


Article

Framing the Retirement Planning Behavior Model towards Sustainable Wellbeing among Youth: The Moderating Effect of Public Profiles

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Abstract: This study examines the effect of financial literacy, saving attitudes, social influence, and goal clarity on the retirement planning construct. In addition, it investigates how the public demographic profile moderates these relationships. The questionnaire approach was utilized to collect data by adopting and customizing the measurement scale from previous studies. A systematic random sampling approach was employed on 323 prospective respondents. The outcomes of this study illustrate that all relationships are significantly and positively associated with retirement planning using structural equation modeling (SEM). Furthermore, all moderator variables (gender, age, status, income, and education) moderated the relationships. The government should construct a holistic retirement planning model that is based on demographic characteristics.

Keywords: retirement planning; financial literacy; saving attitude; social influence; goal clarity; structural equation modeling

1. Introduction

The Department of Statistics Malaysia announced that the number of employed people has been increasing from 5.2 million in 1982 to 14.99 million in June 2020 [1]. If this situation is maintained, the number of preretirees will increase in the future. The reality hits when most locals admit that they do not have sufficient savings for their retirement [2–4]. This financial problem is not only happening in Malaysia but also in other developed and developing countries. For example, the people in the United States rely on self-directed investment accounts [5]. Half of the retirement assets are independently deposited in those accounts [6,7]. Some employees appoint financial experts or consultants to allocate their savings into retirement accounts, but most of them make their own decisions. The majority of the employees do not know about financial management, which has led to the loss of savings because of nonperforming financial instruments.

In Malaysia, there are two most notable retirement schemes, known as the public pension scheme and the Employees Provident Fund (EPF). As the names suggest, the former scheme is provided for government servants only, based on a defined benefit plan, while the latter mainly caters to the private sector workforce and also those in the public sector who opt for the scheme after they are confirmed in their work positions; these employees comprise more than half of the total labor force in Malaysia. The EPF is a mandatory and defined contribution retirement savings scheme in Malaysia. Both employee

and employer need to contribute to the scheme, where, currently, employees contribute 11% from their gross salary, while employers must put in a minimum of 12% for salaries more than RM5000 and 13% for salaries below that. Fortunately, from the individual point of view, this contribution is tax-deductible for up to RM6000 per year. This policy ensures that employees have sufficient income for their golden years.

Two financial plans are offered to cater to living maintenance after retirement in Malaysia, namely, the government pension plan and the EPF. The majority of employees who work in the public sector are more interested in choosing the government pension plan than the EPF. The reason for this choice is the government pensioner will receive half of his last drawn salary at the end of every month [4,8]. Therefore, government pensioners continue to receive a portion of their monthly income after retirement. In contrast, private employees have EPF accounts to support their living in the future. Every month, 11% of their monthly income is credited to their EPF account. Most employees feel that their retirement income is adequate, although this contradicts EPF reports. It was reported that 82% of EPF members officially failed to achieve the basic savings quantum according to their age group. Specifically, EPF members need at least RM228,000 in savings by the age of 55; it means that they are allowed to withdraw RM950 per month for the next 20 years after retirement [9,10]. The main concern is whether the amount saved in their EPF accounts will be adequate to cater to the pensioners' needs for the next 20 years. The retirement income is necessary for food supply, transportation cost, home rent, and their children's education [11].

It is an alarming issue when the EPF has highlighted that almost 65% of their members aged 54 years old, who would retire within the next year, had less than RM50,000 in their EPF accounts [9]. Furthermore, 50% of EPF members had depleted their retirement savings within just five years [12]. Ironically, a survey report from World Bank found that one-third of the Malaysian population believe that they are financially illiterate when, in fact, 92% of Malaysian people have only had deposit-based financial products instead of having these together with investment accounts [13]. Based on the current situation, many problems arise in preparing a retirement plan due to unpredictable macroeconomic events, an increase in medical costs, and family commitments. The living cost in Malaysia is quite high, which does not match salary increment, and this situation could become worse in subsequent years [14]. As a result, many retirees have blamed the board members and investment panel of the EPF for not giving them a good return, but should this issue be the responsibility of the EPF only? The EPF has strived to ensure that its members will have adequate savings for retirement since its inception. In recent times, economic changes have made a huge impact on how people invest, save, and manage risks to protect their standard of living in retirement [15,16]. Nonetheless, the majority of employees are unprepared for their retirement years. A study by Nielsen Malaysia showed that only 21% of Malaysians are prepared for their retirement years [17]. It can be concluded that Malaysians' awareness of their retirement savings is quite low. Surprisingly, 69% of respondents plan to rely on their personal savings and investments as the primary source of income for their retirement years.

However, Habib [2] found that most people could not afford to retire because they had not saved enough money in their early life. Moreover, Hunt [18] contemplated that Malaysians have less confidence in preparing their retirement plan due to financial illiteracy. Therefore, the saving attitudes among Malaysians for their retirement are poor [2,3]. The younger generation believes that retirement planning is a burden because it is long-term planning. It is noted that Malaysia has the highest household debt to GDP in Asia [19,20]. According to Kenanga Investors [12], only 52% of Malaysians start saving for retirement at the age of 40, but the savings are insufficient due to the late preparation for retirement [2]. In addition, Habib (2007) [2] stated that less than 5% of Malaysians are ready for retirement, where the majority of them are above 40 years old. Retirement planning has been a major issue in Malaysia because it has direct consequences on social problems and personal wellbeing. This study is beneficial for society, especially in understanding the importance of retirement planning in life and identifying the potential factor that might affect the working individuals' retirement planning behavior. Most of the working individuals have neglected retirement planning because they face difficulties in adjusting to retirement [21,22]. To ensure working individuals can retire comfortably, they must take early

affirmative action before their retirement. Therefore, this study will provide a better understanding of the preparedness of working individuals below 40 years old when facing their retirement age in the future. Specifically, we have nine general hypotheses that consist of four exogenous constructs (financial literacy, social influence, saving attitude, and goal clarity) and 5 moderator variables (gender, age, income, marital status, and education). These effects are explained in detail in the following section.

2. Literature Review

The main challenge faced by aged Malaysians recently is the shortage of savings upon retirement. Therefore, it is important to prepare them with knowledge and awareness about saving for sustainable wellbeing in the future. The terms of sustainability are actually very broad across different areas such as human, social, economic, and environmental. Sometimes, researchers define sustainable wellbeing as sustainable happiness, which means the happiness that contributes to an individual, a community, or the world and does not exploit the happiness of others. Consequently, a critical discussion on this topic is suggested and how sustainability can be related to society. Aligned with this reason, “society” in the current study refers to the employees from the private sector and government companies in order to understand how they will sustain their living after retirement. This should include their lifestyle, food and beverage cost, and healthcare, given their age requirement. The symbolic interaction theory is very relevant to the current study as it aims to assess retirement planning behavior [23]. From that, a model has been modified by the inclusion of several important factors, namely, financial literacy and social influence as exogenous constructs, with public profiles considered as a moderator variable to provide more comprehensive findings. Each factor is discussed in the following section in detail.

2.1. Financial Literacy

Financial literacy is the ability to use knowledge and skills to manage financial resources effectively for a lifetime in terms of financial wellbeing [24]. Most previous studies have offered several insights into the reasons for not planning for retirement, which can help people in the future. The findings revealed that working individuals failed to develop any retirement savings plan [25,26]. The primary reason for this poor planning is financial illiteracy. Furthermore, most of them are unaware of fundamental economic concepts during their lifetime and old age. To gain better insight into this particular issue, Lusardi and Mitchell [27] found that a lack of confidence can lead a working individual to make a poor plan. This evidence is proven by Wong and Earl [21] and Kim, Kwon, and Anderson [11] regarding the confidence of an individual's retirement.

Hypothesis 1 (H1). *Financial literacy has significant positive effects on retirement planning.*

2.2. Social Influence

Beshears et al. [28] affirmed that the presence of peer information can influence the working individual's decisions on retirement savings. People can get information and experience from others who have the potential to influence their decisions. Moorthy et al. [3] and Van Dalen [29] pointed out that parental effects and social influence have significant positive impacts on retirement planning. Growing empirical literature has revealed that people with better social network tend to invest their savings [30–33]. Many studies have revealed that peer information can cause some individuals to become discouraged in contributing more to their retirement savings. Hence, this study intends to prove that peer effects can be another influence on people's retirement planning decisions.

Hypothesis 2 (H2). *Social influences have a positive significant effect on retirement planning.*

2.3. Saving Attitude

The majority of working individuals have trusted the EPF to decide on what or where to invest their contributions in, as long as their savings increase every year [4,34]. Some people are unwilling

to face the complexity and difficulty of the investment system, and they are passive in making their investment choices [35]. People tend to get low investment returns since the EPF usually invests in safe investment options. Due to this fact, their retirement income is insufficient to cover their living maintenance for their golden years.

Hypothesis 3 (H3). *Saving attitude has a positive significant effect on retirement planning.*

2.4. Goal Clarity

Retirement goal clarity is another psychological factor associated with planning practice in predicting saving tendencies [36]. Theoretically, six psychological scales were initially introduced in measuring saving strength, such as general self-efficacy, future time perspective, financial activation, retirement goal clarity, self-rated financial knowledge, and financial risk tolerance [37]. These factors are assessed to determine the clearness of working individuals in financial goals for retirement, which is highly associated with retirement saving behavior [38,39]. Nonetheless, retirement goal clarity is usually adopted in various disciplines [40,41].

Hypothesis 4 (H4). *Goal clarity has a positive significant effect on retirement planning.*

2.5. Respondent's Age

Retirement planning has received much attention from policymakers. Jacob-Lawson, Hershey, and Neukam [42] tested a comprehensive and integrative retirement planning model among a group of middle-aged working individuals. One popular view of financial planning, the successful aging perspective [43], was suggested to test the quality of decisions, which focuses on individuals above 50 years old. Baistaman et al. [44] also addressed the issue that people's age can influence the impact of financial literacy and social influences. Therefore, this former model was redesigned and redeveloped by economists, sociologists, psychologists, and financial planning professionals to identify variables related to financial planning and saving tendencies that are suitable for individuals under 50 years old.

Hypothesis 5a (H5a). *Age moderates the relationships between financial literacy and retirement planning.*

Hypothesis 5b (H5b). *Age moderates the relationships between social influence and retirement planning.*

Hypothesis 5c (H5c). *Age moderates the relationships between saving attitude and retirement planning.*

Hypothesis 5d (H5d). *Age moderates the relationships between goal clarity and retirement planning.*

2.6. Gender

Over the past few years, many previous studies on retirement planning have examined the relationships of sociodemographic factors (e.g., age, education level, gender, marital status, and housing income) with retirement planning [34,45–47]. Financial literacy can be associated with mathematical skills because it depends on arithmetic capacity [39]. Females often outscored males, although people believe that men are better than women in mathematics skills [48–50]. Based on the meta-analysis of a previous study, there was no gender difference in terms of a deeper understanding of mathematical concepts and theory [51]. In terms of the retirement period, women tend to retire earlier than males because they want to provide direct care to their family members [52]. Meanwhile, men are less likely to retire because they have to continue providing financial support for their family members.

Hypothesis 6a (H6a). *Gender moderates the relationships between financial literacy and retirement planning.*

Hypothesis 6b (H6b). *Gender moderates the relationships between social influence and retirement planning.*

Hypothesis 6c (H6c). *Gender moderates the relationships between saving attitude and retirement planning.*

Hypothesis 6d (H6d). *Gender moderates the relationships between goal clarity and retirement planning.*

2.7. Status

Another possible explanation between financial literacy and retirement planning is spousal influence or marital status [29,53]. Spousal influence is a strong factor in retirement decision-making because the choice of a spouse should be supported by their partner. Retirement life without proper planning requires continuous work even though they have reached the retirement age [54]. The lack of retirement planning can cause family difficulties in the golden years [35].

Hypothesis 7a (H7a). *Marital status moderates the relationships between financial literacy and retirement planning.*

Hypothesis 7b (H7b). *Marital status moderates the relationships between social influence and retirement planning.*

Hypothesis 7c (H7c). *Marital status moderates the relationships between saving attitude and retirement planning.*

Hypothesis 7d (H7d). *Marital status moderates the relationships between goal clarity and retirement planning.*

2.8. Education

In addition, there are comprehensive studies that cover the factor of education levels. Most previous studies have found that education level is one of the essential factors that determine the behavior of pensioners when preparing for their retirement [37,55–57]. Joo and Pauwels [55] stated that individuals with higher education tend to be more knowledgeable and confident when planning their retirement income. A higher level of education is positively related to a higher probability of confidence in retirement planning. Therefore, a household with more wealth is positively linked with retirement preparedness.

Hypothesis 8a (H8a). *Education moderates the relationships between financial literacy and retirement planning.*

Hypothesis 8b (H8b). *Education moderates the relationships between social influence and retirement planning.*

Hypothesis 8c (H8c). *Education moderates the relationships between saving attitude and retirement planning.*

Hypothesis 8d (H8d). *Education moderates the relationships between goal clarity and retirement planning.*

2.9. Income

Income and age are correlated in retirement planning behavior [54,58]. Working individuals are motivated to take action for retirement when there is an increase in their age and income. This statement is supported by Hira, Rock, and Loibi [23] and Arano, Parker, and Terry [59], who stated that the planned retirement age is guided by different perceptions of income adequacy.

Hypothesis 9a (H9a). *Income moderates the relationships between financial literacy and retirement planning.*

Hypothesis 9b (H9b). *Income moderates the relationships between social influence and retirement planning.*

Hypothesis 9c (H9c). *Income moderates the relationships between saving attitude and retirement planning.*

Hypothesis 9d (H9d). *Income moderates the relationships between goal clarity and retirement planning.*

All association hypothesized and tested, presented in Figure 1.

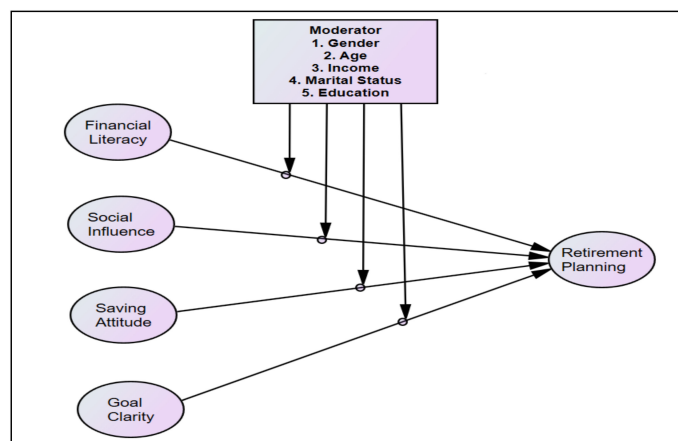


Figure 1. Theoretical framework.

3. Research Methodology

3.1. Sample Size and Measures

This study used a questionnaire to obtain information from the respondents. The sampling frame was initially composed of 869 private companies, which had more than 10,000 working individuals. A large number of working individuals was identified, and this study used the systematic random approach in which every tenth company on the list was selected, contacted by telephone or email, and the corresponding worker asked to participate in the survey. The systematic random approach was chosen because it is one of the probability sampling techniques where each unit has an equal chance of probability to be selected. After approaching 63 companies, the enumerators contacted 625 prospective respondents who were under 40 years old. The enumerators were appointed based on their experiences in the fieldwork, and they were trained for one month before the data collection stage to ensure that they could provide informed responses. The respondents include junior and senior executives in business, officers, managers, and chief executive officers (CEOs). Nonetheless, 6 out of 63 companies were excluded from the study because they did not have workers under 40 years old, and another 15 companies declined the survey. Therefore, 42 companies agreed to participate, with a total of 378 prospective respondents. The questionnaires were given to the representatives from each company, and the respondents were asked to return them within one week. Finally, 335 responses were recorded, with a response rate of 88.62%. Only 43 questionnaires were not returned within a week. Then, 12 questionnaires were unusable due to incompleteness and double answers, which resulted in the final sample size of 323 respondents. The number of respondents met the minimum requirement of sample size using the Hair approach. According to Hair et al. [60], the number of sample size can be determined by the number of variables included in a model. Thus, we apply the 10-times rule to obtain the sample size. Using this approach, the total variables in this study is 36, which means that the minimum and maximum range of sample size is (36×5) 180 and (36×10) 360, respectively.

This study deals with multiple unidimensional constructs for retirement planning, as proposed by numerous researchers, such as the sets of financial literacy [26], saving attitude [61], social influence [62], and goal clarity [63]. This is a first-order construct, which is assessed by interdependent variables. Specifically, financial literacy and retirement planning were assessed by nine reflective indicator measures, whereas saving attitude, goal clarity, and social influence were measured by six reflective indicator measures. In the pilot study, the data were analyzed by exploratory factor analysis and Cronbach's alpha to measure the suitability and reliability of items in the retirement planning behavior model.

3.2. Data Analysis Method

This study used covariance-based structural equation modeling (CB-SEM), which has gained prominence in various areas of tourism [64,65], management research [60], advertising [66], and other

fields [67–69] for analyzing research model relationships. This study selected CB-SEM because the technique is confirmatory in nature [70] in order to test the existing theory. The hypotheses are grounded in causal estimation, where the model has high estimation accuracy. Moreover, the adequate sample size and the use of the probability approach for the sampling technique in the east coast region of Malaysia are comparatively proper. This study used the maximum likelihood estimator with the maximum number of 100 iterations in the CB-SEM algorithm settings. The normality of the data is achieved as the value of skewness is between 0.021 and 0.371, which is less than 3.0 [60]. In addition, the multivariate normality value is 2.150, lower than 50.0, which indicates that the data at hand are normally distributed and meet with maximum likelihood properties.

To further discuss this operationalization, the one-way interaction analysis was performed because the moderating effect becomes one of the main analyses to complement model estimation. This analysis was conducted after running the heterogeneity test (chi-square difference) for every moderator variable, which is also recognized as the prominent approach for moderation analysis [68]. The analysis procedure was set up by splitting the data from different groups of moderator variables and the significance of chi-square values that were obtained by different types of models (constrained and unconstrained models).

3.3. Assessment of Common Method Bias

The effects of common method bias have long been discussed in previous research [71]. The researcher defined the measurement process from the beginning phase, in which the content of the item, response format, instruction, the characteristics of examiners, the capability of respondents, and the respondents' motivation are the factors of method bias. The threat of the effect of common method bias has long been discussed in previous research [71]. This study addresses the statistical issues by implementing the common latent factor using SEM to provide consistent results [72]. The results from the common latent factor indicate that there is no method bias in the data. To check the results' robustness in terms of common method bias, this study used the alternative method of Harman's single factor. This analysis indicates that a single factor explains 32.5% of the total variance, which is less than 50%. The result implies that the detrimental effect of method bias did not affect the results.

4. Findings

4.1. Descriptive Statistics

Table 1 shows the demographic representation of the prospective respondents. The data were analyzed using SPSS software to obtain the value of frequency and percent for each group of variables. The majority of the respondents were male, aged between 31–40 years old, and had a bachelor's degree as their highest qualification, and the range of monthly income was between RM4001 and RM6500.

Table 1. Descriptive analysis.

Variables	Groups	Frequency	Percent (%)
Gender	Male	195	60.37
	Female	128	39.63
Education	Diploma	65	20.12
	Bachelor	172	53.25
	Master/PhD	27	8.36
	Others	59	18.27
Marital Status	Single	202	62.54
	Married	121	37.46
Age	21–30	134	41.49
	31–40	189	58.51
Income	Less than RM1500	25	7.74
	RM1501 to RM4000	109	33.75
	RM4001to RM6500	155	47.99
	RM6501 and above	34	10.53

4.2. Inference Statistics

Table 2 summarizes the standardized loadings, average variance extracted (AVE), composite reliability (CR), mean, and standard deviation for each construct and item.

Table 2. Validity and reliability.

Item	Loading	CR	AVE	Mean	SD
Financial Literacy		0.897	0.521	6.215	0.745
If monthly income is RM 1000, it is advisable to save only RM10 per month (1% of monthly income).	0.700			8.546	1.000
The recommended savings for emergency are 3 to 6 months of total monthly expenses.	0.720			8.991	1.003
Given the savings interest is 4% per annum, savings of RM200 will accumulate to RM208 at the end of the first year.	0.730			5.737	0.957
Investing in low risk investments will give a high return.	0.700			5.957	0.961
Net Asset Values Total Assets minus Total Liabilities.	Excluded			4.537	0.994
Given current monthly income is RM1000 and for comfortably living after retirement, it is advisable to have more than RM600 a month after retirement.	0.750			5.434	0.999
Given that monthly income is RM1000, the total investment payments of all loans may exceed RM600 (>60% of the income).	0.700			5.246	0.968
Given a loan of RM100.00 within a year, (5% interest per annum), the loan amount payable is RM105.00.	0.760			5.009	0.997
Given that monthly income is RM1000, the amount that can be spent on entertainment is RM400.00.	0.720			4.803	0.939
Saving Attitude		0.891	0.620	5.647	0.865
I saved first before spending.	0.760			8.483	1.037
I spend my money accordingly to the plan.	Excluded			5.625	1.005
I plan my finances for retirement.	0.750			3.203	1.028
I invest in legal investment.	0.800			3.503	1.040
I record all my spending.	0.840			4.491	0.989
I am preparing a budget.	0.780			5.669	1.051
Goal Clarity		0.866	0.564	5.221	0.841
My financial goal is to get ready for emergency.	0.770			5.957	1.041
My financial goal is to get return from investment.	0.740			5.343	0.997
My financial goal is to have comfortable living upon retirement.	0.810			5.166	1.076
My financial goal is to be prepared if I lose my job.	0.680			4.929	1.085
My financial goal is to settle debt faster.	0.750			4.709	1.022
My financial goal is to enjoy a luxurious holiday.	Excluded			5.012	0.887
Social Influence		0.887	0.568	5.218	0.824
Organized outings/activities with friend/family.	0.730			6.051	1.064
Called friends or family regularly.	0.780			5.883	1.052
Emailed friends or family regularly.	0.700			5.483	1.023
Visited friends or family regularly.	0.760			5.017	1.052
Made new friends recently.	0.790			5.803	0.998
Joined/made inquiries about joining a social club or group.	0.760			3.658	0.777
Retirement Planning		0.875	0.502	6.179	0.763
Watched/listened to programs on financial planning.	0.740			6.397	1.038
Assessed your net worth.	Excluded			6.211	1.025
Read books/article/brochures on financial planning.	Excluded			5.225	0.885
Spoken to relevant person about postretirement works.	0.750			7.209	0.975
Discussed financial planning with a professional in the field.	0.660			7.551	1.002
Exercised regularly (at least twice a week).	0.640			4.486	1.037
Visited health-related sites on the Internet/Intranet.	0.780			5.637	0.977
Discussed retirement with retired people.	0.740			5.969	1.002
Visited websites on postretirement work.	0.680			6.006	1.063

4.3. Reliabilities and Validities

The internal reliability represented by CR values is consistently high, which fulfilled the recommended use of a 0.7 threshold value after deleting poor loadings from the measurement models. According to Nasir et al. [73], the acceptable standardized loading in the measurement model is at least 0.60. Specifically, five items from all measurement models have poor loading, in which one item each is from financial literacy, saving attitude, and goal clarity constructs, whereas two items are from the retirement planning construct. Therefore, all the retained indicators exhibit high standardized loadings, which yielded high average variance extracted (AVE) values above the 0.50 threshold, thus, supporting the convergent validity criterion. For discriminant validity testing, this study used the conventional approach as the Fornell and Larcker criterion, which has the best approach to assess discriminant validity in the CB-SEM. All the construct correlation values are lower than the square root function of AVE [67], thus, supporting the discriminant validity criterion shown in Table 3.

Table 3. Discriminant validity.

	Goal Clarity	Financial Literacy	Social Influence	Saving Attitude	Retirement Planning
Goal Clarity	0.751				
Financial Literacy	0.562	0.722			
Social Influence	0.545	0.584	0.754		
Saving Attitude	0.618	0.583	0.587	0.788	
Retirement Planning	0.519	0.575	0.549	0.544	0.708

4.4. Path Analysis

This study follows standard evaluation guidelines to analyze the first-order construct measurement models and the structural model [74]. The first phase assessed the measurement models that focus on exogenous construct measures of internal reliability, construct validity, convergent validity, and discriminant validity, as depicted in Tables 2 and 3. Construct validity can be explained by the global fitness indices. This study used chi-square/df, RMSEA, CFI, IFI, and TLI to represent parsimonious, absolute, and incremental fit to evaluate the measurement of model fitness. The chi-square/df is deemed satisfied when the value is lower than 3.0, and RMSEA is below 0.08. CFI, IFI, and TLI are declared an excellent fit when the values estimated are above 0.95. The measurement models satisfied all the recommended threshold values (chi-square/df = 1.043, RMSEA = 0.011, CFI = 0.997, IFI = 0.997, and TLI = 0.996).

Lastly, the structural model was assessed to test the relationship between financial literacy, social influence, saving attitude, goal clarity, and retirement planning. The results in Table 4 and Figure 2 show the unstandardized and standardized estimates. Figure 2 also shows the result for R² values, in which the model is explained by approximately 0.44 or 44%. For path coefficient estimates, it is revealed that financial literacy, saving attitude, goal clarity, and social influence have a positive and significant effect ($p < 0.05$) on retirement planning. This study concludes that all research hypotheses are supported.

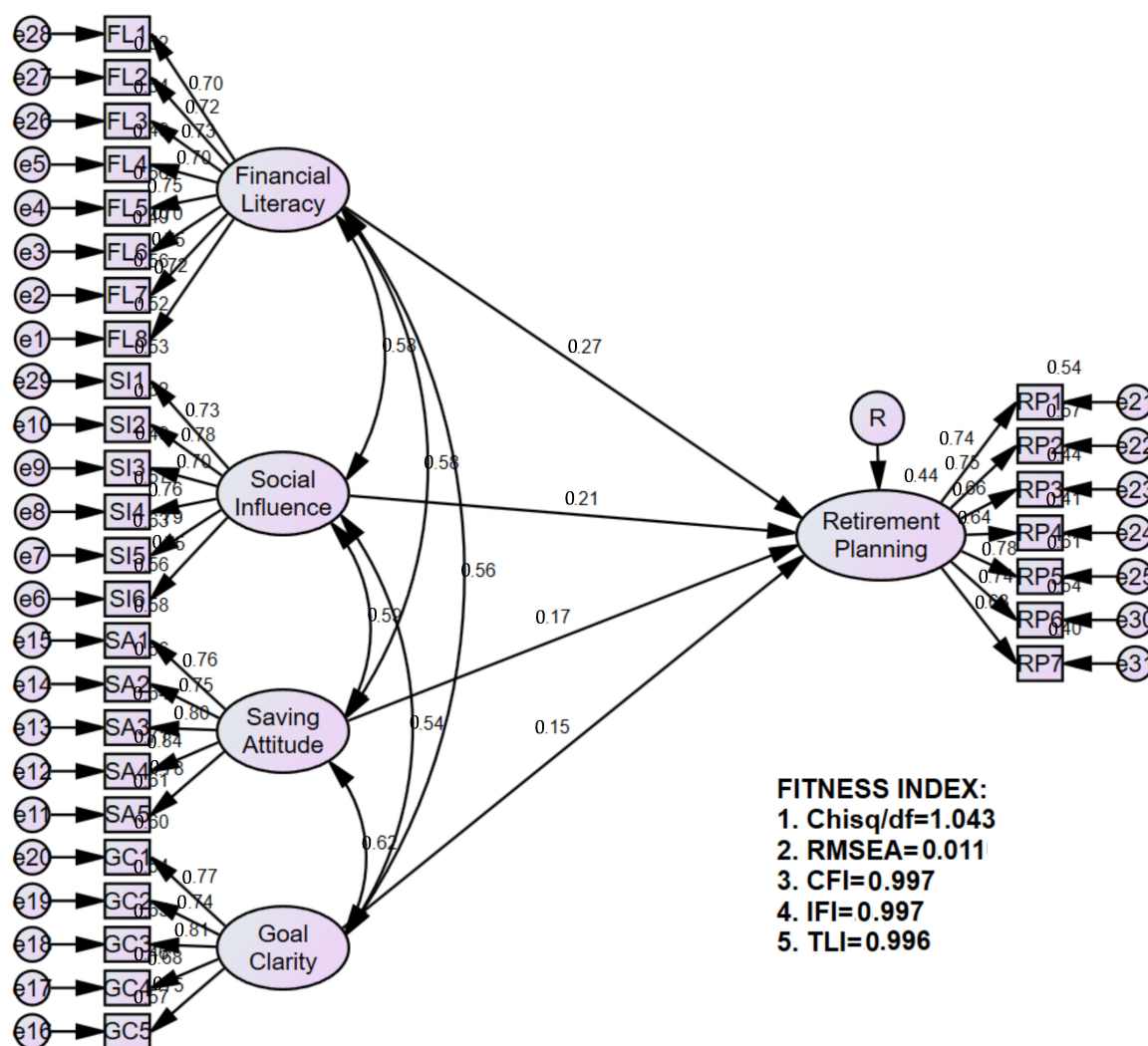


Figure 2. Structural model.

Table 4. Results of path coefficients.

			Estimate	S.E.	C.R.	p	Result
Retirement Planning	<—	Financial Literacy	0.305	0.081	3.744	***	Significant
Retirement Planning	<—	Saving Attitude	0.170	0.073	2.330	0.020	Significant
Retirement Planning	<—	Goal Clarity	0.145	0.071	2.030	0.042	Significant
Retirement Planning	<—	Social Influence	0.207	0.069	2.992	0.003	Significant

*** p ≤ 0.001.

4.5. Measurement Invariance

To assess measurement invariance, the analysis used Byrne’s (2010) procedure, namely, the heterogeneity test (chi-square difference) for metric invariance before testing the moderating effect. Configural invariance is established because chi-square/df, CFI, and RMSEA fulfilled the recommended values across two different groups (gender, age, income, status, and education). The procedure for metric invariance can be implemented by providing chi-square values from unconstrained (chi-square = 922.276, df = 848) and constrained models (chi-square = 954.686, df = 879). The chi-square difference yielded from those models is 32.41, and p-value = 0.397, which is above the recommended value of 0.05, thus concluding that the model has a partial measurement invariance. This study did not test the scalar invariance because full measurement invariance is unnecessary for

a further test of invariance and it does not provide sufficient information [71]. The researcher can analyze the moderation effect to this path model by providing a chi-square value from each group of moderator variables, as shown in Tables 5 and 6.

In CB-SEM, there are several approaches that were introduced to perform the multigroup analysis, such as user-defined estimand, the heterogeneity test, pairwise deletion, and the critical ratios for difference test. For this study, we used the heterogeneity test or chi-square difference test to assess the significance result for categorical moderators (gender, age, income, marital status, and education) as it is imperative to understand the significance effect on each group. Using this approach, the value of chi-square for each group is compared by constraining the path of interest to get the value of the chi-square difference test. According to Hair et al. [60], the moderator is statistically significant when the value of chi-square difference is above 3.84. The chi-square difference test is actually the same thing as the value of the z-score [72]. Thus, one can conclude that gender, age, income, marital status, and education were found to moderate the relationships between financial literacy, saving attitude, goal clarity, social influence, and retirement planning. Since both groups are found significant (as depicted in Tables 5 and 6), thus, partial moderation has occurred.

Table 5. Moderation for the first group.

			Constraint Model	Degree of Freedom	Unconstraint Model	Degree of Freedom	Chi-Square Difference	Result
Men								
Retirement Planning	<—	Financial Literacy	486.970	425	451.851	424	35.119	<0.001
Retirement Planning	<—	Saving Attitude	493.037	425	451.851	424	41.186	<0.001
Retirement Planning	<—	Goal Clarity	505.263	425	451.851	424	53.412	<0.001
Retirement Planning	<—	Social Influence	517.748	425	451.851	424	65.897	<0.001
21–30								
Retirement Planning	<—	Financial Literacy	468.829	425	442.095	424	26.734	<0.001
Retirement Planning	<—	Saving Attitude	500.805	425	442.095	424	58.71	<0.001
Retirement Planning	<—	Goal Clarity	472.729	425	442.095	424	30.634	<0.001
Retirement Planning	<—	Social Influence	469.879	425	442.095	424	27.784	<0.001
Low Income								
Retirement Planning	<—	Financial Literacy	476.657	425	448.381	424	28.276	<0.001
Retirement Planning	<—	Saving Attitude	487.703	425	448.381	424	39.322	<0.001
Retirement Planning	<—	Goal Clarity	483.733	425	448.381	424	35.352	<0.001
Retirement Planning	<—	Social Influence	478.083	425	448.381	424	29.702	<0.001
Single								
Retirement Planning	<—	Financial Literacy	457.379	425	443.360	424	14.019	<0.001
Retirement Planning	<—	Saving Attitude	491.117	425	443.360	424	47.757	<0.001
Retirement Planning	<—	Goal Clarity	476.262	425	443.360	424	32.902	<0.001
Retirement Planning	<—	Social Influence	458.395	425	443.360	424	15.035	<0.001
Low Education								
Retirement Planning	<—	Financial Literacy	515.183	425	495.663	424	19.52	<0.001
Retirement Planning	<—	Saving Attitude	521.356	425	495.663	424	25.693	<0.001
Retirement Planning	<—	Goal Clarity	522.469	425	495.663	424	26.806	<0.001
Retirement Planning	<—	Social Influence	520.017	425	495.663	424	24.354	<0.001

Table 6. Moderation for the second group.

			Constraint Model	Degree of Freedom	Unconstraint Model	Degree of Freedom	Chi-Square Difference	Result
Women								
Retirement Planning	<—	Financial Literacy	481.398	425	469.558	424	11.84	<0.001
Retirement Planning	<—	Saving Attitude	501.941	425	469.558	424	32.383	<0.001
Retirement Planning	<—	Goal Clarity	492.851	425	469.558	424	23.293	<0.001
Retirement Planning	<—	Social Influence	483.012	425	469.558	424	13.454	<0.001
31–40								
Retirement Planning	<—	Financial Literacy	515.228	425	497.588	424	17.640	<0.001
Retirement Planning	<—	Saving Attitude	511.892	425	497.588	424	14.304	<0.001
Retirement Planning	<—	Goal Clarity	543.864	425	497.588	424	46.276	<0.001
Retirement Planning	<—	Social Influence	548.799	425	497.588	424	51.211	<0.001
High Income								
Retirement Planning	<—	Financial Literacy	476.920	425	454.242	424	22.678	<0.001
Retirement Planning	<—	Saving Attitude	484.684	425	454.242	424	30.442	<0.001
Retirement Planning	<—	Goal Clarity	494.011	425	454.242	424	39.769	<0.001
Retirement Planning	<—	Social Influence	509.410	425	454.242	424	55.168	<0.001
Married								
Retirement Planning	<—	Financial Literacy	489.903	425	455.450	424	34.453	<0.001
Retirement Planning	<—	Saving Attitude	480.018	425	455.450	424	24.568	<0.001
Retirement Planning	<—	Goal Clarity	497.645	425	455.450	424	42.195	<0.001
Retirement Planning	<—	Social Influence	525.304	425	455.450	424	69.854	<0.001
High Education								
Retirement Planning	<—	Financial Literacy	458.971	425	435.961	424	23.01	<0.001
Retirement Planning	<—	Saving Attitude	482.054	425	435.961	424	46.093	<0.001
Retirement Planning	<—	Goal Clarity	484.705	425	435.961	424	48.744	<0.001
Retirement Planning	<—	Social Influence	485.591	425	435.961	424	49.630	<0.001

4.6. Interaction Effect

The diagrams in Figures 3–22 present the effect of one-way interaction on the impact of four exogenous constructs (financial literacy, social influence, saving attitude, and goal clarity) on the retirement planning for different genders (men and women), age (21–30 and 31–40), status (single and married), education (high and low education), and income (high and low income). For the education variable, we recoded the Diploma and Other group as low education, while Bachelor and Master/PhD was considered high education. In addition, we also recoded the income variable by combining monthly income brackets of less than RM4000 as low income, whereas RM4001 and above is considered high income. We did this because the SEM method cannot handle more than two groups of categorical variables. The analysis of interaction was performed to investigate the role of each moderator variable on the proposed relationships.

Interaction Effect (Moderating Role of Gender)

Figures 3–6 show that all results are fulfilled. The moderating role of gender has positive interaction in all the relationships on retirement planning. From a gender perspective, women are more interested in saving for their retirement compared to men, as shown in the results for the coefficient of determination (R^2). The following results are more obvious for goal clarity and retirement planning: women have 0.3 of R^2 , and men have 0.167 of R^2 .

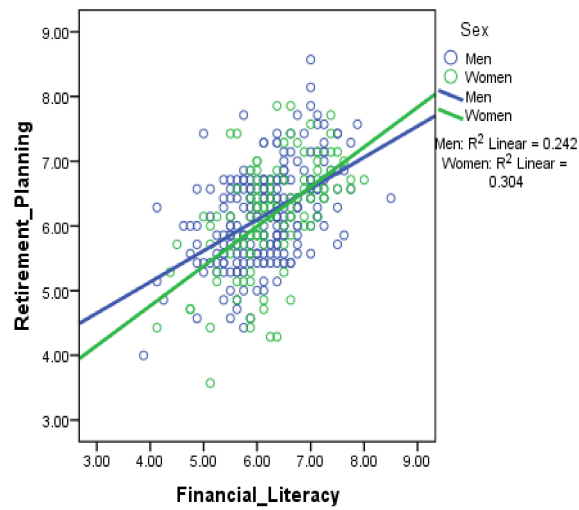


Figure 3. Gender has an impact on financial literacy and retirement planning.

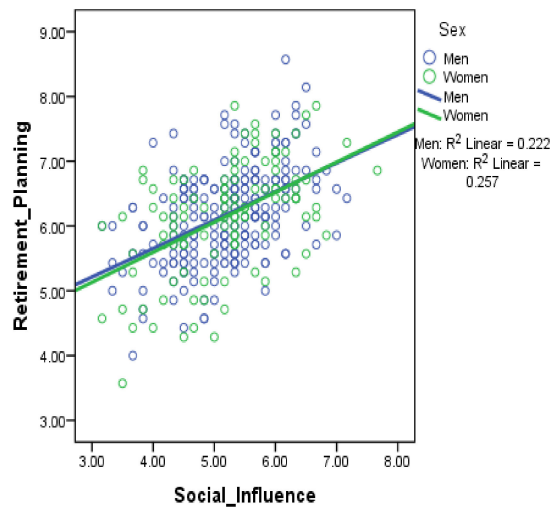


Figure 4. Gender has an impact on social influence and retirement planning.

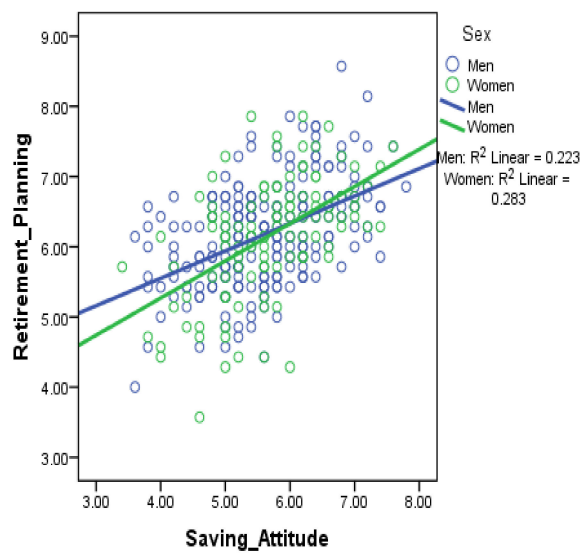


Figure 5. Gender has an impact on saving attitude and retirement planning.

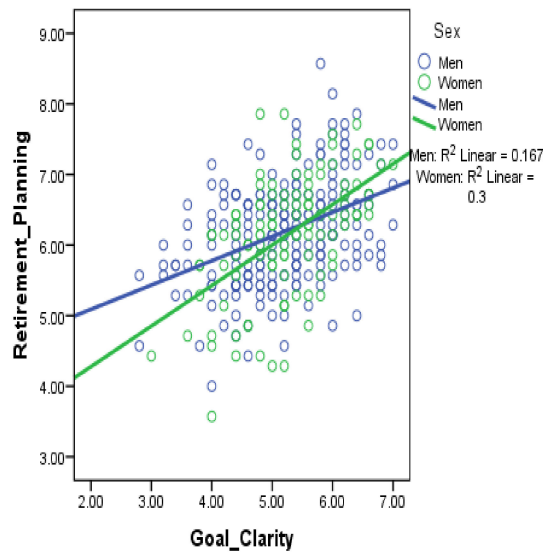


Figure 6. Gender has an impact on goal clarity and retirement planning.

4.7. Interaction Effect (Moderating Role of Age)

The results from Figures 7–10 are similar to previous studies, where the moderator variable of age has an interaction in all relationships. The participants are below 40 years old. Participants in the age range of 20–30 are more literate in finance, with better saving attitudes and goal clarity than those in the age range of 31–40. Therefore, it can be concluded that older participants have more influence in social relationships than young participants. Participants who are in the age range of 31–40 have more influence than participants from the age range of 20–30.

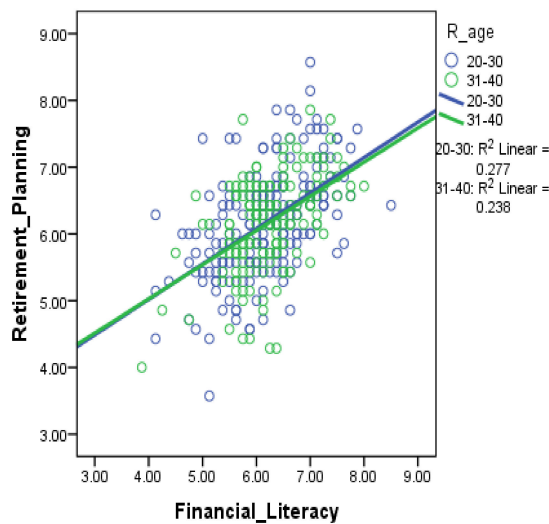


Figure 7. Age has an impact on financial literacy and retirement planning.

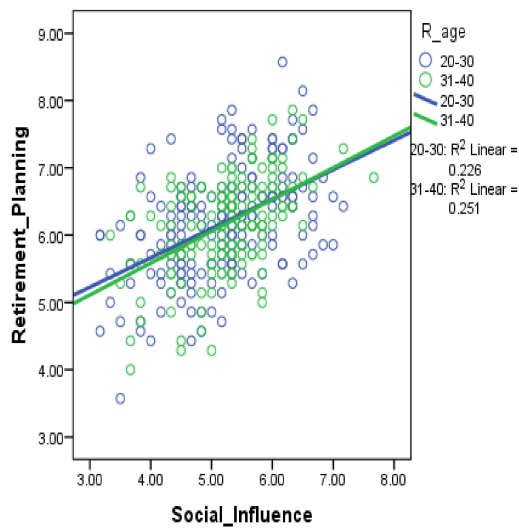


Figure 8. Age has an impact on social influence and retirement planning.

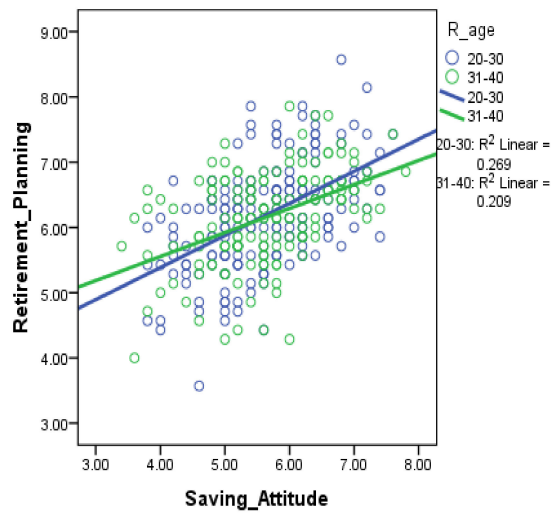


Figure 9. Age has an impact on goal clarity, saving attitude, and retirement planning.

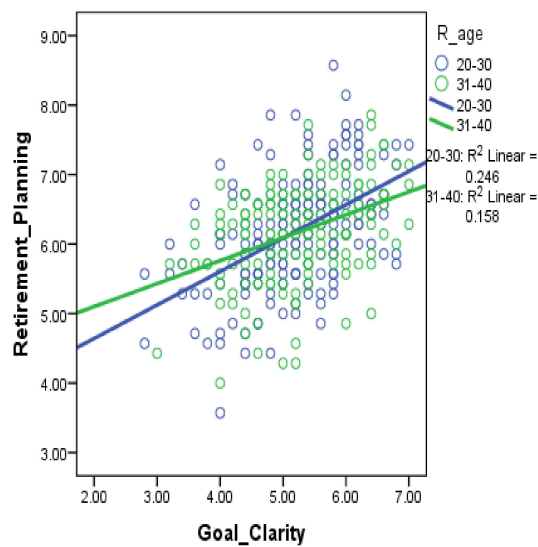


Figure 10. Age has an impact on goal clarity and retirement planning.

4.8. Interaction Effect (Moderating Role of Status)

Figures 11–14 show the result of marital status as a moderator variable. The participants from the singles group are ahead in goal clarity and financial literacy constructs. In contrast, married participants outperform the singles group in social influence and saving attitude. Married participants have more commitment and responsibility than the single participants, which led them to spend according to their needs.

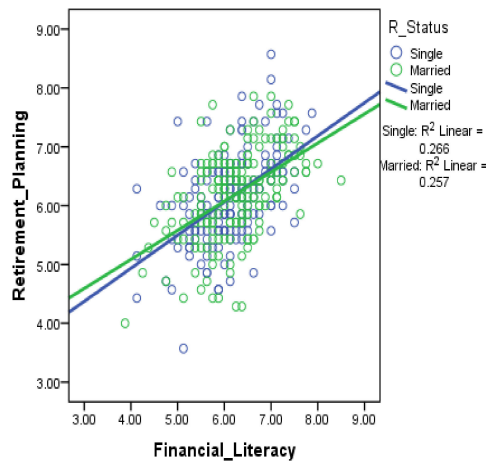


Figure 11. Status has an impact on financial literacy and retirement planning.

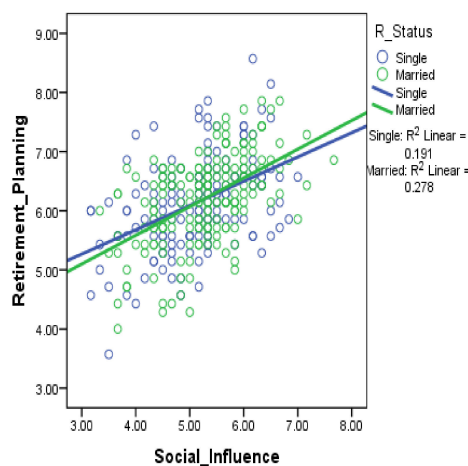


Figure 12. Status has an impact on social influence and retirement planning.

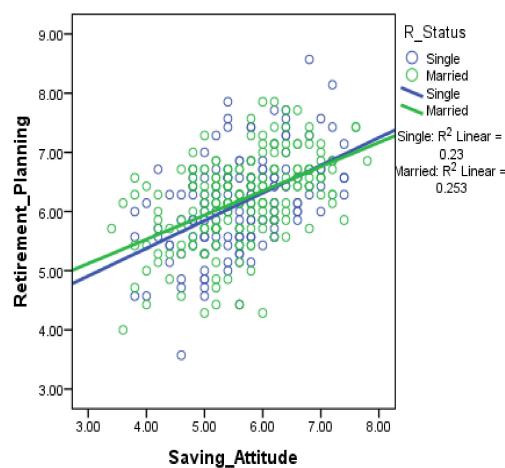


Figure 13. Status has an impact on saving attitude and retirement planning.

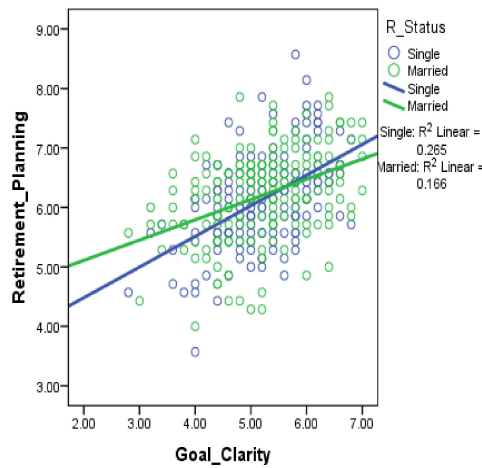


Figure 14. Status has an impact on goal clarity and retirement planning.

4.9. Interaction Effect (Moderating Role of Education)

The moderation effects of education (see Figures 15–18) occurred in all relationships. Participants with high education were more inclined towards financial literacy, social influence, goal clarity, and a saving attitude. The moderation results are similar to previous studies [25,75,76].

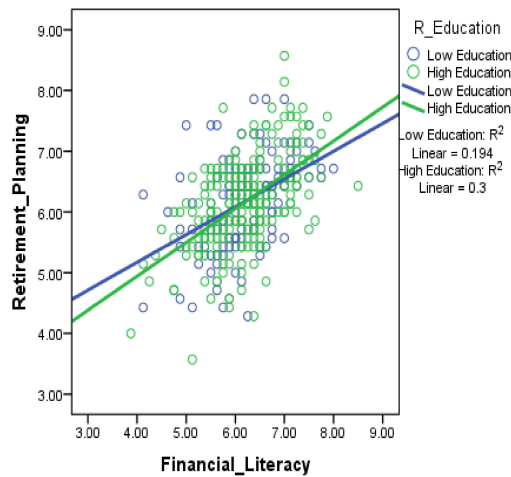


Figure 15. Education has an impact on financial literacy and retirement planning.

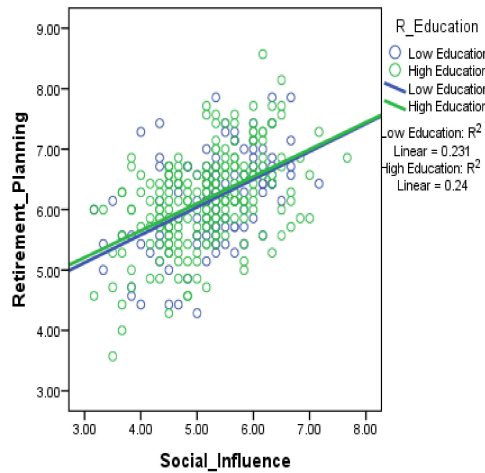


Figure 16. Education has an impact on social influence and retirement planning.

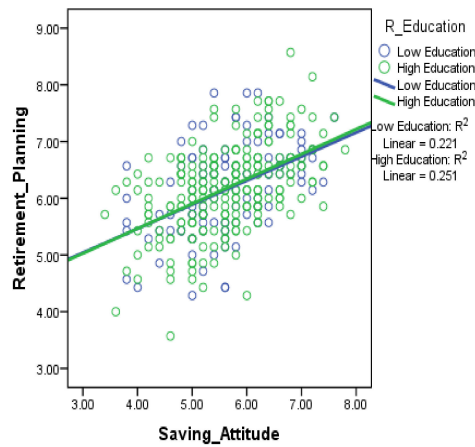


Figure 17. Education has an impact on saving attitude and retirement planning.

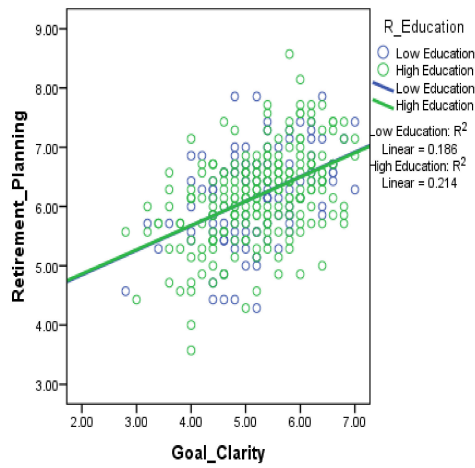


Figure 18. Education has an impact on goal clarity and retirement planning.

4.10. Interaction Effect (Moderating Role of Income)

Participants with low income are better planners than participants with high income, as can be seen from the R² results (see Figures 19–22). Participants with high incomes are not concerned with retirement planning because they believe that their savings are sufficient for retirement. In summary, all moderator variables partially moderate the effect in a model because both groups (Tables 5 and 6) have a highly significant effect.

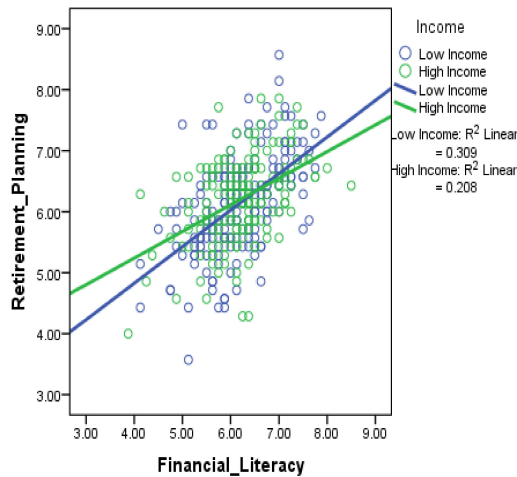


Figure 19. Income has an impact on financial literacy and retirement planning.

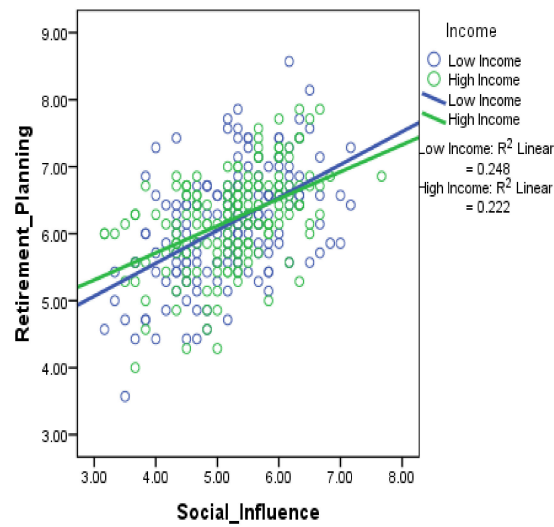


Figure 20. Income has an impact on social influence and retirement planning.

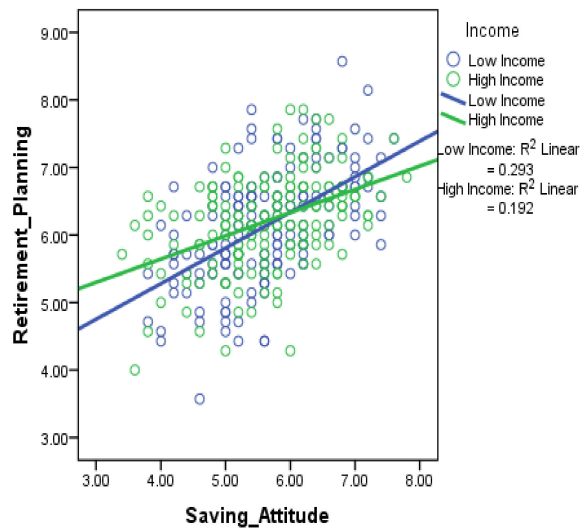


Figure 21. Income has an impact on saving attitude and retirement planning.

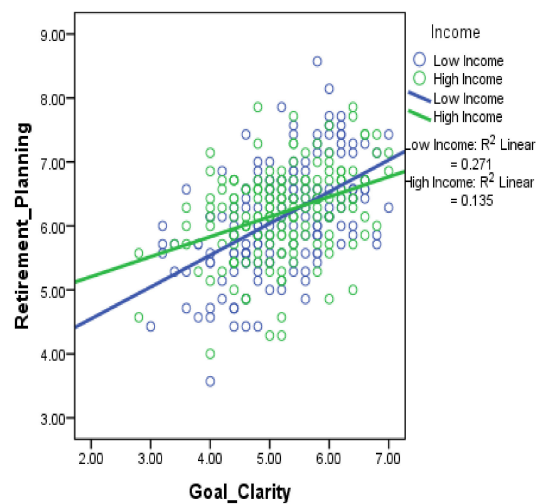


Figure 22. Income has an impact on goal clarity and retirement planning.

5. Discussion

This study provides empirical insight into the direct and moderating effects of financial literacy, saving attitude, social influence, goal clarity, and retirement planning, with public demographic perspectives. This study complements the conceptual consideration by previous studies [27,77]. These constructs have a positive significant effect on retirement planning, which assumes that the public is aware of retirement issues. Further analysis of the moderating effect between public demographic and retirement planning using the heterogeneity test revealed a significant moderation effect. This study provides insight into the retirement planning model using in-depth analysis, which provides more information about this element.

These findings are stable across gender, age, income, status, and education samples. There is no significant difference between them in the model effects through the measurement invariance in SEM. These results support the generalizability for the findings across groups with distinct gender [77], age [78], income [75], marital status [79], and education [80]. The results suggest that the retirement planning behavior model is robust in terms of demographic differences, and the summary of the research hypotheses is shown in Table 7. On the other hand, the model was also verified by establishing the global fitness index, which implies the suitability of the indicator to assess the role of the constructs.

Table 7. Summary of hypotheses testing.

No.	Research Hypotheses	Results
1.	Financial literacy has a significant effect on retirement planning	Supported
2.	Saving attitude has a significant effect on retirement planning	Supported
3.	Social influence has a significant effect on retirement planning	Supported
4.	Goal clarity has a significant effect on retirement planning	Supported
5.	Gender moderates the relationships between financial literacy and retirement planning	Supported
6.	Gender moderates the relationships between saving attitude and retirement planning	Supported
7.	Gender moderates the relationships between social influence and retirement planning	Supported
8.	Gender moderates the relationships between goal clarity and retirement planning	Supported
9.	Age moderates the relationships between financial literacy and retirement planning	Supported
10.	Age moderates the relationships between saving attitude and retirement planning	Supported
11.	Age moderates the relationships between social influence and retirement planning	Supported
12.	Age moderates the relationships between goal clarity and retirement planning	Supported
13.	Education moderates the relationships between financial literacy and retirement planning	Supported
14.	Education moderates the relationships between saving attitude and retirement planning	Supported
15.	Education moderates the relationships between social influence and retirement planning	Supported
16.	Education moderates the relationships between goal clarity and retirement planning	Supported
17.	Status moderates the relationships between financial literacy and retirement planning	Supported
18.	Status moderates the relationships between saving attitude and retirement planning	Supported
19.	Status moderates the relationships between social influence and retirement planning	Supported
20.	Status moderates the relationships between goal clarity and retirement planning	Supported
21.	Income moderates the relationships between financial literacy and retirement planning	Supported
22.	Income moderates the relationships between saving attitude and retirement planning	Supported
23.	Income moderates the relationships between social influence and retirement planning	Supported
24.	Income moderates the relationships between goal clarity and retirement planning	Supported

Finally, the supplementary analyses support this conclusion, which indicates that the interaction effects in testing the moderating effect did not distort the results. This study also contributes to the methodological aspects by underlining the importance of supplementary analyses to determine that the researchers have obtained the information in more detail. This study concludes that single women at the age of 20–30, with high education and low income, have high financial literacy and goal clarity in preparing for their retirement savings, which is consistent with Sabri and Juen's [14] findings. When assessing social influence on retirement planning, it is revealed that married women at the age of 31–40, with high education and low income, are more pronounced in these effects. Finally, married women at the age of 20–30, with high education and low income, are more obvious in the relationship between saving attitude and retirement planning. Overall, women are more ready than men to save for retirement.

6. Conclusions

This study has several implications, and it offers some recommendations for future research. It provides a foundation to further assess financial literacy, goal clarity, saving attitude, social influence, and retirement planning. Moreover, this study offers a mechanism to frame the causal effect relationship with public demographic properties in a model that is tested regularly, with no disturbance effect. Although the results revealed a significant moderating effect in all the relationships in a model, it is revealed that gender, age, income, education, and marital status variables only partially moderate those relationships. Hence, future research should focus on exploring those moderator variables.

Future studies should test these structural properties across different domains, for example, countries with different cultures and socioeconomic characteristics, rather than focusing on the east coast region of Malaysia. The model proposed from this study can be generalized to neighboring countries such as Indonesia, Thailand, and Singapore due to similar demographic characteristics such as culture and attitudes. This study has limitations. First, this study focused on working individuals under the age of 40 to examine their preparedness for retirement savings. Hence, people who are more than 40 years old were not considered in this study. Lastly, this study used a cross-sectional design, whereby the respondents' decisions on their savings were only measured once throughout the study. In future research, the application of latent growth curve modeling or multilevel modeling is more suitable because it can estimate the respondents' decisions more than once.

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