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Determinants of Perceptions Towards Life and Health Insurance Plans Among Students of Faculty of Science and Technology, Universiti Sains Islam Malaysia

Fayzah Addawiyah Binti Othman[1] and Rose Irnawaty Ibrahim[2]
Faculty of Science and Technology, Universiti Sains Islam Malaysia, Bandar Baharu Nilai, 71800 Nilai, Negeri Sembilan Malaysia.
[1]faddawiyah@gmail.com, [2]rose.irnawaty@usim.edu.my

ABSTRACT

This paper develops a framework for hypothesis testing the determinants of perceptions of students from the Faculty of Science and Technology (FST), Universiti Sains Islam Malaysia on life and health insurance in 2021 for particular microeconomic and other factors such as financial literacy (FL), demographic background (DB), insurance knowledge and exposure (KE), risk aversion (RA) and social influence (SI). With a rise in death tolls and life-threatening diseases in Malaysia, life insurance is becoming a requirement for protection. Previous study has found that students enrolled in non-financial courses had lower insurance knowledge than those enrolled in finance courses. This study employed a survey of 310 FST students, using descriptive analysis, reliability and normality test, Pearson correlation coefficient analysis and multiple linear regression to define the relationship between the perception and the factors and how it affects each variable. The result suggests significant relationship between all determinants except demographic background. The findings will assist USIM personnel in developing an effective method to spread the importance of life and health insurance.

Keywords: Demographic Background, Financial Literacy, Insurance, Knowledge and Exposure, Risk Aversion, Social Influence

INTRODUCTION

Life and health insurance is a protection program that entrusted people who contributed their certain amount of money, called the insured to the provider of insurance claim, called the insurer upon a certain event such as death or medical illness. Some plans also cover against the newly discovered illness, COVID-19, depending on the level of category. Some products would also enable the insured to make plans for retirement along with the same plan. Overall, through a variety of financial services, this insurance helps people and the economy as a whole. It also encourages people to manage their income risk effectively since it promotes long-term saving on the part of the insured. Insurance has not been well-known in Malaysia in past decades due to misunderstandings, and only a tiny number of Malaysians purchased insurance at the time. They believe that insurance is an intangible product that is only a promise written on a piece of paper and is not necessary. Although they may be aware of the necessity for insurance protection, people often lack confidence in the ability of insurance to benefit them in their daily lives and do not trust insurance companies to handle claims properly. Some people refuse to take a certain risk because they feel it will not happen to them, despite the fact that they are well aware of the risks. Furthermore, some people have avoided purchasing insurance in the past due to a lack of knowledge about financial risks and a lack of cash.

Life and health insurance are both financial safety nets and part of a comprehensive financial plan. This has to do with earning capacity, which might be abruptly stopped due to death, old age, illness, or an accident that renders you unable to work (permanent or temporary). In the current

era, Malaysian life and health insurance has developed rapidly. In contrast, most Malaysians do not possess life or health insurance. The number of persons with life and health insurance is quite low in compared to other Asian countries. Even though insurance is one of the most established and well-known financial products, many people are still hesitant to purchase it on their own. Perhaps this is because insurance is a difficult commodity, and in Asian culture, it is considered taboo to discuss bad events such as death, incapacity, or illness. Given the uncertainties of life, insurance can help to avert or reduce the loss that individuals and families may experience in the event of an accident. It is no secret that health-care prices, such as prescription medicine, dental care, eye care, and other health-related services, have been spiraling out of control for some years, resulting in an increase in medical expenditures. Medical costs are expected to rise in the next years, and this is not a joke; multiple surveys have been performed, with almost all of them expecting annual hikes of up to 15%. Wager et al. (2020) mentioned in their article that overall prices health spending grew by 7.7% from previous year while medical care prices increased by 5.0%. Everyone is affected by medical costs, and according to Montero et al. (2022), half of adults say it is difficult to afford health care costs. They also found out that one-third of the adults say they or their family member have skipped recommended medical treatment due to cost. According to the findings of this analysis, the human body is more fragile and susceptible to disease than it was previously.

The reason for doing this study is because, even though medical bills are out of reach for the majority of people Malaysia, many do not have their own life and health insurance. This behaviour is not healthy since it demonstrates that many are unable to execute their own financial planning, which would result in financial difficulties. The following study, conducted by Cussen (2021) found that medical costs to treat major illnesses were one of the factors in bankruptcies. These studies revealed that life and health insurance are essential plans to make when managing finances, and that if things go wrong, bankruptcy would be the outcome. In view of this, the study aims to investigate the relationship between students of Faculty of Science and Technology (FST), Universiti Sains Islam Malaysia (USIM) perceptions on life and health insurance with financial literacy, demographic background, knowledge and exposure on life and health insurance, risk aversion and social influence using Pearson correlation. The study also aims to explore how the determining factors, financial literacy, demographic background, knowledge and exposure on life and health insurance, risk aversion and social influence affect USIM FST students' perceptions on life and health insurance by projecting multiple linear regression.

LITERATURE REVIEW

Back in the day, life insurance was purchased as a plan to leave a certain amount of money to the dependents for the burial expenses of the deceased insured. However, many years after that, the role of insurance has increased more significantly. Casey (2022) implied that life insurance replaces income as a result from the insured's death. Now while we're approaching the urbanization, life insurance has been an instrument to manage financial risk, due to the increasing population and formalization of economic relationships between individuals, families and communities (Beck and Webb, 2003). Nowadays, the role of insurance has been shifted to focus more on managing the insured's income risk. Income risk is when a person lost their source of income due to major disruptions of income earning ability due to death or a permanent disability (Mahdzan and Victorian, 2013). Due to an increase amount of demand in life and health insurance, new innovations have been presented, like there are options for the insured to add on riders to their plans such as long-term savings and investment opportunities like endowment and investment-linked policies. The demand of life insurance is attributed to a person's request to transfer funds to the dependents and to prepare themselves upon retirement (Tannahill, 2013). This is because life insurance can be seen as an alternative to a function of wealth, expected income, interest rates and cost of life policies (Mahdzan and Victorian, 2013). Health insurance plays a vital role in

health care financing system of the developing countries because it protects against the loss of income caused by the death of a wage earner (Razak, 2014). While people in developed countries recognize the increasing importance of life insurance, demand in developing countries such as Malaysia remains low (Loke and Goh, 2012).

Financial literacy is described as the ability of a person to manage their finances effectively (Mahdzan and Victorian, 2013). Research has found that individuals with high financial literacy are more likely to have financial planning. Oppositely, people with low financial literacy are less likely to have their savings accumulated and practice careful preservation (Lusardi, Mitchell and Curto, 2010). According to experts, knowledge is supposed to have an impact on perception, attitude, and behaviour. Therefore, it should not be surprising that many academics have shown research interest in this area as they seek to understand how information influences behaviour in more depth. Moreover, Balasubramaniam and Sargent (2020) stated that financial literacy and financial education have comparable predictive power on financial habits.

The Bank Negara Malaysia (BNM), Malaysia's central bank, has been working to raise the country's life insurance penetration to 75% by the end of 2020. According to BNM (2018), 7.8 million are uninsured where 3.9 million of them are from the Bottom 40 (B40) group. At least eight million individuals who are of working age need life insurance protection. According to Perbadanan Insurans Deposit Malaysia (2022), less than half of Malaysians have life insurance, and approximately 54% of them are insured for health plans. It is shocking that the penetration rates of 20-59 year olds, nationally have a huge difference, for example 56% of the non-B40s do have life insurance while only 36% of the B40s possess insurance (Lin, 2018). According to BNM (2017), the penetration of life insurance only slightly increased throughout the reporting years, or by more over 1.1 percent annually from 2014 to 2017. The compound annual growth rate (CAGR) for Malaysia was zero between 2007 and 2014 (Vittala and Banu, 2016). To put things in perspective, the CAGR is positive in the following nations: Russia, 9.05%; Pakistan, 6.42%; Thailand, 5.42%. Bangladesh 4.29%, Brazil 5.1%. While in nations like India (-5.2%), Sri Lanka (-2.25%), South Africa (-0.82%), and China (-0.71%), CAGR is negative. But global penetration climbed by 6.3% yearly (Vittala and Banu, 2016).

The degree of education is connected to the demand for life insurance in two respects. According to Truett and Truett (1990), those with more education have a stronger desire and awareness to protect their dependents and maintain their quality of life. Furthermore, a better degree of education leads to a greater knowledge of life's uncertainties, which leads to more life insurance coverage. Level of education by tertiary gross enrolment ratio (regardless of age) was found to have a positive relationship with the demand of life insurance. Those who have a greater degree of real financial expertise are in a better position to detect and select appropriate information in the perception-forming process since financial products are often technical in nature, with some being more sophisticated than others. Thus, having more knowledge makes it easier to digest information, which, in turn, improves perception of a problem. According to Lajuni et al. (2020), they perceived that people with more financial expertise are better able to grasp the functions and how life insurance works, making them more likely to have an opinion or impression of life insurance.

Loke and Goh (2012) study supported this variable to have a relationship with the demand of life and health insurance. Understanding people perceptions and attitudes regarding insurance, as well as developing an insurance culture, are crucial to the success of insurance services. Perception is the process through which creatures derive and categorize experiences in order to have a meaningful experience of their surroundings. Perception, on the other hand, more accurately represents one's ultimate picture of the world and frequently involves additional sensory input processing. In practice, it is difficult to discern between sensation and perception since they are two sides of the same coin.

Social influence can mean family, peer and insurance agent influence. Ulbinaite, Kucinkiene and Moullec (2013) mentioned that this variable has a positive relationship. When the others influence a person, they will only purchase the plan if others do it. This is when the individual really looks up to the person they are following. They think that others' decisions are wiser than theirs. Grant and Preston (2019) also mentioned that users with minimal system-using experience would obtain essential information for usage decisions from their major reference groups, such as friends, and the effect of others' expectations. Kazaure (2019) goes on to say that individuals who believe that their peer group or others in the same company as them, their family, and their neighborhood embrace takaful are more inclined to accept it as well. This shows that a person's perspective may also be impacted by the conventions and influences of others around them.

METHODOLOGY

Data Collection

The study uses a classic research tool, which is questionnaire. The questionnaire consists of demographic details on each respondent along with their wealth status. The questionnaire covers all students of Faculty of Science and Technology, Universiti Sains Islam Malaysia (USIM) in 2021. The programs involved in the study are (1) Actuarial Science and Risk Management (ASRM), (2) Information Security and Assurance (ISA), (3) Applied Physics, (4) Financial Mathematics, (5) Food Biotechnology, and (6) Industrial Chemical Technology. The process was conducted approximately two months when the academic session A221 2022/2023 started. The survey includes clear instructions in English language for the people's convenience since the respondents consist of both local and international students. Since USIM medium of lecture is in English and Arabic, it is certain that the survey is understandable. The number of subjects included in a sample size is 310 total. The questionnaire was designed to solicit students' view on a five-point scale, where 1 stands for 'strongly agree' and 5 is 'strongly disagree'. With the help of SPSS 23, important factors were identified, and factor analyses were carried out.

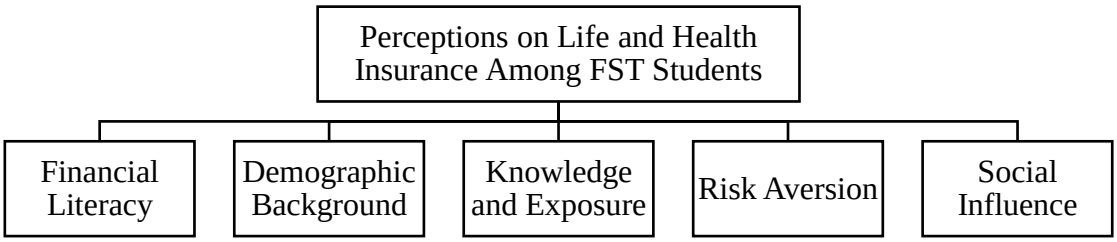

Figure 1: Conceptual Framework

Methods of The Study

Mishra et al. (2019) stated that descriptive statistics are used to summarize observations to communicate the largest amount of information as simply as possible. It is evaluated via IBM Statistics SPSS 23. To ensure that the survey is valid and reliable, Cronbach's alpha is used as an indicator of instrument or scale reliability in studies (Taber, 2018). Since there are many perspectives on the acceptable range of Cronbach's alpha, the most common one is anything above 0.7 is acceptable.

$$Sample\ size = \frac{\frac{z^2 xp(1-p)}{e^2}}{1 + \left(\frac{z^2 xp(1-p)}{e^2 N}\right)} \quad (1)$$

where *N* is the population size, *p* is the population proportion, *e* is the margin of error and *z* is the z-score.

$$\alpha = \frac{N * \bar{c}}{\bar{v} + (N-1) * \bar{c}} \tag{2}$$

where *N* is the number of items, $\bar{c}$ is the mean covariance between items and $\bar{v}$ is the mean item variance.

Normality Test

The normality test is used to provide summaries and the measure of tendency and dispersion to explain the quantitative data. Several ways to test the normality of data are by analysing skewness, kurtosis and Jarque-Bera.

Skewness:

$$S = \frac{1}{n}\sum_{i=1}^{n}\left(\frac{y_i - \bar{y}}{\hat{\sigma}}\right)^4 \tag{3}$$

where $\hat{\sigma} = s\sqrt{\frac{n-1}{n}}$ and *n* is the sample size and *s* is the sample standard deviation, y_i is the variable and $\bar{y}$ is the mean of the sample. Skewness is zero for a bell-shaped distribution.

Kurtosis:

$$K = \frac{\frac{1}{n}\sum_{i=1}^{n}(y_i - \bar{y})^4}{\hat{\sigma}^4} \tag{4}$$

where *n* is the sample size, y_i is the variable, $\bar{y}$ is the mean of the given data and $\hat{\sigma}$ is the standard deviation.

Jarque-Bera:

$$JB = \frac{(n-k)}{6}\left(S^2 + \frac{(K-3)^2}{4}\right) \tag{5}$$

where *n* is the number of observations in a sample, *k* is the number of regressors, *S* is the skewness of the sample and *K* is the kurtosis of the sample.

Pearson Correlation

Pearson correlation is a test that examines the link between a single dependent variable and one or more independent variables by measuring the strength of a linear association. The dependent variable in this study is the perception of life and health insurance and independent variables are financial literacy, demographic background, knowledge and exposure, risk aversion and social influence. The value should be between 0.00 to 1.00 and -1.00, and the closer the size of correlation to 1.00 (-1.00), the high positive (negative) the correlation would be.

$$r = \frac{\sum_{i=1}^{n}(x_i - \bar{x})(y_i - \bar{y})}{\sqrt{\sum_{i=1}^{n}(x_i - \bar{x})^2 \sum_{i=1}^{n}(y_i - \bar{y})^2}} \tag{6}$$

where $\bar{x}$ is the mean for x_i variable, $\bar{y}$ is the mean for y_i variable and *n* is the number of pairs of x_i and y_i values.

Regression Analysis

Regression analysis is a mathematical way of sorting out all variables that have impacts on the dependent variable. It will reveal the most matter factor and which variable to ignore. To simply put, regression is used to manipulate the data into giving us the summary of the output. In this study, multiple linear regression is used to investigate whether the students' perceptions will be affected by all independent variables. The equation of multiple linear regression is as follows:

$$y_t = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \cdots + u_i \tag{7}$$

$$PI = \beta_0 + \beta_1 FL + \beta_2 DB + \beta_3 KE + \beta_4 RA + \beta_5 SI + u_i \tag{8}$$

$$\widehat{PI} = \beta_0 + \beta_1 FL + \beta_2 DB + \beta_3 KE + \beta_4 RA + \beta_5 SI \tag{9}$$

where,

PI = Perception on life and health insurance among FST USIM students
FL = Financial literacy
DB = Demographic background
KE = Knowledge and exposure on insurance
RA = Risk aversion
SI = Social influence

RESULTS AND DISCUSSIONS

The idea of this section is to analyse the relationship between the perception of undergraduate students from the Faculty of Science and Technology (FST), Universiti Sains Islam Malaysia (USIM) towards life and health insurance plans with the determining factors by testing the Pearson correlation. The data will then be regressed by using Multiple Linear Regression via IBM SPSS Statistics 23. The findings, in turn, make it possible to obtain an expected and unexpected number of plans possession among FST USIM graduates in the future. The total number of respondents involved in the study was 310 undergraduate students FST USIM in 2021. In this analysis, variables affecting the perception are selected using previous research and the students' environmental experience. The variables are financial literacy (*FL*), demographic background (*DB*), knowledge and exposure (*KE*), risk aversion (*RA*) and social influence (*SI*), and the dependent variable are the perception on life and health insurance plans (*PI*).

Table 1: Variables of the Study

Number of insurance possession	Proxy for perception on insurance
Self-perceived level of awareness of the importance of financial planning and management	Proxy for financial literacy
Age, gender and household income	Proxy for demographic background
Level of education and programs studied	Proxy for knowledge and exposure
Self-perceived level of risk retention	Proxy Risk aversion
Life insurance possessions among family, neighbours and friends	Proxy for social influence

Reliability Test

The overall number of FST USIM students in 2021 is 1633, however, taking into account that the focus of this research is towards the undergraduates only, the total population is now 1601. Based on the sample size calculation where the confidence level is 95% and margin of error is 5%, therefore the total sample size needed for the study is 310. Since the ideal number for a pilot test is 10% of the sample size, therefore 31 respondents are needed. The reliability of data was calculated by projecting the Cronbach's alpha for this research. Based on Table 2, the Cronbach's

alpha for this pilot study is 0.766 with 6 number of items and 31 observations. Following the frequently cited acceptable range of Cronbach's alpha, the value is rather considered acceptable, indicating that all entries in the survey are valid and reliable.

Table 2: Reliability Testing for Pilot Study

Cronbach's alpha	Number of items	Number of Observations
0.766	6	31

Descriptive Analysis: Respondent Demographic Profile

Based on the Figure 2, it shows that students aged 21 to 22 years old are ahead than others, dominating more than half of the population, which are 57% or 178 respondents to be exact. Students of age 19 to 20 are next largest group followed by students of age 23 to 24 years old. Only 1% of the population belongs to 25 to 26 year old age group, and none of them are above age 27.

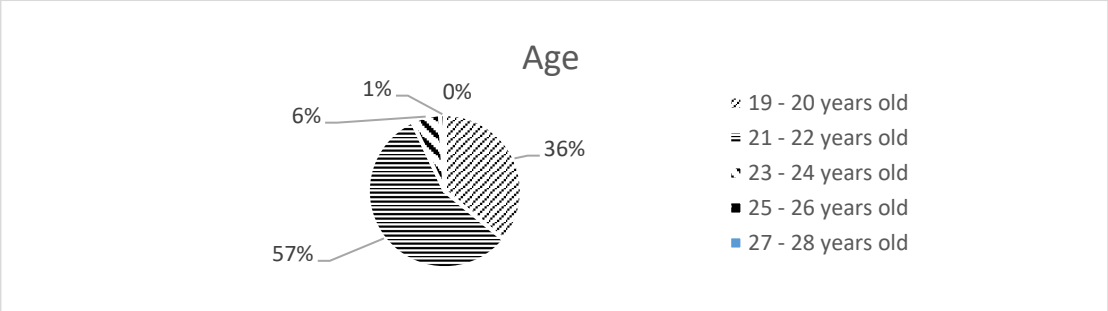

Figure 2: Age of the Respondents

Figure 3 shows that both genders take up almost similar percentage with 52% of the population are women and the remaining 48% are of male respondents. According to data retrieved from the Faculty of Science and Technology, there are more than 1,620 students who are currently pursuing their studies in 2021. However, taking out postgraduate students out of the equation, there are only 1601 students registered under the faculty, with at most 20 international undergraduate FST students (1.3% of the overall). Based on the result, the majority of the respondents are locals and only 2% are foreign students as shown in Figure 4.

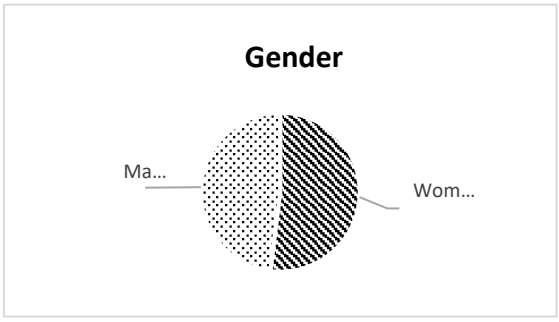

Figure 3: Gender of the Respondents

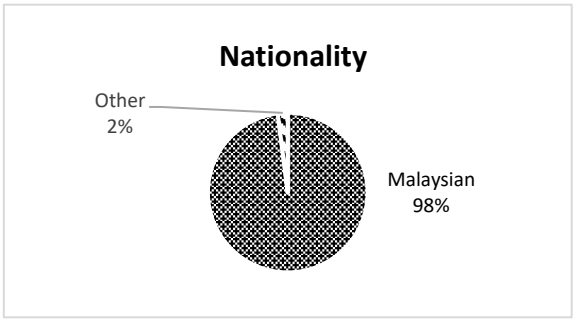

Figure 4: Nationality of the Respondents

According to Figure 5, there are six programs chosen that are registered under the Faculty of Science and Technology to be included in the study. The eliminated course programme, namely Health Industrial Technology is excluded from the equation on accounts of them being a new programme commencing in the last few years. Most respondents are from Actuarial Science and Risk Management program with 25% of the total respondents, followed by Food Biotechnology

(19%), Information Security and Assurance and Applied Physics (17%) and Industrial Chemical Technology and Financial Mathematics (11%).

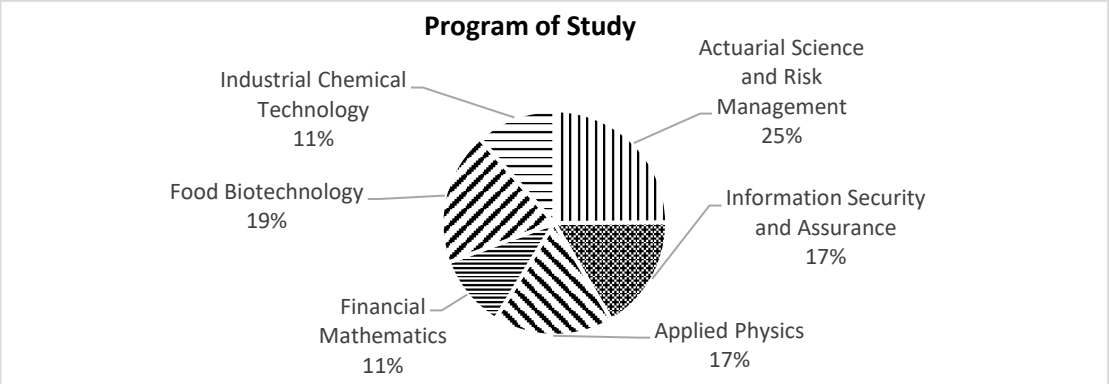

Figure 5: Respondents' Program of Study at FST, USIM

Figure 6 shows how much the students think that their program of study influences their way of thinking towards life and health insurance plans. As shown above, most of students agree that their program of study gives an impact on their perceptions towards it. Majority of FM (Financial Mathematics) and ASRM (Actuarial Science and Risk Management) students agree with the statement. This might be due to the courses offered to both the programs, where only FM and ASRM students get to study insurance and takaful, both life and general in depth.

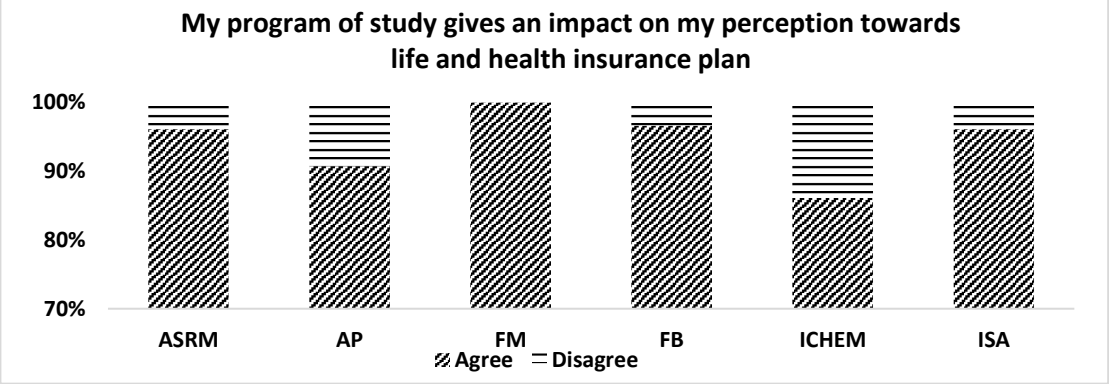

Figure 6: Students' perception on program influential on insurance

Descriptive Analysis: Respondent Financial Background

According to Figure 7, majority of respondents are being supported by parents (55%), followed by 26% of them are being sponsored by either government or private scholarships like JPA, Petronas, and Yayasan Khazanah. 17% other were funded by various organization and foundation given that scholar students are able to achieve certain CGPA at the end of their programme, like Yayasan Bank Rakyat and PTPTN. There are 2% of the group who is being managed financially by their own siblings.

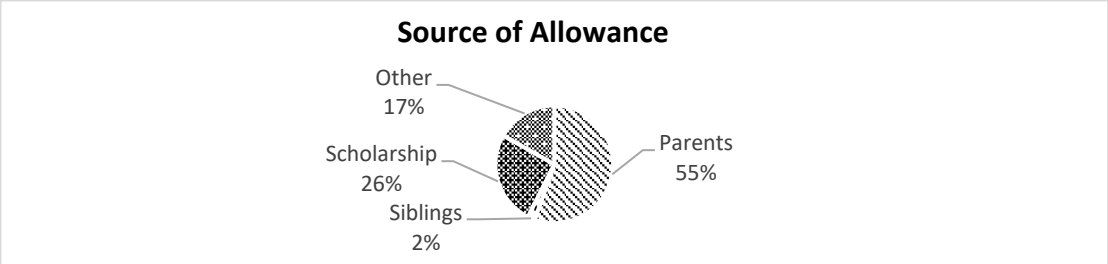

Figure 7: Respondents' source of allowance

Based on Figure 8, it indicated that most students receive about RM401 to RM600 allowance per month. Interestingly, 105 students survive with only RM101 to RM400 per month.

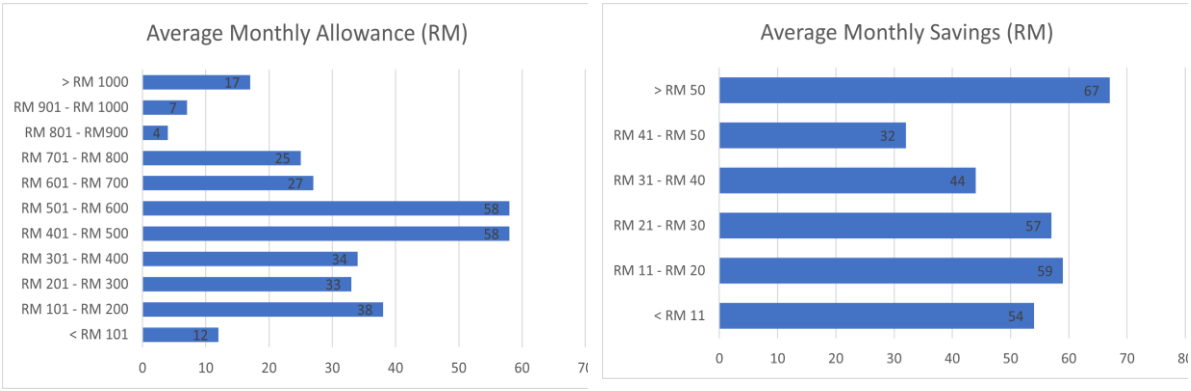

Figure 8: Average monthly allowance and savings of the respondents

According to the result of the survey, 12 students receive less than RM101 and 17 students get to enjoy more than RM1000 a month. Given their allowance received every month, it is almost impossible for the majority of the respondents to even save some pocket money every month. This is due to the price hikes and so many commitments to bear- transportation, phone bills, rental fees, and so many more. However surprisingly, almost 100 respondents are able to save at least RM41 a month after deducting all the needs and commitments. About 113 students are capable of saving at most RM20, but still, many do not have the privilege to even save a penny.

Central Tendencies Measurement of Constructs

The central tendency of the questionnaire is being measured by using the mean, median, mode, and standard deviation of the structure in order to analyse the distribution of data and to identify the associations among variables. As shown in Table 3, the range of mean of all the variables is between 1.34 to 2.16. The highest mean value falls under the dependent variable, *PI* and the lowest is the fourth independent variable, which is risk aversion, *RA*. The median of the study for the perception towards life and health insurance, financial literacy, demographic background, knowledge and exposure, risk aversion and social influence is 2.125, 2.000, 2.000, 2.200, 1.250 and 2.200 respectively. According to Table 3, the highest mode is social influence, SI and the lowest is risk aversion, *RA*. Moreover, the table also displays the standard deviation of the variables, where it basically explains how the data is spread out. The higher the value of the standard deviation, the larger it being spreads out. The standard deviation for all variables is within 0.28 to 0.51, where variable *SI* holds the highest value and variable *RA* holds the smallest value of standard deviation.

Table 3: Descriptive Analysis

Variables	Construct	Mean	Median	Mode	Standard deviation
DV	*PI*	2.1573	2.1250	2.25	0.43774
IV 1	*FL*	2.1242	2.0000	2.00	0.49828
IV 2	*DB*	1.8574	2.0000	2.00	0.50466
IV 3	*KE*	2.1116	2.2000	2.00	0.46945
IV 4	*RA*	1.3435	1.2500	1.25	0.28036
IV 5	*SI*	2.1129	2.2000	2.40	0.51265

Reliability Test

Table 4: Reliability Testing of the Study

Cronbach's alpha	Number of items	Number of observations
0.803	6	310

The result of the Cronbach's alpha for a total of 310 observation data is 0.803. The importance of computing a Cronbach's alpha is to demonstrate that tests and scales that have been constructed are fit for purpose (Taber, 2018). According to Adeniran (2019), since the value of Cronbach's alpha needs to be in between .00 and 1.00, the closer the value approaches 1.00, the more reliable the data is and depicts that the data has perfect consistency in measurement.

Normality Test

Deterministic properties of the variables are shown in Table 5. To assess whether they are normally distributed, the skewness and kurtosis value will be analysed. This test is to examine whether the data is well modelled by normal distribution while also compute how the data should be distributed. Other ways to test the normality are by projecting Jarque-Bera and Shapiro-Wilk testing. There are several ways to check whether the variables of the data are normally distributed. The first and easiest way is by checking the probability. The probability of the variable must be more than alpha (0.05) where the null hypothesis will be accepted, and the null hypothesis is rejected if it is less than 0.05, which concludes that they are not normally distributed. The second way is by checking the Jarque-Bera. This includes kurtosis and skewness inside the equation, where the value of kurtosis and skewness must be in the range of -2.0 to 2.0 for it to be reasonable. The value of Jarque-Bera on the other hand must be more than 5 to be normally distributed. Based on the Table 5, it can be said that all variables are normally distributed except for *DB* and *PI* since their Jarque-Bera value are 1.273 and 2.112 respectively.

Table 5: Normality Test

	FL	*DB*	*KE*	*RA*	*SI*	*PI*
Skewness	-0.433	-0.130	-0.236	-0.274	0.817	-0.199
Kurtosis	0.321	-0.177	-0.579	0.394	0.506	-0.075
Jarque-Bera	102.388	1.273	7.197	5.881	37.750	2.112
Observations	310	310	310	310	310	310

Inferential Analysis

This analysis is used to measure the relationship between variables and to test the strength of between them. Based on the result in Table 6, it has shown a positive relationship between variable *PI* with all independent variables at 1% significance level. It appears that the students' perception on life and health insurance is positively correlated with financial literacy ($r = 0.410$), demographic background ($r = 0.290$), knowledge and exposure ($r = 0.546$), risk aversion ($r = 0.567$) and social influence ($r = 0.415$) while assuming each other explanatory variables remain ceteris paribus. Based on the result, it can be said that risk aversion has the highest positive value, followed by knowledge and exposure, social influence, financial literacy and lastly demographic background.

This means that demographic background has the weakest positive relationship with the perception towards life and health insurance plans. Nevertheless, it indicates that as the determining factors are increasing, the students' perceptions towards life and health insurance plans will also better. Since all Pearson Coefficient Correlation values are close to 0.8, therefore there is a multicollinearity (Shrestha, 2020).

Table 6: Pearson Correlation Analysis

	FL	*DB*	*KE*	*RA*	*SI*	*PI*
FL	1					
DB	0.391**	1				
KE	0.422**	0.343**	1			
RA	0.453**	0.398**	0.529**	1		
SI	0.321**	0.326**	0.332**	0.450**	1	
PI	0.410**	0.290**	0.546**	0.567**	0.415**	1

Multiple Linear Regression

The relationship between the perception of USIM FST students on life and health plans and its determinants is estimated by the following regression equation:

$$PI = \beta_0 + \beta_1 FL + \beta_2 DB + \beta_3 KE + \beta_4 RA + \beta_5 SI + \epsilon \tag{10}$$

Where *PI* denotes self-reported perception on life and health insurance plans among students of Faculty of Science and Technology, Universiti Sains Islam Malaysia. The definition of the perception used in the survey is based on the students' opinions and insights on insurance plans whether the students think that life and health insurance plans are considered as one of the important tools for their financial protection and if both plans can be a kind of spiritual compensation when it became a subsidy to reduce the burden of family member when dealing with the death of the breadwinner or when dealing with adverse financial consequences. *FL* is financial literacy, which is a proxy for someone's ability to manage his or her finances effectively. In this case, their literacy will be measured by their self-reported understandings on their financial planning and their careful preservation practice. It will determine if their allowances had affected their economic decisions. Furthermore, *DB* is a variable for the respondents' demographic background. This variable consists of personal and lodging aspects, where they will measure if gender and their household income have an influence on life and health insurance demand. Next independent variable is *KE* or knowledge and exposure. This is a proxy for level of education on insurance where they will determine whether professional advice from financial experts is more reliable since they have strong desire and awareness to protect their dependents and maintain their quality of life. *RA* or risk aversion denotes if someone is a risk averse or risk taker person. This variable is closely related to consumer's buying decision since insured must take it into account as an added commitment and that are they able to sustain financially at least until their plans mature. Lastly *SA* or social influence in this context regards to someone's exposure towards insurance among his or her social circles.

$$\widehat{PI} = \hat{\beta}_0 + \hat{\beta}_1 FL + \hat{\beta}_2 DB + \hat{\beta}_3 KE + \hat{\beta}_4 RA + \hat{\beta}_5 SI \tag{11}$$

Table 7: Regression Coefficients

Model	Beta	*t*	*p*-value	Collinearity Statistics	
				Tol.	VIF
(Constant)	.260	1.832	.068		
FL	.126	2.090	.037	.704	1.420
DB	-.026	-.502	.616	.760	1.315
KE	.304	5.669	.000	.666	1.502
RA	.328	5.311	.000	.583	1.716
SI	.281	3.105	.002	.758	1.319

Estimated Model:

$$\widehat{PI} = 0.260 + 0.126\,FL - 0.026\,DB + 0.304\,KE + 0.328\,RA + 0.281\,SI \qquad (12)$$

Based on the model above, the intercept of the regression is 0.26. It also shows that not all of the independent variables have a significant relationship with the plan's perception. According to the *p*-value in the table above, variable *DB* (demographic background) is insignificant as the value is more than 0.05, which is 0.616, given 95 percent confidence level. Furthermore, the regression coefficient for variable *FL* is 0.126, showing that it will cause a marginal change of 0.126 in the perception on life and health insurance demand for every change in financial literacy. Following the same principal, since the regression coefficient for variable *KE* and *RA* are 0.304 and 0.328 respectively, therefore for every change in both knowledge and exposure and risk aversion, there will be a marginal change in the dependent variable. Lastly, multicollinearity does not exist as all the value of VIF are smaller than 10 (1.420, 1.315, 1.502, 1.716 and 1.319) and all tolerance statistics are greater than 0.1 (0.704, 0.760, 0.666, 0.583 and 0.758).

Table 8: Multicollinearity Analysis

Model	*R*	*R* Square	Durbin-Watson
1	.659[a]	.434	1.819

Table 8 shows a brief idea on how the dependent variables are related with the independent variables. It shows that *R*, or coefficient of correlation is 0.659, which means there is a positive relationship between the dependent variable and all independent variables. It also indicates that the *R* square is 0.434, which means 43.4 percent of variance in the perception on life and health insurance plans have been explained by all five independent variables which are financial literacy, demographic background, knowledge and exposure, risk aversion and social influence, while the remaining 56.6. percent are contributed by other factors. Since the value of Durbin-Watson is 1.819, it indicates that there is no first-order autocorrelation. Therefore, the error terms are not autocorrelated and serial correlation does not exist.

CONCLUSION

Life and health insurance is becoming tremendously popular not just in developed countries, but also in developing countries such as Malaysia. Despite the presence of a variety of hurdles at the micro level, it is found that students of the Faculty of Science and Technology, Universiti Sains Islam Malaysia (USIM) has a very good perception on life and health insurance plans. If the policy makers of USIM realize the importance and significance of introducing these plans to all students, be it through courses or workshops, it will enable students to have deeper understandings on insurance. In turn, the knowledge on insurance will be spread out especially among their own

family and social circle. According to the result of the research, it is found that there are some determinants that affect students' perceptions on life and health insurance plans, which are financial literacy, their demographic background, knowledge and exposure, risk aversion and social influence. The result shows that Actuarial Science and Risk Management (ASRM) and Financial Mathematics (FM) students are more aware of the importance and significance of insurance, and that at least 44 percent of them perceive good impression on life and health insurance products. Since they are all still students and either fully depend on their parents or scholarship and part time works, they are not able to purchase the insurance themselves however if they are financially independent, insurance will be added into their commitment list. Based on the study, there is a correlation relationship between the perception on life and health insurance plans with financial literacy, knowledge and exposure, risk aversion and social influence. Furthermore, the model constructed is a good model as the *R* squared is 43 percent, in which 43 percent of all variations in the perception is explained by all independent variables, and the remaining percent by other factors.

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