

DETERMINANTS OF SAVINGS BEHAVIOR AMONG UNIVERSITY STUDENTS IN SABAH, MALAYSIA

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Abstract: *Most economists believe that an increase in savings will flourish the growth of economic activities and further strengthening the economy of that particular nation. However, recent news report stated that household debts in Malaysia have gradually risen to 86.8% of its GDP, making it the most highly levered households in Asia. As a result, total household savings remained insufficient and they are mostly under prepared for retirement. What is more worrying is the young adults are reported to be the main group trapped into this financial complexity. This issue has raised concern on the needs to educate the young adults the fundamental value of supplementing their savings in order to ensure sufficiency of their future retirement income. With regard to savings behaviour, the needs of savings amongst individuals differ from one to another as a result of different mind-set, behaviour, knowledge, and social environment. The research therefore intends to (i) investigate factors that influence savings behaviour amongst university and college students; and (ii) to examine the role of financial attitudes in mediating the relationship between financial literacy and savings behaviour. Structured questionnaires were distributed to 1728 undergraduate students studying at higher learning institutions across major cities in Sabah using convenient sampling technique. Structural equation modelling was applied using the SMART-PLS software v.2.0 to execute the analyses. Results revealed that family involvement, peer influence, self-control and financial literacy play an important role in nurturing students' savings behaviour. In addition, students are said to have more favourable financial attitude when they are financially literate. Financial attitude however, does not have the mediation effect on the relationship between financial literacy and savings behaviour.*

Keywords: Financial Literacy, Savings Behaviour, Parental Socialization, Partial Least Square

Introduction

Savings play an important role in maintaining economic growth. Although its role is important at different levels (namely households, companies and government savings), these three entities however are closely interlinked. For instance, if households save too little, one might have to struggle financially and with deficient emergency savings, it will increase anxiety and leads to serious health problems (Prawitz et. al, 2006). On the broader perspectives, there will be insufficient funds available for the government to invest in social and physical infrastructure. Funds, which are placed in financial assets, are channelled through financial intermediaries for investments and subsequently enriching the country through higher productivity and economic growth. According to Domar (1946) and Tang (2010), the speed of long run economic growth depends on the ability to save since a high savings rate will increase investments, affect capital accumulation and consequently stimulate economic growth. Similar to this, Mahdzan and Tabiani (2013) added that high savings could hedge countries against economic downturns and financial crisis, insuring against time of shock and important way of improving well-being. It also leads to accumulation of wealth that enables individuals to improve their living standard and to respond to new opportunities (Gokhale, 2000; Cowen, 2006). In some countries, savings are considered as backbone to certain sectors of its economy. For instance in Azerbaijan, household savings is regarded as the most important investment resource for the development of the non-oil sector, whilst its foreign capital contributing more on production of natural resources like oil and gas (Bairamli and Kostoglu, 2010). In short, individual savings will not only benefit households, but also the entire nation. Therefore it is important to have the knowledge on factors influencing individuals' saving behaviour as it is essential in maintaining the economic growth as it will give benefits to the entities involved such as households, financial authorities (namely the retail banks), government and other related stakeholders.

Issues and Problems

There has been tremendous amount of effort taken by the Malaysian government to promote higher levels of saving amongst its people. Still, the saving rate remains low and what is more worrying is most Malaysians are not earning sufficient income as most of their disposable income went into servicing debts. This further creates doubt on their ability to save, which in the end could give detrimental effect to the growth of the nation's economy. Some households in other countries are also facing similar problem where most of their country's consumption growth is financed by borrowing which further resulting into problematic debt (Lunde and Poppe, 1991; Lea *et. al.* 1993; Webley and Nyhus, 2001). The life of future generations of the elderly could be haunted by a strained economic condition unless they make early preparation and save sufficiently for retirement. The Malaysian household debts have been on the uptrend, increasing from 57% of Gross Domestic Product (GDP) in 2002 to 70% of the GDP in 2009. The household debts continued to rise sharply, hitting a new record of 87.9% of GDP in 2014, thus making Malaysia the most highly levered household in Asia (Bank Negara Malaysia, 2014). The primary reason for the increase is the spiraling property prices due to high demand on properties caused by the rapid urbanization that prompted young adults, in particular, to buy their own property.

In line with this, statistics by Bank Negara Malaysia, the country's central bank, reported that housing loans dominates the household debts chart, followed by motor vehicle financing, personal loans, credit cards and other forms of smaller household liabilities. Another staggering fact was that Malaysia's household debt to disposable income ratio was recorded at 140% high,

the highest as compared to other developed economies such as Japan and United States (“Household debt in Malaysia: Is it sustainable?” n.d). The statistics indicate that half of Malaysian households’ disposable income went into servicing debts and this worrying fact raised another concern on their ability to save for future apart from the rising household debt/GDP. Although debt is perceived as essential to economic growth, Cecchetti *et. al.* (2011) argued that it could also be a reason to economic deterioration. As the debt level rises, the borrowers’ ability to pay is more sensitive to changes in income level as well as interest rate. Even more worrying is that Malaysian young adults are reportedly the main group trapped into this financial complexity.

The debt problem particularly among young Malaysian adults however, is arguably caused by the lack of financial knowledge, overspending on rather unnecessary items or due to impulse buying, and maintaining affluent lifestyles that prompted them to resort to lending to satisfy their needs. In addition, the advancement of the technology particularly on-line purchasing websites where customers are able to place their order on-line, enjoy rewards from their buying and have their goods delivered to their doorstep has offered new shopping experience which is both convenient and thrilling. This further encourage buying activities and since most on-line purchases are undertaken using credit cards, the debt level due to credit cards transaction will increase, as well. The high spending habit among young adults also makes them an easy target particularly by banks to promote their credit-based banking facilities. As a result of this unhealthy spending habit, the number of people seeking for financial advice had tripled, whereby about 280,428 individuals reported to have enrolled in financial and debt management program provided by The Malaysian Credit Counseling and Debt Management Agency (AKPK) since the agency commenced operation in 2006. From all the cases reported, 44 percent of the individuals involved in this financial counseling program belonged to the 30-40 age groups. Consequently, while savings level amongst young Malaysian adults is rather low and insufficient, their spending is excessive, unfortunately.

This issue has raised concern on the needs to educate the youth to prepare for their future especially educating them on the importance to start their savings earlier in order to ensure sufficient income at their retirement. So what actually motivates the young adults to save and have a better future retirement planning? This is a very important issue that needs to be addressed and any outcomes from this study will further assist on designing and implementing more practical financial programs that could benefits the Malaysians, particularly the young adults. Sabah is state that is full with diversity in its people as well as cultures. Unlike any others, Sabah has over 32 ethnic groups in which 28 are recognized as Bumiputera or indigenous people. The rich cultural heritage of the people of Sabah offers a lot of differences in terms socio-economic lifestyles, as well as different set of living standard. By taking into consideration on these perspectives, the savings behavior could differ compare to other states in West Malaysia. Considering that students represent a sizeable group of the young adults, this study will focus on students of higher learning institutions to examine their savings and spending behaviour. Apart from their population, the choice of college and university students is motivated by the fact that they will become the main thrust of human resources upon their graduation and any financial misconduct or problems during the early stage of their life could bring negative impact on their own individual life, family and career.

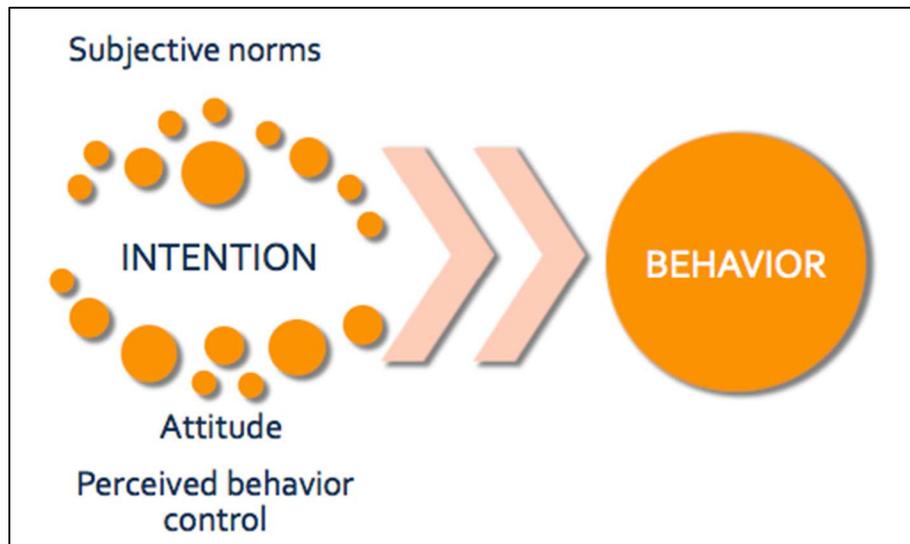
Due to abovementioned reasons, this study intends to embark the following objectives:

- 1- To determine factors that influence savings behaviour amongst students of higher learning institutions in Sabah, Malaysia.
- 2- To determine the mediating effect of financial attitude on financial literacy and savings behaviour.

Literature review

The underlying theory of the model developed in this research is based on Theory of Planned Behaviour initiated by Ajzen (1991) where he argued that people perform several behaviours because they are intended to do so. The intention can be determined by three important factors, which are attitude, subjective norms and perceived behavioural control. Attitude means the evaluation made by the individuals towards certain behaviour while perceived behaviour control refers to individuals believed on their ability to perform such behaviours. For this study, attitude is used to evaluate how financial literacy could predict the students' savings attitude and behaviour. While perceived behavioral control is used to explain self-control, as students with high level of self-control will perceive the ease of saving because they have the ability to regulate their desires, self-discipline and delay gratification. Subjective norms on the other hand refer to how social pressures affect the students' intention to save and it is used to explain how the influence from parents and peers will give an impact towards their savings behaviour.

Diagram 1: Ajzen's (1991) Theory of Planned Behavior



Factors that Influence Savings Behaviour

Social influence involves the exercise of social power by a person or group to change the attitude or behavior of other persons or groups in a particular direction (Franzoi, 2006). In this study, social influence refers to parent socialization and peer influence. Several literatures acknowledged the role of parents as the key to their children's financial socialization (see Cude et. al., 2006; Sam et. al, 2012), in which, parents are highly influential in developing their children's financial behavior, thus they should become the role model to their children in managing their financial affairs. Webly and Nyhus (2006) further added that economic socialization (namely discussing financial matters with parents) would have an impact on children's future orientation. In other words, children who have good relationship with their

family are more likely to be future oriented and have a good financial behavior. Shim et. al. (2010) discovered that the role played by parents is significantly greater than the role played by working experience and high school financial education of young adults. A set of supportive social support from parents and family members are crucial in helping young adults and adolescence achieve their successful adult life. When parents displayed a positive financial behavior, they will become financial role models to their children and will trigger positive attitudes and behavior amongst the young adults. Norvitis and Maclean (2010) revealed that parenting variables are significantly related to college students' credit card problems and credit card debt in the United States. Of all the parenting variables, parenting facilitation appeared to have the most significant influence on credit card usage amongst college students. Parents who provide hands-on approach on teaching their children about money management, allowances and bank accounts will further motivate them to lower their credit card usage in college. Norvitis and Maclean (2010) further added that childhood is the most important period that will influence individual's behavior and attitude during adulthood. Therefore, parents play an important role to influence children in managing their financial affairs.

Besides parenting factors, peer influence could also predict individuals' financial behavior. In Malaysia, it was argued that the most obvious reason that spoiled the young adults in managing their financials was due to peer pressure (Household debts are self inflicted" 2013). Similar argument confirmed by Duflo and Saez (2001) where they found that people with similar preferences tend to belong to the same group, thus creating a correlation between group and individual behavior. They concluded that peer effects play an important role in retirement savings decisions of university employees in the United States. Discussions on self-control on the other hand, have been tied to various behaviours such as wealth accumulation (Letkiewicz and Fox, 2014); academic performance (Duckworth and Seligman, 2005); retirement planning and home ownership (Moffitt et al., 2011). Those with low self-control are more prone to have money management and credit problems and buying on impulse (Faber and Vohs 2004; Verplanken and Herabadi 2001). Another study by Esenvalde (2011) highlighted that self-control is not only positively related to savings behaviour, but also partially mediated the relationship between individuals' achievement motivation and savings behavior.

Vast literatures on financial literacy have been published in recent years. Some literatures argued that individuals are financially illiterate (Lusardi and Mitchell, 2005; Lusardi, Mitchell and Curto, 2010, Sang et. al., 2013) that consequently affect their financial, investment and retirement planning decision (Bernheim and Garrett 2003; Lusardi, 2008; Lusardi and Tufano, 2009; Van Rooij, Lusardi, and Alessie 2011). Other studies reported the positive effect of financial literacy to financial outcomes such as investment practices and savings (Hilgert et. al., 2003) and both liquid and illiquid assets (Letkiewicz and Fox, 2014). Having a poor financial knowledge will also increase individuals' financial burden of debts that positively associate with non-payment of consumer credit (Gathergood, 2012). In Malaysia, personal financial planning is still considered at its infancy stage since most Malaysians do not take control of their own financial affairs (Citi, 2008 and Gan, 2008; as cited in Boon et. al, 2011). Lack of information and financial knowledge are said to be the main contributors to this problem, which reflect individuals' readiness to pursuing personal financial planning. Due to the poor financial knowledge and awareness, the aggregate savings of Malaysian households is relatively low whilst majority of them have not given any thought on retirement planning, unfortunately. In a report, HSBC revealed that almost 70 per cent of those polled worried about coping with

finances upon retirement while 40 per cent expected a poorer standard of living when they retire. Although there are literatures that suggest financial education could be one of the best antidote in enhancing financial literacy (Lusardi, 2008; Chen and Volpe, 2002; Ibrahim et. al., 2009), Sam *et. al.* (2012) in their study found that attending/participating in financial education program was not statistically significant with undergraduate students' financial management behavior. The reason was because the students' intention to learn and master the financial management skills and apply it in daily practices is vary, thus they might forget whatever they have learnt in class. Furthermore, the class itself was conducted in a large group, which might further reduce the effectiveness in delivering the knowledge.

Van Rooij, Lusardi and Alessie (2007) revealed that individuals who are financially illiterate do not plan and are less likely to invest in high-risk investments such as stocks. Financial literacy is also regarded as the most important component in achieving a successful adult life (Shim et. al., 2010) as it plays a crucial role in developing not only individuals' financial management attitude, but also attitude about general life. Young adults are advised to begin learning about finance and money management during adolescence in order to achieve a successful adulthood transition. In the context of university students, Beal and Delpachtra (2003) examined financial literacy level amongst undergraduate students in Australian regional university where they found that most students who participated in the survey scored fairly well for financial literacy and knowledge. In particular, business students scored better in comparison with other majors. In terms of gender differences, male college students in Malaysia have higher level of financial knowledge than their female counterparts (Falahati and Paim, 2011). Similar results confirmed by Chen and Volpe (2002) where they observed that female students consider English and humanity are most important courses than finance, and they generally have less enthusiasm, lower confidence and less willingness to learn about personal finance topics that male students do. It was also discovered that students with less financial knowledge had more negative opinions about finances and made more incorrect financial decisions. They pointed out that having a low level of financial knowledge limits student's ability to make informed decisions.

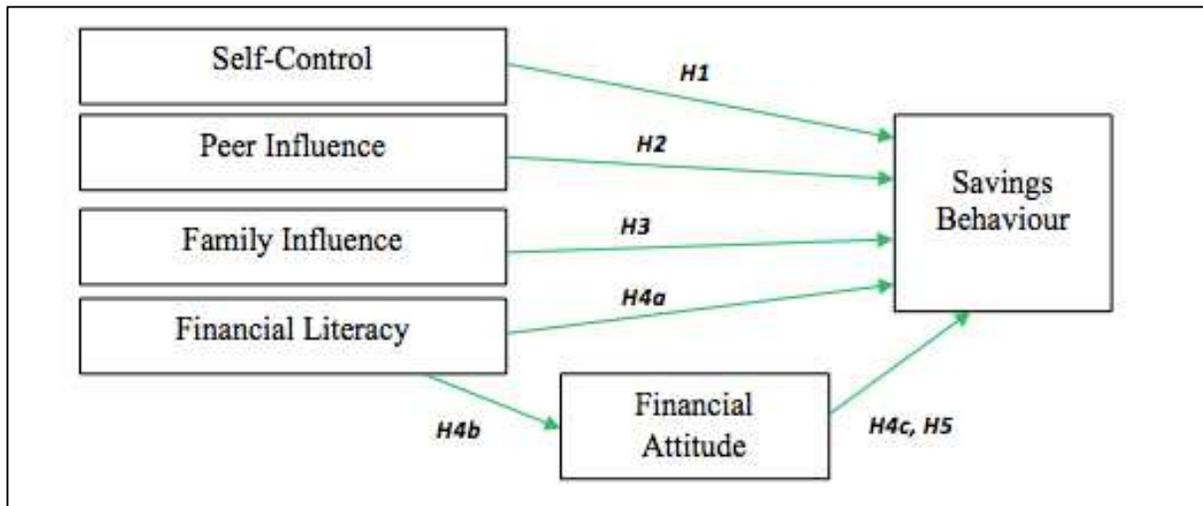
Financial knowledge alone is not enough to achieve a successful adult life. Instead, it must be supported with positive attitudes and confidence to help individual especially young adults making smart choices. Shim *et. al.* (2010) in their study on the role of parents, work and education on financial socialization among first year college students, argued that financial knowledge played an important role in predicting financial attitudes which, in turn, lead to healthy financial behaviors. This finding supports the hierarchical relationship of knowledge-attitude- behavior and suggests that financial knowledge does have a direct link with financial behavior. Sang *et. al.* (2013) found that the level of financial literacy does not directly affect ones' decision related to financial issues but having the financial knowledge will trigger their attitudes towards a positive financial behavior. Sabri and McDonald (2013) suggested that financial literacy had a positive, significant effect on savings behavior. However, their study did not highlight whether financial literacy could trigger attitude towards individuals savings behavior or not.

Data and Methodology

The sample consists of students studying at public and private universities and colleges in Sabah, Malaysia. The data collection was carried out using convenient sampling technique. The researcher's first contacted the Deputy Dean / Head of Student Affairs of the targeted institutions to get approval to distribute the questionnaires. Once the approval is received, the lecturers were

randomly contacted to obtain their approval to conduct the survey at their classroom. To ensure the students' understanding in answering the questionnaire, a briefing on the purpose of the study, definition of each of the questions and confidentiality of their responses were given before the students answered the questionnaire. The amount of time taken to finish the survey for each class was approximately around 20 minutes. A total of 1728 questionnaires were complete and usable. All questions were designed using four- points likert scale ranging from (1) Strongly Disagree to (4) Strongly Agree, and modified to suit the students' saving behavior context. Part A comprises of questions related to basic demographic information such as gender, course of study, marital status, age and ethnicity. Part B consists of several items measuring both dependent and independent variables. The questionnaire consists of five main parts and was adapted from various literatures.

Figure 1: Research Framework



The formulation of the research framework is based on theories and previous findings by Fabrigar et. al. (2006), Gathergood (2012) and Abdullah (2013).

The study used the Structural Equation Modelling (SEM) - Partial Least Squares (PLS) approach for analysis of the data and research model. Data were firstly coded and entered using the SPSS version-17 statistical software. It was then transferred to SMART-PLS software version 2.0 for testing the hypothesized relationship. A bootstrapping method (5,000 re-samples) was used to determine the significance levels for loadings, weights, and path coefficients. Data were firstly coded using SPSS version-17 and structural equation modelling was applied using the SMART-PLS software v.2.0 to execute the analyses.

Results

Demographic Profile of Respondents

Majority of the respondents are female (68.9%) with total male frequency were only 537 out of 1728 involved. On the other hand, majority of the respondents aged less than 30 and single. The single largest ethnic group participated in this study is Malay, which stands at 27.8%, closely followed by other local Bumiputera ethnic groups such as Serani, Suluk, Iban, Bisaya and Brunei (25.2%), Kadazan Dusun (18.6%), Bajau (13.7%) and Chinese (12.6%). The Indians on the other hand was the minority ethnic group to participate in this study standing at 1.9%. This can be concluded that respondents participated in this research came from various ethnicity backgrounds. About 35.2% of the respondents received financial support from parents and

family members whilst 25.3% opted for educational loan. Few of the respondents (5.4%) were granted a scholarship to finance their study.

Table 1: Results of the measurement model

Construct		Loadings	CR	AVE
Financial Attitude	ATT10	0.774	0.804	0.578
	ATT8	0.695		
	ATT9	0.808		
Financial Literacy	FL1	0.733	0.843	0.517
	FL2	0.728		
	FL3	0.729		
	FL4	0.732		
	FL6	0.671		
Family Influence	FS1	0.696	0.805	0.509
	FS2	0.717		
	FS4	0.625		
	FS5	0.806		
Peer Influence	PI1	0.735	0.761	0.615
	PI2	0.831		
Self-Control	REC_SC1	0.731	0.859	0.507
	REC_SC3	0.602		
	REC_SC4	0.674		
	REC_SC5	0.628		
	REC_SC6	0.824		
	REC_SC7	0.788		
Savings Behavior	SB1	0.781	0.815	0.526
	SB3	0.641		
	SB5	0.766		
	SB9	0.705		

Convergent validity, outer loading, AVE, discriminant validity and CR were examined in order to evaluate the measurement model. Following Henseler *et. al.* (2015), we checked the AVE and the factor loadings in order to access convergent validity. Referring to Table 1, the loading factors (which is the individual measurement items) were between 0.628 – 0.831 which is above the cut-off value of 0.6 as suggested by Hair *et. al.* (2016). The AVE values on the other hand were above 0.5 ranging from 0.507 - 0.615, while the Composite Reliability (CR) ranged from 0.761 – 0.859 which is above suggested value of 0.7. Therefore it is concluded that all of the constructs (namely financial attitude, financial literacy, family influence, peer control, self-control and savings behavior) are valid measures of their respective constructs based on their parameter estimates and statistical significance.

Discriminant validity was assessed by examining the correlations between the measures of potentially overlapping constructs. According to Compeau *et. al.* (1999), items should load more strongly on their own constructs in the model, and the average variance shared between each construct and its measures should be greater than the variance shared between the construct and other constructs. It was measured by using Fornell and Larcker's (1981) criterion, while the

correlation was measured using the square root of the AVE. As shown in Table 2 below, the correlations between the measures were lower than the square root of the AVEs. The AVE values are significant above the cut-off point 0.5, suggesting adequate convergent validity.

Table 2: Discriminant Validity

	1	2	3	4	5	6
1. Family Influence	0.714					
2. Financial Attitude	0.293	0.76				
3. Financial Literacy	0.345	0.138	0.719			
4. Peer Influence	0.309	0.19	0.31	0.784		
5. Savings Behavior	0.502	0.169	0.531	0.326	0.725	
6. Self-Control	0.125	-0.02	0.207	-0.047	0.304	0.712

Note: values on the diagonal (bolded) are square root of the AVE while the off-diagonals are correlations

Assessment of the Structural Model

We then proceed with structural model to assess the path coefficients, collinearity, effect size, the coefficient of determination (R²) and predictive relevance. To test the proposed hypotheses, path analysis and bootstrapping were performed with 5000 resamples to obtain the standard path coefficients, standard errors and t-value. Table 3 provide the summary of the structural model. The first hypothesis shows a positive relationship between self-control and savings behavior ($\beta=0.202$; $t=10.106$)(** $p<0.01$), and thus, H1 was supported. Peer influence indicates a strong positive direct relationship with savings behavior ($\beta=0.132$; $t=5.867$)(** $p<0.01$) thus supporting H2. Family influence on the other hand recorded a strong impact and significant relationship with savings behavior ($\beta=0.315$; $t=14.175$)(** $p<0.01$), thus, H3 was supported. Financial literacy reports the similar story, being amongst the powerful factor with a significant relationship with savings behavior ($\beta=0.339$; $t=14.719$)(** $p<0.01$) and so was with financial attitude ($\beta=0.139$; $t=5.539$)(** $p<0.01$), thus H4a and H4b were supported. However, the mediation between financial literacy, financial attitude and savings behavior was insignificant ($\beta=0.001$; $t=0.333$), suggesting that there was no mediation effect between financial literacy and savings behavior via financial attitude. On a similar note, the relationship between financial attitudes with savings behavior was also insignificant ($\beta=0.09$; $t=0.422$) thus, H5 was not supported. With all these analyses, it can be concluded that H1, H2, H3, H4a, and H4b were supported, whilst H4c and H5 were not supported.

Table 3: Summary of the structural model

Hypotheses	Beta Values	Std Error	T-values	Decision	Mediation
H1: Self-Control -> Savings Behavior	0.202	0.02	10.106**	Supported	
H2: Peer Influence -> Savings Behavior	0.132	0.022	5.867**	Supported	
H3: Family Influence -> Savings Behavior	0.315	0.022	14.175**	Supported	
H4a: Financial Literacy -> Savings Behavior	0.339	0.023	14.719**	Supported	
H4b: Financial Literacy -> Financial Attitude	0.139	0.025	5.539**	Supported	
H4c: Financial Literacy->Financial Attitude->Savings Behavior	0.001	0.003	0.333	Not Supported	No
H5: Financial Attitude -> Savings Behavior	0.009	0.021	0.422	Not Supported	

*Notes: ** $p<0.01$; * $p<0.05$*

Table 4: The result of the prediction values

	SSO	SSE	Q ² (=1-SSE/SSO)
Family Influence	6,912.00	6,912.00	
Financial Attitude	5,184.00	5,128.93	0.011
Financial Literacy	8,640.00	8,640.00	
Peer Influence	3,456.00	3,456.00	
Savings Behavior	6,912.00	5,323.04	0.23
Self-Control	10,368.00	10,368.00	

Hair *et. al.* (2016) suggested that Q2 should also be reported together in explaining the predictive relevance which can be obtained using the blindfolding procedures and only applied to a reflective model. Result from the analysis shows that the Q2 value for savings behavior and financial attitude were 0.23 and 0.011 respectively, more than zero which is the cut-off value. This indicates that the model has predictive relevance (Chin, 2010).

Summary of Hypotheses Testing

The objectives of the study were to examine the factors that influence savings behavior amongst students of higher learning institutions in Sabah, Malaysia and the mediating role of financial attitude between financial literacy and savings behaviour. It can be seen from the result that there is a direct relationship between self-control and savings behaviour ($\beta=0.202$; $t=10.106$) (** $p<0.01$), which is consistent with findings by Faber and Vohs (2004), Verplanken and Herabadi (2001) and Esenavalde (2011). Self-control is the ability to identify and regulate one's emotions and desires. It is characterized by the exertion of will, self-discipline, and ability to delay gratification. In short, the result suggests that students' savings behavior improves when they perceived better and higher self-control. Having such positive behavior could protect them from making financial mistakes such as buying on impulse (Verplanken and Herabadi, 2001), which further leads to money management and credit problems (Faber and Vohs, 2004). Having the ability to delay gratification for better life outcomes would help them making better financial decisions in life. According to Letkiewicz and Fox (2014), childhood self-control can predict adolescents' mistakes thus helping them to have better life outcomes when they improve their self-control over time.

The second hypothesis resulted in a positive relationship between peer influence and savings behavior ($\beta=0.132$; $t=5.867$)(** $p<0.01$) and in line with study by Duflo and Saez (2001). The finding suggests that students' involvement in social and financial activities with friends (such as money spending and savings) could significantly influence and affect their savings behavior. The result is similar with Field *et. al.*'s (2015) study where they found that women are able to expand their businesses, less likely to be housewife and earn higher household income when they attended training with a presence of a friend. Duflo and Saez (2001) posited that there is a correlation between group and individual behavior when they observed that people with similar preference tend to stick in the same group.

The third hypothesis (H3), family influence positively associates with students' savings behavior ($\beta=0.315$; $t=14.175$)(** $p<0.01$), and consistent with past study by Webly and Nyhus (2006), Clarke *et. al.* (2005) and Lyons *et. al.* (2006). Close family bonding and influence from parents

is the key to positive impact to children's future orientation. It is the duty of parents to directly involve in shaping their children's future financial orientation, as it will trigger positive financial attitudes and behaviour. Examples of parental involvement could be in the form of home activities (such as displaying good financial and spending practices, clear financial communication and discussion with family members); parental participation in saving programs, and financial seminars for parents (Van Campenhout, 2015). Such active involvement could further tackle financial illiteracy problem and serves a great alternative in providing financial education to their children (Buccioli and Veronesi 2014).

Meanwhile, financial literacy has the highest score and regarded as the most powerful factor in shaping the students' savings behavior ($\beta=0.339$; $t=14.719$)(** $p<0.01$), thus supporting H4a. The arguments on the importance of being financially literate are proven to be consistent with those of Chen and Volpe (1998), Hilgert *et. al.* (2003), Lusardi (2008), Lusardi and Tufano (2009), Van Rooij *et. al.* (2011), Sabri and McDonald (2013) and Letkiewicz and Fox (2014). In view of this, there arises the need for financial education to be given a highlight and be embedded as part of academic curriculum in the primary and secondary levels of education in Malaysia. It is worrying that if students are not financially literate, it would greatly affect their ability to make informed financial decisions (such as save and invest for retirement) as well as undermining their well being in old age. In a worse situation, this inability would deteriorate into financial problems when the students are unable to manage their income, savings and credit efficiently upon being employed after leaving their university. Hence, to overcome this problem, it is rather crucial to impart personal financial education in the national education system as has been suggested by Chen and Volpe (2002).

The positive relationship between financial literacy and attitudes ($\beta=0.139$ $t=5.539$, $p<0.01$) signifies the role of financial literacy as an important predictor of the students' positive attitude towards financial practices. The result supports the finding by Kallgren and Wood (1986) who argued that higher amount of knowledge stimulates good human intentions and serves as better predictors to behavior. Interestingly, the results reveal that financial attitude is not significantly related to the students' perceived savings behaviour ($\beta=0.009$ $t=0.422$). The result of the mediation test further confirms that financial attitude does not mediate the relationship between financial literacy and savings behavior. There is no mediation interaction between financial literacy and savings behaviour with financial attitudes (H4c) ($\beta=0.001$; $t=0.333$) through the indirect effect. This could be due to the status of the respondents as students where, since they are not receiving regular salary as an employed individual, they would naturally be focused on their study rather than bothering them with financial matters excessively. In addition, since the students do not earn regular income, but instead, depend on monthly allowance from their parent or scholarship, their ability to save money would be rather limited.

Conclusion

The purpose of this study is to determine the factors influence savings behavior amongst students of higher learning institutions in Sabah, Malaysia and the mediating effect of financial attitudes on financial literacy and savings behavior. It was found that family, peer as well as self-control have a positive and significant influence in shaping the young adults' savings behavior. Equally important is financial literacy that would affect savings behavior and retirement planning. Financial attitude on the other hand does not mediate the relationship between financial literacy and savings behavior. The findings suggest that financial education should be given even at primary and secondary levels so the students who later would become adults will have sufficient financial knowledge that enable them to manage their income and debt efficiently as

well as planning for their retirement. It is therefore important for the authorities to ensure that any financial education program that aimed to enhance financial knowledge must not be limited to printing materials or other forms of general media, but a more structured approach to financial education should be considered to enhance the people understanding on personal financial management.

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