
| TA5 | .000 | .000 | .545 |
| TA4 | .000 | .000 | .716 |
| TA3 | .000 | .000 | .407 |
| TA1 | .000 | .000 | .534 |

**Indirect Effects (All - Default model)**

| | DOS | HOS | TA |
|---|---|---|---|
| TA | .000 | .000 | .000 |
| OVS | .046 | .060 | .000 |
| TA10 | .128 | .166 | .000 |
| TA9 | .155 | .201 | .000 |
| TA8 | .163 | .211 | .000 |
| TA7 | .137 | .178 | .000 |
| TA6 | .113 | .146 | .000 |
| TA5 | .179 | .232 | .000 |
| TA4 | .189 | .245 | .000 |
| TA3 | .071 | .092 | .000 |
| TA1 | .129 | .167 | .000 |

**Standardized Indirect Effects (All - Default model)**

| | DOS | HOS | TA |
|---|---|---|---|
| TA | .000 | .000 | .000 |
| OVS | .027 | .058 | .000 |
| TA10 | .035 | .075 | .000 |
| TA9 | .041 | .087 | .000 |
| TA8 | .064 | .135 | .000 |
| TA7 | .062 | .130 | .000 |
| TA6 | .049 | .103 | .000 |
| TA5 | .045 | .095 | .000 |
| TA4 | .060 | .125 | .000 |
| TA3 | .034 | .071 | .000 |
| TA1 | .044 | .093 | .000 |

## 6. Driving a car is a part of growing up

**Matrices (Less important - Default model)**

**Total Effects (Less important - Default model)**

| | DOS | HOS | TA |
|---|---|---|---|
| TA | .082 | .194 | .000 |
| OVS | .172 | -.093 | .497 |
| TA10 | .071 | .167 | .861 |
| TA9 | .104 | .247 | 1.269 |
| TA8 | .134 | .319 | 1.640 |
| TA7 | .109 | .259 | 1.331 |
| TA6 | .092 | .218 | 1.123 |
| TA5 | .102 | .241 | 1.242 |
| TA4 | .134 | .317 | 1.631 |
| TA3 | .051 | .121 | .623 |
| TA1 | .082 | .194 | 1.000 |

**Standardized Total Effects (Less important - Default model)**

| | DOS | HOS | TA |
|---|---|---|---|
| TA | .061 | .226 | .000 |
| OVS | .094 | -.080 | .368 |
| TA10 | .020 | .073 | .322 |
| TA9 | .027 | .101 | .448 |
| TA8 | .051 | .190 | .841 |
| TA7 | .050 | .188 | .831 |
| TA6 | .040 | .149 | .658 |
| TA5 | .025 | .093 | .412 |
| TA4 | .040 | .150 | .662 |
| TA3 | .024 | .088 | .389 |
| TA1 | .027 | .100 | .441 |

**Direct Effects (Less important - Default model)**

| | DOS | HOS | TA |
|---|---|---|---|
| TA | .082 | .194 | .000 |
| OVS | .131 | -.189 | .497 |
| TA10 | .000 | .000 | .861 |
| TA9 | .000 | .000 | 1.269 |
| TA8 | .000 | .000 | 1.640 |
| TA7 | .000 | .000 | 1.331 |
| TA6 | .000 | .000 | 1.123 |
| TA5 | .000 | .000 | 1.242 |
| TA4 | .000 | .000 | 1.631 |
| TA3 | .000 | .000 | .623 |
| TA1 | .000 | .000 | 1.000 |

**Standardized Direct Effects (Less important - Default model)**

| | DOS | HOS | TA |
|---|---|---|---|
| TA | .061 | .226 | .000 |
| OVS | .072 | -.163 | .368 |
| TA10 | .000 | .000 | .322 |
| TA9 | .000 | .000 | .448 |
| TA8 | .000 | .000 | .841 |

| | DOS | HOS | TA |
|---|---|---|---|
| TA7 | .000 | .000 | .831 |
| TA6 | .000 | .000 | .658 |
| TA5 | .000 | .000 | .412 |
| TA4 | .000 | .000 | .662 |
| TA3 | .000 | .000 | .389 |
| TA1 | .000 | .000 | .441 |

**Indirect Effects (Less important - Default model)**

| | DOS | HOS | TA |
|---|---|---|---|
| TA | .000 | .000 | .000 |
| OVS | .041 | .097 | .000 |
| TA10 | .071 | .167 | .000 |
| TA9 | .104 | .247 | .000 |
| TA8 | .134 | .319 | .000 |
| TA7 | .109 | .259 | .000 |
| TA6 | .092 | .218 | .000 |
| TA5 | .102 | .241 | .000 |
| TA4 | .134 | .317 | .000 |
| TA3 | .051 | .121 | .000 |
| TA1 | .082 | .194 | .000 |

**Standardized Indirect Effects (Less important - Default model)**

| | DOS | HOS | TA |
|---|---|---|---|
| TA | .000 | .000 | .000 |
| OVS | .022 | .083 | .000 |
| TA10 | .020 | .073 | .000 |
| TA9 | .027 | .101 | .000 |
| TA8 | .051 | .190 | .000 |
| TA7 | .050 | .188 | .000 |
| TA6 | .040 | .149 | .000 |
| TA5 | .025 | .093 | .000 |
| TA4 | .040 | .150 | .000 |
| TA3 | .024 | .088 | .000 |
| TA1 | .027 | .100 | .000 |

## 7. Driving a car is bad for the environment

**Matrices (Less important - Default model)**

**Total Effects (Less important - Default model)**

| | DOS | HOS | TA |
|---|---|---|---|
| TA | .013 | .251 | .000 |
| OVS | .214 | -.085 | .341 |
| TA10 | .010 | .203 | .807 |
| TA9 | .012 | .244 | .970 |
| TA8 | .011 | .225 | .894 |
| TA7 | .011 | .208 | .825 |
| TA6 | .012 | .235 | .935 |
| TA5 | .017 | .324 | 1.290 |
| TA4 | .015 | .291 | 1.157 |
| TA3 | .007 | .143 | .569 |
| TA1 | .013 | .251 | 1.000 |

**Standardized Total Effects (Less important - Default model)**

| | DOS | HOS | TA |
|---|---|---|---|
| TA | .007 | .235 | .000 |
| OVS | .118 | -.078 | .338 |
| TA10 | .003 | .096 | .408 |
| TA9 | .003 | .108 | .460 |
| TA8 | .005 | .165 | .704 |
| TA7 | .005 | .168 | .715 |
| TA6 | .005 | .157 | .668 |
| TA5 | .004 | .138 | .587 |
| TA4 | .005 | .161 | .684 |
| TA3 | .003 | .108 | .459 |
| TA1 | .004 | .146 | .619 |

**Direct Effects (Less important - Default model)**

| | DOS | HOS | TA |
|---|---|---|---|
| TA | .013 | .251 | .000 |
| OVS | .210 | -.170 | .341 |
| TA10 | .000 | .000 | .807 |
| TA9 | .000 | .000 | .970 |
| TA8 | .000 | .000 | .894 |
| TA7 | .000 | .000 | .825 |
| TA6 | .000 | .000 | .935 |
| TA5 | .000 | .000 | 1.290 |
| TA4 | .000 | .000 | 1.157 |
| TA3 | .000 | .000 | .569 |
| TA1 | .000 | .000 | 1.000 |

**Standardized Direct Effects (Less important - Default model)**

| | DOS | HOS | TA |
|---|---|---|---|
| TA | .007 | .235 | .000 |
| OVS | .115 | -.158 | .338 |
| TA10 | .000 | .000 | .408 |
| TA9 | .000 | .000 | .460 |
| TA8 | .000 | .000 | .704 |

| | DOS | HOS | TA |
|---|---|---|---|
| TA7 | .000 | .000 | .715 |
| TA6 | .000 | .000 | .668 |
| TA5 | .000 | .000 | .587 |
| TA4 | .000 | .000 | .684 |
| TA3 | .000 | .000 | .459 |
| TA1 | .000 | .000 | .619 |

**Indirect Effects (Less important - Default model)**

| | DOS | HOS | TA |
|---|---|---|---|
| TA | .000 | .000 | .000 |
| OVS | .004 | .086 | .000 |
| TA10 | .010 | .203 | .000 |
| TA9 | .012 | .244 | .000 |
| TA8 | .011 | .225 | .000 |
| TA7 | .011 | .208 | .000 |
| TA6 | .012 | .235 | .000 |
| TA5 | .017 | .324 | .000 |
| TA4 | .015 | .291 | .000 |
| TA3 | .007 | .143 | .000 |
| TA1 | .013 | .251 | .000 |

**Standardized Indirect Effects (Less important - Default model)**

| | DOS | HOS | TA |
|---|---|---|---|
| TA | .000 | .000 | .000 |
| OVS | .002 | .079 | .000 |
| TA10 | .003 | .096 | .000 |
| TA9 | .003 | .108 | .000 |
| TA8 | .005 | .165 | .000 |
| TA7 | .005 | .168 | .000 |
| TA6 | .005 | .157 | .000 |
| TA5 | .004 | .138 | .000 |
| TA4 | .005 | .161 | .000 |
| TA3 | .003 | .108 | .000 |
| TA1 | .004 | .146 | .000 |

## 8. Driving a car with green energy is important

**Matrices (Very important - Default model)**

**Total Effects (Very important - Default model)**

| | DOS | HOS | TA |
|---|---|---|---|
| TA | .297 | .043 | .000 |
| OVS | .157 | -.316 | .391 |
| TA10 | .260 | .038 | .874 |
| TA9 | .343 | .050 | 1.154 |
| TA8 | .507 | .074 | 1.705 |
| TA7 | .445 | .065 | 1.497 |
| TA6 | .250 | .037 | .843 |
| TA5 | .508 | .074 | 1.710 |
| TA4 | .532 | .078 | 1.792 |
| TA3 | .112 | .016 | .377 |
| TA1 | .297 | .043 | 1.000 |

**Standardized Total Effects (Very important - Default model)**

| | DOS | HOS | TA |
|---|---|---|---|
| TA | .157 | .044 | .000 |
| OVS | .064 | -.249 | .301 |
| TA10 | .061 | .017 | .390 |
| TA9 | .078 | .022 | .498 |
| TA8 | .134 | .038 | .857 |
| TA7 | .129 | .037 | .824 |
| TA6 | .088 | .025 | .562 |
| TA5 | .106 | .030 | .679 |
| TA4 | .120 | .034 | .769 |
| TA3 | .041 | .012 | .260 |
| TA1 | .075 | .021 | .481 |

**Direct Effects (Very important - Default model)**

| | DOS | HOS | TA |
|---|---|---|---|
| TA | .297 | .043 | .000 |
| OVS | .041 | -.333 | .391 |
| TA10 | .000 | .000 | .874 |
| TA9 | .000 | .000 | 1.154 |
| TA8 | .000 | .000 | 1.705 |
| TA7 | .000 | .000 | 1.497 |
| TA6 | .000 | .000 | .843 |
| TA5 | .000 | .000 | 1.710 |
| TA4 | .000 | .000 | 1.792 |
| TA3 | .000 | .000 | .377 |
| TA1 | .000 | .000 | 1.000 |

**Standardized Direct Effects (Very important - Default model)**

| | DOS | HOS | TA |
|---|---|---|---|
| TA | .157 | .044 | .000 |
| OVS | .017 | -.262 | .301 |
| TA10 | .000 | .000 | .390 |
| TA9 | .000 | .000 | .498 |
| TA8 | .000 | .000 | .857 |
| TA7 | .000 | .000 | .824 |
| TA6 | .000 | .000 | .562 |
| TA5 | .000 | .000 | .679 |
| TA4 | .000 | .000 | .769 |
| TA3 | .000 | .000 | .260 |
| TA1 | .000 | .000 | .481 |

**Standardized Indirect Effects (Very important - Default model)**

| | DOS | HOS | TA |
|---|---|---|---|
| TA | .000 | .000 | .000 |
| OVS | .047 | .013 | .000 |
| TA10 | .061 | .017 | .000 |
| TA9 | .078 | .022 | .000 |
| TA8 | .134 | .038 | .000 |
| TA7 | .129 | .037 | .000 |
| TA6 | .088 | .025 | .000 |
| TA5 | .106 | .030 | .000 |
| TA4 | .120 | .034 | .000 |
| TA3 | .041 | .012 | .000 |
| TA1 | .075 | .021 | .000 |

**Indirect Effects (Very important - Default model)**

| | DOS | HOS | TA |
|---|---|---|---|
| TA | .000 | .000 | .000 |
| OVS | .116 | .017 | .000 |
| TA10 | .260 | .038 | .000 |
| TA9 | .343 | .050 | .000 |
| TA8 | .507 | .074 | .000 |
| TA7 | .445 | .065 | .000 |
| TA6 | .250 | .037 | .000 |
| TA5 | .508 | .074 | .000 |
| TA4 | .532 | .078 | .000 |
| TA3 | .112 | .016 | .000 |
| TA1 | .297 | .043 | .000 |