



A Structural Equation Modelling Study of the Determinants of Retirement Preparedness

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As the result of an increasingly challenging economic environment, individuals are facing difficulties in the management of their financial obligations. These difficulties are arguably exacerbated by increasing life expectancies. For younger adults, there is the added financial responsibility of supporting the elderly and the retired, which impacts on their own retirement security prospects. In the face of these challenges, a large proportion of Malaysia's elderly population do not have the financial means to support themselves. This study aims to assess the impact of financial literacy, potential conflict in retirement planning, attitude and goal clarity on an individual's retirement preparedness. Placing financial well-being at the centre of policy consideration to ensure working adults are able to sufficiently fund their retirement. The study employs a Partial Least Squares-Structural Equation Modelling estimation technique to analyse a set of data of 200 working adults in Malaysia. Furthermore, the theoretical framework of the present study is grounded in a Life-Cycle Hypothesis (LCH). The results indicate that deviation from the optimal path, as suggested by LCH, can be attributed to variations in the determinants of retirement preparedness. The results demonstrate that financial literacy and goal clarity have a favourable impact on retirement preparedness, while potential conflict in retirement planning and attitude towards retirement are not significant predictors of retirement preparedness. These findings suggest the pervasive role of financial literacy in the financial preparedness of Malaysia's elderly population and have implications for both, academic theory and policy design.

Key words: *Retirement Preparedness, Financial Literacy, Goal Clarity, Potential Conflict.*



Introduction

There is an increasing concern surrounding the financial health and well-being of Malaysians and how best to address the issue. The recent economic downturn has left many Malaysians concerned about their retirement security prospects with a primary concern around savings and whether they are sufficient to last beyond 5 years after retirement (AXA, 2008). Increasingly, many Malaysians cannot afford to retire at the statutory age of 60 (Lim, 2017), only 40% consider themselves prepared for retirement, and only 32% have retirement plans which would enable them to live a reasonably comfortable life after retirement (Anon, 2016). As a result, there is an increasing concern surrounding the financial health and wellbeing of Malaysians which is addressed in part by this research.

For working Malaysian citizens, the main source of retirement income comes via the Employees Provident Fund (EPF) which is a compulsory savings and retirement scheme. Under the EPF retirement scheme, employees whose salary exceeds RM 5,000 contribute a minimum of 11% and the employers contribute a minimum of 12% (KWSP, 2015). However, according to the KWSP (2015) only 2.8 million people (38%) of active EPF members meet the basic savings amount of RM196,800, and 163,252 (65%) of EPF members have less than RM50,000 in their account. As a result, many Malaysians exhaust their accumulated EPF savings during the early years of retirement and live on a very frugal RM 700 per month (Anon, 2014), which is actually below the poverty threshold level of RM 830 per month (Anon, 2014). The prospects of retirement security in Malaysia is further exacerbated by the fact that nearly 50% of Malaysian households have no financial assets and one in three Malaysians do not own a savings account (EPF, 2016).

There is a particular sense of urgency to address the issue of Malaysian citizens' financial preparedness for two reasons. Firstly, life expectancy continues to rise (World Bank, 2017). Thirty years ago, the average life expectancy in Malaysia averaged at 68 years of age (World Bank, 2017). In 2010, the Department of Statistics Malaysia (2016a) revealed that the average life expectancy was 71.9 years for males and 77.0 years for females (Department of Statistics Malaysia, 2016a). An increase in life expectancy is associated with an increase in health care costs, given that the pensionable aged members of society require greater medical expenditure (Strate & Dubnoff, 1986). Secondly, evidence indicates that the dependency ratio in Malaysia is expected to increase to 49.5% by 2040 (Department of Statistics Malaysia, 2016b). At present, support from family remains a primary source of financial support for the elderly in Malaysia (Teh, Tey & Ng, 2014). With an increase in the dependency ratio, the financial burden which falls primarily on pre-retirees has the potential to further exacerbate their retirement preparedness.



Evidence suggests that financial literacy has the potential to address many of the problems associated with the lack of retirement preparedness (Calcagna & Brancati, 2014; Kimball & Shumway, 2007; Schmidt & Sevak, 2006; Yoong, Beh, & Baronovich, 2012). Primarily, this is due to the fact that financial products and services which cater towards retirement security have become more complex than ever (Mitchell & Lusardi, 2015). As a consequence, the more financially savvy have the ability to earn above average returns and have a more secure retirement (Lusardi & Mitchell, 2014; Mitchell & Lusardi, 2015). However, only 35% to 44% of Malaysians are considered to be financially literate (Global Financial Literacy Excellence Center, 2018). The lack of financial literacy amongst Malaysians is a reflection of both, a lack of initiatives to remedy this issue and a lack of research in support of these initiatives.

This research consolidates existing literature, examining the relationship between financial literacy and retirement preparedness. The research takes research forward, by analysing the impact of potential conflict in retirement planning, attitude and goal clarity on retirement preparedness. The research makes use of the Life-Cycle Hypothesis (LCH), as the underlying theoretical basis for the analysis, arguing that Malaysians deviate from the optimal savings pattern as dictated by LCH. In so doing the research will make a practical contribution to policy making in the context of financial literacy and retirement preparedness.

Literature Review

Balancing the financial responsibilities of the self and the immediate and extended family, requires planning and financial skills, given the complex decisions related to mortgage and loan payments as well as debt servicing. In the absence of relevant financial skills, the considerations required for financial transactions have the potential to negatively impact on retirement confidence and further impact retirement security and potential sources of income in retirement such as home ownership (Munnell, Hou, & Webb, 2016; Shand, 2007; Stone, Horn, & Zukin, 2012). Preparing for retirement usually has a pre-retirement phase during which, preparation for retirement begins and attitudes and perceptions towards retirement are formed (Atchley, 2003). Those individuals who are exposed to financial education at work, seek professional advice and calculate savings proactively, tend to be more confident and prepared to face retirement (Glamser, 2005; Mutran *et al.*, 1997). Age, education and proactive engagement with financial planning (Atchely, 2003; Bernheim *et al.*, 2001; Joo & Powel, 2002; Palmore *et al.*, 1985) are all considered influential in financial preparedness.

Theoretical Perspective

LCH was initially conceptualised by Modigliani & Brumberg (1954). Since its inception, LCH has developed significantly over time, so that the modern version of the framework serves as a source of modelling various life-cycle choices such as savings for retirement, education,

consumption and labour supply (Browning and Crossley, 2001). In its simplest terms, LCH suggests that the wealth of a nation is distributed in such a way that the younger households have little wealth, the middle-aged households have relatively more wealth and the most wealth is secured by households immediately before their retirement (Deaton, 2005). Furthermore, LCH acknowledges the fact that households have a finite life, in this respect, the theory focuses on systematic variations in income and various needs of a household which takes place over their life cycle. These variations in income and, consequently the associated savings, is a result of changes in family size, as it matures and as individuals retire (Modigliani, 1986). While LCH dictates the savings pattern of an individual over the course of their life cycle, it should be noted that the antecedents of retirement savings arguably affect savings for retirement and retirement preparedness.

Empirical Review

Attitudes towards Retirement

In the context of retirement, Lundberg (2006) defines attitude as the positive or negative emotion of an individual towards their retirement life. Individuals who are prepared for retirement tend to have a greater degree of positive attitude towards retirement compared to those who are less prepared for retirement (Back, 2001; Hardy, 2006; Heron, 2010). Attitude towards retirement influences an individuals' decision to retire, their retirement planning (Lundberg, 2006) and transition to retirement (Lim, 2003). Atchley (1990) found that working adults aged over 45 years old tend to have positive attitudes towards retirement regardless of gender. However, Atchley & Robinson (2010) and Riley & Foner (2007) suggest that pre-retirees who are closer to retirement feel relatively unprepared and portray a greater degree of negative attitude towards retirement than those who are further away from their retirement age. Furthermore, Glamser (2005) found that a positive attitude towards retirement was often associated with high levels of income, education, support from family, health and the presence of a large social circle of friends. Such research informs us that the age of an individual as well as other demographic variables, influence attitudes towards and preparedness for retirement.

Turner, Bailey & Scott (1994), argue a positive relationship between attitude towards retirement and retirement planning is important because of the implications of retirement planning to retirement readiness (Ogunbameru & Bamiwuye, 2004; Kim, Kwon & Anderson, 2005), they also argue the importance of incorporating retirement determinants, such as attitude, as an extended component of the life cycle model (Turner, Bailey & Scott, 1994). Such research indicates that there seems to be variations in attitude towards retirement concurrent with the different stages of LCH and a disparity in the direction of the relationship between attitude towards retirement and retirement preparedness, within this concurrent variation.

Financial Literacy

Financial literacy is defined as the “knowledge to and understanding of financial concepts and risks, and the skills, motivation and confidence to apply such knowledge and understanding in order to make effective decisions across a range of financial contexts, to improve the financial well-being of individuals and society, and to enable participation in economic life” (OECD, 2014, p. 33). The traditional economic theory states that a rational decision maker plans on the basis of savings and consumption to ensure lifetime utility is maximized, subject to budget constraints (Lusardi, 2008). In order for an individual to make optimal financial choices whether entirely for their own best interests or not, a person must have sufficient financial skills and information to design and formulate the right financial plan.

The majority of research which measured financial literacy tested an individual’s basic understanding on interest compounding, inflation and risk diversification. Amongst other variables, researchers have found, income, education, type of employment, age and gender to influence individuals level of financial literacy (Lusardi & Tufano, 2009; Moorthy *et al.*, 2012; Yoong, Beh, & Baronovich, 2012). Older males tend to have higher financial literacy as well as a more positive attitude towards investments (Schmidt & Sevak, 2006; Yoong, Beh, & Baronovich, 2012). A more positive attitude towards investment is itself a consequence of financial literacy (Rooij, Lusardi, & Alessie, 2011). The work of Kimball & Shumway (2007) and Calcagna & Brancati (2014) argues that households that have low financial literacy and levels of education will most likely avoid the stock market and invest in assets with high returns, thereby causing them to accumulate less wealth. A lack of knowledge in the areas of investment diversification and retirement planning often signals financially illiteracy. This is in line with the work of Gaudecker (2015) who found that financial literacy significantly impacts portfolio diversification, where Korniotis & Kumar (2011) suggest that financially illiterate individuals suffer from lower returns and investment losses. Taken collectively the literature suggests that individuals with negative attitudes towards retirement and low financial literacy levels are more likely to make unsound financial decisions.

Goal Clarity

Goals play an important role in an individual’s retirement and financial planning behaviour (Glass & Kilpatrick, 1998). Goals are an individual’s ultimate purpose that steers their attention, direction and action by mobilising efforts, creating efficient strategies and increasing persistence and perseverance (Winnell, 2008). Goal clarity arguably creates objectives and provides constructive criticism and feedback. Individuals who set goals are more likely to redefine tasks (Bavelas & Lee, 2013) and implement learning strategies under different circumstances (Terborg, 2010) that provide better opportunities to fulfil their goals. According to Cai & Yang (2010), financial goals influence retirement behaviour and savings as well as

their planning for retirement (Stawski *et al.*, 2007; Neukam & Hershey, 2003). Furthermore, an individual's age is considered to be an important determinant of their goals (Hershey *et al.*, 2002, 2003).

Cai & Yang (2010) reported that financial goal clarity tends to be motivating in nature, and is positively related to risk tolerance. Possessing a vague goal may lead to a poor response towards financial risk and may limit one's capacity to fulfil their goals. For example, Hershey & Mowen (2000) utilised factor analysis with the support of a two-factor model to differentiate self-oriented retirement goals from other goals. The study revealed that goal clarity indeed played a critical role in retirement planning, and illustrated that clearer retirement goals were linked to more proactive behaviours and initiatives in retirement planning, reducing internal conflicts and negative outcomes.

The LCH framework ascertains that agents make decisions sequentially in order to achieve coherent goals by utilising the available information in the most suitable way (Browning & Crossley, 2001). Having goal clarity itself, has been shown to be a predictor of retirement planning behaviour (Moorthy *et al.*, 2012; Hassan *et al.*, 2016) where better retirement planning leads to retirement savings (Jacobs-Lawson & Hershey, 2005). As a result, Stawski *et al.* (2007) found that goal clarity is reasonably accounted for by age. From this evidence, it would appear that those who have a better perception of goal clarity at a relatively younger age may in fact display favourable retirement savings behaviour at a relatively younger age, whereas having goal clarity nearer retirement age may induce favourable savings behaviour at a later stage of an individual's life.

Potential Conflict in Retirement

The role of the family is considered an important indicator for retirement preference and preparedness. Specific family characteristics such as having children and caring for elderly relatives (Dentinger & Clarkberg, 2010; Hayward *et al.*, 2007; Pavalko & Artis, 2005; Pienta, 2010; Szinovacz & DeViney, 2010) creates the internal conflict of balancing priorities. Lai, Lai, & Lau (2009) investigated potential conflicts in the retirement of Malaysian working adults and revealed, similarly to the previous work of Greninger *et al.*, (2000), that 'payment for children's higher education', 'living expenses after retirement', 'maintaining current standard of living', 'cost of financial obligations', 'travelling goals' and 'capital or resources needed for a new career' were potential conflicts in retirement. The study also revealed that the importance of age, which is a common theme in the research, with those individuals aged below 30 years more worried about their children's higher education expenses than those aged 50 years and above. Those individuals aged 50 and over were generally more concerned about their living expenses after retirement which makes sense in terms of the human life cycle given

those individuals will probably have children who had already progressed or were progressing through the education system which has obvious financial implications.

Moorthy *et al.* (2012) argues that those aged 45 years and over, were rather more concerned in attaining future financial security, which essentially was their greatest conflict in retirement planning. This finding is important for two reasons, firstly, Suwanrada (2008) found that older individuals are more focused on attaining financial security in retirement, relative to younger individuals. An explanation for this phenomenon is given by Collard & Hayes (2014) who explain that for relatively older individuals, perception of future financial security significantly enhances the quality of life. Their result is supported by the notion that financial stress exhibits a particularly potent influence on the mental health of older individuals (Bierman, 2014). Secondly, Hira, Rock & Loibl (2009) have found that better retirement planning, which comes after the realisation and need to plan for future financial security, leads to increase in retirement savings. In the context of the LCH, Kim & Lee (2005) provide an insight as to why such a functional relationship between the responsiveness of savings activity to age may hold. The authors suggest that the depletion of wealth is already accounted for by LCH whereby such a depletion in wealth is often planned by individuals. Consequently, in an attempt to attain consumption smoothing after retirement, pre-retirees seek to increase their wealth by means of savings in the years immediately prior to retirement. These findings suggest that certain potential conflicts in retirement planning such as future financial security, tends to be relatively more prominent at the more mature stage of LCH (i.e., as one approaches retirement years). However, the precise impact of such a response at a later stage of the LCH on retirement preparedness is ambiguous. Lai, Lai & Lau, (2009) and Moorthy *et al.*, (2012) found a significant but negative relationship between potential conflict in retirement and retirement planning. However, Hildon *et al.*, (2008) suggest that it is the perception of retirement as a period of adversity or contentment, that determines individual's resilience towards retirement related issues. Their study is suggestive of the fact that having control over both, the process of retirement as well as the resultant conflicts were a major theme for those with better retirement readiness. The findings by Hildon *et al.*, (2008) is further supported by the notion that self-realization and self-actualization, in the face of adversity, has been found to invoke positive behaviour in dealing with specific situations (Maksimenko & Serdiuk, 2016; Ryff, 2014).

Given the relative complex nature of retirement preparedness and the degree of ambiguity regarding the relationship between variables, this study takes research forward through the development of a research model which tests the following hypotheses within the multi-relational framework of Attitude-Financial Literacy-Goal Clarity-Potential Conflict-Retirement Preparedness:

H1: Attitude has a significant relationship with Retirement Preparedness.

H2: Financial Literacy has a significant relationship with Retirement Preparedness.

H3: Goal Clarity has a significant relationship with Retirement Preparedness.

H4: Potential Conflict in Retirement has a significant relationship with Retirement Preparedness.

Methodology

The target population of this study were people in Malaysia aged between 35 to 60 years old. A purposive sampling technique was employed to distribute the questionnaires to respondents. To test the research hypotheses, 230 self-administered questionnaires were distributed among the respondents, of which 200 valid questionnaires were returned (a response rate of 86.96%).

The questionnaire used a 1–5 Likert scale (where 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree and 5 = strongly agree). To measure Attitude towards Retirement, two items were adapted from previous studies (Lai, Lai and Lau, 2009; Hassan, Abdul Rahim, Ahmad, Tengku Zainuddin, Merican, and Bahari, 2016)); while Financial Literacy was measured using three items adapted from previous studies (Shanmugam and Zainal Abidin, 2011). Four items were used to measure Goal Clarity (adapted from Stawski, Hershey and Jacobs-Lawson, 2007) and Potential Conflict in Retirement (Greninger, Hampton, Kitt and Jacquet (2000)). A pilot test was carried out using 36 samples and the Cronbach alpha for all constructs were above 0.7 (Attitude $\alpha = 0.825$; Financial Literacy $\alpha = 0.827$; Goal Clarity $\alpha = 0.863$; Potential Conflict $\alpha = 0.821$, and Retirement Preparedness $\alpha = 0.823$). Partial Least Squares-Structural Equation Modelling (PLS-SEM) method using SmartPLS 2.0 (Ringle *et al.*, 2005) was employed to test the hypotheses of this study. The path coefficients were estimated by employing bootstrapping with 1000 samples in the PLS algorithm.

Findings

The descriptive statistics are presented in Table 1 and reveal that the majority of respondents were female (53.5%), Chinese (55.5%), earning less than RM6,000 (53%).

Table 1: Summary of Demographic Characteristics of the Respondents

		Frequency	Percentage (%)
Gender	Male	97	46.5
	Female	103	53.5
Ethnicity	Malay	31	15.5
	Chinese	111	55.5
	Indians	27	13.5
	Others	31	15.5
Level of Income	RM2000 and less	27	13.5
	RM2001 to RM6000	79	39.5
	RM6001 to RM10000	46	23.0
	RM10001 to RM14000	10	10.0
	RM14001 and above	28	14.0

Validity of the Measures

The study employed Structural equation modelling (SEM) to test the hypotheses. The two-stage approach was adopted to perform the SEM analysis, i.e. the measurement model and the structural model stage, in accordance with the work of Anderson and Gerbing (1988). The causal association between the observed variables and the underlying theoretical constructs has been specified in the measurement model by utilising confirmatory factor analysis, using SmartPLS 2.0. The structural model stage involves specifying the paths or causal relationships between the underlying exogenous and endogenous constructs.

The overall model specification was tested and the convergent validity for all variables was evaluated, by analysing the Average Variance Extracted (AVE), the composite reliability, the item factor loadings (as suggested by Fornell & Larcker, 1981) and the significance of the outer loadings (Gefen & Straub, 2005). The details of the measurement properties of the model depicting financial literacy, attitude, potential conflict in retirement, goal clarity and perceived retirement preparedness, are reported in Table 2.

Table 2: Measurement Model Loadings

Constructs	Items	Factor Loading	Composite Reliability	AVE
Attitude (ATT)	ATT1: Retirement enables me to pursue my unfulfilled dreams.	0.906	0.850	0.740
	ATT2: I look forward to retirement.	0.811		

Financial Literacy (FL)	FL1: I am aware that the value of money will depreciate over time.	0.851	0.854	0.662
	FL2: I am aware of the existence of various investment alternatives (stocks, properties, bonds etc).	0.846		
	FL3: I understand the process of compound interest.	0.740		
Goal Clarity (GC)	GC1: I set specific goals for how much I will need to save for retirement.	0.867	0.902	0.698
	GC2: I think a great deal about quality of life for retirement.	0.767		
	GC3: I have a clear vision of how life will be in retirement.	0.828		
	GC4: I set clear goals for gaining information about retirement.	0.876		
Potential Conflict in Retirement	PC1: I perceive health care cost to be a source of potential conflict in my retirement	0.850	0.843	0.574
	PC2: I perceive changes to my social security or employee pension to be a conflict in my retirement	0.681		
	PC3: I perceive my financial loans and obligations to be a source of potential conflict in my retirement	0.719		
	PC4: Caring for my parents/loved ones is a potential source of conflict to my retirement	0.769		
Retirement Preparedness (RP)	RP1: I am personally responsible for making sure that I have sufficient income in retirement.	0.854	0.875	0.700
	RP2: I am aware of the need to plan financially for my retirement.	0.844		
	RP3: I am able to understand financial matters when it comes to planning for my retirement.	0.811		

The findings indicate convergent validity, with the AVE being greater than 0.5 (Chin, 1998; Fornell & Larcker, 1981), and the composite reliability being greater than 0.7 for every construct, while the loadings of the items on their respective construct is greater than 0.6 (Gefen & Straub, 2005). Table 2 demonstrates that the multiple items in each construct measures the

same concept, providing evidence to support the existence of high internal consistency and reliability (Hair, Black, Babin, & Anderson, 2010). Furthermore, all five constructs, attitude, financial literacy, goal clarity, potential conflict in retirement and retirement preparedness, have composite reliability values above 0.80 (0.850, 0.854, 0.902, 0.843 and 0.875 respectively) and can therefore be regarded as satisfactory (Nunnally and Bernstein 1994). The average variance extracted, which reflects the overall amount of variance in the indicators accounted for by the latent construct, were in the range of 0.574 to 0.740 for all five constructs, which exceeded the recommended value of 0.5 (Hair *et al.*, 2010), confirming the convergent validity of attitude, financial literacy, goal clarity and potential conflict in retirement and retirement preparedness respectively.

The research also carried out discriminant validity tests to examine the extent to which the measures of each construct were not a reflection of other variables, and this is indicated by the low correlations between the different constructs (Cheung and Lee, 2010). The results in Table 3 confirm the construct validity of the outer model for Attitude, Financial Literacy, Goal Clarity, Potential Conflict in Retirement and Retirement Preparedness, as all 5 constructs meet the stipulated requirements of ensuring that the square root of the AVE for each construct is larger than its correlation with the other constructs, as recommended by Gefen and Straub (2005). Having established the construct validity of the outer model, the research will illustrate the results of the hypotheses testing.

Table 3: Discriminant Validity

	Attitude	Financial Literacy	Goal Clarity	Potential Conflict in Retirement	Retirement Preparedness
Attitude	0.860				
Financial Literacy	0.034	0.814			
Goal Clarity	0.376	0.219	0.835		
Potential Conflict in Retirement	0.069	0.381	0.228	0.758	
Retirement Preparedness	0.234	0.441	0.569	0.303	0.837

Using the PLS bootstrapping technique with 1000 samples to analyse the structural model, Table 4 reveals that both financial literacy and goal clarity are significant predictors of retirement preparedness, while attitude and potential conflict in retirement are not. The bootstrap procedure in PLS (Chin, 1998) generated the t-statistics, which reflects significance of the path coefficients in the structural model.

To check on the model fit, we estimate the goodness of fit measure in order to support the validity of the model, as it accounts for the variance extracted by both the outer and inner models. Tenenhaus *et al.*, (2005) argues that for the PLS path modelling, the global fit measure (GoF) is the geometric mean of the average communality and average R^2 for the endogenous constructs. In order to estimate the GoF to further support the model, the guidelines provided by Wetzels, Odekerken-Schroder & Van Oppen (2009) were followed, utilising the following formula:

$$Gof = \sqrt{(R^2 \times AVE)}$$

Based on the formula, the research obtained a GoF value of 0.542, illustrated below:

$$Gof = \sqrt{(0.435) * (0.6748)} = 0.542$$

A comparison was made with regards the baseline values of GoF (small = 0.1, medium = 0.25, large = 0.36) as suggested by Wetzels *et al.*, (2009). The results demonstrate that the model goodness of fit measure was large (0.542), indicating an adequate level of global PLS model validity.

Table 4: Path Estimates

Hypotheses		Beta	S. Error	T-Statistic	Decision
H 1	Attitude -> Retirement Preparedness	0.041	0.089	0.466	Not Supported
H 2	Financial Literacy -> Retirement Preparedness	0.307	0.099	3.115***	Supported
H 3	Goal Clarity -> Retirement Preparedness	0.469	0.093	5.053***	Supported
H 4	Potential Conflict -> Retirement Preparedness	0.076	0.090	0.846	Not Supported

*** p value < 0.01

Hypothesis 2 is supported as the results show that financial literacy has a significant positive effect on retirement preparedness (standardised estimate = 0.219, $p < 0.05$). Goal Clarity is also found to have a significant positive effect on retirement preparedness (standardised estimate = 0.643, $p < 0.05$), hence supporting Hypothesis 3. Both Hypotheses 1 and 4 are not supported as shown in the results in Table 4, revealing that attitude and the potential conflict in retirement are not significant predictors of retirement preparedness. This indicates that financially literate individuals with clear and specific goals are more likely to engage in retirement planning and are therefore more prepared and confident to embrace retirement, compared to those who are not. This model demonstrates predictive power (R-square), as financial literacy and goal clarity explains approximately 43.5% of the variance in retirement preparedness.

Discussion

The findings in this research show that financial literacy is positively linked to retirement preparedness, consolidating the work of Boisclair, Lusardi, & Michaud (2017), Gaudecker (2015), Kimball & Shunway (2007) and Sekita (2011). An individual's understanding of finance is more likely to help them plan for retirement and therefore be prepared for retirement. However, it should be noted that confidence in one's level of financial literacy is not the same as actually having the skills required to make prudent financial decisions, with the former more of a subjective assessment of financial literacy. Financial literacy is considered vital in the understanding and evaluation of the various retirement schemes and investments available to consumers, thereby allowing planning and savings activities to begin earlier and enable better preparation and financial security in retirement. Additionally, retirement goal clarity is considered positively related to retirement preparedness. Individuals who have clear retirement goals are more likely to begin preparing for their retirement in advance, allowing them more confidence in approaching their retirement. Hence, goal clarity is shown to be the most significant predictor in determining retirement preparedness which is supported by the literature (Hershey *et al.*, 2007; Moorthy *et al.*, 2012; Stawski *et al.*, 2007).

Implications

The findings from this study have two important implications for identified stakeholders. Firstly, the Malaysian government should consider embedding financial literacy initiatives into the education curriculum across primary and secondary schools. Considering how financial literacy is associated with retirement preparedness, it is essential for individuals to be exposed to financial education from a younger age, but not too young were they are unable to make financial considerations and reflections. Implementing financial literacy education in schools would cultivate long-term saving habits and create an awareness on how to save and prepare for retirement. Secondly, the findings suggest that financial planners and financial specialist interventions should focus on refining and cultivating clear retirement goals. Employers should

engage with external financial advisors, organising group-based training, programmes and seminars to ensure employees understand and have positive attitudes towards retirement goal setting and planning for their future financial security.

In terms of the implications of the findings on theory, the positive financial literacy-retirement preparedness and goal clarity-retirement preparedness nexus contributes in further explaining the LCH. As the LCH has been utilised extensively to examine savings and retirement behaviour of older persons, the results of this research clearly show that households with an adequate level of financial literacy would be familiar with the necessary economic concepts needed to make savings and investment decisions, which will in turn better prepare them for their retirement. The findings inform how unequal consumption needs and income are at various points in the life cycle. The consumption needs of the younger people often exceeds their income, where much of their spending is on housing and education, which leaves them with very little savings. As the younger generation gets into the middle age category, their incomes generally increases, enabling them to pay off their earlier debts having more to save. The final stage of the life-cycle hypothesis brings us to the retirement stage, where incomes decline and individuals consume out of previously accumulated savings. Furthermore, the research indicates that variations in the level of the determinants of retirement preparedness, from a micro perspective, offers an insight as to why individuals deviate from the optimal path as dictated by LCH.

The research also reveals the positive explanatory power that goal clarity has on retirement preparedness, further contributing to the body of knowledge on retirement preparedness and aligning with the stages of the LCH. The younger generation may not have clear goals as they begin their career, with their spending being more often than not higher than their earnings which leaves them with less or no savings. As they get into the middle age group, they become more aware of their goals, and their higher levels of goal clarity helps them to better prepare for retirement by enhancing their savings. As this group moves into their retirement age, those with clear goals in their younger ages are well prepared for their retirement as opposed to those who are not.

Conclusion

This study explored how financial literacy and goal clarity affect the retirement preparedness of working adults in Malaysia. The empirical results reveal that financial literacy and goal clarity both significantly improve retirement preparedness of Malaysian working adults, with goal clarity being the most significant influencing factor. As a result, it can be concluded that individuals need to have clear and specific goals in order to achieve financial well-being, especially during their retirement years.



The study however is not without its limitations. The present research makes use of a subjective assessment of financial literacy in order to evaluate the relationship between financial literacy and retirement preparedness. Subjective measures do not fully capture the true level of individuals' financial literacy, they do however provide insight and allow for further research to be conducted in the subject area. Other areas for further research include the use of both, subjective and objective measures of financial literacy. This would add a further dimension to research, capturing information relating to financial overconfidence and the role it plays in retirement preparedness. Incorporating a qualitative dimension into the research to investigate the rationale behind responses would enable further understanding of an individual's decision making process relating to their finances and how they balance retirement preparation with other financial commitments and responsibilities. A final area of further research would be to conduct a comparative study based on ethnicity and across countries in ASEAN to provide additional insight into whether perspectives vary or remain constant and therefore informing governments on future policy initiatives and the sharing of best practices.

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