Universiti Utara Malaysia

# THE DETERMINANTS OF LIFE INSURANCE OWNERSHIP: THE MEDIATING EFFECT OF RISK PERCEPTION

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**DOCTOR OF PHILOSOPHY
UNIVERSITI UTARA MALAYSIA
October 2018**

**THE DETERMINANTS OF LIFE INSURANCE OWNERSHIP: THE MEDIATING EFFECT OF RISK PERCEPTION**

**By**

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**Thesis Submitted to**
**Othman Yeop Abdullah Graduate School of Business,**
**Universiti Utara Malaysia,**
**in Fulfillment of the Requirement for the Degree of Doctor of Philosophy**

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Program Pengajian
(Programme of Study) : Doctor of Philosophy (Finance & Banking)

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# ABSTRACT

The conventional life insurance and family *Takaful* market penetration rate was at 54.6 percent in 2015 indicating that about half of the Malaysian population is still uninsured. This study is conducted to investigate (a) the relationship of life insurance ownership with demographic and psychographic factors, and (b) the mediating effect of risk perception on the relationship between psychographic factors (i.e. personal value, risk attitude and trust) and life insurance ownership. A stratified random sampling technique was used to collect data from July to December 2015 in the four states located at the Northern regions of Malaysia, namely Kedah, Perlis, Penang and Perak. A total of 408 individuals approached at their work places and shoppers intercepted in the malls were surveyed. The data collected were analysed using binary logistic and multiple regressions. The respondents in their 20's and 30's are found more likely to own life insurance as compared to the respondents aged below 20 years old. Most of the life insurance policyholders are males, Chinese and Indian, and those who are middle income earners. The findings on psychographic factors show that trust has a significant positive relationship with life insurance ownership, and there is a significant mediating effect of risk perception on the relationship between trust and life insurance ownership. The respondents who trust their life insurance agents are found to have low risk perception of the purchase of life insurance. Thus, they tend to own life insurance. This study proposes that extensive ownership promotions of family *Takaful* and micro-insurance be targeted to Muslim individuals and low-income earners. The actions in fulfilling prospective policyholders' needs, building trust in life insurance agents and creating awareness about the importance of life insurance are vital to encourage those who do not own life insurance to purchase life insurance.

**Keywords:** life insurance ownership, demographic factors, psychographic factors, risk perception and mediating factor

# ABSTRAK

Kadar penembusan pasaran bagi insurans hayat konvensional dan *Takaful* keluarga ialah 54.6 peratus pada tahun 2015 menunjukkan bahawa kira-kira separuh penduduk Malaysia masih tidak diinsuranskan.Kajian ini dijalankan untuk menyiasat (a) hubungan antara pemilikan insurans hayat dengan faktor demografi dan psikografi, dan (b) kesan perantaraan persepsi risiko terhadap hubungan antara faktor psikografi (iaitu nilai peribadi, sikap terhadap risiko dan kepercayaan) dengan pemilikan insurans hayat. Teknik pensampelan rawak berstrata telah digunakan untuk mengumpul data dari Julai hingga Disember 2015 di empat buah negeri yang terletak di kawasan utara Malaysia, iaitu Kedah, Perlis, Pulau Pinang dan Perak. Sejumlah 408 individu yang didekati di tempat kerja mereka dan pembeli yang dipintas di pusat membeli-belah telah ditinjau. Data yang dikumpul telah dianalisa menggunakan regresi logistik binari dan regresi berbilang. Responden dalam usia 20-an and 30-an didapati lebih cenderung untuk memiliki insurans hayat berbanding responden yang berumur di bawah umur 20 tahun. Kebanyakan pemegang polisi insurans hayat ialah orang lelaki, orang Cina dan India serta pekerja yang berpendapatan pertengahan. Penemuan bagi faktor psikografi menunjukkan bahawa kepercayaan mempunyai hubungan positif yang signifikan dengan pemilikan insurans hayat, dan terdapat kesan perantaraan yang signifikan bagi persepsi risiko terhadap hubungan antara kepercayaan dengan pemilikan insurans hayat. Responden yang mempercayai ejen insurans hayat mereka didapati mempunyai persepsi risiko yang rendah bagi pembelian insurans hayat. Oleh itu, mereka lebih cenderung untuk memiliki insurans hayat. Kajian ini mencadangkan agar promosi pemilikan yang ekstensif bagi *Takaful* keluarga dan mikroinsurans disasarkan kepada individu beragama Islam dan pekerja berpendapatan rendah. Tindakan memenuhi keperluan bakal pemegang polisi, membina kepercayaan terhadap ejen insurans hayat dan mewujudkan kesedaran mengenai kepentingan insurans hayat adalah penting bagi menggalakkan golongan yang masih belum memiliki insurans hayat supaya membelinya.

**Kata kunci:** pemilikan insurans hayat, faktor demografi, faktor psikografi, persepsi risiko dan faktor perantaraan

# ACKNOWLEDGEMENT

First and foremost, I would like to express my deepest sincere gratitude to my supervisor, Dr. Lim Chee Chee, for the continuous support of my PhD study, for her patience, motivation and immense knowledge. Her guidance helped me in all the time of research and writing of this thesis. I could not have imagined having a better supervisor and mentor for my PhD study.

Besides my supervisor, I would like to thank Prof. Dr. Hassan Ali for the valuable guidance on research methodology and Prof. Dr. Jauhari Dahalan for the advices on data collection. Additionally, I thank UUM librarians and the school staffs for providing accurate information, fast feedback, friendly treatment and helping hands. Not forgetting all the respondents who willingly participated in my study. I am very grateful for their participation.

I would like to thank my mother for the wise counsel and sympathetic ear. She is always there for me. The process of gathering data will not be smoothly done without her help. I thank my family for supporting me spiritually throughout writing this thesis and my life in general. Also, I thank my friends for the support through sharing problems and information.

Last but not the least, a very special gratitude to mybrain 15 and UUM for providing scholarship and postgraduate grant to fund my study and living expenses.
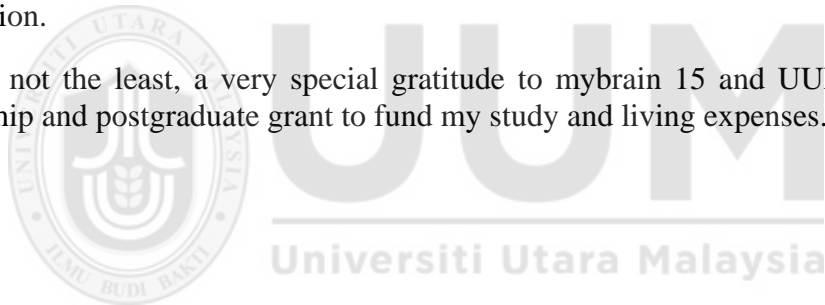
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**CHAPTER ONE**

**INTRODUCTION**

## 1.1     Introduction

This chapter has eight sections. These sections are (i) chapter introduction, (ii) the background of study, (iii) problem statement, (iv) research questions, (v) research objectives, (vi) the significance of study, (vii) the scope and limitations of study, and (viii) the organization of this thesis.

## 1.2     Background of Study

Life insurance in Malaysia is divided into conventional life insurance and Islamic life insurance (family Takaful). Conventional life insurance is the contract that is not accordance to Shariah as it involves the elements of uncertainty (Ghara) in the insurance contract, gambling (Maisir) as the consequence of uncertainty and interest (Riba) in its investment activities (Wael, 2007). Therefore, the enactment of Takaful Act 1984 which was repealed when Islamic Financial Service Act 2013 came into force on 30 June 2013 has enabled the establishment of the first Takaful operator, Syarikat Takaful Malaysia Sdn. Bhd., and the introduction of Takaful products that allow Muslim adherents to purchase life insurance without breaking the rules and requirements of Shariah (Rahman et al., 2011). Along with the increase in the costs of living, medical expenses and education fees, Sethu Karuppan being the former president of National Association of Malaysian Life Insurance and Financial Advisors (NAMLIFA) from 2012 to 2014, had commented that life insurance has become even more important and it is necessary for

the breadwinners to protect their beneficiaries against any adverse effects (Money Compass, 2012).

In the effort to increase the insurance and Takaful penetration rate to 75% by 2020, the government has initiated some measures under Economic Transformation Programme (ETP), namely the introduction of Employee Insurance Scheme (EIS) and 1Malaysia Micro Protection Plan (1MMPP), and the improvement of tax treatment for the purchase of life insurance and family Takaful (Performance Management and Delivery Unit, 2013). The ETP requires investments and funding of RM68 million of which 65% will be from the private sector for the implementation of its measures. The EIS is a basic low-premium term life insurance scheme aims to encourage life insurance ownership among low-income employees with optional critical illness and hospitalization benefit coverage (Performance Management and Delivery Unit, 2013). The EIS came into force on 1 January 2018 and it is managed by Social Security Organization (SOCSO). It is an insurance scheme for retrenched workers that provides temporary income up to a maximum of six months and re-employment placement programmes which include job search, job matching, job replacement and worker's mobility assistance (The Star, 2017). Meanwhile, 1MMPP was introduced in 2011 with the support of Bank Negara Malaysia (BNM). 1MMPP is a micro-insurance scheme with low monthly premium payments affordable for low income households that offers basic protection against death and disability, and also hospital income benefit (BERNAMA, 2011). Besides the two insurance programmes, the proposed introduction of separate tax relief of RM6,000 each for Employees Provident Fund (EPF) contributions and life insurance premiums (covering both conventional life insurance and family Takaful) would encourage the

purchase of life insurance among those who have not owned life insurance (Performance Management and Delivery Unit, 2013).

On 7 November 2013, BNM has published a concept paper on Life Insurance and Family Takaful Framework (LIFE Framework) that sets out the key initiatives aim at promoting product innovations, diversifying of distribution channels, achieving greater transparency and providing consumer protection (BNM, 2015). Starting from 1 December 2015, BNM has become the body that issues the standards, requirements and guidance under the Financial Services Act 2013 and Islamic Financial Services Act 2013 to give effect to each initiative listed under the LIFE Framework. A joint effort between BNM and the insurance and Takaful industry has launched the industry-driven programme called Consumer Education Programme (CEP) to raise public awareness on life insurance products (Life Insurance Association of Malaysia, 2014). Besides that, the launch of the Code of Practice on Personal Data Protection on 24 February 2017 by Life Insurance Association of Malaysia (LIAM), General Insurance Association of Malaysia (PIAM) and Malaysian Takaful Association together with the Personal Data Protection Department of Malaysia (PDP) for insurance and Takaful business would improve the service standard and professionalism in insurance and Takaful industry. The implementation of the Code in turn is expected to promote the prospective consumers' trust and confidence in life insurance industry (Life Insurance Association of Malaysia, 2017).

According to the data obtained from Monthly Statistical Bulletin (December 2016) of BNM, the total premium from the new business of conventional life insurance increased

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by 21.3% from RM7.5 billion in 2009 to RM9.1 billion in 2015. However, the number of new life insurance policies reduced by 2.2% from 1.39 million units in 2009 to 1.36 million units in 2015. As for family Takaful, the total contribution from its new business rose by 63.6% from RM2.2 billion in 2009 to RM3.6 billion in 2015 but its number of new certificates declined by 1.9% from 673,169 units in 2009 to 660,459 units in 2015. Meanwhile, the conventional life insurance and family Takaful market penetration rates (measured by total number of policies and certificates in force to total population) surged from 51.7% in 2009 to 54.6% in 2015 (BNM, 2016).

The information above shows that the conventional life insurance and family Takaful market penetration rate was at 54.6% in 2015. It is far below the target rate of 75% by 2020 as outlined in ETP (Performance Management and Delivery Unit, 2013). In fact, the conventional life insurance and family Takaful market penetration rate of Malaysia still remains widely untapped as compared to other developed Asian countries which had much higher market penetration rates in 2015 (measured by total number of policies in force to total population), e.g. Japan at 126.1% (Life Insurance Association of Japan, 2016), Hong Kong at 160.5% (Office of Commissioner of Insurance, 2015), South Korea at 168.2% (Korea Life Insurance Association, 2015) and Singapore at 242.7% (Monetary Authority of Singapore, 2015). A shocking fact has shown that only 35% of the population in Malaysia have owned at least one conventional life insurance policy or family Takaful certificate in 2015 after taking into account those who owned multiple life insurance policies (Tang, 2016).

According to the former Deputy General Manager (Head of Life Division), Hannover Rückversicherung AC Malaysian Branch, Mr Ravinder Singh, most of Malaysians are still unaware of the importance of owning life insurance although they are financially capable of purchasing life insurance (Contreras, 2012). This fact is further supported by Victor Kho, the former president of NAMLIFA from 2014 to 2016, that most Malaysians do not consider life insurance as a priority but they are more willing to spend on expensive luxury goods than on life insurance (The Star, 2016). Victor Kho explained that Malaysians have a different perception towards the function of life insurance. In other countries, individuals who have purchased life insurance would be more interested to know how much their beneficiaries would get when they have passed away. However, in Malaysia, Malaysians would be more interested to know how much they will get back from their policy before they die (The Star, 2016).

Based on the Global Consumer Insurance Survey 2012 conducted by Ernst & Young, as much as 95% of the respondents in Malaysia consider personal interaction to be vital when deciding to purchase life insurance. However, the sales generated per life insurance agent have been declining over the years. Tang (2016) revealed that in year 2016 about 80% of the agents sell less than two policies per month, and surprisingly more than half of the more experienced agents sell less than one policy per month. The low sales volume is because most of the life insurance agents are part-timers, so they are not as committed to their job or company as those who are full-timers. Mr Ramzi Toubassy, the vice president of Life Insurance Association of Malaysia (LIAM), revealed that in year 2017 about 70% of the life insurance agents are part-timers, and he has suggested converting

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them into full-time agents who can dedicate their time for the sales of life insurance (The Star, 2017).

Despite an increase in the total premium generated from the new business and the market penetration rate of both conventional life insurance and family Takaful in Malaysia, the number of new policies and certificates sold has declined over the years from 2009 to 2015. The life insurance market penetration rate (both conventional and Takaful) in Malaysia is still not at par with those developed Asian countries. It is expected that the demand for life insurance of Malaysia would rise in the future after the implementation of the various initiatives proposed by the government and BNM. However, little is known of the changes in the demographic characteristics and psychographic traits of the Malaysian population would have an impact on life insurance industry. Before purchasing life insurance, consumers are concerned about value for money, product pricing, affordability and the complicated buying processes (Swiss Re, 2013). Hence, the process of making decision to purchase life insurance could be very challenging for those individuals with little knowledge of life insurance.

## 1.3    Problem Statement

With the conventional life insurance and family Takaful market penetration rate at 54.6% in 2015 shows that about half of the Malaysian population is still uninsured. In other words, most of Malaysians are neither financially independent nor protected against a wide range of potential personal risks, such as premature death, disability and critical illness. Eventually, this issue would be a burden for the government as its assistance is constantly needed and the target of having 75% of the Malaysian population insured by

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2020 could not be achieved. Therefore, the lack of understanding on the factors that influence the decision to purchase life insurance can be a serious issue. Although some studies have examined demographic factors and life insurance ownership in the past, a study in Malaysia is still worth to be undertaken because of the difference in culture practised by Malaysians and its life insurance industry which is divided into conventional life insurance and Islamic life insurance (i.e. family Takaful). More studies in Malaysia can be conducted to examine how the demographic compositions of its population have a relationship with life insurance ownership incorporating a new dimension to also examine whether the psychographic aspects of its population could have a relationship with life insurance ownership. In doing so, the examination on the relationship of life insurance ownership with demographic and psychographic factors in the context of Malaysia in turn could provide evidence whether the decisions of life insurance ownership among Malaysians could provide support to expected utility theory and prospect theory.

Expected utility theory is used to explain how an individual should make decision regarding choices that have uncertain outcomes. In risky decision making, a risk averse individual is expected to choose certainty over uncertainty. Therefore, an individual would purchase life insurance in order to avoid bearing the risk of loss from unforeseen events (e.g. the premature death of breadwinner). However, this theory is not sufficient to explain an individual's purchasing behavior because some people still prefer not to purchase life insurance even they are financially capable to do so. For that reason, prospect theory which is a behavioral economic theory could possibly be used to explain how an individual makes decision by taking into account the psychographic aspects (i.e.

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gain/loss perception) of the individual. Based on prospect theory, an individual would make a choice by evaluating gain and loss from his/her status quo. An individual is expected to prefer certainty when there is a gain. If the individual is expected to suffer a loss, he/she will prefer uncertainty. When the decision to purchase life insurance is considered as a loss, life insurance will not be purchased.

In reality, the decision to purchase life insurance is based on the individuals' needs and their awareness rather than their rationale to mitigate financial risk (Swiss Re, 2013). The changes in the individuals' needs based on their demographic characteristics and their attitude towards risks would greatly influence their decision whether to own life insurance or not (for which expected utility theory could be used to explain life insurance ownership of individuals whereby the individuals with higher income, a greater probability of death and who are risk averse with bequest motive will tend to purchase life insurance). Malaysia is a multi-ethnic and multi-cultural country, thus there is a possibility that the findings on the relationship between psychographic traits (i.e. personal value) of its population and life insurance ownership are different from the findings of studies conducted in other countries. Trust might be a determinant of life insurance ownership as Malaysians prefer to purchase life insurance after they have formed a long-term relationship with the agents whom they trust and who are capable of providing convenient and transparent services for them (Ernst & Young, 2012). There are so many types of life insurance policies with different protections, benefits, terms and conditions available in the market. As a result, without the guidance and advice from life insurance agents, the complexity of life insurance products and their purchasing process will cause confusion to the individuals.

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Besides that, Malaysians consider life insurance more as a saving and investment product than as a protection product (for which prospect theory could be used to explain life insurance ownership of individuals whereby life insurance is considered as a risky investment by the individuals and their decision whether to purchase life insurance involves the trade-off between premium payments against uncertain claims) (The Star, 2016). Hence, the decision to own life insurance becomes an option and they might be reluctant to purchase life insurance. The failure to understand the concept of life insurance will lead to their perception of life insurance having low value for money resulting in the individuals feel the lack of need for life insurance. Besides that, their feeling of anxious, concern or uncomfortable, and the influence of their family members or friends could aggravate the perceived risk towards life insurance. Generally, the uninsured individuals are those who underestimate the value of life insurance and deem the purchase of life insurance as a loss.

## 1.4    Research Questions

Based on the problems stated above, there is a need for more studies to examine the profiles of existing life insurance policyholders to better understand their demographic characteristics and psychographic traits so that actions could be taken to encourage those who have not owned life insurance to purchase life insurance. Hence, the purpose of this study is to search the answers for the following questions:

(i)    Does life insurance ownership have a relationship with the individuals' demographic (i.e. income, age, gender, marital status, education, number of

dependents and ethnicity) and psychographic (i.e. personal value, risk attitude and trust) factors?

(ii)     Does life insurance ownership of individuals with certain demographic backgrounds (i.e. income, age, gender, marital status, education and number of dependents) and psychographic traits (i.e. risk attitude) provide support to expected utility theory?

(iii)    Does the individuals' risk perception have a mediating effect on the relationship between their psychographic traits (i.e. personal value, risk attitude and trust) and life insurance ownership?

(iv)    Do the individuals' risk perception and life insurance ownership provide support to prospect theory?

## 1.5     Research Objectives

In addition to demographic factors, there is a need to better understand whether the individuals' personality traits (i.e. personal value and risk attitude), trust in life insurance agents and risk perception towards life insurance influence their decision to own life insurance or not. So, the main purposes of this study are to determine whether demographic and psychographic factors have a relationship with life insurance ownership in Malaysia and to investigate whether risk perception has a mediating effect on the relationship between psychographic factors and life insurance ownership. Specifically, the objectives of this study are:

(i)    to examine the relationship of life insurance ownership with the individuals' demographic (i.e. income, age, gender, marital status, education, number of dependents and ethnicity) and psychographic (i.e. personal value, risk attitude and trust) factors;

(ii)    to examine whether life insurance ownership of individuals with certain demographic backgrounds (i.e. income, age, gender, marital status, education and number of dependents) and psychographic traits (i.e. risk attitude) provides support to expected utility theory;

(iii)   to examine the mediating effect of the individuals' risk perception on the relationship between their psychographic factors (i.e. personal value, risk attitude and trust) and life insurance ownership; and

(iv)    to examine whether the individuals' risk perception and life insurance ownership provides support to prospect theory.

## 1.6    Significance of Study

A booming life insurance market is important to a developing country like Malaysia. Firstly, it promotes savings habit and provides protection that contributes to social stability by minimizing the individuals' financial stress and anxiety.

It is hoped that the findings of this study could be beneficial to life insurers and policymakers. Life insurers would be able to pinpoint the factors that influence life insurance ownership. In doing so, life insurers would be able to enhance the ways of

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promoting and selling the right life insurance products according to the consumers' need. This study also examines the individuals' risk perception towards life insurance which is an essential factor in explaining life insurance ownership. Therefore, life insurers and policymakers could take serious measures to raise awareness of the public on the importance of owning life insurance and put in place policies that can further encourage people to purchase life insurance.

Finally, the rise of life insurance ownership among Malaysians would reduce the financial burden of the government of caring for the aged and those who suffer financial difficulties due to a family breadwinner's death or permanent disability. It also generates long-term funds for the government's development projects. Since the life insurance market penetration rate (both conventional and Takaful) in Malaysia is still considered low, it means that the life insurance sector in Malaysia has a potential for growth.

## 1.7    Scope and Limitations of the Study

A pilot study was conducted from early February 2015 to mid March 2015 in Alor Setar, Kedah. Due to time and financial constraints, it was restricted to one area only. This thesis reports the comprehensive study in examining the profile of life insurance ownership among Malaysians who reside in the northern regions of Malaysia, namely Kedah, Penang, Perak and Perlis. The respondents consist of those who owned and do not own life insurance. The respondents were aged between 16 and 65 years old with sound mind. The inclusion of respondents aged 16 years is in accordance to Section 128 of the Financial Services Act 2013 as it is the minimum age for a minor to enter into insurance contract with the parent's or guardian's written consent (BNM, 2013). A structured

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survey was administrated in the malls and business outlets at the urban and rural areas of Kedah, Penang, Perak and Perlis.

The limitations of this study are as follows: (i) various kinds of vital information are difficult to obtain through structured questionnaire method, (ii) it is expensive and time-consuming to gather data through the distribution of questionnaire as it requires a lot of efforts to get the respondents' willingness to participate in this study, and travelling to many places in Kedah, Penang, Perak and Perlis within a short period is impossible, and (iii) there will be biases because the respondents may answer differently according to their understanding of the questionnaire which might not be in line with the researcher's expectation.

## 1.8    Organization of the Study

This study is structured as follows: Chapter two reviews the underpinning theories and the findings of past studies. Chapter three describes research methodology. It contains research design, research framework, research hypotheses, operational definitions of variables, questionnaire design, sampling technique, data collection method and analysis techniques. Chapter four presents the results and discusses the findings of this study. Chapter five summarizes the study and provides recommendations for future studies.

# CHAPTER TWO

# LITERATURE REVIEW

## 2.1 Introduction

The next three sections provide the review of past studies on (i) the underpinning theories that explain the purchase of life insurance by individuals, (ii) the relationship of life insurance ownership with demographic (i.e. income, age, gender, marital status, education, number of dependents and ethnicity) and psychographic (i.e. personal value, risk attitude and trust) factors, and (iii) the mediating effect of risk perception on the relationship between psychographic factors (i.e. personal value, risk attitude and trust) and life insurance ownership.

## 2.2 Theories explaining the Purchase of Life Insurance by Individuals

The purchase of life insurance by individuals can be explained by expected utility theory and prospect theory. The next two sub-sections present the review of past studies that have used these two theories to explain the purchase of life insurance by individuals.

## 2.2.1 Expected Utility Theory

Decision making in real life can be very difficult because the given choices do not have certain outcomes. In trying to explain how people make decision, economists have proposed expected utility theory. Expected utility theory was first introduced by Daniel Bernoulli in 1738 to solve the St. Petersburg paradox. Bernoulli (1738) proposed that expected value (which uses possible outcomes multiplied by their respective

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probabilities) should be adjusted to expected utility (which uses utilities derived multiplied by their respective probabilities) to describe decision making under uncertainty and Bernoulli's (1738) work was the first to formalize marginal utility. An individual's marginal utility is found to be not constant and it often shows to be diminishing. Based on expected utility theory, a rational individual is expected to choose the option with the highest expected value of utility. However, some individuals are shown to have a diminishing marginal utility for wealth and they are risk averse (Lengwiler, 2009). A risk averse individual would choose the option with a lower expected value of utility that has a certain outcome as compared to other options with a higher expected value of utility that have uncertain outcomes. With respect to the purchase of insurance, this theory could be used to explain why individuals are willing to pay premium to the insurer in exchange for the protection against fortuitous losses.

The first researcher who has applied expected utility theory to explain the purchase of life insurance by individuals under an uncertain lifetime is Yaari (1965). Yaari (1965) stated that the availability of life insurance allows individuals to separate their consumption decision from bequest decision, thus, increasing their expected lifetime utility. The work of Yaari (1965) was extended by Hakansson (1969) with three modifications. In Hakansson's (1969) model, an individual's probability of death is known, his/her bequest motive is separated from consumption and the individual is offered an opportunity to purchase life insurance. According to Hakansson (1969), an individual will purchase life insurance to maximize his/her expected utility during the lifetime and after death. Hakansson's (1969) findings show that the purchase of life insurance depends on the individual's labor income and bequest motive.

The influence of labor income and bequest motive on the purchase of life insurance is further examined in the study of Fischer (1973) along with other factors such as the probability of death, risk aversion and wealth. Meanwhile, the studies of Campbell (1980) and Lewis (1989) examined the purchase of life insurance on the breadwinner's life from the perspective of his/her dependents. Life insurance is purchased to maximize the dependents' expected lifetime utility. Their findings show that the purchase of life insurance is determined by the intensity for bequest, labor income, the probability of the breadwinner's death, the level of risk aversion and wealth.

### 2.2.1.1 Bequest Motive

Bequest motive is referred to an individual's desire to leave an estate to his/her dependents at time of death. Individuals are found to consume lesser in the present time and choose to purchase life insurance when their marginal utility of bequest is higher than their marginal utility to consume (Yaari, 1965; Fischer, 1973). On the contrary, it is not ideal to purchase life insurance if the individuals have no bequest motive (Hakansson, 1969). The bequest intensity depends on the age of the breadwinner and dependents, number of dependents in the household and the psychological traits of the family (i.e. family affection and sense of moral responsibility) (Yaari, 1965; Fischer, 1973; Campbell, 1980). Individuals are more aware of the importance of bequest when they reach middle age (Yaari, 1965). Besides that, Campbell (1980) and Lewis (1989) have found that the likelihood to purchase life insurance increases when there is a rise in the present value of the future consumption of dependents (proxied by number of dependents). The bequest intensity will increase substantially when the individual is

married or has offspring (Lewis, 1989). Therefore, the likelihood to purchase life insurance is assumed to be higher when the individuals are in middle age, married and have a greater number of dependents.

## 2.2.1.2 Labor Income

Labor income is another important factor that will determine the purchase of life insurance. According to Hakansson (1969), the optimal amount of life insurance purchased should not exceed the present value of an individual's labor income stream in any period. Thus, the individual would not purchase life insurance if he/she does not receive labor income. It is because when the head of family does not receive labor income, his/her death would not cause the loss of income for the family and the need for life insurance will reduce (Fischer, 1973). Both Campbell's (1980) and Lewis's (1989) findings ascertained that life insurance serves as a protection against the potential loss of labor income caused by uncertain lifetime. In their studies, the likelihood to purchase life insurance increases when the breadwinner has higher income as the dependents' future consumption is expected to be greater. In conclusion, the individuals who earn higher income are more likely to purchase life insurance because the possible loss of future income from unfortunate events (e.g. premature death) is greater.

## 2.2.1.3 Probability of Death

When individuals face uncertain lifetime, they will try to maximize their expected utility from consumption during their lifetime and from the bequest left upon their death (Hakansson, 1969). Therefore, the rise in the individuals' death probability would

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increase their likelihood to purchase life insurance if their bequest intensity is sufficiently high and their current consumption is low (Fischer, 1973). Meanwhile, the findings of Campbell (1980) and Lewis (1989) show that the likelihood to purchase life insurance increases when the dependents perceive the probability of their breadwinner's death to be greater. A greater probability of the breadwinner's death would increase the financial insecurity of the dependents because the death of the breadwinner would mean the absence of the provision of regular income to the family which would affect their future consumption. Therefore, the individuals are more likely to purchase life insurance if their probability of death is greater.

### 2.2.1.4 Risk Aversion

The likelihood to purchase life insurance is found to increase when the level of risk aversion is higher (Fischer, 1973; Campbell, 1980; Lewis, 1989). A greater risk aversion is driven by an increase in the individuals' concern towards their dependents' wellbeing and future income at the time of their death (Fischer, 1973). The level of risk aversion also depends on the dependents' psychological reaction to risk, thus, the dependents who try to avoid risk would tend to purchase life insurance on the breadwinner's life as a protection against the financial risks which might befall them at the time of their breadwinner's premature death (Campbell, 1980; Lewis, 1989). Therefore, the likelihood to purchase life insurance is higher if the individuals or their dependents are risk averse.

### 2.2.1.5 Wealth

Based on Fischer's (1973) findings, individuals are less likely to purchase life insurance when they have high accumulated wealth. Campbell (1980) and Lewis (1989) also found that wealth acts as a substitute for life insurance. The main purpose of purchasing life insurance is to replace the future income of the breadwinner after his/her death or if the individuals outlive their life. Therefore, the need for life insurance is expected to reduce when the individuals have enough wealth to independently care for themselves and their family members.

Based on expected utility theory, individuals are more likely to purchase life insurance when they have a strong bequest motive, a higher level of income, a greater probability of death and a higher level of risk aversion. Meanwhile, a higher level of wealth accumulation is found to reduce the likelihood to purchase life insurance. (Refer to Table 2.1)

Table 2.1
*Summary of Past Findings for Expected Utility Theory explaining the Purchase of Life Insurance by Individuals*

| Author/Year | Finding |
|---|---|
| Yaari (1965) | Bequest motive (+) |
| Hakansson (1969) | Bequest motive (+) |
| | Income (+) |
| Fischer (1973) | Bequest motive (+) |
| | Income (+) |
| | Probability of death (+) |
| | Level of risk aversion (+) |
| | Wealth (-) |
| Campbell (1980) | Bequest motive (+) |
| | Income (+) |
| | Probability of death (+) |
| | Level of risk aversion (+) |
| | Wealth (-) |

Table 2.1 (Continued)

| Author/Year | Finding |
| --- | --- |
| Lewis (1989) | Bequest motive (+) |
| | Income (+) |
| | Probability of death (+) |
| | Level of risk aversion (+) |
| | Wealth (-) |

Note: (+) indicates factor that increases the likelihood to purchase life insurance, (-) indicates factor that decreases the likelihood to purchase life insurance

### 2.2.2 Prospect Theory

Although expected utility theory could be used to explain the purchase of life insurance, the theory could not explain why there are people who choose not to own life insurance. For this reason, another theory called prospect theory could be used to explain the individuals' decision whether to purchase life insurance or not. Prospect theory was introduced by Kahneman and Tversky (1979) to be an alternative theory for expected utility theory when they have observed several systemic violations of expected utility theory in actual behavior. It is a theory that explains real life decision making, not decision making for optimal option.

Based on prospect theory, in decision making process, the individuals will behave in the following three manners. First, the individuals' preferences among risky choices are based on gains or losses from the reference point (i.e. status quo), not from the final state of wealth. Second, individuals are found to be risk averse in gain domain and risk seeking in loss domain. They are more likely to be affected by losses than by gains when wealth is of an equal amount. So, they are considered as being loss averse (i.e. fear of loss). Third, the individuals weigh the outcomes of their choices with decision weights which are subjectively assessed. They tend to over-weigh small probability events and under-

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weigh medium to large probability events. Under prospect theory, the individuals' risk perception would determine their choice in decision making. Prospect theory has been applied in a past study of Gottlieb (2012) to explain several puzzles related to the sales of life insurance.

Gottlieb (2012) has found that the purchase of life insurance is viewed as a risky investment by individuals. The "investment" is regarded as profitable by the individuals if the total payments (i.e. death benefits or income payments) they received from the insurers exceed the premium amounts they have paid to the insurers. When making a decision on the purchase of life insurance, the individuals will consider two effects: (i) consumption utility effect and (ii) gain-loss utility effect. The individuals will consider their consumption from the state in which they live to the state in which they die. In the early stage of life, the individuals tend not to purchase life insurance because their probability of death is perceived to be low. However, in the later stage of life, the individuals tend to purchase life insurance because their probability of death is perceived to be higher. When the individuals purchase life insurance, it is a 'gain' if they die prematurely but it will eventually be a 'loss' if they live a long life. Due to loss aversion (i.e. fear of loss), the individuals are more likely to view the purchase of life insurance to be less desirable because they are uncertain about how long they will live or how soon they will die. Hence, the individuals are hesitant to purchase life insurance.

According to prospect theory, life insurance is perceived to be a risky investment, not as a form of protection that can mitigate risk. When the individuals decide whether to purchase life insurance, they would consider the risks of owning life insurance. The purchase of life insurance is a 'loss' if the claim payments they received is lower than the

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costs to maintain the policy. Since the individuals are considered as being loss averse (i.e. fear of loss), they are less likely to purchase life insurance due to their unpredictable time of death. Hence, prospect theory could be used to explain the role of risk perception in determining the individuals' decision whether to purchase life insurance.

## 2.3    The Determinants of Life Insurance Ownership

An extensive review of literature shows that numerous past studies have been conducted to examine the determinants of life insurance ownership. Some are published in established journals, such as the studies of Ferber and Lee (1980), Burnett and Palmer (1984), Gandolfi and Miners (1996), Chen, Wong and Lee (2001), Chui and Kwok (2008), Gutter and Hatcher (2008), Tan, Wong and Law (2009), Lee, Kwon and Chung (2010), Park and Lemaire (2011), Arun, Bendig and Arun (2012), Gustina and Abdullah (2012), Sherif and Shaairi (2013), Leary, Kane and Woods (2014), Tan et al. (2014) and Harris and Yelowitz (2018). Nonetheless, some are admittedly published in journals which Beall (2012; 2015) considered as predatory/paid journals, such as the studies of Siddiqui and Sharma (2010), Loke and Goh (2012), Angko (2013), Annamalah (2013), and Ćurak, Džaja and Pepur (2013). Thus, it is noted that care should be given when reviewing the latter studies. These studies from predatory/paid journals are retained because there is still lack of study on life insurance ownership in Malaysia. A brief review of past studies examining the determinants of life insurance ownership is provided below.

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### 2.3.1 Demographic Factors

An earlier study conducted by Gandolfi and Miners (1996) in U.S. has examined the influence of gender on the relationship between the household's demographic characteristics and life insurance ownership (measured by amount of life insurance purchased) using data collected by the American Council of Life Insurance (ACLI) and Life Insurance Marketing and Research Association (LIMRA) in 1984. Meanwhile, Chen, Wong and Lee (2001) employed cohort analysis as well as age standardization and decomposition techniques to examine the effects of age, period and cohort on life insurance ownership (measured by number of policies purchased) of Americans from 1940 to 1996. The relationship between ethnicity and life insurance ownership of households in U.S. was examined in the studies of Gutter and Hatcher (2008) and Harris and Yelowitz (2018). Gutter and Hatcher's (2008) data were obtained from the Survey of Consumer Finance (SCF) for the year 2004, whereas, Harris and Yelowitz's (2018) data were acquired from the Survey of Income and Program Participation (SIPP) for the years 2001, 2004 and 2008.

Outside of U.S., Lee, Kwon and Chung (2010) have examined the relationship between the household's demographic characteristics and life insurance ownership (measured by total monthly premium) in Korea using the consumer survey data collected by the Korea Insurance Development Institute (KIDI) in 2005. On the other hand, Arun, Bendig and Arun (2012) have investigated the determinants of micro life insurance ownership of low-income households in Sri Lanka. Their data were obtained from a household survey conducted between 2007 and 2008 in various villages covering all districts and regions of

Sri Lanka. Another study examining the relationship between demographic factors and life insurance ownership in the Republic of Croatia was conducted by Ćurak, Džaja and Pepur (2013). Their data were collected from a survey distributed to the residents of Croatia.

In Malaysia, several studies related to life insurance ownership have been conducted to examine conventional life insurance and family Takaful. The studies of Tan, Wong and Law (2009), Loke and Goh (2012), Annamalah (2013), and Tan et al. (2014) do not differentiate between conventional life insurance and family Takaful. Life insurance ownership in their studies is the combination of both conventional life insurance and family Takaful. Loke and Goh's (2012) study examines life insurance ownership of individuals residing in Penang, while Annamalah's (2013) study investigates life insurance ownership of married couples. Tan et al. (2014) have employed the data obtained from the Malaysian Household Expenditure Survey (MHES) 2009/2010 to examine the demographic determinants of life insurance ownership (measured by average monthly expenditures on life insurance) across the three major ethnic groups (i.e. Malay, Chinese and Indian) in Malaysia. On the other hand, Gustina and Abdullah (2012) conducted a comparative study between conventional life insurance and family Takaful. In their study, family Takaful ownership is measured by contribution amount per participant and conventional life insurance ownership is measured by premium amount per policyholder. Meanwhile, the study of Sherif and Shaairi (2013) focuses on family Takaful ownership (measured by total annual contribution amount).

**2.3.1.1  Income**

According to expected utility theory, income is considered as the predominant factor that would influence life insurance ownership. Individuals who earn higher income are found to be more likely to own life insurance as compared to those who earn lower income (Gandolfi and Miners, 1996; Gutter and Hatcher, 2008; Tan, Wong and Law, 2009; Lee, Kwon and Chung, 2010; Gustina and Abdullah, 2012; Loke and Goh, 2012; Annamalah, 2013; Sherif and Shaairi, 2013; Tan et al., 2014; Harris and Yelowitz, 2018). Life insurance serves as a protection against the loss of expected future income due to the premature death of the wage earners, thus a higher income would lead to a greater need to protect the surviving dependents by ensuring their future consumption is not adversely affected (Gandolfi and Miners, 1996; Sherif and Shaairi, 2013). Besides that, income level is related to the financial capability of the individuals. When the level of income rises, the individuals' purchasing power will increase and the purchase of life insurance becomes more affordable (Gustina and Abdullah, 2012; Loke and Goh, 2012; Sherif and Shaairi, 2013; Tan et al., 2014). Furthermore, it is expected that the individuals from higher income groups react more positively towards the purchase of life insurance because they are a more affluent part of the society (Annamalah, 2013).

Generally, higher income earners tend to own life insurance because they are more concerned with their life and the wellbeing of their dependents. Life insurance can serve as a source of income replacement to ensure that their dependents' existing standard of living is maintained.

### 2.3.1.2   Age

Past studies show that the findings on the relationship between age and life insurance ownership are mixed. Age is found to have a positive and significant relationship with life insurance ownership in the studies of Gutter and Hatcher (2008) and Tan, Wong and Law (2009). This might be due to the increase in the individuals' need to leave a bequest when they are getting older, thus older individuals have a greater likelihood to own life insurance. Meanwhile, Gandolfi and Miners (1996) have found that the age of the husband being a breadwinner has a negative and significant relationship with his life insurance ownership. This is because older breadwinners have decreasing value of human capital (i.e. labor income) and presumably their accumulated wealth is sufficient to sustain their life. Another reason could be that their dependents have become self-supporting, so a reduced need for life insurance as a protection tool. Moreover, the desire to purchase life insurance is expected to decline as life insurance becomes more expensive when the individuals are getting older.

In Malaysia, Loke and Goh's (2012) findings show that the respondents who are in the age group of 20-29 years old have a lower likelihood to own life insurance as compared to the respondents who are in the age group of 30-39 years old. The individuals in their 20s may have restricted financial capability as they just entered the workforce and may be struggling to cope with various financial commitments. Hence, they may not consider life insurance as a priority, unlike those individuals in their 30s who may have more stable income and a young family to protect.

On the other hand, the studies of Chen, Wong and Lee (2001) and Lee, Kwon and Chung (2010) show that there is a curvilinear relationship between age and life insurance ownership. Life insurance ownership increases with age and then decreases after the peak point at middle-age. It is because the need for life insurance is triggered by different life events (e.g. marriage, having a young family or getting a new job) that an individual will experience during his/her lifetime. The likelihood to purchase life insurance is greater for those who are married and have dependents (usually at middle-age) as compared to those who are single (in early adulthood) and retired (at retirement age).

In addition, Ćurak, Džaja and Pepur (2013) have found that the respondents in different age groups act differently to life insurance ownership. Most respondents in the age group of 44-56 years old (72%) owned life insurance, followed by the respondents in the age groups of 31-43 years old (69%), 57-69 years old (47%) and 18-30 years old (38%). Only one out of five respondents (20%) in the age group of 70 years old and above is found to own life insurance. The possible reason for such findings is because of income variability of the individuals across different age groups (Ćurak, Džaja and Pepur, 2013).

An individual's demographic backgrounds (e.g. income, marital status and number of dependents) are expected to change over his/her lifetime. Therefore, the likelihood to own life insurance will be different as the individual's need for life insurance varies across different age groups.

**2.3.1.3  Gender**

The findings of Gandolfi and Miners's (1996) study show that gender is an important determinant of life insurance ownership. Life insurance ownership is different for men and women. The influence of a change in income is much greater on the husbands' life insurance ownership than on the wives' life insurance ownership. Besides that, age and education are only found to have a significant relationship with the husbands' life insurance ownership. Likewise, Chen, Wong and Lee (2001) have found that the relationship between age and life insurance ownership is stronger for men than for women. The potential reason for these differences between men and women is the roles they assume in the family, whereby the men are the breadwinners and the women are the homemakers (Chen, Wong and Lee, 2001).

In the recent study of Harris and Yelowitz (2018), men are found to have a higher likelihood to own life insurance relative to women. It could due to the fact that men are usually the main breadwinner of the family, thus they are more likely to own life insurance as compared to women. However, women nowadays are involved in labor force and getting higher level of education. Therefore, their contribution to their family is assumed to have increased. Gandolfi and Miners (1996) have found that number of dependent years per child has a positive and significant relationship with the wives' life insurance ownership. It indicates the family's desire to protect the contribution of the wife when she has a high family dependency ratio. In conclusion, the different roles assumed by men and women in the family could influence life insurance ownership.

### 2.3.1.4 Marital Status

The relationship between marital status and life insurance ownership is found to be mixed. The findings of some studies show that the likelihood to own life insurance is lower among single or unmarried individuals as compared to married individuals (Loke and Goh, 2012; Harris and Yelowitz, 2018). It is reasonable to foresee that the married individuals would have a greater bequest motive and they tend to own life insurance as a method to protect their dependents should an unfortunate event happens (e.g. the premature death of breadwinner). However, the studies of Tan, Wong and Law (2009) and Ćurak, Džaja and Pepur (2013) have found that marital status is not a significant determinant of life insurance ownership. These findings show that life insurance ownership among single individuals and married individuals does not differ significantly. Life insurance is not just for married couples and those with children. In fact, single individuals might still need life insurance to financially protect their family members (e.g. parents and siblings), relatives and friends who would be impacted by their death.

The different findings of past studies could be due to their different cultural context. The study of Harris and Yelowitz (2018) was conducted in U.S. which has a different culture from Malaysia. Meanwhile, Loke and Goh's (2012) study has only examined life insurance ownership among individuals residing in Penang and their findings could not represent the population of Malaysia. For this study, marital status is expected to have a relationship with life insurance ownership. This is because, according to expected utility theory, the bequest intensity of married individuals is greater, so they are more likely would to purchase life insurance.

### 2.3.1.5　Education Level

Based on the findings of most past studies, individuals with a higher level of education are more likely to own life insurance (Gandolfi and Miners, 1996; Gutter and Hatcher, 2008; Lee, Kwon and Chung, 2010; Gustina and Abdullah, 2012; Annamalah, 2013; Ćurak, Džaja and Pepur, 2013; Sherif and Shaairi, 2013; Tan et al., 2014; Harris and Yelowitz, 2018). This is because more highly educated individuals have a greater awareness and understanding of the need for life insurance as a personal risk management tool than those who are less educated. Therefore, more highly educated married couples tend to have life insurance to protect their dependents from the risk of future income loss in the event of their premature death (Annamalah, 2013).

In contrast, the studies of Arun, Bendig and Arun (2012) and Loke and Goh (2012) have found that more highly educated individuals are less likely to own life insurance. Since Arun, Bendig and Arun's (2012) study focuses on micro life insurance ownership, less educated individuals are the target group of micro life insurers due to their lower and irregular income. Meanwhile, for the finding of Loke and Goh (2012), the possible reason could be that more highly educated individuals are more likely to be attracted to wealth management and creation products (e.g. mutual fund) than life insurance. On the other hand, Tan, Wong and Law (2009) have found that education level is not a significant factor of life insurance ownership. According to Tan, Wong and Law (2009), the knowledge about life insurance could be acquired from life insurance agents, not from the formal education received by the individuals. Therefore, the level of education does not influence the individuals' decision to own life insurance.

From the above findings, education is more often found to have a significant relationship with life insurance ownership. Since the individuals with higher level of education are more aware of the importance and value of life insurance, it is postulated that more highly educated individuals will have a greater likelihood to own life insurance.

### 2.3.1.6    Number of Dependents

Several past studies have found that number of dependents has a positive and significant relationship with life insurance ownership (Gandolfi and Miners, 1996; Arun, Bendig and Arun, 2012; Sherif and Shaairi, 2013; Harris and Yelowitz, 2018). A household with a bigger number of dependents would increase its parental involvement in household production and make the substitution of a spouse more difficult, thus life insurance is needed to protect the dependents against any adverse consequences should an unfortunate event befalls one of the parents (Gandolfi and Miners, 1996). Besides that, a bigger number of dependents would stimulate life insurance ownership as the future consumption of the household and the desire for financial protection has become greater (Sherif and Shaairi, 2013).

On the contrary, number of children is found to have a negative and significant relationship with life insurance ownership in the study of Tan, Wong and Law (2009). The reason could possibly because Malaysians still have a strong cultural belief that their children would fulfill their filial duties to take care of their parents. Thus, the desire to purchase life insurance decreases when the individuals have many children. Another possible reason for such finding is attributable to the fact that the household with many children has a higher household expenditure, so a lower disposable income is available to

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purchase life insurance. The two studies on life insurance ownership in Malaysia do not have similar findings as the study of Sherif and Shaairi (2013) only examined family Takaful ownership, while the study of Tan, Wong and Law (2009) examined both conventional and family Takaful ownership.

In conclusion, number of dependents is more often found to be a significant factor for life insurance ownership. Based on expected utility theory, the individuals' bequest intensity is greater when they have a bigger number of dependents. Therefore, they are more likely to own life insurance.

### 2.3.1.7  Ethnicity

Studies examining the relationship between ethnicity and life insurance ownership have been conducted in multi-ethnic countries such as U.S. and Malaysia. In U.S., although Gutter and Hatcher (2008) have found that there is a slight difference in life insurance ownership between African-American and White citizens, ethnicity is not a significant factor. On the contrary, the findings of Harris and Yelowitz (2018) show that African-American citizens are more likely to own life insurance as compared to White citizens. The different findings of these two studies could be attributable to the sample of their study. Harris and Yelowitz's (2018) study examined all individuals including unmarried, separated/divorced and widowed individuals. The study of Gutter and Hatcher (2008) examined married and cohabitating individuals/households. Harris and Yelowitz (2018) commented that this restriction which only includes married and cohabitating individuals could be bias because they found most of the African-American citizens to be single parents (i.e. separated/divorced, widowed or never married with children) who would be

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more likely to purchase life insurance. Therefore, Gutter and Hatcher's (2008) study has disregarded the ethnic differences in family structure.

In Malaysia, ethnicity is found to have a significant relationship with life insurance ownership in the study of Loke and Goh (2012). Their findings show that the Chinese and Indian are more likely to own life insurance as compared to the Malay. The lower likelihood to own life insurance among the Malay might be due to their religion of Islam which emphasizes on collectivism. Tan et al. (2014) have found that ethnicity influences the relationship between demographic factors (i.e. education and household size) and life insurance ownership. Based on their findings, only the tertiary-educated Malay household heads are more likely to own life insurance. The possible explanation is that the more highly educated Malay household heads have a greater understanding about Takaful concept. As for Chinese household heads with a bigger household size, they are more likely to own life insurance. This finding could be due to life insurance is considered as a basic necessity among the Chinese community in Malaysia, whereby an increase in household size leads to a rise in life insurance expenditure as the need for financial protection becomes greater.

Meanwhile, although the findings of Annamalah's (2013) study show that the Chinese tends to own life insurance, ethnicity is found to be not a significant factor. The possible reason might be that the study of Annamalah (2013) is limited to married couples. Married individuals are expected to have a greater bequest motive and they tend to purchase life insurance. Therefore, Annamalah's (2013) findings do not show significant

differences in life insurance ownership across three major ethnic groups (Malay, Chinese and Indian).

For the purpose of this study, ethnicity is hypothesized to have a relationship with life insurance ownership. The decision to purchase life insurance could be influenced by the differences in demographic backgrounds, cultures and religions across the different ethnic groups of Malay, Chinese and Indian in Malaysia.

Based on the findings of past studies above, the following remarks can be drawn:

(i)    The findings of most past studies showing income, education and number of dependents have a significant positive relationship with life insurance ownership provide support to expected utility theory.

(ii)   The relationship of life insurance ownership with age and marital status is inconclusive.

(iii)  Gender and ethnicity are found to be significant determinants for life insurance ownership.

The findings of past studies on the relationship between demographic factors (i.e. income, age, gender, marital status, education, number of dependents and ethnicity) and life insurance ownership are summarized in Table 2.2

Table 2.2

*The Relationship between Demographic Factors and Life Insurance Ownership*

| Author/Year | Finding | |
|---|---|---|
| Gandolfi and Miners (1996) | Husband | Wife |
| | Income (+, sig) | Income (+, sig) |
| | Age (-, sig) | Age (ns) |
| | Education (+, sig) | Education (ns) |
| | Dependent years (ns) | Dependent years (+, sig) |
| Chen, Wong and Lee (2001) | Age (curvilinear) | |
| Gutter and Hatcher (2008) | Income (+, sig) | |
| | Age (+, sig) | |
| | High school (+, sig) | |
| | Household size (ns) | |
| | Presence of a child (ns) | |
| | Race (ns) | |
| Tan, Wong and Law (2009) | Income (+, sig) | |
| | Age (+, sig) | |
| | Gender (ns) | |
| | Marital status (ns) | |
| | Education (ns) | |
| | Number of children (-, sig) | |
| Lee, Kwon and Chung (2010) | Income (+, sig) | |
| | Age (curvilinear) | |
| | Education (+, sig) | |
| Arun, Bendig and Arun (2012) | Education (-, sig) | |
| | Number of dependents (+, sig) | |
| Gustina and Abdullah (2012) | Family Takaful | Conventional life insurance |
| | Income (+, sig) | Income (+, sig) |
| | Education level (+, sig) | Education level (ns) |
| | Religion (+, sig) | Religion (-, sig) |
| Loke and Goh (2012) | Income (+, sig) | |
| | Age between 20 and 29 years old (-, sig) | |
| | Gender (ns) | |
| | Single (-, sig) | |
| | Tertiary education (-, sig) | |
| | Number of dependents (ns) | |
| | Chinese and Indian (+, sig) | |
| Annamalah (2013) | Income (+, sig) | |
| | Age (ns) | |
| | Education (+, sig) | |
| | Number of children (ns) | |
| | Ethnicity (ns) | |
| Ćurak, Džaja and Pepur (2013) | Gender (ns) | |
| | Marital status (ns) | |
| | Education (+, sig) | |
| | Number of family members (ns) | |
| Sherif and Shaairi (2013) | Income (+, sig) | |
| | Education (+, sig) | |
| | Dependency ratio (+, sig) | |
| | Religion of Islam (+, sig) | |

Table 2.2 (Continued)

| Author/Year | Finding | | |
|---|---|---|---|
| Tan et al. (2014) | Malay | Chinese | Indian |
| | Income (+, sig) | Income (+, sig) | Income (+, sig) |
| | Tertiary education (+, sig) | Tertiary education (ns) | Tertiary education (ns) |
| | Household size (ns) | Household size (+, sig) | Household size (ns) |
| Harris and Yelowitz (2018) | Income (+, sig) | | |
| | Male (+, sig) | | |
| | Unmarried (-, sig) | | |
| | Education (+, sig) | | |
| | Number of dependent (+, sig) | | |
| | African-American (+, sig) | | |

Note: (+, sig) indicates a significant positive relationship, (-, sig) indicates a significant negative relationship, (ns) indicates no significant relationship, (curvilinear) indicates a significant curvilinear relationship

## 2.3.2 Psychographic Factors

A number of past studies have examined the relationship between psychographic factors and life insurance ownership. The next three parts in this sub-section present the review of past studies on the relationship of life insurance ownership with (a) personal value, i.e. individualistic, collectivistic and mixed values, (b) risk attitude, and (c) trust.

## 2.3.2.1 Personal Value

Being a multi-ethnic country, such as Malaysia, there is a possibility that life insurance ownership is influenced by the cultural diversity of its society through the personal value of the individuals within the society. Personal value is found to have a significant relationship with life insurance ownership by several past studies (Ferber and Lee, 1980; Burnett and Palmer, 1984; Omar, 2007; Chui and Kwok, 2008; Park and Lemaire, 2011).

Ferber and Lee (1980) have examined life insurance ownership of couples in their early married life. Their data were collected via 13 rounds of interviews with 149 couples in two cities of Illinois (i.e. Decatur and Peoria) between the autumn of 1968 and the

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autumn of 1976. Their findings show that a couple is more likely to own a life insurance policy if the husband is optimistic (defined as being satisfied with life and considered life to be full of opportunities − a dimension of individualistic value). The individuals who are optimistic will plan for their future and they tend to own life insurance (Ferber and Lee, 1980). In doing so, they are able to secure their financial position and to protect their family members against any financial hardships.

Similarly, the study of Burnett and Palmer (1984), which examined the relationship between the psychographic characteristics of household head and life insurance ownership (measured by the amount of life insurance purchased) in U.S., has found that individuals who own greater than average amount of life insurance have high individualistic value (characterized as being self-sufficient, do not believe in fate but believe that they are in control of their own welfare and have a relatively lower interest in religion). This is due to the fact that individualistic individuals emphasize on self-reliance. They believe that relying on others is a sign of weakness, so they should take control of their fate or destiny. Hence, they tend to purchase life insurance as a method to reduce risks.

Burnett and Palmer's (1984) findings also show that individuals who own a larger amount of life insurance are those who consider the involvement in community activities is essential. Individuals who favor community involvement have mixed value, they are concerned about the welfare of both themselves and the society as a whole. Thus, they believe that having enough life insurance coverage is necessary to protect against financial difficulties that might be faced by their beneficiaries, and to reduce the financial

burdens of the government in providing for the old and those who have lost their breadwinners.

In a study about life insurance ownership in Nigeria, Omar (2007) has found that the main reason which discourages life insurance ownership among Nigerians is the cultural characteristic of Nigerian society. Nigerian society exhibits high fatalism orientation (i.e. believe in fate and submit to destiny) and often relies on family member and/or other relatives for aids in emergencies. Omar's (2007) findings show that individuals with high collectivistic value are less likely to own life insurance. They emphasize on commitment to care for the interests of their in-group members (e.g. extended family, tribe or village) by protecting each other when they are in trouble. As a result, life insurance is not really needed as the risks are pooled among their in-group members.

Meanwhile in a broader setting, the findings of two past cross-country studies (Chui and Kwok, 2008; Park and Lemaire, 2011) have also shown that there is a significant relationship between national culture and life insurance ownership. These studies have employed the Hofstede's cultural dimensions to measure national culture. Based on Hofstede's cultural dimensions, the level of individualistic value is determined by the individuals' independent self-construal (i.e. a thinking of the self as an individual rather than as part of a group). Individualism refers to the strength of the bonds that individuals have to others within their group, whereas masculinity/femininity refers to the distribution of roles between men and women. A society is masculine if the individuals emphasize on the importance of showing off their performance and achievement. Meanwhile, a society is feminine if the individuals stress on equality and good

relationship with others, care about the quality of life and the preservation of environment. On the other hand, uncertainty avoidance refers to the ways people react to the uncertainty of life and ambiguous situations.

Chui and Kwok (2008) have conducted a study across 41 countries to examine the relationship between cultural differences and life insurance ownership (measured by premium per capita) from 1979 to 2001. Their results show that life insurance ownership is higher among countries which are more feminine (a dimension of mixed value) and exhibit high individualistic value. Although uncertainty avoidance (a dimension of mixed value) has a weak relationship with life insurance ownership, countries with strong uncertainty avoidance are found to have a slightly higher life insurance ownership.

The work of Chui and Kwok (2008) was extended by Park and Lemaire (2011), who have investigated life insurance ownership (measured by premium to GDP) of 27 countries from 2000 to 2008. They have found that individualistic value has a weak positive relationship with life insurance ownership. Meanwhile, the level of life insurance ownership is higher for countries which have stronger uncertainty avoidance and higher femininity index.

From the two studies above, the individuals from a feminine society with strong uncertainty avoidance culture exhibit mixed value, so they are concerned about both self-interest and the well-being of others. They emphasize on quality of life and at the same time they are anxious about uncertainties. Consequently, they seek for security to protect against uncertainties in life so that they can live in a more predictable environment.

Hence, the individuals with high mixed value are more likely to own life insurance to care for their own welfare and the needs of their dependents as well as society.

Based on the findings of past studies above, the following remarks can be drawn:

(i)     Individuals with high individualistic value are more likely to own life insurance (Ferber and Lee, 1980; Burnett and Palmer, 1984; Chui and Kwok, 2008; Park and Lemaire, 2011).

(ii)    Individuals with high collectivistic value are less likely to own life insurance (Omar, 2007).

(iii)   Individuals with high mixed value are more likely to own life insurance (Burnett and Palmer, 1984; Chui and Kwok, 2008; Park and Lemaire, 2011).

**2.3.2.2   Risk Attitude**

According to expected utility theory, a risk averse individual is expected to have a higher likelihood to purchase life insurance for assured protection against unforeseen events such as premature death. The findings of Gutter and Hatcher's (2008) study on life insurance ownership in U.S. are in line with expected utility theory. Their findings show that individuals who are not willing to take investment risk (a proxy for highly risk averse individuals) have a higher likelihood to own life insurance than those who are willing to take moderate investment risk (a proxy for moderately risk averse individuals). This is because individuals with greater risk aversion tend to avoid risk and prefer certainty, thus

they are more likely to purchase life insurance for protection against unforeseen and unfortunate events that may occur in their life.

On the contrary, the findings of Arun, Bendig and Arun's (2012) study on micro life insurance ownership in Sri Lanka show that the respondents who perceive themselves as being more exposed to risk (a proxy for individuals with a higher degree of risk aversion) are less likely to own life insurance. The reason for this finding is because the sample in the study of Arun, Bendig and Arun (2012) consists of households from villages in rural and semi-urban areas in Sri Lanka whose income ranged from low to middle. Their livelihood activities are categorized into agriculture, fishery, craft and related works, plant and machine operators, assemblers and elementary occupation. The nature of their livelihood activities might be another cause for the household's vulnerability and they will be subject to higher insurance premium which makes the purchase of life insurance less affordable. Likewise, Loke and Goh (2012) have also found that the likelihood to own life insurance is lower among risk averse individuals (proxied by individuals who prefer investment with moderate fluctuations in their study) in Penang. The possible explanation might be that Malaysians have a different perception towards life insurance and they consider it as a risky investment rather than as a protection product.

However, in another Malaysian study, Annamalah's (2013) findings reveal that risk attitude does not have a significant relationship with life insurance ownership. It could be attributed to individuals with high risk aversion using other methods to manage their risks, not relying on life insurance.

Based on the findings of past studies above, the following remarks can be drawn:

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(i) Gutter and Hatcher's (2008) findings are in line with expected utility theory. Risk averse individuals are more likely to own life insurance.

(ii) The findings of Arun, Bendig and Arun (2012) and Loke and Goh (2012) are contradictory to expected utility theory.

(iii) Annamalah's (2013) findings show that risk attitude is not a significant factor for life insurance ownership.

### 2.3.2.3 Trust

Another psychographic factor is trust. Trust is required in any transactions, including life insurance ownership which involves the saving and investment of people's money. Several past studies have found that the trust the individuals have in life insurers and their agents have a significant relationship with life insurance ownership (Omar, 2007; Wan Aris, Sahak and Shaadan, 2009; Siddiqui and Sharma, 2010; Angko, 2013; Leary, Kane and Woods, 2014).

Omar (2007) has conducted a study to examine life insurance ownership in Nigeria. The data were collected from a survey which was administered in Abuja, the federal capital of Nigeria. The findings show that the prime reason for not owning life insurance among Nigerians is the lack of trust and confidence in life insurance companies. Based on Omar's (2007) explanation, it is because life insurance companies in Nigeria are known to have bad reputation in terms of reliability and this provokes negative perception towards purchasing life insurance.

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An exploratory study examining family Takaful ownership in Malaysia was conducted by Wan Aris, Sahak and Shaadan (2009). Their findings show that the factors for not owning family Takaful by the Malay individuals are their dissatisfaction with the services provided by Takaful agents and the lack of confidence in Takaful operators. Wan Aris, Sahak and Shaadan (2009) have found that the prospective policyholders would constantly expect excellent services especially in claim settlement, compliance with Shariah law is not the only predominant factor for them to be convinced with Takaful.

Meanwhile, Siddiqui and Sharma (2010) have examined the consumers' perceived service quality of life insurance agents' services in India. Their data were collected via shopping mall intercept in various cities like Lucknow, Delhi, Mumbai, Bangalore and Kolkata from December 2008 to May 2009. Analytic Hierarchy Process (AHP) was used to rank the relative importance of the six service quality dimensions of life insurance agents. Their results show that assurance (relative weight = 36%) is perceived to be the most important dimension, and followed by others in descending order of importance: competence (relative weight = 26%), personalized financial planning (relative weight = 20%), corporate image (relative weight = 9%), tangibles [i.e. the provision of physical facilities and communication materials] (relative weight = 5%) and technology (relative weight = 4%). Siddiqui and Sharma's (2010) overall findings show that Indian consumers have high expectation on life insurance agents. They expect life insurance agents must be trustworthy and able to make consumers feel assured that they have chosen the right product which meets their needs.

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A field survey has been administrated by Angko (2013) in 2011 to examine the level of policyholders' satisfaction level with the life insurance products they have purchased and the services provided by the agents. The sample consists of the policyholders from four life insurance companies in Ghana: SIC Life, Vanguard Life, Star-Life and Capital Express Life. Angko (2013) reported that approximately 70%-90% of the policyholders agreed that their agents are knowledgeable, able to explain the products excellently, have sold the products in the best interest of their needs and they completely trust their life insurance agents. However, the overall result could not indicate whether or not the policyholders are satisfied with their life insurance companies and the agents' services. Angko (2013) explained that Ghana is a developing country and its consumers have limited or little knowledge about life insurance companies and agents' roles, so they are not able to make their assessment appropriately.

Leary, Kane and Woods (2014) have studied the possible causes for the decline of life insurance ownership among the households in U.S. for a period of 40 years. Their data were provided by Life Insurance and Market Research Association (LIMRA) for years 2010, 2012 and 2013. They have found that consumers desire a trusted advisor who is knowledgeable and able to provide appropriate financial advice as well as care for their welfare. The lack of trusted professional is the main reason prospective consumers are hesitant to own life insurance. It is because life insurance represents a huge investment that requires a long-term commitment to pay premiums.

Based on the past studies above (Omar, 2007; Wan Aris, Sahak and Shaadan, 2009; Siddiqui and Sharma, 2010; Angko, 2013; Leary, Kane and Woods, 2014), their findings

consistently show that there is a significant positive relationship between trust and life insurance ownership. Trust increases the individuals' confidence in life insurance providers and their agents. Hence, the individuals with a higher level of trust are more likely to purchase life insurance.

## 2.4 The Mediating Effect of Risk Perception on the Relationship between Psychographic Factors and Life Insurance Ownership

To the best knowledge of the researcher, no study has investigated the mediating effect of risk perception on the relationship between psychographic factors (i.e. personal value, risk attitude and trust) and life insurance ownership. Only the study of Huber and Schlager (2011) has examined the mediating effect of risk perception on the relationship between mixed value (i.e. uncertainty avoidance) and the purchase intention of life insurance. The next four sub-sections will provide the review of past studies on the relationship of risk perception with (i) personal value, (ii) risk attitude, (iii) trust, and (iv) life insurance ownership.

### 2.4.1 The Relationship between Personal Value and Risk Perception

Personal value determines the characteristics and behaviors of individuals. Therefore, an individual's personal value would influence his/her cognitive thinking, including his/her perception towards risk (i.e. risk perception). Most past studies on consumers' purchase intention have found that there is a significant relationship between personal value and risk perception (Mitchell and Vassos, 1997; Weber and Hsee, 1998; Keh and Sun, 2008; Xu, Lin and Shao, 2010; Huber and Schlager, 2011; Brosdahl and Almousa, 2013).

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However, these studies are not directly related to the purchase of life insurance except the study of Huber and Schlager (2011).

The studies of Weber and Hsee (1998) and Xu, Lin and Shao (2010) have found a significant relationship between cultural differences (on an individualistic society and a collectivistic society) and risk perception. The findings of these studies show that collectivistic individuals have lower risk perception as compared to individualistic individuals. Weber and Hsee (1998) have conducted a cross-cultural study to examine the risk perception of individuals from four different countries (i.e. China, U.S., Germany and Poland). In their study, the respondents were required to indicate their risk perception towards risky financial investment options. Their findings reveal that the Chinese respondents (representing sample from collectivistic society) have the lowest risk perception towards risky financial investment options as compared to the respondents from U.S., Germany and Poland (representing sample from individualistic society). Likewise, the findings of Xu, Lin and Shao's (2010) study on consumer behaviors towards online buy-it-now auctions show that the Chinese consumers (representing sample from collectivistic society) have a lower risk perception towards online buy-it-now auctions as compared to the American consumers (representing sample from individualistic society). It is because collectivistic individuals tend to pool their risk among their in-group members, thus protection is assured as people are more related and interdependent with each other. Inversely, individualistic individuals are expected to personally bear the risks of choices they have made.

On the other hand, several past studies have found a significant relationship between mixed value (i.e. uncertainty avoidance) and risk perception (Mitchell and Vassos, 1997; Keh and Sun, 2008; Huber and Schlager, 2011; Brosdahl and Almousa, 2013). The findings of these studies show that individuals with high mixed value (i.e. strong uncertainty avoidance) have high risk perception, except Keh and Sun (2008) whose study shows mixed findings.

Two comparative studies (Mitchell and Vassos, 1997; Brosdahl and Almousa, 2013) were conducted to examine the relationship between cultural differences (on a weak uncertainty avoidance society and a strong uncertainty avoidance society) and risk perception. Hofstede's uncertainty avoidance index was employed in these two studies to determine the country's level of uncertainty avoidance. Mitchell and Vassos's (1997) study examined risk perception towards holiday purchases of undergraduate students of United Kingdom and Cyprus. Meanwhile, Brosdahl and Almousa's (2013) study examined risk perception towards online shopping of the consumers in U.S. and Saudi Arabia. Based on Hofstede's uncertainty avoidance index, United Kingdom and U.S. have a much smaller index than Cyprus and Saudi Arabia. Therefore, the former is categorized as having a weak uncertainty avoidance society and the latter is categorized as having a strong uncertainty avoidance society. The findings of these two studies show that the respondents from United Kingdom and U.S. (representing sample from weak uncertainty avoidance society) have lower risk perception as compared to the respondents from Cyprus and Saudi Arabia (representing sample from strong uncertainty avoidance society). This might be due to the weak uncertainty avoidance society is more willing to take risks and feels comfortable with ambiguity as compared to the strong uncertainty

avoidance society that emphasizes on security in life and is less comfortable in taking risks.

Another cross-cultural study was conducted by Keh and Sun (2008) to examine the relationship between uncertainty avoidance and risk perception towards health insurance in China and Singapore. The sample consists of adult consumers who have purchased health insurance. Their findings show mixed results. In China, uncertainty avoidance is found to have a significant positive relationship with risk perception towards health insurance. On the contrary, in Singapore, uncertainty avoidance is found to have a significant negative relationship with risk perception towards health insurance. According to Keh and Sun (2008), the possible reason for the unexpected finding in Singapore is because Singaporeans who seek for security search for additional information about health insurance to lower their risk perception towards health insurance.

Meanwhile, Huber and Schlager (2011) have conducted an experimental study to examine the relationship between uncertainty avoidance and risk perception towards life insurance (as a risky financial investment) among Swiss population. Their findings show that the participants with strong uncertainty avoidance have high risk perception towards life insurance. The results could be attributed to the individuals with strong uncertainty avoidance have low tolerance for uncertainty and ambiguity, so they perceive life insurance to be a risky investment because they are uncertain when they could get the claim payments from insurers after paying premiums for a long period of time.

In addition, two past studies (Weber and Hsee, 1998; Huber and Schlager, 2011) have found a significant mediating effect of risk perception on the relationship between

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personal value (i.e. individualistic, collectivistic and mixed values) and purchase intention. In other words, risk perception is found to play an important role in determining the individuals' decision to engage in a risky transaction or not. The findings of these studies are in line with prospect theory, which states that individuals make decisions based on their perceived likelihood of gains or losses. Individuals who consider a risky transaction to be at a loss (i.e. high risk perception) tend not to engage in that risky transaction. Meanwhile, individuals who consider a risky transaction to be at a gain (i.e. low risk perception) tend to engage in that risky transaction.

The cross-cultural study of Weber and Hsee (1998) has also examined the mediating effect of risk perception on the relationship between cultural differences (on an individualistic society and a collectivistic society) and purchase intention (proxied by the price the respondents are willing to pay). Their findings show that the Chinese respondents (representing sample from collectivistic society) who have the lowest risk perception are willing to pay the highest price to invest in risky investment options as compared to the respondents from U.S., Germany and Poland (representing sample from individualistic society). Weber and Hsee (1998) explained that the difference in the willingness to pay among the respondents of the four countries is due to the differences in their perception of risk towards risky investment options. The collectivistic individuals (proxied by the Chinese) who have low risk perception will consider risky investment options to be profitable, so they are more willing to pay higher price to participate in risky investments.

Furthermore, the findings of Huber and Schlager (2011) show that risk perception has a significant mediating effect on the relationship between mixed value (i.e. uncertainty avoidance) and the purchase intention of life insurance. Uncertainty avoidance is found to have a significant positive relationship with risk perception towards life insurance. Meanwhile, risk perception has a significant negative relationship with the purchase intention of life insurance. The strong uncertainty avoidance participants who have high risk perception have less intention to purchase life insurance because life insurance is regarded as a loss due to uncertainty of the time of death. Their results have highlighted the significant influence of the individuals' risk perception in making financial decision.

Based on the findings of past studies above, the following remarks can be drawn:

(i)     Individualistic individuals have high risk perception while collectivistic individuals have low risk perception (Weber and Hsee, 1998; Xu, Lin and Shao, 2010).

(ii)    Past studies have consistently shown that individuals with high mixed value (i.e. strong uncertainty avoidance) have high risk perception (Mitchell and Vassos, 1997; Huber and Schlager, 2011; Brosdahl and Almousa, 2013).

(iii)   Risk perception is found to have a significant mediating effect on the relationship between personal value (i.e. individualistic, collectivistic and mixed values) and purchase intention. This provides support to prospect theory. (Weber and Hsee, 1998; Huber and Schlager, 2011)

## 2.4.2    The Relationship between Risk Attitude and Risk Perception

Risk attitude refers to the individual's preference for risky choices and it is considered as a stable personal idiosyncrasy. An individual's risk attitude (either risk averse or risk seeking) is influenced by the way he/she perceives the risk. Although the relationship between risk attitude and risk perception has been examined in many past studies (Sitkin and Weingart, 1995; Weber and Milliman, 1997; Weber, Blais and Betz, 2002; Johnson, Wilke and Weber, 2004; Blais and Weber, 2006; Hanoch, Johnson and Wilke, 2006; Xu, Lin and Shao, 2010; Butler et al., 2012; Hu and Xie, 2012; Hamid et al., 2013; Rosman et al., 2013; Schwartz et al., 2013), they are not directly related to the purchase of life insurance.

A few past studies (Johnson, Wilke and Weber, 2004; Blais and Weber, 2006; Hanoch, Johnson and Wilke, 2006; Hu and Xie, 2012) have employed Domain-Specific Risk-Taking (DOSPERT) scale developed by Weber, Blais and Betz (2002) to examine the relationship between risk attitude and risk perception. The DOSPERT scale has five domains, namely financial (investment and gambling), ethical, safety, recreational and social, and each domain contains risky activities related to their respective domains. The participants were required to indicate their likelihood to engage in these risky activities. The findings of these studies show that the risk attitudes of individuals vary across different domains. The individuals who display risk seeking attitude in a particular domain (e.g. financial) could be risk averse in another domain (e.g. recreational). It is because the individuals perceive risky activities in different domains differently. The individuals who tend not to participate in risky activities (i.e. risk averse individuals)

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have high risk perception because they consider the risky activities to be dangerous. Meanwhile, the individuals who tend to participate in risky activities (i.e. risk seeking individuals) have low risk perception because they deem the risky activities to be adventurous. There is a significant relationship between risk attitude (whether risk averse or risk seeking) and risk perception.

In addition, Hanoch, Johnson and Wilke (2006) have also found that the strength of the relationship between risk attitude and risk perception varies across domains. The relationship between risk attitude and risk perception is stronger in activities concerning one's life or health (recreation and safety domains) but is weaker in activities involving money (financial domain). The possible reason might be that individuals are more concerned with their wellbeing than monetary gains.

Medical domain was developed for the DOSPERT scale in the study of Butler et al. (2012) to measure the individuals' risk attitude and their risk perception towards risky activities in medical domain. The inclusion of medical domain is to measure attitude towards risky medical activities (e.g. participating in clinical trial to test a new drug) because the safety domain in the DOSPERT scale emphasizes only on preventive safety in risky activities (e.g. wearing helmet while riding motorcycle). This DOSPERT scale with medical domain was employed in the study of Rosman et al. (2013) and Schwartz et al. (2013) to investigate the relationship between risk attitude and the risk perception of U.S. citizens and Japanese respondents living in Tokyo respectively.

These two studies (Rosman et al., 2013; Schwartz et al., 2013) have found a significant relationship between risk attitude (whether risk averse or risk seeking) and risk

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perception towards the risky activities in five domains (i.e. financial, social, recreational, ethical and safety) except medical domain. Risk averse respondents (i.e. those who are less likely to participate in risky activities) have higher risk perception as compared to risk seeking respondents (i.e. those who are more likely to participate in risky activities). The insignificant findings on medical domain highlight that there is a need for further research on the medical domain in the DOSPERT scale. Rosman et al. (2013) have found that medical domain has low inter-item reliability. Schwartz et al. (2013) have reported difficulty in conducting survey using the DOSPERT scale in Japan due to the Japanese regulations restrict researchers to ask about participation in illegal activities (e.g. driving a car without wearing a seat belt). Furthermore, Schwartz et al. (2013) stated that there is a possibility that the Japanese has different risk attitude and risk perception from other nationalities.

Several past studies that do not use DOSPERT scale reported that risk attitude has a significant relationship with risk perception, and risk perception has a significant mediating effect on the relationship between risk attitude and the individuals' choice in decision making (Sitkin and Weingart, 1995; Weber and Milliman, 1997; Xu, Lin and Shao, 2010; Hamid et al., 2013). Hence, risk perception is found to determine the individuals' choice in decision making when the outcomes are uncertain. The findings of these past studies are in line with prospect theory that individuals who over-estimate the probability of loss (i.e. high risk perception) are less likely to engage in risky transaction as compared to individuals who over-estimate the probability of gain (i.e. low risk perception).

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Sitkin and Weingart (1995) have conducted class exercises at a university in U.S. to ask students whether a race car team should race in the final race of season which involves high business risk (that will affect the financial viability of the race car team as an organization). Their findings show that the students who are risk averse tend to over-estimate the probability of loss. Risk averse students with high risk perception towards car racing are less likely to agree that the race car team should race. Meanwhile, the students who are risk seeking tend to over-estimate the probability of gain. Risk seeking students with low risk perception towards car racing are more likely to agree that the race car team should race.

In the study of Weber and Milliman (1997), experiments have been administrated in University of Chicago and the participants were asked to choose the following risky options: (i) the preference of commuter trains with unpredictable arrival times, and (ii) the preference of stock market investment options of six companies. Weber and Milliman's (1997) findings show that the participants who are risk averse tend to over-estimate the probability of loss in loss domain or during investment failure session. The risk averse participants who have high risk perception are more likely to choose the less risky options (i.e. the train with lower variance in arrival time and companies with more stable investment options). On the contrary, the participants who are risk seeking tend to over-estimate the probability of gain in gain domain or during investment success session. The risk seeking participants who have low risk perception tend to choose the more risky options (i.e. the train with higher variance in arrival time and companies with less stable investment options).

Meanwhile, Xu, Lin and Shao (2010) have conducted a study to examine consumer behaviors towards online buy-it-now auctions. Their findings show that risk averse consumers perceive the online transaction of buy-it-now auction to be more risky as compared to risk seeking consumers. Besides that, the consumers' risk perception towards the auction is found to have a negative and significant relationship with their purchase intention. Hence, risk averse consumers with high risk perception towards the auction are less likely to purchase from the auction site as compared to risk seeking consumers with low risk perception towards the auction.

In Malaysia, Hamid et al. (2013) have conducted a study to examine the risk attitude and risk perception of individual investors of eight stock-broking companies. Their findings show that risk averse investors have higher risk perception as compared to risk seeking investors. Risk averse investors with high risk perception tend to relate risks with negative outcomes (losses). So, they would choose more stable investment options. Oppositely, risk seeking investors with low risk perception tend to relate risks with positive outcomes (gains). So, they would choose less stable investment options.

Based on the findings of past studies above, the following remarks can be drawn:

(i)     Risk attitude (whether risk averse or risk seeking) is found to have a significant relationship with risk perception in many past studies (Sitkin and Weingart, 1995; Weber and Milliman, 1997; Weber, Blais and Betz, 2002; Johnson, Wilke and Weber, 2004; Blais and Weber, 2006; Hanoch, Johnson and Wilke, 2006; Xu, Lin and Shao, 2010; Butler et al., 2012; Hu and Xie, 2012; Hamid et al., 2013; Rosman et al., 2013; Schwartz et al., 2013).

(ii)     Risk perception is found to have a significant mediating effect on the relationship between risk attitude and the individuals' choice in decision making, which also provides support to prospect theory (Sitkin and Weingart, 1995; Weber and Milliman, 1997; Xu, Lin and Shao, 2010; Hamid et al., 2013).

### 2.4.3   The Relationship between Trust and Risk Perception

Trust refers to the individuals' willingness to accept the advices and follow the actions of other party (Mcknight, Cummings and Chervany, 1998). When the individuals trust the other party, they are more willing to depend on him/her. The findings of Mcknight, Choudhury and Kacmar's (2002) study on the consumers' trust in electronic commerce vendor they have no prior experience with show that consumers who trust their seller are willing to follow the seller's advice, share their personal information with the seller and to purchase from the seller.

Trust is also associated with the willingness to assume risk because trust is required in transactions that involve risks (Mayer, Davis and Schoorman, 1995; Rousseau et al., 1998). An individual's degree of trust in the other party and his/her (risk) perception towards risky transactions will influence his/her decision (Mayer, Davis and Schoorman, 1995; Rousseau et al., 1998). If the individuals trust the other party, their risk perception towards the risky transaction would be lower, and they would participate in that risky transaction. Trust would increase the individuals' confidence in the other party, so the individuals would be willing to involve in the transaction (Morgan and Hunt, 1994). A few past studies have examined the relationship between trust and risk perception

towards online transactions but they are not related to the purchase of life insurance (Kim, Ferrin and Rao, 2008; Zhu et al., 2011; Kesharwani and Bisht, 2012).

Kim, Ferrin and Rao (2008) have investigated the role of trust and risk perception in consumers' decision making process in electronic commerce. Their study was conducted in U.S. and the sample consists of undergraduate students who are active online consumers. On the other hand, Zhu et al. (2011) have examined trust, risk perception and the purchase intention of the online users of an e-vendor in Taiwan called Yahoo! Kimo. Another study examining trust, risk perception and internet banking adoption in India was conducted by Kesharwani and Bisht (2012). The respondents are postgraduate students of a premier business school in India who are internet banking users.

Although these studies (Kim, Ferrin and Rao, 2008; Zhu et al., 2011; Kesharwani and Bisht, 2012) have been conducted in different countries, its findings show that there is a significant negative relationship between the consumers' trust in e-vendor and their risk perception towards e-commerce. Besides that, there is also a significant negative relationship between the consumers' risk perception towards e-commerce and their purchase intention. When the consumers trust the e-vendor, they assume the e-vendor will behave accordingly, not opportunistically. Therefore, trust reduces the consumers' concerns about uncertainties and the risks associated with e-commerce. When the consumers perceive the online sale website to be secured, their purchase intention would increase. In other words, the consumers who trust the e-vendor have low risk perception and they are more likely to purchase from the online sale website.

Based on the findings of past studies above, there is a negative and significant relationship between trust and risk perception (Kim, Ferrin and Rao, 2008; Zhu et al., 2011; Kesharwani and Bisht, 2012). Risk perception is found to have a significant mediating effect on the relationship between trust and purchase intention. These studies show that risk perception determines the individuals' decision to engage in a risky transaction or not, which also provide support to prospect theory, such that individuals who perceive a greater probability of loss (i.e. high risk perception) are less likely to engage in a risk transaction as compared to individuals who perceive a greater probability of gain (i.e. low risk perception).

### 2.4.4  The Relationship between Risk Perception and Life Insurance Ownership

Life insurance is a long-term promise. It is intangible and cannot be possessed. The purchase of life insurance requires high involvement of personal interaction between life insurance agents and consumers due to the products' variability, complexity wordings in the policies, complicated claiming process and the limited knowledge of the consumers about life insurance (Siddiqui and Sharma, 2010). Therefore, the process of purchasing life insurance is challenging, time-consuming and regarded as risky for the consumers. Inevitably, the individuals' risk perception towards life insurance might become a significant determinant for their decision to own life insurance. The researcher has come across only one study conducted by Huber and Schlager (2011) that has examined the relationship between risk perception and the purchase intention of life insurance.

An experimental study examining the relationship between risk perception and the participants' purchase intension of life insurance has been administrated by Huber and

Schlager (2011). Huber and Schlager's (2011) findings show that the participants with high risk perception towards life insurance are less likely to purchase life insurance. So, there is a negative and significant relationship between risk perception and the purchase intention of life insurance. In other words, the participants who perceive life insurance as a risky investment, due to the uncertainties regarding its performance and claim settlement, have lower likelihood to purchase life insurance. This finding also provides support to prospect theory which states that the individuals who perceive a higher probability of financial loss from owning life insurance tend not to purchase life insurance.

# CHAPTER THREE

# METHODOLOGY

## 3.1    Introduction

There are nine sections in this chapter which consist of chapter introduction, research design, research frameworks, research hypotheses, operational definition of the variables, questionnaire design, sampling technique, data collection method and the methods of analysis.

## 3.2    Research Design

This study is a quantitative research. It employed primary data collection. A survey was conducted by stratified sampling based on the population size and ethnicity composition of the Malay, Chinese and Indian, and by randomly distributing the questionnaires to be answered by the respondents living in the states of Kedah, Penang, Perak and Perlis in the Northern regions of Malaysia. Its aims are to examine whether demographic and psychographic characteristics of the respondents have a relationship with their life insurance ownership, and whether risk perception is a significant factor in mediating the relationship between psychographic factors and life insurance ownership. For the purpose of analyzing these relationships, both binary logistic regression and multiple regression were used in this study.

### 3.3 Research Frameworks

There are two frameworks in this study. According to expected utility theory, individuals' life insurance ownership depends on their bequest motive, income and risk attitude. The individuals' bequest motive is determined by their marital status and number of dependents. Based on the pertinent literature reviewed in earlier chapter, age, gender and education are also considered as essential factors for life insurance ownership. Since Malaysia is a unique multi-ethnic country with different cultures, it would be intrigued to examine the influence of ethnicity and personal value of Malaysians on life insurance ownership. In addition, trust could play an important role in determining life insurance ownership. Life insurance is a long-term contract, thus, the policyholders would require trusted life insurance agents to maintain good relationship with them. Therefore, the first framework about the direct relationship of life insurance ownership with demographic and psychographic factors is developed. Demographic factors consist of income, age, gender, marital status, education, number of dependents and ethnicity. Meanwhile, psychographic factors consist of personal value (i.e. individualistic, collectivistic and mixed values), risk attitude and trust.

Based on prospect theory, the decision to purchase life insurance depends on the individuals' perceived (risk) probability of financial loss from owning life insurance. In other words, risk perception could determine individual choice in financial decision making (e.g. life insurance ownership). Related past studies on risk perception discussed in CHAPTER TWO have found that the individuals' psychographic factors (i.e. personal value, risk attitude and trust) have a significant relationship with their risk perception. As

such, the second framework about the indirect relationship between psychographic

factors and life insurance ownership mediated by risk perception is developed. The two

proposed frameworks for this study are presented in Figure 3.1 and Figure 3.2.
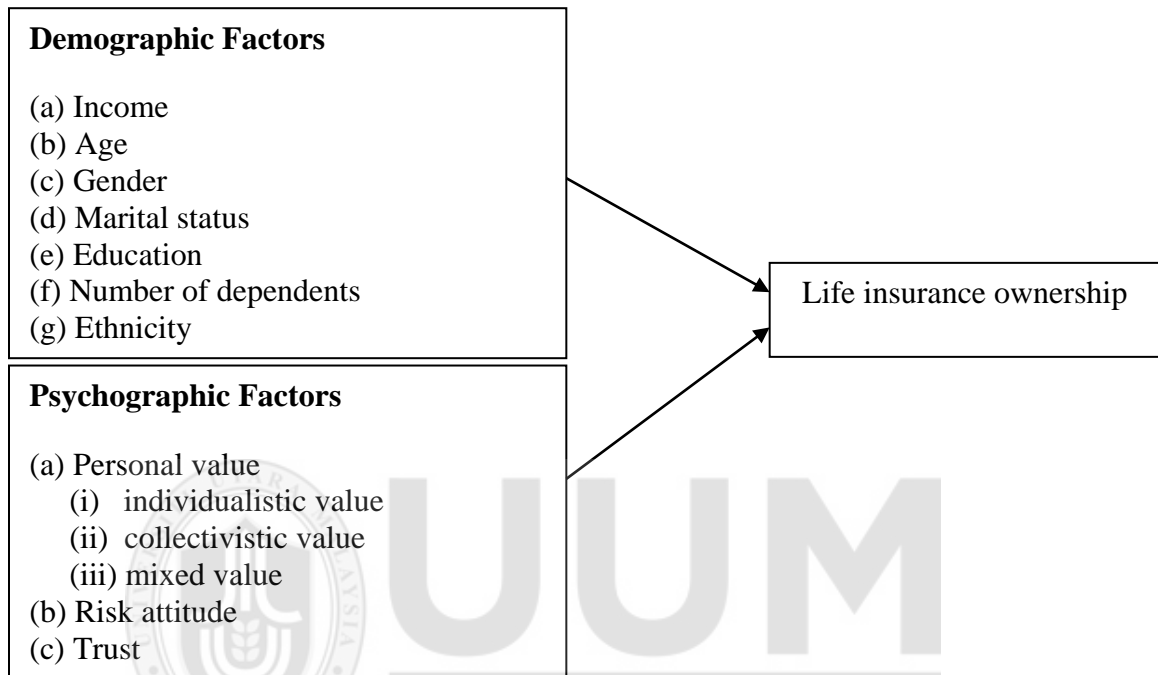


Figure 3.1:
*The Direct Relationship of Life Insurance Ownership with Demographic and Psychographic Factors*
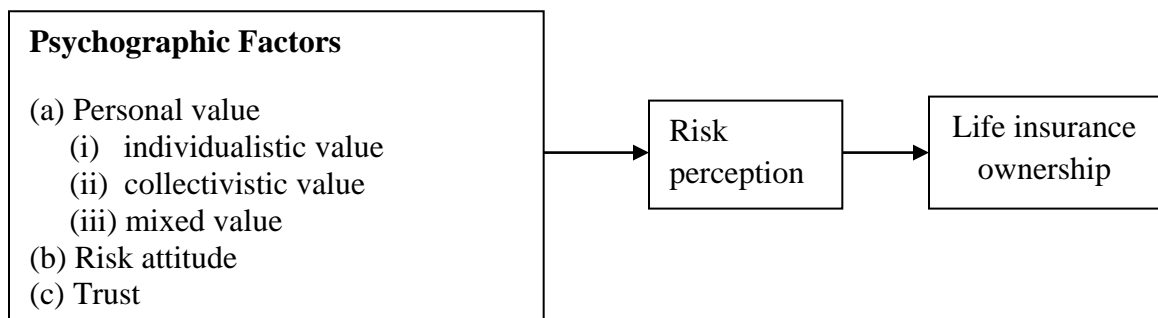


Figure 3.2:
*The Indirect Relationship between Psychographic Factors and Life Insurance Ownership Mediated by Risk Perception*

**3.4      Research Hypotheses**

The research hypotheses constructed in this section are based on the findings of past studies (reviewed in CHAPTER TWO: Literature Review). This section has three sub-sections. The first two sub-sections are about the formation of hypotheses for the relationship of life insurance ownership with demographic factors and psychographic factors. The last sub-section is about the formation of hypotheses for the effect of risk perception on the relationship between psychographic factors and life insurance ownership.

**3.4.1   The Relationship between Demographic Factors and Life Insurance Ownership**

The hypotheses regarding the relationship between demographic factors (i.e. income, age, gender, marital status, education, number of dependents and ethnicity) and life insurance ownership are constructed based on the findings of related past studies.

**3.4.1.1   Income**

Income has been found to have a significant positive relationship with life insurance ownership in many past studies (Gandolfi and Miners, 1996; Gutter and Hatcher, 2008; Tan, Wong and Law, 2009; Lee, Kwon and Chung, 2010; Gustina and Abdullah, 2012; Loke and Goh, 2012; Annamalah, 2013; Sherif and Shaairi, 2013; Tan et al., 2014; Harris and Yelowitz, 2018). Individuals with a higher level of income have a greater purchasing power as they have more disposable income to purchase life insurance. Their household consumptions also increase with the increase in income level and this provokes the need

for life insurance as a protection tool to mitigate financial risk due to the premature death of breadwinner. Therefore, income is hypothesized to have a positive relationship with life insurance ownership:

H1:    There is a positive relationship between income and life insurance ownership.

### 3.4.1.2   Age

The findings of past studies show that the relationship between age and life insurance ownership is inconclusive. The need for life insurance is triggered by different life events (e.g. getting new jobs, newly married, having young family or preparing for retirement) and different experiences the individual has gone through over his/her lifetime. The likelihood to own life insurance varies according to the individuals' age. Life insurance ownership is possibly considered not necessary for the young individuals who have just entered workforce and with no dependents. During the middle age, the individuals generally have more stable income streams and they would feel that life insurance is needed to provide income protection for their dependents. When the individuals approach retirement age, they usually live off their accumulated wealth and they are less likely to purchase life insurance. There are several other possible reasons for a lower likelihood to purchase life insurance among older individuals, such as life insurance is expensive for them (because of high probability of death), their declining human capital (i.e. labor income) and their children have become independent. Therefore, the hypothesis for age is constructed as follows:

H2:    There is a relationship between age and life insurance ownership.

### 3.4.1.3 Gender

Based on the findings of past studies, gender is found to be a significant factor for life insurance ownership (Gandolfi and Miners, 1996; Chen, Wong and Lee, 2001; Harris and Yelowitz, 2018). Males and females show various distinct differences. Males generally assume the role of breadwinner in the family. Meanwhile, the social roles of females have changed nowadays when they could easily obtain education and secure a job. Therefore, the contribution of females in the family is expected to increase. As a result, life insurance ownership could be determined by the different roles undertaken by males and females in the family. The hypothesis for gender is constructed as follows:

H3:     There is a relationship between gender and life insurance ownership.

### 3.4.1.4 Marital Status

The relationship between marital status and life insurance ownership is found to be inconclusive. Individuals generally have a greater bequest motive when they are married. Therefore, married individuals would consider having life insurance as a protection to mitigate financial loss which would be suffered by their dependents in the event of the premature death of breadwinner. On the other hand, single individuals could have purchased life insurance if they have other family members or loved ones who would be affected financially in the event of their premature death. Therefore, the hypothesis for marital status is constructed as follows:

H4:     There is a relationship between marital status and life insurance ownership.

### 3.4.1.5 Education

The findings of most past studies show that there is a significant positive relationship between education and life insurance ownership (Gandolfi and Miners, 1996; Gutter and Hatcher, 2008; Lee, Kwon and Chung, 2010; Gustina and Abdullah, 2012; Annamalah, 2013; Ćurak, Džaja and Pepur, 2013; Sherif and Shaairi, 2013; Tan et al., 2014; Harris and Yelowitz, 2018). The level of individuals' financial literacy is presumed to vary according to their education level. A more highly educated individual is expected to have a better understanding about the roles of life insurance as a personal risk management tool to alleviate his/her financial risk due to uncertain lifetime. Therefore, education is hypothesized to have a positive relationship with life insurance ownership:

H5:     There is a positive relationship between education and life insurance ownership.

### 3.4.1.6 Number of Dependents

The findings of several past studies show that there is a significant positive relationship between number of dependents and life insurance ownership (Gandolfi and Miners, 1996; Arun, Bendig and Arun, 2012; Sherif and Shaairi, 2013; Harris and Yelowitz, 2018). The individual's desire to leave a bequest is stronger when he/she has a bigger number of dependents. A bigger number of dependents indicates the need for life insurance for protection surges because the untimely death of breadwinner could inflict a huge financial loss for the dependents. Therefore, number of dependents is hypothesized to have a positive relationship with life insurance ownership:

H6:     There is a positive relationship between number of dependents and life insurance ownership.

### 3.4.1.7   Ethnicity

Ethnicity is found to be a significant factor for life insurance ownership in past studies (Loke and Goh, 2012; Tan et al., 2014; Harris and Yelowitz, 2018). Since conventional life insurance is introduced earlier than family Takaful in Malaysia, it is assumed that the non-Muslim individuals who most probably are Chinese and Indian would have greater exposure to life insurance. It is because they are the target group of conventional life insurers and they could have been approached by life insurance agents. Therefore, Chinese and Indian are expected to be more knowledgeable about life insurance which has resulted in life insurance ownership among them is higher as compared to Malay. Besides that, individuals from different ethnic groups might behave distinctively regarding life insurance ownership due to the variation in demographic backgrounds, cultures and religions. Therefore, the hypothesis for ethnicity is constructed as follows:

H7:     There is a relationship between ethnicity and life insurance ownership.

### 3.4.2   The Relationship between Psychographic Factors and Life Insurance Ownership

The hypotheses regarding the relationship between psychographic factors (i.e. personal value, risk attitude and trust) and life insurance ownership are constructed based on the findings of related past studies.

### 3.4.2.1  Personal Value

Personal value (i.e. individualistic, collectivistic or mixed value) is found to influence life insurance ownership. Based on the findings of past studies, the individuals with high individualistic value or mixed value tend to own life insurance (Ferber and Lee, 1980; Burnett and Palmer, 1984; Chui and Kwok, 2008; Park and Lemaire, 2011). Life insurance becomes a priority when individuals are more independent and seek for security in an uncertain lifetime. The likelihood to own life insurance is also greater for individuals who care for the wellbeing of their dependents and others (e.g. siblings or relatives). Meanwhile, the individuals with high collectivistic value tend not to own life insurance (Omar, 2007). When the individuals feel secure by having protection from other family members, they do not consider life insurance as necessary. Therefore, the hypotheses for personal value are constructed as follows:

H8:     There is a relationship between personal value and life insurance ownership.

(8a)    Individuals with high individualistic value are more likely to own life insurance.

(8b)    Individuals with high collectivistic value are less likely to own life insurance.

(8c)    Individuals with high mixed value are more likely to own life insurance.

### 3.4.2.2 Risk Attitude

The findings of past studies show that the relationship between risk attitude and life insurance ownership is inconclusive. Risk averse individuals are more likely to avoid risks and uncertainties. Therefore, they would purchase life insurance to manage the potential financial risk which could befall them and their dependents. However, the individuals who are risk averse could also select other risk management tools besides life insurance to manage their personal risks. Therefore, the hypothesis for risk attitude is constructed as follows:

H9:    There is a relationship between risk attitude and life insurance ownership.

### 3.4.2.3 Trust

Trust is constantly found to have a significant positive relationship with life insurance ownership (Omar, 2007; Wan Aris, Sahak and Shaadan, 2009; Siddiqui and Sharma, 2010; Angko, 2013; Leary, Kane and Woods, 2014). Individuals who trust their life insurance agents are more willing to follow the agents' advices and believe that the agents would not act opportunistically. Therefore, they are more likely to own life insurance. As such trust is hypothesized to have a positive relationship with life insurance ownership:

H10:    There is a positive relationship between trust and life insurance ownership.

**3.4.3  The Effect of Risk Perception on the Relationship between Psychographic Factors and Life Insurance Ownership**

The hypotheses regarding the effect of risk perception on the relationship between psychographic factors (i.e. personal value, risk attitude and trust) and life insurance ownership are constructed based on the findings of related past studies.

**3.4.3.1  The Relationship between Personal Value and Risk Perception**

Based on the findings of past studies, individualistic individuals have high risk perception while collectivistic individuals have low risk perception (Weber and Hsee, 1998; Xu, Lin and Shao, 2010). Individuals with high individualistic value are self-reliance and they tend to bear risks by themselves. Therefore, they generally make careful decisions and have high risk perception. In contrast, individuals with high collectivistic value are more inclined to take risk because they expect to be protected by their in-group members, thus they have low risk perception.

On the other hand, individuals with high mixed value (i.e. strong uncertainty avoidance) are consistently found to have high risk perception (Mitchell and Vassos, 1997; Huber and Schlager, 2011; Brosdahl and Almousa, 2013). In other words, individuals who tend to seek security and have low level of tolerance for uncertainty would have high risk perception. Therefore, personal value (i.e. individualistic, collectivistic and mixed values) is hypothesized to have a relationship with risk perception:

H11:    There is a relationship between personal value and risk perception.

   (11a)    Individuals with high individualistic value have high risk perception.

   (11b)    Individuals with high collectivistic value have low risk perception.

   (11c)    Individuals with high mixed value have high risk perception.

### 3.4.3.2    The Relationship between Risk Attitude and Risk Perception

The findings of many past studies show that there is a significant relationship between risk attitude (whether risk averse or risk seeking) and risk perception (Sitkin and Weingart, 1995; Weber and Milliman, 1997; Weber, Blais and Betz, 2002; Johnson, Wilke and Weber, 2004; Blais and Weber, 2006; Hanoch, Johnson and Wilke, 2006; Xu, Lin and Shao, 2010; Butler et al., 2012; Hu and Xie, 2012; Hamid et al., 2013; Rosman et al., 2013; Schwartz et al., 2013). Individuals who are risk averse have high risk perception while individuals who are risk seeking have low risk perception. It is due to risk averse individuals tend to perceive a higher probability of loss. On the contrary, risk seeking individuals tend to perceive a higher probability of gain. Therefore, risk attitude is hypothesized to have a relationship with risk perception:

H12:   Individuals with risk averse attitude has high risk perception, while individuals with risk seeking attitude has low risk perception.

### 3.4.3.3 The Relationship between Trust and Risk Perception

Trust is found to have a significant negative relationship with risk perception (Kim, Ferrin and Rao, 2008; Zhu et al., 2011; Kesharwani and Bisht, 2012). Trust increases the individuals' confidence in the other party and their willingness to follow the advice of the other party. When the individuals trust the other party in a transaction, their concern towards uncertainties and risks associated with the transaction is reduced. Therefore, trust is hypothesized to have a negative relationship with risk perception:

H13:   There is a negative relationship between trust and risk perception.

### 3.4.3.4 The Relationship between Risk Perception and Life Insurance Ownership

Risk perception is found to have a significant negative relationship with the purchase intention of life insurance in the study of Huber and Schlager (2011). Based on prospect theory, the purchase of life insurance is considered as a loss when the individuals perceive a higher probability of financial loss from owning life insurance due to the long-term premium paying period of their life insurance and the uncertainty of when they will receive claim payout from their life insurance. Therefore, individuals with high risk perception towards life insurance are less likely to own life insurance. As such, risk perception is hypothesized to have a negative relationship with life insurance ownership:

H14:   There is a negative relationship between risk perception and life insurance ownership.

**3.4.3.5 The Mediating Effect of Risk Perception on the Relationship between Psychographic Factors and Life Insurance Ownership**

Risk perception is found to have a significant mediating effect on the relationship between psychographic factors (i.e. personal value, risk attitude and trust) and the individuals' choice in decision making (or purchase intention) (Sitkin and Weingart, 1995; Weber and Milliman, 1997; Weber and Hsee, 1998; Kim, Ferrin and Rao, 2008; Xu, Lin and Shao, 2010; Huber and Schlager, 2011; Zhu et al., 2011; Kesharwani and Bisht, 2012; Hamid et al., 2013). Prospect theory explains that an individual will make decisions based on his/her perceived gains and perceived losses. The individuals will consider the tradeoff between the costs of maintaining their life insurance (i.e. premium payments) and the claim payouts (i.e. death benefits) from the insurers. Life insurance could also be considered as a risky investment due to the uncertainties about its performance and claim settlements. If the individuals perceive the purchase of life insurance to be a risky investment, they are less inclined to own life insurance. Therefore, risk perception could play a vital role in determining the individuals' decision to own life insurance or not. The hypotheses are constructed as follows:

H15:   There is a mediating effect of risk perception on the relationship between psychographic factors and life insurance ownership.

(15a)   Risk perception has a mediating effect on the relationship between personal value (i.e. individualistic, collectivistic and mixed values) and life insurance ownership.

(15b)   Risk perception has a mediating effect on the relationship between risk attitude and life insurance ownership.

(15c)   Risk perception has a mediating effect on the relationship between trust and life insurance ownership.

## 3.5   Operational Definitions of the Variables

There are four sub-sections to discuss the operational definitions of the different categories of variables in this study, namely (i) life insurance ownership, (ii) demographic factors, (iii) psychographic factors and (iv) risk perception. These operational definitions are then being summarized in Table 3.1.

### 3.5.1   Life Insurance Ownership

In this study, life insurance ownership refers to the ownership of either conventional life insurance or family Takaful, or both of them. It is measured by a binary choice question of 'Do you own life insurance?' with the answer of 'yes' or 'no'. The respondent is a policyholder if he/she has at least one policy of conventional life insurance or family Takaful under his/her name. This measurement is able to directly identify those who owed life insurance and those who do not own life insurance.

### 3.5.2   Demographic Factors

Individual monthly income is used to measure income in this study because each respondent is treated as an individual. It is categorized as low income (RM2,000 or lower), low-middle income (between RM2,001 and RM4,000), high-middle income

(between RM4,001 and RM6,000) and high income (more than RM6,000) based on the three different income groups classified by the Department of Statistics Malaysia as Top 20% (T20) – representing high income group, Middle 40% (M40) – representing middle income group, and Bottom 40% (B40) – representing low income group. The use of different income groupings could show the variations of life insurance ownership by different income groups.

The measurement for age is the actual years of the respondent's age at the time of answering the questionnaire. It is then categorized into five groups: (i) below 20 years old, (ii) 20-29 years old, (iii) 30-39 years old, (iv) 40-49 years old, and (v) 50 years old and above. Age groupings allow the comparison of life insurance ownership by respondents in different age groups. The gender of the respondent is measured with two choices of either male or female. Meanwhile, the measurement for the respondent's marital status is categorized into single and married. Respondent who is single refers to those who has divorced/separated, widowed or never been married.

The education level of the respondent refers to the highest level of education attained by the respondent being primary/secondary, other academic qualification (e.g. diploma, matriculation, teaching or other private certifications) or tertiary (e.g. a bachelor's degree, a master's degree or a doctoral degree). Number of dependents is the actual number of people in the family that are still depending on the financial support of the respondent.

Malaysia has three major ethnic groups of Malay, Chinese and Indian. According to the data of the Department of Statistics Malaysia (2017), the compositions of the different ethnic groups in Malaysia for year 2017 are as follows: Malay (68.6%), Chinese (23.4%)

and Indian (7.0%). Therefore, the respondent's ethnicity is categorized into Malay, Chinese and Indian.

### 3.5.3 Psychographic Factors

Personal value is a motivation that would determine an individual's actions and the way he/she is inspired (Hofstede, 1983). Personal value can be categorized as either individualistic value, collectivistic value or mixed value (Schwartz and Bilsky, 1987; 1990; Schwartz, 2012). Individualistic value is the personal value that expresses personal interests and characteristics in the following manners: (i) power – emphasizing social superiority and prestige, (ii) achievement – the pursuit of personal success through demonstrating competence, (iii) hedonism – seeking pleasure or sensuous gratification for oneself, (iv) stimulation – the desire for excitement, novelty and challenge in life, and (v) self-direction – expressing independent thought and action.

Meanwhile, collectivistic value is the personal value that regulates the manners one relates socially and expresses interests to others: (i) benevolence – preserving and enhancing the welfare of in-group members, (ii) traditional – respect, commitment and acceptance of customs and ideas that one's culture or religion provides, and (iii) conformity – emphasizing submissive self-restriction to avoid harming others and violating social expectations or norms.

Mixed value is the personal value that concerns about one's own interests and also the welfare of others: (i) universalism – understanding, appreciation, tolerance and protection for the welfare of all people and for nature, and (ii) security – the concerns about safety,

harmony and stability of the society, of the relationship with others, and of his/her own self.

In this study, personal value is measured using the shorter version of portrait values questionnaire (PVQ) employed by Schwartz (2003) in European Social Survey (ESS) to examine the individuals' personal value in six countries (i.e. Finland, Israel, Poland, Slovenia, Sweden and U.K.). In PVQ, the respondent is required to answer how similar each description as compared to his/her opinions or behaviors based on a five-point interval scale of '(1) – not like me at all' to '(5) – very much like me'. The measurements will then enable the differentiation of the respondent's personal value as having individualistic value, collectivistic value or mixed value based on the highest mean scores.

Risk attitude refers to the degree of risk acceptance/tolerance of the respondent. The shorter version of Domain-Specific Risk-Taking (DOSPERT) scale employed in the study of Blais and Weber (2006) with an extra (medical) domain developed by Butler et al. (2012) is adapted to measure risk attitude in this study. This measurement has six domains that contain specific risky activities related to their respective domains, namely financial, ethical, safety, recreational, social and medical. The respondent is asked how likely he/she would engage in each risky activity if he/she was found to be in that situation based on a five-point interval scale of '(1) – very unlikely' to '(5) – very likely'. The respondent is considered as risk averse if he/she is less likely to engage in risky activities, while the respondent is considered as risk seeking if he/she is more likely to engage in risky activities.

Trust refers to the confidence placed on a person (i.e. life insurance agent) by being vulnerable to his/her actions with the belief that he/she would act on the best interest of the respondent. The respondent's degree of trust in life insurance agent is assessed by adapting the measurement developed by Mcknight, Choudhury and Kacmar (2002). The respondent is asked to what extend he/she would agree with each description of the behaviors of life insurance agent as compared to his/her beliefs based on a five-point interval scale ranging from '(1) – strongly disagree' to '(5) – strongly agree'. The respondent who trusts his/her life insurance agent is more likely to agree.

### 3.5.4 Risk Perception

Risk perception is defined as the subjective judgment and evaluation that the respondent makes about the probability and severity of a loss. In this study, the measurement used to assess the respondent's risk perception towards life insurance adapted Keh and Sun's (2008) measurement. The respondent is required to indicate to what extend he/she would agree with each description of the potential losses he/she would suffer from purchasing life insurance based on a five-point interval scale ranging from '(1) – strongly disagree' to '(5) – strongly agree'. The respondent who has low risk perception towards life insurance is more likely to disagree, while the respondent who has high risk perception towards life insurance is more likely to agree.

Table 3.1
*Operational Definitions of Variables*

| A. | **Outcome Variable** | |
|---|---|---|
| (i) | Life insurance ownership | Having at least one policy of conventional life insurance or family Takaful under the name of the respondent. Binary choice question of 'Do you own life insurance?' with the answer of 'yes' or 'no'. |
| **B.** | **Demographic Factors** | |
| (i) | Age | The age of the respondent at the time of answering the questionnaire, which is categorized into five groups: (i) below 20 years old, (ii) 20-29 years old, (iii) 30-39 years old, (iv) 40-49 years old, and (v) 50 years old and above. |
| (ii) | Gender | The state of being either a male or a female. |
| (iii) | Marital status | The state of being single or married at the time of answering the questionnaire. Respondent who is single refers to individual who has divorced/separated, widowed or never been married. |
| (iv) | Education | The highest education level attained by the respondent, whether primary/secondary, other academic qualification (e.g. diploma, matriculation, teaching or other private certifications) or tertiary (e.g. a bachelor's degree, a master's degree or a doctoral degree). |
| (v) | Number of dependents | The number of people who are still depending on the respondent's financial support. |
| (vi) | Ethnicity | The state of being Malay, Chinese or Indian. |
| (vii) | Income | The monthly income of the respondent, whether it is low (RM2,000 or lower), low-middle (between RM2,001 and RM4,000), high-middle (between RM4,001 and RM6,000) or high (more than RM6,000). |
| **C.** | **Psychographic Factors** | |
| (i) | *Personal value (Schwartz, 2003) | The motivation which serves as the guideline in the respondent's life, whether it is individualistic value, collectivistic value or mixed value. The portrait values questionnaire (PVQ) is used to measure personal value. The measurements for individualistic value consist of power, achievement, hedonism, stimulation and self-direction. The measurements for collectivistic value consist of benevolence, traditional and conformity. The measurements for mixed value consist of universalism and security. The respondent is required to answer how similar each description as compared to his/her opinions or behaviors based on a five-point interval scale of '(1) – not like me at all' to '(5) – very much like me'. |
| (ii) | *Risk attitude (Blais and Weber, 2006; Butler et al., 2012) | The degree of risk acceptance/tolerance of the respondent. Domain-Specific Risk-Taking (DOSPERT) scale is used to measure risk attitude in six domains, which are financial, ethical, safety, recreational, social and medical. The respondent is asked how likely he/she would engage in each risky activity if he/she was found to be in that situation based on a five-point interval scale of '(1) – very unlikely' to '(5) – very likely'. |
| (iii) | *Trust (Mcknight, Choudhury and Kacmar, 2002) | The respondent's degree of trust in life insurance agent refers to the confidence placed in the life insurance agent. The respondent is asked to what extend he/she would agree with each description of the behaviors of life insurance agent as compared to his/her beliefs based on a five-point interval scale ranging from '(1) – strongly disagree' to '(5) – strongly agree'. |
| **D.** | **Mediating Factor** | |
| (i) | *Risk perception (Keh and Sun, 2008) | The respondent's risk perception towards life insurance is measured by the subjective judgment and evaluation that the respondent makes about the probability and severity of losses by purchasing life insurance. The respondent is required to indicate to what extend he/she would agree with each description of the potential losses he/she would suffer from purchasing life insurance based on a five-point interval scale ranging from '(1) – strongly disagree' to '(5) – strongly agree'. |

Note: * indicates that the mean score of the variable is used for further analysis

## 3.6    Questionnaire Design

The questionnaire used in this study is divided into five sections. The first section is to obtain the respondents' personal value. The second section is to acquire the respondents' risk attitude. The third section is to obtain the degree of respondents' trust in life insurance agents. The fourth section is to obtain the respondents' risk perception towards life insurance. The last section collects information about the respondents' life insurance ownership status and their demographic background. (Refer to Appendix A)

In PVQ, an individual's personal value is measured in the following three dimensions with a total of 21 items: (i) individualistic, (ii) collectivistic and (iii) mixed values. The measurements for individualistic value consist of two items for power, two items for achievement, two items for hedonism, two items for stimulation, and two items for self-direction. Meanwhile, the measurements for collectivistic value consist of two items for benevolence, two items for traditional, and two items for conformity. The measurements for mixed value consist of three items for universalism and two items for security.  (Refer Table 3.2)

Table 3.2
*Measurement for Personal Value and its Items*

| **Individualistic Value (10 items)** | |
|---|---|
| **Power** | |
| **No.** | **Item** |
| 1 | It is important to be in charge and tell others what to do. I want people to do what I said. |
| 2 | It is important to be rich. I want to have a lot of money and expensive things. |
| **Achievement** | |
| **No.** | **Item** |
| 1 | It is important to be successful. I like to stand out and to impress other people. |
| 2 | It is important to me to show my abilities. I want people to admire what I do. |

Table 3.2 (Continued)

**Hedonism**

| No. | Item |
| --- | --- |
| 1 | It is important to me to do things that give me pleasure. I seek every chance I can to have fun. |
| 2 | It is important to have a good time. I really want to enjoy life. |

**Stimulation**

| No. | Item |
| --- | --- |
| 1 | It is important to do a lot of different things in life. I like surprises and I am always looking for new things to do. |
| 2 | It is important to have an exciting life. I look for adventures and like to take risks. |

**Self-direction**

| No. | Item |
| --- | --- |
| 1 | It is important to think of new ideas and be creative. I like to do things in my own original way. |
| 2 | It is important to me to make decisions about what I do on my own. I like to be free to plan and to choose my activities for myself. |

**Collectivistic Value (six items)**

**Benevolence**

| No. | Item |
| --- | --- |
| 1 | It is important to help people who are close to me. I want to care for the people I know and like. |
| 2 | It is important to me to be loyal to my friends. I want to devote myself to people close to me. |

**Traditional**

| No. | Item |
| --- | --- |
| 1 | It is important to do things the way I learned from my family. I want to follow customs and traditions. |
| 2 | It is important to be humble and modest. I try not to draw attention to myself. |

**Conformity**

| No. | Item |
| --- | --- |
| 1 | It is important that people do what they are told. I think people should follow rules at all times, even when no one is watching. |
| 2 | It is important to always behave properly. I avoid doing anything people said is wrong. |

**Mixed Value (five items)**

**Universalism**

| No. | Item |
| --- | --- |
| 1 | It is important that every person in the world should be treated equally. I want justice for everybody, even for people I do not know. |
| 2 | It is important to me to listen to people who are different from me. Even when I disagree with them, I still want to understand them. |
| 3 | It is important that people care for nature. I want to look after the environment. |

**Security**

| No. | Item |
| --- | --- |
| 1 | It is important to live in secure surroundings. I avoid anything that might endanger my safety. |
| 2 | It is important for the government to ensure the safety of a country. I want my country to be strong and can defend its citizens. |

The three dimensions in PVQ are considered more appropriate to measure an individual's personal value as compared to Hofstede's cultural dimensions employed by Chui and Kwok (2008) and Park and Lemaire (2011) in their cross-countries studies to measure national culture. It is because the items in Hofstede's cultural dimensions refer to work

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values (e.g. company rules are always to be followed, when working on a project, I would rather work as a group member than as an individual, it is important that bosses closely supervise their employees) which measure national culture, not an individual's personal value.

In DOSPERT scale, risk attitude is measured by the likelihood that the respondent will participate in risky activities of six domains (i.e. financial, ethical, safety, recreational, social and medical) with a total of 35 items. The financial domain consists of three items of risky investment activities and three items of risky gambling activities. There are six items of risky activities in safety domain, five items of risky activities in recreational domain and six items of risky activities in medical domain. This study excluded the six items of risky activities in ethical domain and the six items of risky activities in social domain because they are considered not relevant for the purpose of this study. Table 3.3 presents the items in the four domains (i.e. financial, safety, recreational and medical) used to measure risk attitude in this study. Meanwhile, Table 3.4 shows the items in the two excluded domains (i.e. ethnical and social).

Table 3.3
*Measurement for Risk Attitude and its Items Used in This Study*

| Risk Attitude (23 items) | |
|---|---|
| **Financial Domain** | |
| No. | Item |
| 1 | Investing 10% of my annual income in a moderate growth mutual fund. |
| 2 | Investing 5% of my annual income in a very speculative stock. |
| 3 | Investing 10% of my annual income in a new business venture. |
| 4 | Betting a day's income at horse races. |
| 5 | Betting a day's income at a high-stake poker game. |
| 6 | Betting a day's income on the outcome of a sporting event (e.g. football). |

Table 3.3 (Continued)

**Safety Domain**

| No. | Item |
|-----|------|
| 1 | Drinking heavily at a social function. |
| 2 | Engaging in unprotected sex. |
| 3 | Not wearing seatbelt when driving a car. |
| 4 | Not wearing a helmet when riding a motorcycle. |
| 5 | Exposing myself to the sun without using sunscreen. |
| 6 | Walking home alone at night in a somewhat unsafe area of the town. |

**Recreational Domain**

| No. | Item |
|-----|------|
| 1 | Going on a camping trip in the wilderness. |
| 2 | Going on a vacation in a third-world country without pre-arranged travel and hotel accommodation. |
| 3 | Periodically engaging in a dangerous sport (e.g. mountain climbing). |
| 4 | Trying out bungee jumping at least once. |
| 5 | Piloting a small plane, if I could. |

**Medical Domain**

| No. | Item |
|-----|------|
| 1 | Donating one kidney to a patient I do not know. |
| 2 | Giving blood. |
| 3 | Participating in a clinical trial to determine whether a new drug is effective. |
| 4 | Taking daily medication to relieve allergy symptoms. |
| 5 | Undergoing knee replacement surgery to treat arthritis. |
| 6 | Receiving general rather than local anesthesia when having a wisdom tooth removed. |

Table 3.4

*Ethical and Social Domains and its Items Excluded from This Study*

**Ethical Domain**

| No. | Item |
|-----|------|
| 1 | Cheating a significant amount on your income tax return. |
| 2 | Having an affair with a married man or woman. |
| 3 | Passing off somebody else's work as your own. |
| 4 | Revealing a friend's secret to someone else. |
| 5 | Leaving your young children alone at home while running an errand. |
| 6 | Not returning a wallet you found. |

**Social Domain**

| No. | Item |
|-----|------|
| 1 | Admitting that your tastes are different from those of your friends. |
| 2 | Disagreeing with an authority figure on a major issue. |
| 3 | Choosing a job that you truly enjoy over a more secure one. |
| 4 | Defending an unpopular issue that you believe in at a social occasion. |
| 5 | Moving to a city far away from your extended family. |
| 6 | Starting a new career in your mid-thirties. |

The measurement for trust has 11 items to examine the respondent's belief in the characteristics a life insurance agent should equip with, namely integrity (honesty and promise keeping), benevolence (caring and motivated to act in the respondent's interests),

competence (ability to fulfil the respondent's needs), and predictability (consistency of behaviour). (Refer to Table 3.5)

Table 3.5
*Measurement for Trust and its Items*

| Trust (11 items) | |
|---|---|
| **No.** | **Item** |
| 1 | I believe that the life agent would act in my best interest. |
| 2 | I believe that the life agent is honest. |
| 3 | I believe that the life agent performs his/her role of giving financial advice very well. |
| 4 | I believe that the life agent is knowledgeable about his/her products. |
| 5 | I believe that if I require help, the life agent would do his/her best to help me. |
| 6 | I believe that the life agent is interested in my well being, not just his/her own. |
| 7 | I believe that the life agent is truthful in his/her dealings with me. |
| 8 | I believe that the life agent would keep his/her commitments. |
| 9 | I believe that the life agent is sincere and genuine. |
| 10 | I believe that the life agent is competent and effective in providing financial advice. |
| 11 | I believe that the life agent is capable and proficient. |

Meanwhile, the measurement for risk perception has eight items to examine the respondent's perception of potential losses from purchasing life insurance which are social loss (the disappointment and embarrassment of the respondent resulting from his/her family members or friends have gotten to know that he/she has made a poor choice), psychological loss (the harm to the respondent's self-esteem resulting from their bad decision), financial loss (the loss of money by the respondent resulting from product failure), performance loss (the loss incurred by the respondent resulting from the underperformance of services he/she has purchased), and time loss (the amount of time wasted by the respondent resulting from product failure or when more time is required to rectify the failure). (Refer to Table 3.6)

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Table 3.6
*Measurement for Risk Perception and its Items*

**Risk Perception (eight items)**

| No. | Item |
|-----|------|
| 1 | My friends and co-workers' opinions about my purchase of life insurance would cause me to feel concern. |
| 2 | My purchase of life insurance would cause me to be thought of as being foolish by some people whose opinions I value. |
| 3 | The thought of purchasing life insurance gives me a feeling of unnecessary anxiety. |
| 4 | The thought of purchasing life insurance makes me feel psychologically uncomfortable. |
| 5 | There is a high chance that I will stand to lose money because the life insurance will not be used at all or it will cost me more than it should to maintain it. |
| 6 | Life insurance is extremely risky in terms of how it would perform (e.g. in providing expected benefits, being dependable and reliable). |
| 7 | Life insurance is extremely risky in terms of its long-term costs. |
| 8 | The purchase of life insurance will lead to a loss of convenience for me because I would have to waste a lot of time and effort purchasing and claiming it. |

A pilot study was conducted to test the survey questionnaire. The 63 items in the six constructs (i.e. individualistic [personal] value, collectivistic [personal] value, mixed [personal] value, risk attitude, trust and risk perception) in the questionnaire were subject to reliability test. A total of 11 items with corrected item-total correlation values less than 0.3 were deleted (because these items are not measuring the same constructs): two items from individualistic (personal) value and nine items from risk attitude. Eventually, the 63 items were reduced to 52 items, which were then being subject to factor analysis. (Refer to Table 3.7)

Table 3.7
*Deleted Items based on the Results of Reliability Test*

**Individualistic (Personal) Value**

| No. | Item | Corrected item-total correction Value |
|-----|------|---------------------------------------|
| 1 | It is important to be in charge and tell others what to do. I want people to do what I said. | 0.210 |
| 2 | It is important to be rich. I want to have a lot of money and expensive things. | 0.272 |

**Risk Attitude**

| No. | Item | Corrected item-total correction Value |
|-----|------|---------------------------------------|
| 1 | Investing 10% of my annual income in a moderate growth mutual fund. | 0.172 |
| 2 | Investing 5% of my annual income in a very speculative stock. | 0.274 |

Table 3.7 (Continued)

| No. | Item | Corrected item-total correction Value |
|---|---|---|
| 3 | Investing 10% of my annual income in a new business venture. | 0.219 |
| 4 | Betting a day's income at horse races. | 0.248 |
| 5 | Betting a day's income at a high-stake poker game. | 0.294 |
| 6 | Betting a day's income on the outcome of a sporting event (e.g. football). | 0.286 |
| 7 | Drinking heavily at a social function. | 0.197 |
| 8 | Giving blood. | 0.198 |
| 9 | Undergoing knee replacement surgery to treat arthritis. | 0.276 |

According to the results of factor analysis, another 14 items were being removed: two items from individualistic (personal) value, two items from collectivistic (personal) value, five items from risk attitude, three items from trust and two items from risk perception. (Refer to Table 3.8) Therefore, the 52 items have been reduced to 38 items: (i) individualistic (personal) value (from eight to six items), (ii) collectivistic (personal) value (from six to four items), (iii) mixed (personal) value (five items – no deletion), (iv) risk attitudes (from 14 to nine items), (v) trusts (from 11 to eight items) and (vi) risk perception (from eight to six items). The deleted items are shown in Table 3.8. This study has employed the revised measurements of personal value (i.e. individualistic, collectivistic and mixed values), risk attitude, trust and risk perception with a total of 38 items for data collection.

Table 3.8
*Deleted Items based on the Results of Factor Analysis*

| **Individualistic (Personal) Value** | |
|---|---|
| **No.** | **Item** |
| 1 | It is important to be successful. I like to stand out and to impress other people. |
| 2 | It is important to me to show my abilities. I want people to admire what I do. |

| **Collectivistic (Personal) Value** | |
|---|---|
| **No.** | **Item** |
| 1 | It is important to help people who are close to me. I want to care for the people I know and like. |
| 2 | It is important to do things the way I learned from my family. I want to follow customs and traditions. |

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Table 3.8 (Continued)

| **Risk Attitude** | |
| --- | --- |
| **No.** | **Item** |
| 1 | Engaging in unprotected sex. |
| 2 | Not wearing seatbelt when driving a car. |
| 3 | Trying out bungee jumping at least once. |
| 4 | Donating one kidney to a patient I do not know. |
| 5 | Receiving general rather than local anesthesia when having a wisdom tooth removed. |
| **Trust** | |
| **No.** | **Item** |
| 1 | I believe that the life agent is honest. |
| 2 | I believe that the life agent performs his/her role of giving financial advice very well. |
| 3 | I believe that the life agent is knowledgeable about his/her products. |
| **Risk Perception** | |
| **No.** | **Item** |
| 1 | My friends and co-workers' opinions about my purchase of life insurance would cause me to feel concern. |
| 2 | My purchase of life insurance would cause me to be thought of as being foolish by some people whose opinions I value. |

## 3.7 Sampling Technique

The focus of this study is to investigate life insurance ownership among Malaysians residing in the northern regions of Malaysia which consist of four states, namely Kedah, Penang, Perak and Perlis. The inclusion of only the northern regions of Malaysia is considered sufficient to represent the whole Malaysia. It is because the proportions of the three major ethnic groups (Malay, 62.3%; Chinese, 27.7%; Indian, 10%) in these regions do not have a large difference as compared with the proportions of the three major ethnic groups (Malay, 55.1%; Chinese, 23.7%; Indian, 7.2%) in Malaysia for year 2015 (Department of Information, 2015). Stratified random sampling was employed in this study. The respondents are divided according to states and ethnicity. The population of the four states (Kedah, Penang, Perak and Perlis) and the three ethnic groups (Malay, Chinese and Indian) in these states in 2015 is presented in Table 3.9.

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The data were obtained from the Department of Information, Malaysia (2015). The total population of Kedah was 1,975,500 individuals which were made up of 79.4% Malay, 13.3% Chinese and 7.2% Indian. Meanwhile, Penang's population was 1,548,000 individuals which were made up of 44.7% Malay, 44.5% Chinese and 10.7% Indian. Perak's population was the largest with 2,320,700 individuals which were made up of 56.6% Malay, 30.7% Chinese and 12.6% Indian. Lastly, Perlis's population was the smallest with 232,500 individuals which were made up of 90.4% Malay, 8.3% Chinese and 1.3% Indian. Therefore, the total population of the northern regions of Malaysia was 6,076,700 individuals.

Table 3.9
*Population by States and Ethnic Groups (N = 6,076,700)*

| Ethnic | Malay | | Chinese | | Indian | | Total | |
|---|---|---|---|---|---|---|---|---|
| State | No. of people ('000) | (%) | No. of people ('000) | (%) | No. of people ('000) | (%) | No. of people ('000) | (%) |
| Kedah | 1569.1 | 79.4 | 263.2 | 13.3 | 143.2 | 7.2 | 1975.5 | 100 |
| Penang | 692.4 | 44.7 | 689.6 | 44.5 | 166.0 | 10.7 | 1548.0 | 100 |
| Perak | 1314.4 | 56.6 | 713.0 | 30.7 | 293.3 | 12.6 | 2320.7 | 100 |
| Perlis | 210.2 | 90.4 | 19.2 | 8.3 | 3.1 | 1.3 | 232.5 | 100 |

Note: If the total percent does not equal 100%, it is because of rounding effects

The sample size of this study was determined using the formula provided in the study of Krejcie and Morgan (1970). The formula is as shown below:

$$\text{Sample size} = \frac{X^2 NP\,(1-P)}{d^2(N-1)+X^2 P\,(1-P)}$$

Where,

$X^2$ = Table value of Chi-Square for 1 degree of freedom at desired confidence level (3.841)
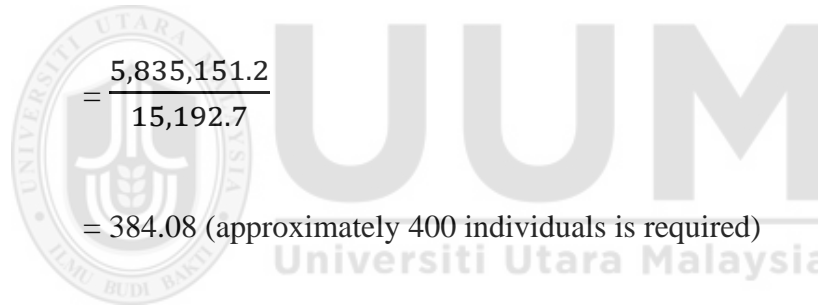
*N*     = Population size

*P*     = Population proportion (assumed to be 0.50)

*d*     = Degree of accuracy expressed as a proportion (0.05)

The calculation of the required total sample size is presented below. The calculation shows that a total sample size of about 400 individuals is required for a population of 6,076,700 individuals. In considering the possibility of non-response error, a sample size of 500 individuals was used in this study.

Sample size $= \dfrac{(3.841)(6,076,700)(0.50)(1-0.50)}{(0.05)^2(6,076,700-1)+ (3.841)(0.50)(1-0.50)}$

$= \dfrac{5,835,151.2}{15,192.7}$

$= 384.08$ (approximately 400 individuals is required)

The 500 individuals in the total sample size of this study are drawn based on the proportions of the three major ethnic groups from the four states in the northern regions of Malaysia. A total of 162 individuals are required from Kedah which consist of 129 Malays, 21 Chinese and 12 Indians. Meanwhile, 128 individuals are required from Penang which consist of 57 Malays, 57 Chinese and 14 Indians. In Perak, 191 individuals are required which consist of 108 Malays, 59 Chinese and 24 Indians. Only 19 individuals are required from Perlis which consist of 17 Malays, a Chinese and an Indian. (Refer to Table 3.10)

Table 3.10
*Sample Size by States and Ethnic Groups (n = 500)*

| Ethnic | Malay | | Chinese | | Indian | | Total | |
|---|---|---|---|---|---|---|---|---|
| State | No. of people | (%) | No. of people | (%) | No. of people | (%) | No. of people | (%) |
| Kedah | 129 | 79.4 | 21 | 13.3 | 12 | 7.2 | 162 | 100 |
| Penang | 57 | 44.7 | 57 | 44.5 | 14 | 10.7 | 128 | 100 |
| Perak | 108 | 56.6 | 59 | 30.7 | 24 | 12.6 | 191 | 100 |
| Perlis | 17 | 90.4 | 1 | 8.3 | 1 | 1.3 | 19 | 100 |

Note: If the total percent does not equal 100%, it is because of rounding effects

## 3.8    Data Collection

This study employed primary data collection to obtain information. Data collection was conducted from mid July to end of December 2015 in four states, namely Kedah, Penang, Perak and Perlis. The units of analysis of this study are individuals approached at their work places and shoppers intercepted in the malls. The survey was conducted in shopping malls and commercial areas (some rural areas do not have malls). This study covers both urban and rural areas of the four states. Out of 500 sets of questionnaires distributed, 450 sets were returned and 412 sets were found to be completely filled up. After screening for outliers, four cases deemed to have out-of-range standardized residual (ZResid) values were removed from the sample. Hence, only 408 cases were available for further analysis.

## 3.9    Methods of Analysis

Binary logistic regression analysis was used to examine the relationship of life insurance ownership with demographic (i.e. income, age, gender, marital status, education, number of dependents and ethnicity) and psychographic (i.e. personal value, risk attitude and

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trust) factors. Meanwhile, both binary logistic regression and multiple regression analyses were used to examine the mediating effect of risk perception on the relationship between psychographic factors (i.e. personal value, risk attitude and trust) and life insurance ownership. Prior to performing binary logistic regression and multiple regression analyses, the items in personal value, risk attitude, trust and risk perception were being assessed for their reliability (based on corrected item-total correlation and Cronbach's alpha values) and interrelatedness (by performing factor analysis).

First, corrected item-total correlation and reliability tests were performed to examine the consistency and stability of the items in personal value, risk attitude, trust and risk perception in measuring what they have intended to measure. An item with a low corrected item-total correlation value of less than 0.3 is to be removed because it is measuring something different from the remaining items. As the rule of thumb, a construct must have a Cronbach's alpha value at or above 0.6 in order for the items in the construct to be considered reliable (Pallant, 2013).

Next, factor analysis was conducted using Principal Components Analysis (PCA) with varimax rotation to reduce a large number of items to a set of items that are highly interrelated. Before factor analysis was conducted, the items were being examined for their suitability to be subject to factor analysis with Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's test of sphericity. The KMO index must be greater than 0.6 and the Bartlett's test of sphericity is significant (i.e. p-value < 0.05) in order to proceed with factor analysis (Pallant, 2013). In factor analysis, for a sample size of 408, items with factor loadings (correlation between item and factor) of 0.30 is enough to be considered significantly related with the underlying factors (Hair et al., 2010).

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Meanwhile, communalities values provide information about the amount of variance in the underlying factor that could be explained by its items. As a guide, the items must have communalities values not less than 0.50 in order to be considered having sufficient explanation power (Hair et al., 2010).

Binary logistic regression analysis was used to examine the relationship of life insurance ownership with demographic (i.e. income, age, gender, marital status, education, number of dependents and ethnicity) and psychographic (i.e. personal value, risk attitude and trust) factors. Binary logistic regression analysis was employed by this study because its outcome variable (i.e. life insurance ownership) is a non-metric variable with only two choices of 'yes' and 'no'. Binary logistic regression analysis is preferred as compared to discriminant analysis because the former does not require strict assumptions of multivariate normality and equal variance-covariance matrices across groups (Hair et al., 2010). As such the issue of whether the findings obtained are robust or not will not arise when the above assumptions are not met. Besides that, the explanatory variables (i.e. demographic and psychographic factors) of binary logistic regression analysis (similar to multiple regression analysis) can be either categorical or continuous, or a combination of both (Pallant, 2013).

Binary logistic regression analysis uses probability scores as its predicted values for outcome variable (i.e. life insurance ownership). Its function is as shown below:

$$Log\left[\frac{p}{1-p}\right] = a + \beta_i X_i + \varepsilon$$

Where,

| $p$ | = The probability of respondents owning life insurance |
|---|---|

$(1 - p)$  = The probability of respondents not owning life insurance

$$Log\left[\frac{p}{1-p}\right]$$  = The log of odds that respondents owned life insurance

$\beta_i$  = The respective coefficients of explanatory variables

$X_i$  = Explanatory variables of the regression

$\varepsilon$  = The stochastic disturbance term of the regression

In order to confirm that the estimated model is free from collinearity problem, multicollinearity diagnostic test was performed to ensure that no tolerance values are less than 0.10 or no variance inflation factor (VIF) values are above 10 (Pallant, 2013). Then, Omnibus Tests of Model Coefficients and Hosmer and Lemeshow Test were used to examine the overall goodness of fit of the estimated binary logistic regression model. The model is considered as a good fit model when the Omnibus Tests of Model Coefficients is significant (indicates that the estimated model is significantly better than the baseline model) while Hosmer and Lemeshow Test is not significant (indicates that the predicted values of the estimated model are not significantly different from the observed values) (Pallant, 2013). On the other hand, the Cox & Snell and Nagelkerke R-squared values were used to determine how much variance in the outcome variable (i.e. life insurance ownership) could be explained by demographic and psychographic factors. Meanwhile, the overall correct percentage was used to gauge the percent of cases for which the outcome variable (i.e. life insurance ownership) is correctly predicted by the estimated model.

Furthermore, both binary logistic regression and multiple regression analyses were used to examine the mediating effect of risk perception on the relationship between psychographic factors (i.e. personal value, risk attitude and trust) and life insurance ownership. According to Iacobucci (2012), the following steps are methods for mediation analysis:

**Step 1**

Binary logistic regression was used to analyze the relationship between psychographic factors (i.e. personal value, risk attitude and trust) and life insurance ownership. Its function is as shown below:

$$Y = b_{01} + cX$$

Where,

$Y$       = The outcome variable of the regression (i.e. life insurance ownership)

$b_{01}$      = The intercept of the regression

$c$       = The slope of the regression produced along its standard error

$X$      = The explanatory variables of the regression (i.e. psychographic factors)

**Step 2**

Next, multiple regression was used to analyze the relationship between psychographic factors (i.e. personal value, risk attitude and trust) and risk perception (i.e. mediating variable). The R-squared value in the multiple regression model provides information about the amount of variance in the mediating variable (i.e. risk perception) that could be explained by the psychographic factors. Meanwhile, the overall F-test determines

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whether the estimated model is statistically significant. If the p-value for the F-test is less than 0.05, it indicates that the estimated model as a whole is significant. Its function is as shown below:

$$M = b_{02} + aX$$

Where,

$M$      = The mediating variable of the regression (i.e. risk perception)

$b_{02}$      = The intercept of the regression

$a$      = The slope of the regression produced along with its standard error

$X$      = The explanatory variables of the regression (i.e. psychographic factors)

From the function shown above, the parameter estimate of $'a'$ and its standard error $(S_a)$ are collected.

**Step 3**

The binary logistic regression was used again to analyze the relationship of life insurance ownership with psychographic factors (i.e. personal value, risk attitude and trust) and risk perception (i.e. mediating variable). Its function is as shown below:

$$Y = b_{03} + c'X + bM$$

Where,

$Y$      = The outcome variable of the regression (i.e. life insurance ownership)

$b_{03}$      = The intercept of the regression

$c', b$      = The slopes of the regression produced along with its standard errors

$X$      = The explanatory variables of the regression (i.e. psychographic factors)

$M$       = The mediating variable of the regression (i.e. risk perception)

From the function shown above, the parameter estimate of $'b'$ and its standard error $(S_b)$ are collected.

**Step 4**

The parameter estimates of $'a'$ and $'b'$, as well as their standard errors $(S_a)$ and $(S_b)$ are used to compute the standardized elements which are as shown below:

$$Z_a = {}^{a}\!/_{S_a}$$

$$Z_b = {}^{b}\!/_{S_b}$$

Then, their product is computed: $Z_{a \times b} = Z_a Z_b$

Next, their standard error is computed: $\sigma_{Z_{ab}} = \sqrt{Z_a^2 + Z_b^2 + 1}$

The final step is to compute the Z mediation: $Z_a Z_b / \sigma_{Z_{ab}}$

The Z mediation value is significant at $\alpha = 0.05$ level if it is greater than +1.96 or less than -1.96.

# CHAPTER FOUR

# RESULTS AND DISCUSSION

## 4.1    Introduction

This chapter presents and discusses the results of this study. It has five sections. The first section is the chapter introduction. The second section describes the respondents' demographic characteristics. Next, it provides the results of reliability tests and factor analysis in the third and fourth sections respectively. Then, the discussions are made pertaining to the regression results of the estimated models in the last section.

## 4.2    Demographic Characteristics of the Respondents

Based on a total of 408 respondents participated in answering the questionnaires, 55.1% of the respondents have stated that they owned life insurance, while 44.9% do not own any life insurance. The number of male respondents (56%) who owned life insurance is higher than female respondents (44%). More than half of the respondents who are single (63.9%) do not own life insurance. About 47.1% of the respondents aged between 20-29 years old owned life insurance, followed by 28% aged between 30-39 years old and 12.4% aged between 40-49 years old. Meanwhile, the number of policyholders aged below 20 years old and those aged above 50 years old is the same at 6.2%. Majority of respondents with primary/secondary education (69.9%), Malay (85.8%) and those from the low income group (79.8%) do not own life insurance. Almost half of the respondents from Kedah (46.4%) do not own life insurance, followed by 33.9% from Perak, 16.4% from Penang and 3.3% from Perlis. In addition, the average number of dependents for

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both life insurance policyholders and non-policyholders is two persons. (Refer to Table

4.1)

Table 4.1
*Demographic Characteristics (n = 408)*

| Demographic characteristic | Attribute | Frequency (Valid percent, %) | | |
|---|---|---|---|---|
| | | Policyholder | Non-policyholder | Total |
| | | 225 (55.1%) | 183 (44.9%) | 408 (100%) |
| Gender | Female | 99 (44%) | 109 (59.6%) | 208 (51%) |
| | Male | 126 (56%) | 74 (40.4%) | 200 (49%) |
| Marital Status | Single | 122 (54.2%) | 117 (63.9%) | 239 (58.6%) |
| | Married | 103 (45.8%) | 66 (36.1%) | 169 (41.4%) |
| Age | Below 20 years old | 14 (6.2%) | 26 (14.2%) | 40 (9.8%) |
| | 20-29 years old | 106 (47.1%) | 99 (54.1%) | 205 (50.2%) |
| | 30-39 years old | 63 (28%) | 29 (15.8%) | 92 (22.5%) |
| | 40-49 years old | 28 (12.4%) | 19 (10.4%) | 47 (11.5%) |
| | 50 years old and above | 14 (6.2%) | 10 (5.5%) | 24 (5.9%) |
| Education level | Primary/Secondary | 131 (58.2%) | 128 (69.9%) | 259 (63.5%) |
| | Others | 32 (14.2%) | 31 (16.9%) | 63 (15.4%) |
| | Tertiary | 62 (27.6%) | 24 (13.1%) | 86 (21.1%) |
| Ethnicity | Malay | 117 (52%) | 157 (85.8%) | 274 (67.2%) |
| | Chinese | 95 (42.2%) | 17 (9.3%) | 112 (27.5%) |
| | Indian | 13 (5.8%) | 9 (4.9%) | 22 (5.4%) |
| Income level | Low | 110 (48.9%) | 146 (79.8%) | 256 (62.7%) |
| | Low-middle | 78 (34.7%) | 27 (14.8%) | 105 (25.7%) |
| | High-middle | 21 (9.3%) | 5 (2.7%) | 26 (6.4%) |
| | High | 16 (7.1%) | 5 (2.7%) | 21 (5.1%) |

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Table 4.1 (Continued)

| Demographic characteristic | Attribute | Frequency (Valid percent, %) | | |
|---|---|---|---|---|
| | | Policyholder | Non-policyholder | Total |
| | | 225 (55.1%) | 183 (44.9%) | 408 (100%) |
| State | Kedah | 68 (30.2%) | 85 (46.4%) | 153 (37.5%) |
| | Penang | 73 (32.4%) | 30 (16.4%) | 103 (25.2%) |
| | Perak | 70 (31.1%) | 62 (33.9%) | 132 (32.4%) |
| | Perlis | 14 (6.2%) | 6 (3.3%) | 20 (4.9%) |
| **Demographic characteristic (Continuous variable)** | **Average** | **Minimum** | **Maximum** | |
| Number of dependents | 2 | 0 | 11 | |

Note: If the total percent does not equal 100%, it is because of rounding effects

## 4.3    Reliability Analysis

The 38 items in the six constructs (i.e. individualistic [personal] value, collectivistic [personal] value, mixed [personal] value, risk attitude, trust and risk perception) were subject to reliability tests. Based on the results of reliability tests, no item was found to have corrected item-total correlation value less than 0.3. The corrected item-total correlation values for the 38 items are ranged from 0.331 to 0.772. Meanwhile, the Cronbach's alpha values for the six constructs are ranged from 0.637 to 0.913. As such the 38 items in the six constructs are considered reliable. (Refer to Table 4.2)

Table 4.2
*Reliability Results of Six Constructs*

| Construct | No. of items | Mean (Std. Dev) | Cronbach's Alpha Value |
|---|---|---|---|
| Individualistic (personal) value | 6 | 4.036 (0.614) | 0.754 |
| Collectivistic (personal) value | 4 | 4.079 (0.625) | 0.637 |
| Mixed (personal) value | 5 | 4.268 (0.569) | 0.701 |
| Risk attitude | 9 | 2.343 (0.743) | 0.769 |

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Table 4.2 (Continued)

| Construct | No. of items | Mean (Std. Dev) | Cronbach's Alpha Value |
|---|---|---|---|
| Trust | 8 | 3.405 (0.749) | 0.913 |
| Risk perception | 6 | 2.913 (0.747) | 0.842 |

## 4.4    Factor Analysis

Before performing factor analysis, the 38 items in the six constructs were first tested for their suitability for factor analysis with KMO measure of sampling adequacy and Bartlett's Test of Sphericity. The results show that all KMO values are greater than 0.6 for the six constructs: (i) individualistic (personal) value (0.764), (ii) collectivistic (personal) value (0.677), (iii) mixed (personal) value (0.722), (iv) risk attitude (0.801), (v) trust (0.923) and (vi) risk perception (0.823). The results of Bartlett's Test of Sphericity are highly significant (p-value = 0.000). Hence, the 38 items in the six constructs are considered suitable to be subject to factor analysis.

Principal Components Analysis (PCA) with varimax rotation was employed as an extraction method on the 38 items in the six constructs. A total of three items in risk attitude were removed (i.e. not wearing a helmet when riding a motorcycle; exposing myself to the sun without using sunscreen; taking daily medication to relieve allergy symptoms). Eventually, the 38 items were reduced to 35 items: (i) six items in individualistic (personal) value can explain 45.22% of the variance with eigenvalues at 2.713, (ii) four items in collectivistic (personal) value can explain 47.94% of the variance with eigenvalues at 1.917, (iii) five items in mixed (personal) value can explain 45.05% of the variance with eigenvalues at 2.302, (iv) six items in risk attitude can explain

44.83% of the variance with eigenvalues at 2.689, (v) eight items in trust can explain 62.25% of the variance with eigenvalues at 4.980, and (vi) six items in risk perception can explain 56.16% of the variance with eigenvalues at 3.369.

The factor loadings for the 35 items are found to be significant. Their values are ranged from 0.591 to 0.836 implying that these items are highly related to their underlying factors. The communalities values for the 17 items are satisfactorily above 0.50. Their values are ranged from 0.531 to 0.699. However, there are 18 items that have communalities values less than 0.50: (i) five items in individualistic (personal) value, (ii) two items in collectivistic (personal) value, (iii) five items in mixed (personal) value, (iv) four items in risk attitude, (v) one item in trust, and (vi) one item in risk perception. Despite not having satisfactory communalities values, these 18 items are retained in this study because they have significant factor loadings. The summary results of factor analysis are shown in Table 4.3 and Table 4.4.

## 4.5    Regression Results and Discussion

The next two sub-sections will provide discussion on (i) the relationship of life insurance ownership with demographic (i.e. income, age, gender, marital status, education, number of dependents and ethnicity) and psychographic (i.e. personal value, risk attitude and trust) factors, and (ii) the mediating effect of risk perception on the relationship between psychographic factors (i.e. personal value, risk attitude and trust) and life insurance ownership.

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Table 4.3

*Summary Results of Factor Analysis for Personal Value*

**Individualistic Value (6 items)**

| Code | Item | Communalities Value | Factor Loadings |
|------|------|---------------------|-----------------|
| I1 | It is important to do a lot of different things in life. I like surprises and I am always looking for new things to do. | 0.563 | 0.751 |
| I2 | It is important to think of new ideas and be creative. I like to do things in my own original way. | 0.487 | 0.698 |
| I3 | It is important to me to make decisions about what I do on my own. I like to be free to plan and to choose my activities for myself. | 0.373 | 0.611 |
| I4 | It is important to me to do things that give me pleasure. I seek every chance I can to have fun. | 0.478 | 0.691 |
| I5 | It is important to have an exciting life. I look for adventures and like to take risks. | 0.414 | 0.644 |
| I6 | It is important to have a good time. I really want to enjoy life. | 0.398 | 0.631 |
| | | Eigenvalues | 2.713 |
| | | Percentage of total variance (%) | 45.224 |

**Collectivistic Value (4 items)**

| Code | Item | Communalities Value | Factor Loadings |
|------|------|---------------------|-----------------|
| C1 | It is important to me to be loyal to my friends. I want to devote myself to people close to me. | 0.370 | 0.608 |
| C2 | It is important that people do what they are told. I think people should follow rules at all times, even when no one is watching. | 0.471 | 0.686 |
| C3 | It is important to be humble and modest. I try not to draw attention to myself. | 0.545 | 0.739 |
| C4 | It is important to always behave properly. I avoid doing anything people said is wrong. | 0.531 | 0.729 |
| | | Eigenvalues | 1.917 |
| | | Percentage of total variance (%) | 47.936 |

**Mixed Value (5 items)**

| Code | Item | Communalities Value | Factor Loadings |
|------|------|---------------------|-----------------|
| M1 | It is important that every person in the world should be treated equally. I want justice for everybody, even for people I do not know. | 0.495 | 0.703 |
| M2 | It is important to me to listen to people who are different from me. Even when I disagree with them, I still want to understand them. | 0.416 | 0.645 |
| M3 | It is important that people care for nature. I want to look after the environment. | 0.486 | 0.697 |
| M4 | It is important to live in secure surroundings. I avoid anything that might endanger my safety. | 0.423 | 0.651 |
| M5 | It is important for the government to ensure the safety of a country. I want my country to be strong and can defend its citizens. | 0.483 | 0.695 |
| | | Eigenvalues | 2.302 |
| | | Percentage of total variance (%) | 45.050 |

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Table 4.4

*Summary Results of Factor Analysis for Risk Attitude, Trust and Risk Perception*

**Risk Attitude (6 items)**

| Code | Item | Communalities Value | Factor Loadings |
|------|------|---------------------|-----------------|
| R3 | Walking alone at night in a somewhat unsafe area of the town. | 0.360 | 0.600 |
| R4 | Going on a camping trip in the wilderness. | 0.563 | 0.750 |
| R5 | Going on a vacation in the third-world country without pre-arranged travel and hotel accommodation. | 0.382 | 0.618 |
| R6 | Periodically engaging in a dangerous sport (e.g. mountain climbing). | 0.595 | 0.772 |
| R7 | Piloting a small plane, if I could. | 0.441 | 0.664 |
| R8 | Participating in a clinical trial to determine whether a new drug is effective. | 0.349 | 0.591 |
| | Eigenvalues | | 2.689 |
| | Percentage of total variance (%) | | 44.825 |

**Trust (8 items)**

| Code | Item | Communalities Value | Factor Loadings |
|------|------|---------------------|-----------------|
| T1 | I believe that the life agent would act in my best interest. | 0.539 | 0.734 |
| T2 | I believe that if I require help, the life agent would do his/her best to help me. | 0.663 | 0.814 |
| T3 | I believe that the life agent is interested in my well being, not just his/her own. | 0.644 | 0.803 |
| T4 | I believe that the life agent is truthful in his/her dealings with me. | 0.684 | 0.827 |
| T5 | I believe that the life agent would keep his/her commitments. | 0.639 | 0.799 |
| T6 | I believe that the life agent is sincere and genuine. | 0.699 | 0.836 |
| T7 | I believe that the life agent is competent and effective in providing financial advice. | 0.652 | 0.808 |
| T8 | I believe that the life agent is capable and proficient. | 0.460 | 0.678 |
| | Eigenvalues | | 4.980 |
| | Percentage of total variance (%) | | 62.246 |

**Risk Perception (6 items)**

| Code | Item | Communalities Value | Factor Loadings |
|------|------|---------------------|-----------------|
| RP1 | The thought of purchasing life insurance gives me a feeling of unnecessary anxiety. | 0.441 | 0.664 |
| RP2 | The thought of purchasing life insurance makes me feel psychologically uncomfortable. | 0.594 | 0.771 |
| RP3 | There is a high chance that I will stand to lose money because the life insurance will not be used at all or it will cost me more that it should to maintain it. | 0.586 | 0.766 |
| RP4 | Life insurance is extremely risky in term of how it would perform (e.g. in providing expected benefits, being dependable and reliable). | 0.601 | 0.775 |
| RP5 | Life insurance is extremely risky in terms of its long-term costs. | 0.589 | 0.768 |
| RP6 | The purchase of life insurance will lead to a loss of convenience for me because I would have to waste a lot of time and effort purchasing and claiming it. | 0.557 | 0.746 |
| | Eigenvalues | | 3.369 |
| | Percentage of total variance (%) | | 56.156 |

**4.5.1 The Relationship of Life Insurance Ownership with Demographic and Psychographic Factors**

The estimated model is presented in Table 4.5. Table 4.5 shows the results of the estimated model in panel A and the results on the goodness of fit of the estimated model in panel B. Discussion of results starts by highlighting the goodness of fit of the estimated model. Then, it is followed by the discussion on the relationship of life insurance ownership with demographic and psychographic factors. As a guide for decision, the p-value of 0.05 or lower is considered as significant.

The results of multicollinearity diagnostic test show that no variables in the model have a tolerance value less than 0.10 or a VIF value above 10. The estimated model is free from collinearity problem. From the panel B of Table 4.5, the result of Omnibus Tests of Model Coefficients is significant (Chi-square value = 146.858, df = 18, p-value = 0.000). This shows that the estimated model is significantly better than the baseline model. The result of Hosmer and Lemeshow Test is not significant (Chi-square value = 14.757, df = 8, p-value = 0.064). This indicates that the predicted outcomes for life insurance ownership (from the estimated model) are not significantly different from the observed samples of life insurance ownership. Therefore, the estimated model is a good fit model. Demographic and psychographic factors collectively are able to explain 30.2% (Cox & Snell R-squared value) to 40.4% (Nagelkerke R-squared value) of the variance in life insurance ownership. The estimated model can correctly predict 72.8% of the cases (i.e. 297 out of 408 cases are correctly predicted).

Table 4.5

*Estimated Model showing the Relationship of Life Insurance Ownership with Demographic and Psychographic Factors and Its Goodness of Fit (n=408)*

**A. Estimated Model**

| Variable | B | | S.E. | Wald | Exp(B) | 95% C.I. for Exp(B) Lower | Upper |
|---|---|---|---|---|---|---|---|
| Male | 0.620 | * | 0.277 | 4.998 | 1.859 | 1.079 | 3.203 |
| 20-29 years old | 1.310 | ** | 0.476 | 7.581 | 3.704 | 1.458 | 9.410 |
| 30-39 years old | 2.014 | ** | 0.574 | 12.318 | 7.496 | 2.434 | 23.088 |
| 40-49 years old | 0.981 | | 0.642 | 2.338 | 2.668 | 0.758 | 9.386 |
| 50 years old and above | 0.983 | | 0.723 | 1.850 | 2.673 | 0.648 | 11.026 |
| Married | -0.053 | | 0.321 | 0.027 | 0.948 | 0.506 | 1.778 |
| Other academic qualifications | 0.392 | | 0.340 | 1.329 | 1.481 | 0.760 | 2.886 |
| Tertiary | 0.573 | | 0.360 | 2.536 | 1.773 | 0.876 | 3.589 |
| Number of dependents | 0.023 | | 0.063 | 0.138 | 1.024 | 0.905 | 1.158 |
| Chinese | 2.337 | ** | 0.352 | 43.938 | 10.345 | 5.184 | 20.643 |
| Indian | 1.627 | ** | 0.549 | 8.786 | 5.088 | 1.735 | 14.917 |
| Low-middle income | 1.057 | ** | 0.337 | 9.861 | 2.877 | 1.488 | 5.565 |
| High-middle income | 1.554 | * | 0.653 | 5.660 | 4.732 | 1.315 | 17.029 |
| High income | 0.839 | | 0.679 | 1.524 | 2.313 | 0.611 | 8.761 |
| Collectivistic (personal) value | 0.354 | | 0.317 | 1.245 | 1.425 | 0.765 | 2.653 |
| Mixed (personal) value | 0.163 | | 0.303 | 0.290 | 1.177 | 0.650 | 2.132 |
| Risk attitude | 0.102 | | 0.163 | 0.387 | 1.107 | 0.804 | 1.524 |
| Trust | 0.869 | ** | 0.179 | 23.600 | 2.385 | 1.680 | 3.388 |
| Constant | -5.919 | | 0.949 | 38.876 | 0.003 | | |

Note: ** indicates significant at 1% level, *indicates significant at 5% level

Table 4.5 (Continued)

| B. Goodness of Fit of Estimated Model | |
| --- | --- |
| Omnibus Tests of Model Coefficients, Chi-square (df = 18, p-value = 0.000) | 146.858 |
| Hosmer and Lemeshow Test, Chi-square (df = 8, p-value = 0.064) | 14.757 |
| Cox & Snell R-Squared | 0.302 |
| Nagelkerke R-Squared | 0.404 |
| Overall Correct Percentage | 72.8% |

Note: The reference categories are female, aged below 20 years old, single, the highest level of education being primary/secondary, Malay, low income group and high individualistic (personal) value

From the panel A of Table 4.5, the results show that four (i.e. age, gender, ethnicity and income) among the seven demographic factors examined are found to have a significant relationship with life insurance ownership. The findings of this study show that there is a significant positive relationship between age and life insurance ownership. The respondents aged between 20-29 years old (B = 1.310, p-value = 0.006) are about four times and the respondents aged between 30-39 years old (B = 2.014, p-value = 0.000) are about seven times more likely to own life insurance as compared to the respondents aged below 20 years old. These results validate the findings of past studies that the likelihood to own life insurance increases with age (Gutter and Hatcher, 2008; Tan, Wong and Law, 2009) and hypothesis H2 that age has a significant relationship with life insurance ownership. The possible reason for such findings could be that the respondents below 20 years old generally are still depending on their parents for financial support and they have no income to pay for life insurance, so they tend not to own life insurance. As the respondents enter the workforce during their 20's and 30's, they start to earn money and begin to build a young family. Therefore, such respondents have higher level of need for life insurance as a risk management tool to protect the income streams and the wellbeing of their dependents against potential financial loss due to their untimely death.

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The finding on gender shows that male respondents (B = 0.620, p-value = 0.025) are about two times more likely to own life insurance as compared to female respondents. This result provides support to the findings of past studies that gender is a significant factor for life insurance ownership (Gandolfi and Miners, 1996; Chen, Wong and Lee, 2001; Harris and Yelowitz, 2018) and hypothesis H3. A greater likelihood to own life insurance among male respondents could indicate that men in Malaysia still assume the role of main contributors in the family, while women act as supplementary breadwinners.

The findings on ethnicity show that the Chinese (B = 2.337, p-value = 0.000) and the Indian (B = 1.627, p-value = 0.003) tend to own life insurance. The results show that the Chinese is about 10 times and the Indian is about five times more likely to own life insurance as compared to the Malay. These results provide support to the findings of Tan et. al. (2014) whose study has found that life insurance ownership is different across ethnic groups and hypothesis H7 that ethnicity has a significant relationship with life insurance ownership. The findings of significantly more Chinese and Indian than Malay owning life insurance might attribute to the fact that each ethnic group has different demographic characteristics, cultures and religions that could influence the purchase of life insurance. Besides that, the market share of family Takaful is still relatively small as compared to conventional life insurance. There is a possibility that majority of Malay is still unaware of family Takaful, unlike Chinese and Indian, who would be more familiar with life insurance as they are the target market for conventional life insurers.

On the other hand, the findings on income show that the respondents from low-middle (B = 1.057, p-value = 0.002) and high-middle (B = 1.554, p-value = 0.017) income groups tend to own life insurance. The respondents from these income groups are found to be

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about three times and about five times respectively more likely to own life insurance as compared to the respondents from low income group. These results are in line with the findings of past studies that the likelihood to own life insurance increases at higher income levels (Gandolfi and Miners, 1996; Gutter and Hatcher, 2008; Tan, Wong and Law, 2009; Lee, Kwon and Chung, 2010; Gustina and Abdullah, 2012; Sherif and Shaairi, 2013; Tan et. al., 2014; Harris and Yelowitz, 2018) and hypothesis H1. When income level increases, the purchase of life insurance becomes more possible corresponding to having bigger purchasing power. Besides that, wealthier individuals tend to plan for their future consumption and think about a legacy for their wealth. The idea that 'a dollar today is worth more than a dollar tomorrow' leads to a greater need for life insurance as their household consumption will be higher and the severity of financial losses due to the premature death of higher income breadwinner is larger. As such, individuals with higher income are more likely to purchase life insurance to serve as a personal financial risk management tool, or as a bequeath to transfer wealth to their descendants.

Other demographic factors, namely marital status, education and number of dependents, do not have a significant relationship with life insurance ownership. Despite the insignificant findings, the results on marital status (Tan, Wong and Law, 2009), education (Tan, Wong and Law, 2009) and number of dependents (Gutter and Hatcher, 2008) in this study are similar to the findings of past studies.

The finding on marital status indicates that there is no significant difference in life insurance ownership between respondents who are single and those who are married. Life insurance is not only meant for individuals who are married, it serves as a personal risk

management tool to mitigate potential financial loss due to unforeseen events (e.g. premature death). Therefore, single (i.e. divorced/separated/widowed) parents with dependents or unmarried individuals might still need life insurance to protect their loved ones against the loss of future income and to provide financial security for their other family members (e.g. siblings) who might be financially burdened with their outstanding debts and funeral expenses.

The findings on education show that it does not have a significant relationship with life insurance ownership. The individuals with higher levels of education have greater financial literacy and they are able to manage their financial planning more effectively. They are more aware of the role of life insurance in personal financial management (i.e. to protect their beneficiaries against financial difficulties caused by premature death) and tend to purchase life insurance. However, it is also possible that individuals with lower levels of education might purchase life insurance if they are exposed to life insurance (through life insurance agents) and aware of its importance. Consequently, the difference in life insurance ownership between individuals with higher levels of education and individuals with lower levels of education is not much to be significant.

Number of dependents is also found to be not a significant factor for life insurance ownership. Generally, the individuals with a bigger number of dependents have higher level of desire for life insurance. However, it may also mean greater possibility of higher household expenditures which could cause the purchase of life insurance to be less affordable. Hence, the overall effect off-set each other resulting in insignificant finding.

Meanwhile, the findings on psychographic factors show that only trust (B = 0.869, p-value = 0.000) has a positive and significant relationship with life insurance ownership. The respondents who trust their life insurance agents are about two times more likely to own life insurance. This result supports the findings of Omar (2007), Wan Aris, Sahak and Shaadan (2009), Siddiqui and Sharma (2010), Angko (2013), and Leary, Kane and Woods (2014) that the individuals who trust their life insurance companies and agents tend to own life insurance. Thus, hypothesis H10 is supported. When the individuals trust their life insurance agents, they are more willing to follow the agents' advices and purchase life insurance. Hence, the tendency of owning life insurance increases.

Other psychographic factors examined in this study, namely personal value (i.e. individualistic, collectivistic, and mixed values) and risk attitude, are found to have no significant relationship with life insurance ownership. The findings on personal value show that individuals with high collectivistic and mixed values tend to own life insurance as compared to those with high individualistic value but their differences in life insurance ownership are not significant. Individuals with high individualistic value would purchase life insurance as a method to manage their risks and to be self-reliant. Meanwhile, individuals with high mixed values tend to seek security and avoid taking risks, thus they demand for protection by having life insurance. The finding on collectivistic value in this study is not in line with its hypothesized negative relationship with life insurance ownership. This could possibly because the individuals with high collectivistic value may consider owning life insurance as a precaution to ensure that they are protected even though relying on other family members can help reduce risks.

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As for the finding on risk attitude, this study has found that there is no significant difference in life insurance ownership between individuals who are risk averse and those who are risk seeking. The possible reason could be that life insurance is considered necessary as a risk management tool and it would be purchased by individuals who are either risk averse or risk seeking in order to secure their financial wellbeing and to protect their dependents against financial hardships in the event of premature death.

In conclusion, the findings above show that income, age, gender, ethnicity and trust have a significant relationship with life insurance ownership. As such, these findings provide support to hypotheses H1, H2, H3, H7 and H10. The finding on income that it has a significant and positive relationship with life insurance ownership is in line with expected utility theory. Individuals who are higher income earners have a greater tendency to purchase life insurance.

## 4.5.2 The Mediating Effect of Risk Perception on the Relationship between Psychographic Factors and Life Insurance Ownership

The mediating effect of risk perception on the relationship between psychographic factors (i.e. personal value, risk attitude and trust) and life insurance ownership in this study was analyzed based on the steps recommended by Iacobucci (2012). The results are reported according to the four steps recommended by Iacobucci (2012). The first part is the results on the relationship between psychographic factors and life insurance ownership (Step 1). The second part is the results on the relationship between psychographic factors and risk perception (Step 2). The third part is the results on the relationship of life insurance

ownership with psychographic factors and risk perception (Step 3). The last part presents the overall results of Z mediation for risk perception (Step 4).

### 4.5.2.1 The Relationship between Psychographic Factors and Life Insurance Ownership

In the first step, the relationship between psychographic factors and life insurance ownership was examined by using binary logistic regression (Refer to Table 4.6). The results of multicollinearity diagnostic test show that no variables in the model have a tolerance value less than 0.10 or a VIF value above 10. So, the estimated model is free from collinearity problem. From the panel B of Table 4.6, the result of Omnibus Tests of Model Coefficients is significant (Chi-square value = 25.744, df = 4, p-value = 0.000). Meanwhile, the result of Hosmer and Lemeshow Test is not significant (Chi-square value = 14.868, df = 8, p-value = 0.062). These results indicate that the estimated model is significantly better than the baseline model and it is a good fit model. Psychographic factors collectively are able to explain 6.1% (Cox & Snell R-squared value) to 8.2% (Nagelkerke R-squared value) of the variance in life insurance ownership. The estimated model can correctly predict 59.6% of the cases (i.e. 243 out of 408 cases are correctly predicted).

From the panel A of Table 4.6, trust (B = 0.696, p-value = 0.000) is found to be the only psychographic factor that has a positive and significant relationship with life insurance ownership. The likelihood of owning life insurance increases about two times when the respondents trust their life insurance agents. This result supports the findings of Omar (2007), Wan Aris, Sahak and Shaadan (2009), Siddiqui and Sharma (2010), Angko

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(2013), and Leary, Kane and Woods (2014) as well as hypothesis H10. On the other

hand, personal value (individualistic, collectivistic and mixed values) and risk attitude are

found to have no significant relationship with life insurance ownership.

Table 4.6
*Estimated Model showing the Relationship between Psychographic Factors and Life Insurance Ownership and Its Goodness of Fit (n=408)*

| A. Estimated Model | | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| | | | | | 95.0% C.I. for EXP(B) | |
| Variable | B | S.E. | Wald | Exp(B) | Lower | Upper |
| Collectivistic (personal) value | 0.102 | 0.262 | 0.152 | 1.107 | 0.663 | 1.849 |
| Mixed (personal) value | -0.206 | 0.247 | 0.694 | 0.814 | 0.501 | 1.322 |
| Risk attitude | 0.050 | 0.124 | 0.163 | 1.051 | 0.824 | 1.342 |
| Trust | 0.696 ** | 0.148 | 22.191 | 2.005 | 1.501 | 2.678 |
| Constant | -2.226 | 0.609 | 13.351 | 0.108 | | |

Note: ** indicates significant at 1% level

| B. Goodness of Fit of Estimated Model | |
| --- | --- |
| Omnibus Tests of Model Coefficients, Chi-square (df = 4, p-value = 0.000) | 25.744 |
| Hosmer and Lemeshow Test, Chi-square (df = 8, p-value = 0.062) | 14.868 |
| Cox & Snell R-Squared | 0.061 |
| Nagelkerke R-Squared | 0.082 |
| Overall Correct Percentage | 59.6% |

### 4.5.2.2    The Relationship between Psychographic Factors and Risk Perception

In the second step, the relationship between psychographic factors and risk perception

was examined by using multiple regression (Refer to Table 4.7). The results of

multicollinearity diagnostic test show that the estimated model is free from collinearity

problem. Panel B of Table 4.7 shows that F-value = 6.435 (df = 4, 403) at p-value =

0.000. The estimated model as a whole is statistically significant. Psychographic factors collectively are able to explain 6.0% of the variance in risk perception.

Table 4.7

*Estimated Model showing the Relationship between Psychographic Factors and Risk Perception (n=408)*

| A. Estimated Model | | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| | Unstandardized Coefficients | | Standardized Coefficients | | 95.0% C.I. for EXP(B) | |
| Variable | B | Std. Error | Beta | t | Lower | Upper |
| Constant | 3.099 | 0.204 | | 15.170 | 2.697 | 3.501 |
| Collectivistic (personal) value | 0.176 | 0.091 | 0.109 | 1.936 | -0.003 | 0.355 |
| Mixed (personal) value | 0.226 ** | 0.087 | 0.146 | 2.607 | 0.056 | 0.397 |
| Risk attitude | 0.111 * | 0.043 | 0.125 | 2.570 | 0.026 | 0.196 |
| Trust | -0.171 ** | 0.048 | -0.172 | -3.545 | -0.266 | -0.076 |
| Note: ** indicates significant at 1% level | | | | | | |
| B. Significance Test of Estimated Model | | | | | | |
| F-test (df = 4, 403, p-value = 0.000) | | | | | | 6.435 |
| R-squared | | | | | | 0.060 |

Note: Collectivistic (personal) value and mixed (personal) value are transformed into dummy variables based on individualistic (personal) value as reference group with score of '0'

From the panel A of Table 4.7, the results show that personal value, risk attitude and trust have a significant relationship with risk perception. The finding shows that the individuals with high mixed value (B = 0.226, p-value = 0.009) have higher risk perception towards life insurance as compared to individuals with high individualistic value. This result supports the findings of past studies (Mitchell and Vassos, 1997; Huber and Schlager, 2011; Brosdahl and Almousa, 2013) and hypothesis H11c that individuals with high mixed value have high risk perception. It is possibly because individuals with high mixed value have low level of tolerance for uncertainty, thus they

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would perceive life insurance to be a risky investment due to the long-term payments of insurance premium and the uncertain time of the receipt of death benefit.

On the other hand, the finding on risk attitude (B = 0.111, p-value = 0.011) shows that the respondents who are risk averse (less likely to engage in risky activities) have low risk perception towards life insurance. Therefore, life insurance is not regarded as a risky investment. This finding is contrary to prospect theory but in line with expected utility theory, which states that individuals who prefer certainty over uncertainty would consider the purchase of life insurance to provide protection to the beneficiaries against financial hardships caused by unfortunate events (e.g. premature death). Although risk attitude has a significant relationship with risk perception, its relationship does not support hypothesis H12 which states that individuals with risk averse attitude have high risk perception.

Meanwhile, the finding on trust (B = -0.171, p-value = 0.000) shows that there is a negative and significant relationship between the respondents' trust in life insurance agents and their risk perception towards life insurance. It indicates that the respondents who trust their life insurance agents are willing to accept and follow the advices given by the agents. Hence, they would perceive life insurance to be not a risky investment. This result supports the findings of Kim, Ferrin and Rao (2008), Zhu et al. (2011), and Kesharwani and Bisht (2012) that trust has a significant negative relationship with risk perception as well as hypothesis H13.

### 4.5.2.3 The Relationship of Life Insurance Ownership with Psychographic Factors and Risk Perception

In the third step, the relationship of life insurance ownership with psychographic factors and risk perception was examined by using binary logistic regression (Refer to Table 4.8). The results of multicollinearity diagnostic test show that the estimated model is free from collinearity problem. From the panel B of Table 4.8, the result of Omnibus Tests of Model Coefficients is significant (Chi-square value = 34.142, df = 5, p-value = 0.000). Meanwhile, the result of Hosmer and Lemeshow Test is not significant (Chi-square value = 15.150, df = 8, p-value = 0.056). These results indicate that the estimated model is significantly better than the baseline model and it is a good fit model. Psychographic factors and risk perception collectively are able to explain 8.0% (Cox & Snell R-squared value) to 10.7% (Nagelkerke R-squared value) of the variance in life insurance ownership. The estimated model can correctly predict 62.7% of the cases (i.e. 256 out of 408 cases are correctly predicted).

From the panel A of Table 4.8, the results show that among the psychographic factors examined only trust (B = 0.646, p-value = 0.000) is found to have a significant relationship with life insurance ownership. Thus, hypothesis H10 is supported. Respondents who trust their life insurance agents are about two times more likely to own life insurance. The finding shows that trust remains to have a positive and significant relationship with life insurance ownership after risk perception is included. However, its relationship with life insurance ownership has slightly weakened as compared to the previous model without the inclusion of risk perception (B = 0.696, p-value = 0.000). Meanwhile, other psychographic factors (i.e. individualistic [personal] value,

collectivistic [personal] value, mixed [personal] value and risk attitude) still remain not significant with life insurance ownership.

Table 4.8

*Estimated Model showing the Relationship of Life Insurance Ownership with Psychographic Factors and Risk Perception and Its Goodness of Fit (n=408)*

**A. Estimated Model**

| Variable | B | | S.E. | Wald | Exp(B) | 95.0% C.I. for EXP(B) Lower | Upper |
|---|---|---|---|---|---|---|---|
| Collectivistic (personal) value | 0.168 | | 0.266 | 0.400 | 1.183 | 0.703 | 1.993 |
| Mixed (personal) value | -0.124 | | 0.252 | 0.244 | 0.883 | 0.539 | 1.446 |
| Risk attitude | 0.090 | | 0.127 | 0.507 | 1.094 | 0.854 | 1.402 |
| Trust | 0.646 | ** | 0.149 | 18.715 | 1.908 | 1.424 | 2.557 |
| Risk perception | -0.425 | ** | 0.148 | 8.199 | 0.654 | 0.489 | 0.875 |
| Constant | -0.955 | | 0.740 | 1.667 | 0.385 | | |

Note: ** indicates significant at 1% level

**B. Goodness of Fit of Estimated Model**

| | |
|---|---|
| Omnibus Tests of Model Coefficients, Chi-square (df = 5, p-value = 0.000) | 34.142 |
| Hosmer and Lemeshow Test, Chi-square (df = 8, p-value = 0.056) | 15.150 |
| Cox & Snell R-Squared | 0.080 |
| Nagelkerke R-Squared | 0.107 |
| Overall Correct Percentage | 62.7% |

On the other hand, the finding on risk perception (B = -0.425, p-value = 0.004) shows that it has a negative and significant relationship with life insurance ownership. Hence, hypothesis H14 is supported. The respondents who have high risk perception towards life insurance are less likely to own life insurance. In other words, the individuals who perceive a higher probability of loss due to long-term premium payments and the uncertainty about when they could make a claim tend not to purchase life insurance. This result is consistent with Huber and Schlager's (2011) findings that when the individuals

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perceive the purchase of life insurance to be risky, they are less likely to purchase life insurance.

In conclusion, the findings above show that the respondents' trust and risk perception have a significant relationship with life insurance ownership. Therefore, these findings provide support to hypotheses H10 and H14. The significant negative relationship between risk perception and life insurance ownership is in line with prospect theory, which states that individuals who consider life insurance as a risky (loss) investment are less likely to purchase life insurance.

### 4.5.2.4 The Overall Results of Z Mediation for Risk Perception

In the last step, the mediating effect of risk perception on the relationship between psychographic factors and life insurance ownership was examined (Refer to Table 4.9). The values of Z mediation will determine whether risk perception acts as a mediating factor in the relationship between psychographic factors and life insurance ownership. The parameter estimates of $'\alpha'$ together with their standard errors $(S_a)$ and the values of $Z_a$ for psychographic factors are presented in the panel A of Table 4.9. Meanwhile, the parameter estimate of $'b'$ together with its standard error $(S_b)$ and the value of $Z_b$ for risk perception are presented in the panel B of Table 4.9. The products of $Z_a$ and $Z_b$, which are labelled as $Z_aZ_b$, their standard errors $(\sigma_{Z_{ab}})$ and the values of Z mediation for psychographic factors are presented in the panel C of Table 4.9.

By comparing the results for the variable of trust in Table 4.6 (B = 0.696, p-value = 0.000) which excludes risk perception with Table 4.8 (B = 0.646, p-value = 0.000) which includes risk perception, the strength of the relationship between trust and life insurance

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ownership has slightly weakened. Table 4.7 shows that trust (B = -0.171, p-value = 0.000) has a significant negative relationship with risk perception. Table 4.8 shows that risk perception (B = -0.425, p-value = 0.004) has a significant negative relationship with life insurance ownership. From the panel C of Table 4.9, the results show that risk perception (Z mediation = 2.185) has a positive and significant mediating effect on the relationship between trust and life insurance ownership.

Table 4.9
*The Results of the Mediating Effect of Risk Perception on the Relationship between Psychographic Factors and Life Insurance Ownership (n = 408)*

| A. Psychographic Factors | | | |
|---|---|---|---|
| **Variable** | $\alpha$ | $S_a$ | $Z_a$ |
| Collectivistic (personal) value | 0.176 | 0.091 | 1.934 |
| Mixed (personal) value | 0.226 | 0.087 | 2.598 |
| Risk attitude | 0.111 | 0.043 | 2.581 |
| Trust | -0.171 | 0.048 | -3.563 |
| **B. Mediating Factor** | | | |
| **Variable** | $b$ | $S_b$ | $Z_b$ |
| Risk perception | -0.425 | 0.148 | -2.872 |
| **C. Standardized Elements of Psychographic Factors** | | | |
| **Variable** | $Z_a Z_b$ | $\sigma_{Z_{ab}}$ | **Z mediation** |
| Collectivistic (personal) value | -5.554 | 3.604 | -1.541 |
| Mixed (personal) value | -7.461 | 4.000 | -1.865 |
| Risk attitude | -7.413 | 3.989 | -1.858 |
| Trust | 10.233 | 4.684 | 2.185    * |

These findings show that there is a positive partial mediating effect of risk perception on the relationship between trust and life insurance ownership. In other words, there is a direct significant positive relationship between trust and life insurance ownership and an indirect significant positive relationship between trust and life insurance ownership

mediated by risk perception. The respondents who trust their life insurance agents are willing to listen and follow the advices given by the agents, thus they will have lower risk perception towards life insurance. When life insurance is perceived to be not a risky investment, they are more likely to purchase life insurance. This result supports the findings of Kim, Ferrin and Rao (2008), Zhu et al. (2011), and Kesharwani and Bisht (2012) that risk perception is a significant mediating factor in the relationship between trust and purchase intention as well as hypothesis H15c.

The results in Table 4.6 (without risk perception) and Table 4.8 (with risk perception) show that personal value (i.e. individualistic, collectivistic and mixed values) and risk attitude do not have a significant relationship with life insurance ownership. However, mixed (personal) value (B = 0.226, p-value = 0.009) and risk attitude (B = 0.111, p-value = 0.011) are found to have a significant positive relationship with risk perception in Table 4.7. Meanwhile, risk perception (B = -0.425, p-value = 0.004) is found to have a significant negative relationship with life insurance ownership in Table 4.8. Based on the result in the panel C of Table 4.9, risk perception is found to have no significant mediating effect on the relationship of life insurance ownership with personal value and risk attitude. These findings indicate that the mediating effect of risk perception is not strong enough to be significant even though it has a significant relationship with personal value, risk attitude and life insurance ownership.

Comparing Table 4.6 and Table 4.8, the estimated model with the inclusion of risk perception along with psychographic factors are able to explain slightly more (by 1.9% to 2.5%) of the variance in life insurance ownership. This indicates that risk perception has a mediating effect on the relationship between psychographic factors and life insurance

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ownership, whereby this effect is only found to be significant on the relationship between trust and life insurance ownership.

In conclusion, the findings above show that risk perception has a significant mediating effect on the relationship between trust and life insurance ownership. Therefore, these findings provide support to hypothesis H15c. Risk perception is found to have a significant relationship in determining the individuals' life insurance ownership. The findings are in line with prospect theory. In the process of purchasing life insurance, individuals would weigh their level of risk perception towards life insurance. Since individuals are known to be loss averse (i.e. fear of loss), they would be hesitant to purchase life insurance when life insurance is perceived to be a risky (loss) investment.

# CHAPTER FIVE

# CONCLUSION AND RECOMMENDATION

## 5.1    Conclusion and Recommendation for Future Study

Life insurance has been introduced as a protection and saving product. As the costs of living have gradually increased, it is important that people are adequately insured. However, life insurance market penetration rate (both conventional and Takaful) of Malaysia is still considered low and almost half (45.4%) of the population is still uninsured. Therefore, the life insurance market of Malaysia has not been fully tapped yet. This study has been conducted to investigate the possible reasons why some Malaysians do not own life insurance. By doing so, appropriate actions can be taken to encourage those who have not owned life insurance to purchase it. There are two main objectives of undertaking this study: (i) to examine the relationship of life insurance ownership with demographic and psychographic factors, and (ii) to examine the mediating effect of risk perception on the relationship between psychographic factors and life insurance ownership.

The findings on demographic factors show that age, gender, ethnicity and income have a significant relationship with life insurance ownership. The respondents who are in their 20's and 30's have a greater likelihood to own life insurance as compared to the respondents aged below 20 years old. Life insurance policyholders in the northern regions of Malaysia tend to be males, non-Malay (i.e. Chinese and Indian) and middle income earners (i.e. low-middle and high-middle income earners). The findings on income are in line with expected utility theory, whereby individuals earning higher

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income are more likely to purchase life insurance. Meanwhile, the findings on psychographic factors show that trust has a significant positive relationship with life insurance ownership. Life insurance policyholders in the northern regions of Malaysia tend to be individuals who trust their life insurance agents. Table 5.1 presents the summary results for the hypotheses on the relationship of life insurance ownership with demographic and psychographic factors.

Table 5.1
*Summary Results for the Hypotheses on the Relationship of Life Insurance Ownership with Demographic and Psychographic Factors*

| No. | Hypothesis | Finding | Supported/ Not supported |
|---|---|---|---|
| H1 | There is a positive relationship between income and life insurance ownership. | Low-middle income (+, sig) High-middle income (+, sig) | Supported |
| H2 | There is a relationship between age and life insurance ownership. | 20-29 years old (+, sig) 30-39 years old (+, sig) | Supported |
| H3 | There is a relationship between gender and life insurance ownership. | Male (+, sig) | Supported |
| H4 | There is a relationship between marital status and life insurance ownership. | Marital status (ns) | Not supported |
| H5 | There is a positive relationship between education and life insurance ownership. | Education level (ns) | Not supported |
| H6 | There is a positive relationship between number of dependents and life insurance ownership. | Number of dependents (ns) | Not supported |
| H7 | There is a relationship between ethnicity and life insurance ownership. | Chinese (+, sig) Indian (+, sig) | Supported |
| H8 | There is a relationship between personal value and life insurance ownership. | Personal value (ns) | Not supported |
| 8a | Individuals with high individualistic value are more likely to own life insurance. | Individualistic value (ns) | Not supported |
| 8b | Individuals with high collectivistic value are less likely to own life insurance. | Collectivistic value (ns) | Not supported |
| 8c | Individuals with high mixed value are more likely to own life insurance. | Mixed value (ns) | Not supported |
| H9 | There is a relationship between risk attitude and life insurance ownership. | Risk attitude (ns) | Not supported |
| H10 | There is a positive relationship between trust and life insurance ownership. | Trust (+, sig) | Supported |

Note: (+, sig) indicates a significant positive relationship, (ns) indicates no significant relationship

Based on the findings, it is recommended that efforts could be taken to identify and encourage the respondents aged below 20 years old, females, Malay and low income

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earners who have not owned any life insurance to purchase one. Life insurance is best purchased when the individual is still young because the premium payments would be lower. Usually, the individuals under the age of 20 years old are still schooling and financially dependent on their parents or guardians. The escalating costs of higher education could be a hefty burden for parents or guardians. Therefore, life insurer could promote appropriate life insurance products that provide protection for both premature death and education funding for young individuals by targeting their parents and guardians to purchase the insurance for them. By doing so, it is expected that life insurance ownership among individuals aged below 20 years old would increase.

The engagement of females in labor force has substantially changed the role of females from being a homemaker to a provider for their family to reduce the financial burden of primary wage earner who is generally the males. As such, life insurance is also essential to the females as a protection tool to make up the income loss in the event of premature death. The females generally concern about their wellbeing since they are exposed to numerous health problems. Hence, in order to attract more females to purchase life insurance, it is suggested that product innovations are needed to produce tailor-made life insurance products with added medical benefits as riders for the females.

In order to encourage greater life insurance ownership among the Malay individuals, life insurers should formulate strategies to target the Malay individuals to gain their awareness about family Takaful which is Shariah compliance and its importance. In view of its current small market size, family Takaful business has a vast opportunity to expand further. Meanwhile, an affordable life insurance product should be promoted to the low

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income earners to boost their life insurance ownership. As such low income will no longer become a reason that will restrain them from owning life insurance. For example, micro-insurance (which has been available in Malaysia since 2011) with low premium payments could be recommended to this targeted group.

Trust is found to be a significant factor for life insurance ownership. For that reason, it is suggested that life insurance agents are required to attend trainings/workshops to keep pace with the latest developments (i) on policy changes implemented by the government, (ii) on initiatives taken by insurance industry to promote consumer's awareness towards life insurance products, (iii) on the introduction of new insurance products in the market and (iv) on ethical selling behaviours. By making it compulsory for the agents to pass certain examinations after they have attended the trainings/workshops, it is expected that high quality agents who are knowledgeable, honest, benevolent and competent will be produced. When agents have all these characteristics, prospective consumers will believe and trust what the agents say/advise because the agents would recommend appropriate insurance products that are in line with their needs and affordable to them. Therefore, an entrusting agent could promote the purchase of life insurance among those who have not owned life insurance yet. Life insurance ownership among Malaysians is expected to increase which in turn would also help boost life insurance market penetration rate in Malaysia.

Based on the results of mediation analysis, risk perception is found to have a significant positive partial mediating effect on the relationship between trust and life insurance ownership. The respondents who trust their life insurance agents have low risk perception

towards life insurance. Therefore, life insurance is perceived to be not a risky investment and the respondents are more likely to own life insurance. Although risk perception is found to have a significant relationship with personal value, risk attitude and life insurance ownership, its mediating effect on the relationship of life insurance ownership with personal value and risk attitude is not significant. Table 5.2 presents the summary results for the hypotheses on the relationship between psychographic factors and risk perception, the relationship between risk perception and life insurance ownership, as well as the mediating effect of risk perception on the relationship between psychographic factors and life insurance ownership.

The findings of this study show that the individuals' risk perception towards life insurance plays a significant role in determining their decision to whether purchase life insurance or not. Prospect theory could be used to explain the individuals' decision making in purchasing life insurance. The individuals would consider the possible losses from the purchase of life insurance before actually purchasing it. Hence, life insurers could make the life insurance purchasing process to be more transparent and easier to understand. When prospective consumers have a better understanding about life insurance, they would acquire the knowledge and required information to judge the quality and compare the benefits of the products before they purchase in order to reduce the uncertainty they feel about life insurance. Alternatively, by promoting the prospective consumers' trust in life insurance agents could also help in lowering their risk perception towards life insurance. The government could also aid to support by creating awareness on the importance of life insurance so that the prospective consumers would not perceive that they stand to lose when they purchase life insurance.

Table 5.2

*Summary Results for the Hypotheses on the Relationship between Psychographic Factors and Risk Perception, the Relationship between Risk Perception and Life Insurance Ownership, as well as the Mediating Effect of Risk Perception on the Relationship between Psychographic Factors and Life Insurance Ownership*

| No. | Hypothesis | Finding | Supported/ Not supported |
|---|---|---|---|
| H11 | There is a relationship between personal value and risk perception. | Mixed value (+, sig) | Supported |
| 11a | Individuals with high individualistic value have high risk perception. | Individualistic value (ns) | Not supported |
| 11b | Individuals with high collectivistic value have low risk perception. | Collectivistic value (ns) | Not supported |
| 11c | Individuals with high mixed value have high risk perception. | Mixed value (+, sig) | Supported |
| H12 | Individuals with risk averse attitude have high risk perception, while individuals with risk seeking attitude have low risk perception. | Individuals with risk averse attitude have low risk perception towards life insurance. | Not supported |
| H13 | There is a negative relationship between trust and risk perception. | Trust (-, sig) | Supported |
| H14 | There is a negative relationship between risk perception and life insurance ownership. | Risk perception (-, sig) | Supported |
| H15 | There is a mediating effect of risk perception on the relationship between psychographic factors and life insurance ownership. | Significant mediating effect | Supported |
| 15a | Risk perception has a mediating effect on the relationship between personal value (i.e. individualistic, collectivistic and mixed values) and life insurance ownership. | No significant mediating effect | Not supported |
| 15b | Risk perception has a mediating effect on the relationship between risk attitude and life insurance ownership. | No significant mediating effect | Not supported |
| 15c | Risk perception has a mediating effect on the relationship between trust and life insurance ownership. | Significant positive partial mediating effect | Supported |

Note: (+, sig) indicates a significant positive relationship, (-, sig) indicates a significant negative relationship, (ns) indicates no significant relationship

Due to time and financial constraint, this study has examined life insurance ownership among Malaysians residing in the northern regions of Malaysia only. It is suggested that future research might consider the whole Malaysia as the subject of study for better generalization of findings. Besides that, the researchers could also investigate whether there would be differences in the pattern of life insurance ownership at different

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geographical areas and examine the different types of life insurance ownership (e.g. term [non-cash value] life insurance, cash value life insurance and investment-linked life insurance) in their future study. Since risk perception is found to have a significant effect on the individuals' decision to own life insurance, it is recommended that more studies on risk perception should be conducted in the future to verify the findings of this study.

Lastly, it is hoped that this study would bring benefits to the society, life insurers and the government in understanding the factors that determine life insurance ownership among Malaysians. In doing so, appropriate actions can be taken to promote life insurance to those who have not yet owned life insurance to purchase it.

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## SECTION 1 / *BAHAGIAN 1*

This section is to measure your personal values. Please read each description and think about how much the description is or is not like you. Please answer each question by ticking on the circle which is applicable to you.

*Bahagian ini bertujuan untuk mengukur nilai-nilai peribadi anda. Sila baca setiap keterangan dan fikirkan sejauh mana keterangan tersebut menyamai atau tidak menyamai diri anda. Sila jawab setiap soalan dengan menandakan pada bulatan yang bersesuaian dengan diri anda.*

| | | Not like me at all *Tidak me-nyamai saya sama sekali* | Not like me *Tidak me-nyamai saya* | Hard to say *Sukar untuk di-nyatakan* | Like me *Me-nyamai saya* | Very much like me *Sangat menyamai saya* |
|---|---|---|---|---|---|---|
| 1 | It is important that every person in the world should be treated equally. I want justice for everybody, even for people I do not know. *Adalah penting supaya semua orang dalam dunia dilayan sama rata. Saya mahukan keadilan untuk semua, walaupun untuk orang yang tidak saya kenali.* | ● | ● | ● | ● | ● |
| 2 | It is important to me to listen to people who are different from me. Even when I disagree with them, I still want to understand them. *Adalah penting untuk saya mendengar kata-kata mereka yang berbeza pendapat dengan saya. Walaupun saya tidak bersetuju, saya masih mahu memahami mereka.* | ● | ● | ● | ● | ● |
| 3 | It is important that people care for nature. I want to look after the environment. *Adalah penting untuk semua orang mengambil berat tentang alam semulajadi. Saya mahu menjaga persekitaran.* | ● | ● | ● | ● | ● |
| 4 | It is important to me to be loyal to my friends. I want to devote myself to people close to me. *Adalah penting untuk saya setia kepada rakan-rakan. Saya mahu berbakti kepada orang yang rapat dengan saya.* | ● | ● | ● | ● | ● |

| | | Not like me at all *Tidak menyamai saya sama sekali* | Not like me *Tidak menyamai saya* | Hard to say *Sukar untuk dinyatakan* | Like me *Menyamai saya* | Very much like me *Sangat menyamai saya* |
|---|---|---|---|---|---|---|
| 5 | It is important that people do what they are told. I think people should follow rules at all times, even when no one is watching. *Adalah penting bagi setiap orang melaksanakan apa yang disuruh. Saya rasa semua orang perlu mematuhi peraturan pada setiap masa walaupun tiada sesiapa yang melihat.* | ● | ● | ● | ● | ● |
| 6 | It is important to be humble and modest. I try not to draw attention to myself. *Adalah penting untuk bersikap sederhana dan merendah diri. Saya cuba untuk tidak menarik perhatian terhadap diri saya.* | ● | ● | ● | ● | ● |
| 7 | It is important to always behave properly. I avoid doing anything people said is wrong. *Adalah penting untuk sentiasa berkelakuan baik. Saya mengelak daripada melakukan perkara yang dikatakan salah.* | ● | ● | ● | ● | ● |
| 8 | It is important to live in secure surroundings. I avoid anything that might endanger my safety. *Adalah penting untuk tinggal dalam persekitaran yang terjamin. Saya mengelak sebarang perkara yang mungkin mengundang bahaya.* | ● | ● | ● | ● | ● |
| 9 | It is important for the government to ensure the safety of a country. I want my country to be strong and can defend its citizens. *Adalah penting bagi kerajaan untuk memastikan keselamatan negara. Saya mahukan negara yang kuat dan mampu mempertahankan rakyatnya.* | ● | ● | ● | ● | ● |

| | | Not like me at all *Tidak menyamai saya sama sekali* | Not like me *Tidak menyamai saya* | Hard to say *Sukar untuk dinyatakan* | Like me *Menyamai saya* | Very much like me *Sangat menyamai saya* |
|---|---|---|---|---|---|---|
| 10 | It is important to do a lot of different things in life. I like surprises and I am always looking for new things to do. *Adalah penting untuk melakukan pelbagai perkara yang berbeza dalam hidup. Saya sukakan kejutan dan selalu mencari perkara baharu untuk dilakukan.* | ● | ● | ● | ● | ● |
| 11 | It is important to think of new ideas and be creative. I like to do things in my own original way. *Adalah penting untuk memikirkan idea baharu dan bersifat kreatif. Saya suka melakukan banyak perkara dengan cara saya sendiri.* | ● | ● | ● | ● | ● |
| 12 | It is important to me to make decisions about what I do on my own. I like to be free to plan and to choose my activities for myself. *Adalah penting untuk saya membuat keputusan sendiri terhadap apa yang saya lakukan. Saya suka apabila bebas untuk memilih aktiviti untuk diri sendiri.* | ● | ● | ● | ● | ● |
| 13 | It is important to me to do things that give me pleasure. I seek every chance I can to have fun. *Adalah penting untuk saya melakukan perkara yang boleh memberikan keseronokan. Saya mencari setiap peluang yang boleh memberikan saya kegembiraan.* | ● | ● | ● | ● | ● |
| 14 | It is important to have an exciting life. I look for adventures and like to take risks. *Adalah penting untuk memiliki kehidupan yang menarik. Saya mencari pengembaraan dan suka mengambil risiko.* | ● | ● | ● | ● | ● |

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| | | Not like me at all *Tidak menyamai saya sama sekali* | Not like me *Tidak menyamai saya* | Hard to say *Sukar untuk dinyatakan* | Like me *Menyamai saya* | Very much like me *Sangat menyamai saya* |
|---|---|---|---|---|---|---|
| 15 | It is important to have a good time. I really want to enjoy life. *Adalah penting mempunyai waktu yang menyenangkan. Saya bena-benar mahu menikmati kehidupan.* | ● | ● | ● | ● | ● |

## SECTION 2 / *BAHAGIAN 2*

This section is to measure your risk attitudes. For each of the following statements, please indicate your likelihood of engaging in each activity or behavior if you are found to be in that situation. Please answer each question by ticking on the circle which is applicable to you.

*Bahagian ini adalah bertujuan untuk mengukur sikap berisiko anda. Bagi setiap penyataan berikut, sila nyatakan kecenderungan penglibatan anda dalam setiap aktiviti atau perlakuan jika anda berada dalam situasi tersebut. Sila jawab setiap soalan dengan membulatkan pada jawapan yang bersesuaian dengan anda.*

| | | Very unlikely *Sangat tidak mungkin* | Unlikely *Tidak mungkin* | Not sure *Tidak pasti* | Likely *Mungkin* | Very likely *Kemungkinan besar* |
|---|---|---|---|---|---|---|
| 1 | Not wearing a helmet when riding a motorcycle. *Tidak memakai topi keledar apabila menunggang motosikal* | ● | ● | ● | ● | ● |
| 2 | Exposing myself to the sun without using sunscreen. *Mendedahkan diri kepada sinaran matahari tanpa memakai pelindung matahari* | ● | ● | ● | ● | ● |
| 3 | Walking home alone at night in a somewhat unsafe area of the town. *Berjalan pulang seorang diri pada waktu malam di kawasan yang agak berbahaya di bandar* | ● | ● | ● | ● | ● |
| 4 | Going on a camping trip in the wilderness. *Berkhemah dalam hutan belantara.* | ● | ● | ● | ● | ● |

| | | Very unlikely<br>*Sangat tidak mungkin* | Unlikely<br>*Tidak mungkin* | Not sure<br>*Tidak pasti* | Likely<br>*Mungkin* | Very likely<br>*Kemungkinan besar* |
|---|---|:---:|:---:|:---:|:---:|:---:|
| 5 | Going on a vacation in a third-world country without pre-arranged travel and hotel accommodation.<br>*Bercuti di negara dunia ketiga tanpa mengatur perjalanan dan tempat penginapan terlebih dahulu* | ● | ● | ● | ● | ● |
| 6 | Periodically engaging in a dangerous sport (e.g. mountain climbing).<br>*Terlibat dengan sukan berbahaya secara berkala (contohnya mendaki gunung)* | ● | ● | ● | ● | ● |
| 7 | Piloting a small plane, if I could.<br>*Mengemudi pesawat kecil, jika boleh.* | ● | ● | ● | ● | ● |
| 8 | Participating in a clinical trial to determine whether a new drug is effective.<br>*Terlibat dalam ujian klinikal untuk menguji keberkesanan ubat baharu.* | ● | ● | ● | ● | ● |
| 9 | Taking daily medication to relieve allergy symptoms.<br>*Mengambil ubat setiap hari bagi meredakan simptom alahan.* | ● | ● | ● | ● | ● |

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## SECTION 3 / *BAHAGIAN 3*

This section is to measure your trust in the agent who sells life insurance (i.e. life agent). For each of the following statements, please indicate to what extend you agree with them. Please answer each question by ticking on the circle which is applicable to you.

*Bahagian ini bertujuan untuk mengukur kepercayaan anda terhadap wakil penjual insurans hayat (iaitu ejen hayat). Sila nyatakan sejauh mana anda bersetuju dengan setiap penyataan berikut. Sila jawab setiap soalan dengan membulatkan pada jawapan yang bersesuaian dengan anda.*

| | | Strongly disagree *Sangat tidak bersetuju* | Disagree *Tidak bersetuju* | Neither agree or disagree *Kedua-duanya bukan (sama ada bersetuju atau tidak bersetuju)* | Agree *Bersetuju* | Strongly agree *Sangat bersetuju* |
|---|---|---|---|---|---|---|
| 1 | I believe that the life agent would act in my best interest. *Saya percaya yang ejen hayat akan bertindak demi kepentingan terbaik saya .* | ● | ● | ● | ● | ● |
| 2 | I believe that if I require help, the life agent would do his/her best to help me. *Saya percaya bahawa jika saya memerlukan bantuan, ejen hayat akan melakukan yang terbaik untuk membantu saya.* | ● | ● | ● | ● | ● |
| 3 | I believe that the life agent is interested in my well being, not just his/her own. *Saya percaya yang ejen hayat mengambil berat tentang kesejahteraan saya, bukan kesejahteraan dirinya sahaja.* | ● | ● | ● | ● | ● |
| 4 | I believe that the life agent is truthful in his/her dealings with me. *Saya percaya yang ejen hayat bersikap jujur dalam melaksanakan urusannya dengan saya.* | ● | ● | ● | ● | ● |

| | | Strongly disagree *Sangat tidak bersetuju* | Disagree *Tidak bersetuju* | Neither agree or disagree *Kedua-duanya bukan (sama ada bersetuju atau tidak bersetuju)* | Agree *Bersetuju* | Strongly agree *Sangat bersetuju* |
|---|---|---|---|---|---|---|
| 5 | I believe that the life agent would keep his/her commitments. *Saya percaya yang ejen hayat akan mengekalkan komitmennya.* | ● | ● | ● | ● | ● |
| 6 | I believe that the life agent is sincere and genuine. *Saya percaya yang ejen hayat bersikap ikhlas dan telus.* | ● | ● | ● | ● | ● |
| 7 | I believe that the life agent is competent and effective in providing financial advice. *Saya percaya ejen hayat adalah cekap dan efektif dalam memberikan nasihat kewangan* | ● | ● | ● | ● | ● |
| 8 | I believe that the life agent is capable and proficient. *Saya percaya yang ejen hayat berkebolehan dan mempunyai kemahiran.* | ● | ● | ● | ● | ● |

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## SECTION 4 / *BAHAGIAN 4*

This section is to measure your risk perception on life insurance ownership. For each of the following statements, please indicate to what extend you agree with them. Please answer each question by ticking on the circle which is applicable to you.

*Bahagian ini bertujuan untuk mengukur persepsi anda terhadap pemilikan insurans hayat. Sila nyatakan sejauh mana anda bersetuju dengan setiap penyataan berikut. Sila jawab setiap soalan dengan membulatkan pada jawapan yang bersesuaian dengan diri anda.*

| | | Strongly disagree *Sangat tidak setuju* | Disagree *Tidak setuju* | Neither agree or disagree *Kedua-duanya bukan (sama ada setuju atau tidak setuju)* | Agree *Setuju* | Strongly agree *Sangat setuju* |
|---|---|---|---|---|---|---|
| 1 | The thought of purchasing life insurance gives me a feeling of unnecessary anxiety. *Memikirkan tentang membeli insurans hayat memberi saya rasa kebimbangan yang tidak perlu.* | ● | ● | ● | ● | ● |
| 2 | The thought of purchasing life insurance makes me feel psychologically uncomfortable. *Memikirkan tentang membeli insrurans hayat membuatkan saya rasa tidak selesa secara psikologinya.* | ● | ● | ● | ● | ● |
| 3 | There is a high chance that I will stand to lose money because the life insurance will not be used at all or it will cost me more than it should to maintain it. *Terdapat peluang yang tinggi bahawa saya masih akan kehilangan wang kerana insurans hayat tidak akan digunakan sama sekali atau ia akan memerlukan saya menanggung kos lebih tinggi daripada yang sepatutnya.* | ● | ● | ● | ● | ● |

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| | | Strongly disagree *Sangat tidak setuju* | Disagree *Tidak setuju* | Neither agree or disagree *Kedua-duanya bukan (sama ada setuju atau tidak setuju)* | Agree *Setuju* | Strongly agree *Sangat setuju* |
|---|---|---|---|---|---|---|
| 4 | Life insurance is extremely risky in terms of how it would perform (e.g. in providing expected benefits, being dependable and reliable). *Insurans hayat  sangat berisiko dari segi pelaksanaannya (iaitu dalam memberikan manfaat, kebertanggungjawaban dan kebolehpercayaan seperti mana yang dijangkakan)* | ● | ● | ● | ● | ● |
| 5 | Life insurance is extremely risky in terms of its long-term costs. *Insurans hayat sangat berisiko dari segi kos jangka panjangnya.* | ● | ● | ● | ● | ● |
| 6 | The purchase of life insurance will lead to a loss of convenience for me because I would have to waste a lot of time and effort purchasing and claiming it. *Pembelian insurans hayat akan menyebabkan saya hilang keselesaan kerana terpaksa memperuntukkan banyak masa dan usaha dalam pembelian dan membuat tuntutan.* | ● | ● | ● | ● | ● |

**SECTION 5 / *BAHAGIAN 5***

This section is to obtain your demographic information. Please answer each question by circling the answer which is applicable to you.

*Bahagian ini bertujuan untuk mendapatkan informasi demografik. Sila jawab setiap soalan dengan membulatkan jawapan yang bersesuaian dengan anda.*

1. Do you own life insurance? / *Adakah anda memiliki insurans hayat*?

A.   Yes  / *Ya*

*B.*   No / *Tidak*

2. Please state how many life insurance policies you owned: _____

   *Sila nyatakan jumlah polisi insurans yang anda miliki*: _____

3. Your gender / *Jantina anda*:

A.   Male / *Lelaki*

B.   Female / *Perempuan*

4. Please state your age / *Sila nyatakan umur anda*:   _____

5. Your marital status / *Status perkahwinan anda*:

A.   Single / *Belum berkahwin*

B.   Married / *Berkahwin*

C.   Divorced / Separated   / *Bercerai/ Berpisah*

D.   Widowed  / *Janda @ Duda*

6. Your education level / *Tahap pendidikan anda*:

A.   Completed primary school / *Tamat sekolah rendah*

*B.*   Completed secondary school / *Tamat sekolah menengah*

C.   Have a bachelor's degree  / *Memiliki ijazah sarjana muda*

D.   Have a master's degree / *Memiliki ijazah sarjana*

*E.*   Have a doctoral degree / *Memiliki ijazah doktor falsafah*

F.    Others, please specify / *Lain-lain, sila nyatakan* : _____

7.  Please state how many people in your family that still depend on your financial support:
    *Sila nyatakan jumlah  ahli keluarga yang masih bergantung kepada bantuan kewangan daripada anda*:
    _____

8.  Your ethnicity / *Keturunan anda* :

A.    Malay / *Melayu*

B.    Chinese / *Cina*

C.    Indian / *India*

D.    Others, please specify / *Lain-lain, sila nyatakan* :_____

9.  Your monthly income level / *Tingkat pendapatan bulanan anda:*

A.    Low / *Rendah* (< RM2000)

B.    Low-middle  / *Sederhana-rendah* (RM2000 – RM4000)

C.    High-middle  / *Sederhana-tinggi* (RM4001 – RM6000)

D.    High / *Tinggi* (> RM6000)