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Article

Financial Vulnerability Among B40 Seniors in Malaysia: Novel Predictors and the Role of Islamic Social Finance

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ABSTRACT - The main purpose of this research is to identify novel contributing factors that increase vulnerability to financial risks of B40 seniors aged 60 or above in Malaysia and to identify the most critical factor affecting financial vulnerability among this group. The study utilises quantitative research method, using a convenience sampling method to collect data in the form of a survey design among 208 Malaysian B40 senior citizens. The collected data were analysed via SPSS Version 28. Through empirical analysis, it was ascertained that medical costs, saving habits, and support from the social environment are significant factors affecting the financial vulnerability of B40 Malaysian seniors. Yet the results found statistically insignificance relationship between financial literacy and financial vulnerability among B40 Malaysian seniors. These findings indicate that vulnerability among low-income seniors arises primarily from systemic inadequacies, particularly unaffordable healthcare, limited savings capacity, and weakening safety nets, rather than individual knowledge deficits. In response to these structural challenges, the study highlights the potential role of Islamic social finance in strengthening elderly financial resilience. Instruments such as subsidised takaful health schemes, *waqf*-based support funds, and targeted zakat assistance can alleviate medical burdens and reinforce social protection mechanisms. The findings therefore support the need for integrated, Shariah-aligned policy reforms to enhance financial security and promote inclusive ageing within Malaysia's B40 community.

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INTRODUCTION

Malaysia's aged population is rapidly growing, and people aged 60 years and above will comprise 15% of the country's population by 2030, representing its shift to an aged society (The Borneo Post, 2023). In 2020 these population reached 3.5 million, which corresponds to about 10.7% of the total population (The Borneo Post, 2023; Bernama, 2020). This ageing trend introduces important socioeconomic risks, mainly for those in the B40 group, whom are the lowest income earners, places them at higher risk. Besides, the elderly in B40-based households, who earn less than RM4,850 a month, are identified to have higher financial exposure due to systemic inequities and limited savings and safety nets (Applanaidu et al., 2022). In addition, more than half of Employment Provident Fund (EPF) contributors between the ages of 54–55 have savings of less

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than RM50,000, which is not sufficient for even five years out (Bernama, 2020). Furthermore, increasing cost of healthcare, economic risks, and the breakdown of conventional family commitments pile on the economic stress. It follows that majority of existing studies have addressed traditional predictors of financial vulnerability (e.g., low lifetime earnings, inadequate pensions and poor access to formal financial systems) (Mahdzan et al., 2020). However, data provides new evidence on factors, financial literacy, medical costs, saving practices, and social support, that are rarely considered to produce financial fragility. For illustration, 60% of B40 seniors lack financial literacy, inhibiting their capacity to manage cashless transactions or access government aid (Munisamy et al., 2022). Similarly, emergency resilience is a challenge for numerous households: 52% of households are incapable to pay MYR 1,000 as emergency costs, while 24% are incapable to cover three months of basic living costs in the event of income loss (Munisamy et al., 2022). Expenses over health care which is nearly 34 per cent of household income can lead to tough decisions between access to care and existence. Notwithstanding these alarming trends, there is scant empirical data inspecting how these variables intersect to drive financial vulnerability among Malaysia's elderly, B40 seniors. The aim of this study is to recognise and analyse the new determinants of financial vulnerability in B40 seniors, aged above 60 years old in Malaysia. With a lens that extends beyond traditional measures that focus on income, this research addresses the voids of both gerontological and economic research by looking behind behavioural and sociocultural aspects. These findings help non-governmental organisations (NGOs) and community organisations to focus interventions, such as emergency health funds or peer-led savings initiatives prioritising the most relevant (e.g., medical costs, financial literacy, social support, saving behaviours). Acting on these issues is also compatible with Malaysia's Shared Prosperity Vision 2030 that seeks to assure better security for elderly populations.

The remainder of this paper is structured as follows: Section 2 presents the background knowledge, Section 3 presents methodology, Section 4 presents empirical findings, Section 5 discusses implications, Section 6 identifies contributions and future works, and Section 7 provides the conclusion.

LITERATURE REVIEW

New drivers and financial vulnerability

Financial vulnerability

Financial vulnerability, which may be considered as the lack of capability to withstand economic shocks is especially felt by elderly people living in developing countries. This idea transcends income fluctuation and includes difficulties with saving, debt and expenses (Mahdzan et al., 2020). For many B40 Malaysian seniors' citizens, who are the lowest 40 percent of the population, instability is exacerbated by fixed retirement income, increasing living expenses and lack of coverage under safety nets (Lusardi et al., 2020). Besides, scholars refer to this as a cyclical risk, wherein unanticipated expenses, as in the case of medical emergencies, could induce debt accrual and asset depreciation (Mokhtar & Husniyah, 2017; O'Connor et al., 2019). Furthermore, in this study, financial vulnerability is applied as the specific dependent construct, with this defined in the context of the Malaysian B40 ageing group and attempt to explore novel driving factors that were tend to be neglected by traditional income-focused research.

Financial literacy and financial vulnerability

Financial literacy includes the possession of knowledge, consciousness, attitudes, and abilities essential for individuals to comprehend fundamental financial principles and effectively navigate financial choices (Seldal & Nyhus, 2022; Ali et al., 2020). Previous research has often used the terms "financial knowledge" as well as "financial literacy" interchangeably (Xu et al., 2022). Elevated levels of financial literacy are advantageous for households in managing and preserving robust prolonged savings and investments (Tan et al., 2022). In addition, empirical data consistently demonstrates an adverse correlation among financial literacy and financial vulnerability (Lusardi et al., 2020). This indicates that persons having high levels of financial literacy are less prone to experiencing financial vulnerability. Only Rai et al. (2019) discovered a contradictory correlation, whereas other investigations report an indeterminate connection. In an attempt to achieve the research objective, this research adheres to the recommendation of (Hamid & Loke, 2021), as well as Sabri et al. (2020), to consider both cognitive factors (financial literacy) and behavioural factors (financial behaviour) when studying the financial vulnerability among senior citizens. Based on the aforementioned rationales, the following hypothesis was postulated:

H1: Financial Literacy has significant effect on financial vulnerability among seniors aged 60 and above in Malaysia.

Medical cost and financial vulnerability

Financially vulnerable is defined as those who are easy to fall in financial distress due to uncertain income and unexpected medical expenditures, namely, households that have negative financial margins and do not have enough liquid assets to cover unexpected medical expenditures (Ampudia et al., 2016). Healthcare expenditures represent a significant, often unforeseen financial burden for households (Lusardi & Mitchell, 2011). Traditional definitions of financial vulnerability frequently overlook the impact of large, unexpected medical expenses resulting from health crises. Unplanned medical costs constitute a significant source of financial distress for elderly individuals, particularly under circumstances of discontinued health insurance. In Malaysia where out-of-pocket medical expenses are still high, seniors often face a trade-off between accessing healthcare and living essentials (He & Zhou, 2022). In addition, Ampudia et al. (2016) find medical shocks are a predictor of asset liquidation, while Lusardi et al. (2020) highlight that low-income households bear a disproportionately high burden. Chronic conditions like diabetes and hypertension exacerbate this strain, creating a feedback loop of indebtedness and declining health. Additionally, a separate independent variable (medical expenditure volatility) was added, a variation found among B40 seniors in current predictive models that is unique and thus, provides new insights into how medical expenditure volatility may play a unique role in predicting financial vulnerability for B40 seniors.

H2: Medical Cost has significant effect on financial vulnerability among seniors aged 60 and above in Malaysia.

Saving habits and financial vulnerability

Saving behaviour refers to the patterns and practices individuals use to manage their income, focusing on the allocation of resources towards saving rather than immediate consumption (Morgan & Long, 2020; Lusardi et al. (2020). An insight in low-income settings have found that savings strategies that are small, informal (e.g. rotating credit schemes) and even small in their size in nature lessen the need for debt in times of emergency (Pangestu & Karnadi, 2020; Choi & Cude, 2021). In Malaysia where the status of pension entitlements is partial, disciplined savings habits are critical for seniors to ensure sustainable healthcare and living expenses (Magli et al., 2022). The current study assesses the effects of cultural, psychological and institutional constraints on saving behaviours, which are key but largely under-studied determinant of financial vulnerability of B40 ageing population. In all such domains, evidence supports that financial literacy, medical expenses, social support, and saving behaviours are significant determinants of elderly financial well-being. However, considerably number of the literature on these variables tends to focus on each separately in other countries than Malaysia. Drawing on the preceding arguments and evidence, the hypothesis presented below has been developed for examination within the context of Malaysia.

H3: Saving Habits has significant effect on financial vulnerability among seniors aged 60 and above in Malaysia.

Social support and financial vulnerability

Social support includes relatives and friends, thus it vital to reduce financial uncertainty (Mohd et al., 2019). In collectivist cultures such as Malaysia, intergenerational support is believed to serve as a substitute for formal safety nets by granting money and caregiving (Lee & Oh, 2020; Muhammad & Al-Shaghdari, 2024). Besides, for instance, Chen (2023) observed that seniors in close relationship networks felt less anxiety about unexpected costs since they received financial support from close friends and relatives in times of emergency. Nevertheless, the strength of urbanisation and decreasing family sizes are eroding these buildings, which is now putting a lot of the B40 older adults in desperate need of low-resource public support (Mohd et al., 2019). Interest-free loans provided by community organisations via instrumental support, like interest-free loans (Choi et al., 2021), shows the complicated role of community ties in making seniors in distress and influence their vulnerability. Additionally, social support has been associated with improved financial management practices among the elderly. Lusardi and Mitchell (2011) showed that access to informational support enabled elderly individuals engaging in prudent financial behaviours, such as saving and budgeting, thus mitigating their financial vulnerability. Considering these findings, the following hypothesis is proposed for evaluation within the Malaysian context:

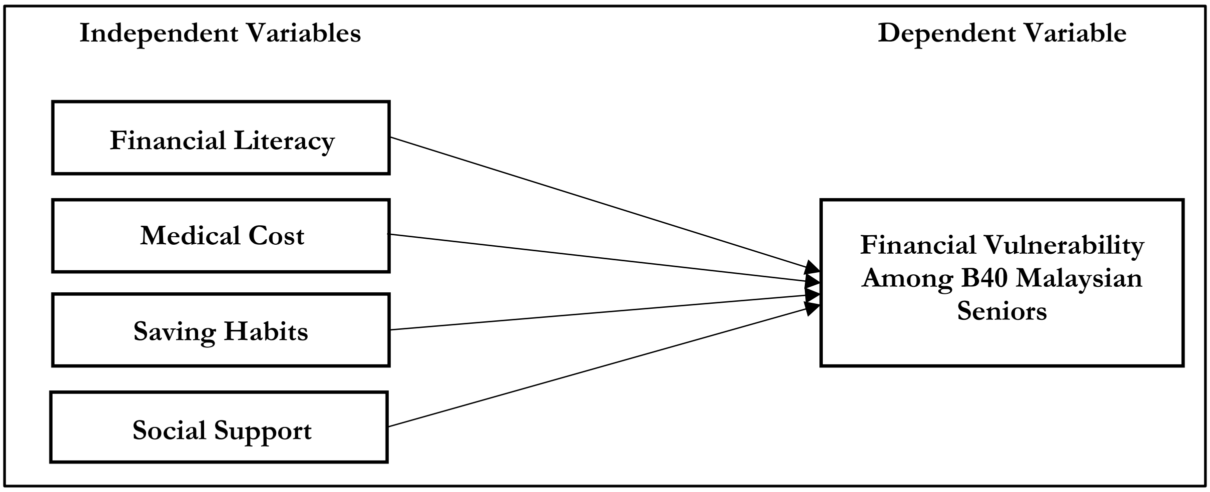
H4: Social Support has significant effect on financial vulnerability among seniors aged 60 and above in Malaysia.

Underpinning theories

This research draws on key theories and prior studies to scrutinise financial vulnerability facing older adults in Malaysia. For instance, it integrates the concepts from the Life Cycle Theory (LCT), which proposes individuals adjust their saving and expenditure patterns across life stages to secure comfort during retirement (Mueller, 1972). Differences in financial knowledge and habits can disrupt these plans, making it harder for seniors to stay on track (Modigliani, 1975). Strong financial literacy equips older individuals to grasp intricate financial options and choose wisely, supporting long-term security (Lusardi & Mitchell, 2011). In addition, active money management skills, alike smart budgeting and investing, assist align daily activities with lifetime goals (Hilgert et al., 2003). Overall, better financial awareness shapes habits that reduce vulnerability risks. Furthermore, Social Support Theory adds that networks of family, friends, and community deliver practical aid; emotional, advisory, or monetary, to buffer economic pressures (Cohen & Wills, 1985). For seniors, such support offers advice on money matters, resource sharing in tough times, and less stress from handling finances alone (Thoits, 2011). Finally, Health Economics Theory highlights how rising healthcare costs drain resources, heightening fragility for the elderly (Grossman, 2017). All in all, the study's framework links these theories to assess how variables directly and indirectly affect financial vulnerability, mediated by financial behaviour.

Research conceptual framework

Following the literature review, the conceptual framework of this research is illustrated in Figure 1. It is established to predict the determinants involved in the influence of financial vulnerability among B40 senior adults in the Malaysian context. This model is accurately sufficient to demonstrate the expected progression of this research The relevant theories supported the development of hypotheses and shaped the methodological framework is highlighted in Table 1.



Source: Author's own

Figure 1: Research framework

Table 1: Research hypotheses code and description

Code	Description	Path
H1	Financial Literacy has significant effect on financial vulnerability among Seniors Aged 60 and above in Malaysia	**FL→ FV**
H2	Medical Cost has significant effect on financial vulnerability among Seniors Aged 60 and above in Malaysia	**ME → FV**
H3	Saving Habits has significant effect on financial vulnerability among Seniors Aged 60 and above in Malaysia	**SH→ FV**
H4	Social Support has significant effect on financial vulnerability among Seniors Aged 60 and above in Malaysia	**SS→ FV**

METHODOLOGY

To address the issues of financial vulnerability in the 21st century; this research applied a quantitative research approach to explore new drivers of financial vulnerability among B40 seniors in Malaysia. In addition, a cross-sectional survey design was utilised, and a structured questionnaire was used for gathering primary data. The researchers adopted this design due to the possibility of measuring across several variables and their statistical relationships simultaneously at any one point in time, as mentioned in the objective of the study to explore the key predictors of financial vulnerability (Al-Shaghdari & Adeyemi, 2020; Megat et al., 2024).

In addition, the target population consisted of all Malaysian seniors aged 60 years or over from B40 households. Besides, the participants in this study were recruited via convenience sampling which is a non-probabilistic strategy for geographically diverse and difficult to access elderly populations. Although such a technique has the potential for self-selection bias, it was found suitable considering the challenges of accessing elderly respondents residing in various locations. In total, 208 valid responses were received. This sample size increases the potential for multivariate analysis, as Kline (2013) and Weston and Gore (2006) recommend that at least 200 respondents as the sample to acquire reliable parameter estimates and to ensure a sufficient size of sample for statistical analysis assessment.

The research instrument to collect the primary data is a self-administered survey instrument that was formed following a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree). In addition, the questionnaire consisted of five sections: demographic profile, financial literacy, medical costs, saving habits, social support, and financial vulnerability. Furhter, the items were derived from common scales from earlier research (e.g. Lusardi & Mitchell, 2011;

Choi & Cude, 2021; Lee & Oh, 2020) and contextualised within the Malaysian B40 households. Moreover, to improve the content validity, the initial draft of the questionnaire was re-evaluated by three subject-matter experts (financial, gerontological-based experts and survey developers). Their suggestions were integrated to improve the wording and culturally relevant text. Additionally, a pilot test with 30 response was subsequently conducted to ensure the accountability, clarity and reliability of the measurement's items.

Furthermore, for reliability and validity, the analysis of internal consistency reliability using Cronbach's alpha was performed. All constructs were found reliable as the score exceeded the cutoff threshold of 0.70, indicating an acceptable level of reliability (Nunnally & Bernstein, 1994). Besides, construct validity was also evaluated using Exploratory Factor Analysis (EFA) - principal component extraction and varimax rotation. Items with factor loadings less than 0.50 were removed to determine that remaining items captured the intended latent constructs. Criterion validity was assessed by correlating construct scores to theoretically related outcomes, for instance, the association of saving habits and self-report of emergency preparedness. These procedures enhance the robustness of measurement model and reduce common method biases.

Furthermore, for the data collection procedures, it was collected in within the time period between December 2024 and January 2025 through the physical distribution of printed questionnaires at community centres, mosques, and elderly associations. Respondents with literacy or vision challenges were assisted by trained enumerators. Also, participation was voluntary, and informed consent was obtained before the completion of the survey.

Finally, the data was analysed using SPSS Version 28. Descriptive statistics were performed to provide an overview of respondent characteristics and variable distributions. In addition, EFA, were applied to validate constructs of the measurement model. In addition, a multiple regression was performed to assess the model hypotheses. Further, multicollinearity, normality and homoscedasticity diagnostic tests were performed to ensure consistency with regression expectations.

RESULT

Analysis of Respondents' Demographic Details

Table 2 presents the sociodemographic profile of participants, which includes gender, age, educational background, employment status, and income group in relation to the variables. This table summarises these attributes to provide an understanding of the socioeconomic profile of the surveyed B40 senior citizens in Malaysia.

Table 2: Demographic analysis of the respondents

Variables	Coding	Frequency	Percentage
Gender	Male	44	21.2
	Female	164	78.8
Age	60 – 65	126	60.6
	66 – 70	50	24.0
	Above 70	32	15.4
Marital Status	Single	5	2.4
	Married	142	68.3
	Widow	61	29.3
Level of Education	Certificates	15	7.2
	Primary education	24	11.5
	Secondary School	47	22.6
	Pre-University	54	26.0
	Bachelor Degree	46	22.1
	Master Degree	19	9.1
	PhD degree	3	1.4

Occupational Status	Retired	148	71.2
	Still working	11	5.3
	Unemployed	18	8.7
	Unable to work	21	10.1
	Owns a Business	10	4.8
Income level	No income	38	18.3
	Less than RM2000	61	29.3
	RM2,001 to RM4,850	109	52.4

The present study utilised demographic analysis of 208 Malaysian senior adults in the B40 income group. Gender breakdown showed that 78.8% of the sample were female and 21.2% were male. In term of age, it revealed that group aged 60–65 years comprised the largest group of respondents (60.6%), while those aged 66–70 stood at 24.0%, and those over 70 amounts to 15.4%. Besides, with regards to marital status, 68.3% of respondents reported to be married, while 29.3% had a widowhood and 2.4% were single. The respondents' educational backgrounds varied remarkably: 26.0% had bachelor's degrees, 22.6% had a secondary education, and 22.1% and achieved pre-university education. Advanced degrees holders were few in that group, with 9.1% having a master's and only 1.4% having doctorates. In addition, a minority (11.5%) noted primary-level schooling only. For the respondents' employment status results indicated retirement as the highest category (71.2%), followed by inability to work (10.1%), unemployment (8.7%), active employment (5.3%), and entrepreneurship (4.8%). Finally, for income distribution, it was found that 18.3 percent of the respondents were without regular earnings. Specifically, 29.3% of earners were receiving less than RM 2,000 monthly and majority (52.4%) were earning between RM 2,001 and RM 4,850 monthly.

Descriptive analysis

To analyse the central tendency, dispersion, and distributional nature of the dataset, descriptive statistics were performed. Means, standard deviations and ranges were analysed for each construct (see Table 3). The mean is a measure of central tendency and the standard deviation quantified variability of data around the mean. A lower standard deviation value means a more homogeneous response that is more tightly clustered around the mean (Chatfield, 2018). The results are consistent with the 5-point Likert scale (1 equals strongly disagree; 5 equals strongly agree) used in this study, where minimum and maximum level values ranged from 1.00 to 5.00 in almost all scales in the constructs. According to the results for the variables, Financial Vulnerability had the highest mean score (M = 3.52, SD=0.81) while Social Support had the lowest mean (M = 3.11, SD=0.85). Mean values obtained from all constructs ranged between 2.33 and 3.67, indicating a moderate influence in the mean for moderate middle-level Likert values with equidistant interpretation (Boone & Boone, 2012; Al-Shaghdari et al., 2023). Based on these results, it appears that none of the variables of Financial Literacy, Saving Habits, Medical Cost, Social Support, or Financial Vulnerability had a strongly prominent (or not a strong) influence on them within the investigated context.

Table 3: Descriptive Statistics

Constructs	N	Minimum	Maximum	Mean	Std. Deviation
Financial Literacy	208	1.00	5.00	3.4059	.86309
Saving Habits	208	1.00	5.00	3.3157	.88841
Medical Cost	208	1.00	5.00	3.1587	.89487
Social Support	208	1.00	5.00	3.1147	.84980
Financial Vulnerability	208	1.00	5.00	3.5247	.81225
Valid N (listwise)	208				

Reliability analysis

Internal consistency reliability reflects the degree to which items in a measurement instrument cohesively measure the intended construct (Bougie & Sekaran, 2019). Cronbach's alpha was applied in this study to assess the internal consistency of the measurement scales, an essential process for assessing validity and reliability of the research instrument (Hair et al., 2014). A value of greater than 0.70 for the Cronbach's alpha coefficient is considered as a measure of the reliability of the scale (Muhammad et al., 2023; Netemeyer et al., 2003; Hair et al., 2014). For this study, an acceptable reliability criterion for the measurement set at 0.70 or above was established. As depicted in Table 4, Cronbach's alpha values for all constructs were above 0.70 which was the recommended level confirming the internal consistency reliability of the measurement scales. It illustrates that the instrument employed in this study is statistically reliable and valid for examining the phenomena being studied. As a result, all variables satisfied the predetermined criteria for internal consistency, as required by the methodological criteria used in robust empirical research.

Table 4: Reliability analysis

Factors	N. of Items	Alpha (a)
Financial Literacy	7	0.903
Saving Habits	6	0.907
Medical Cost	4	0.759
Social Support	7	0.888
Financial Vulnerability	7	0.917

Regression analysis

This regression analysis was a performed to observe the relationship between the independent and dependent variables. In this research, Financial Literacy, Saving Habits, Medical Costs, and Social Support were operationalised as independent variables, whereas Financial Vulnerability acted as the dependent variable. Additionally, four hypotheses were formulated, positing that each independent variable would exhibit a positive and significant association with Financial Vulnerability among B40 Malaysian seniors. Table 5 summarises the model and describes the entire explanatory power of the independent variables with respect to the dependent variable, as evidenced by the variables R-squared.

Table 5: Model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.676[a]	0.457	0.446	0.60454

a. Predictors: (Constant), Social Support, Medical Cost, Financial Literacy, Saving Habits

The regression model demonstrated strong explanatory power, with the independent variables collectively accounting for 45.7% of the variance in Financial Vulnerability (Adjusted R^2 = 0.446). This suggests that Financial Literacy, Saving Habits, Medical Costs, and Social Support are critical determinants of Financial Vulnerability among Malaysia's B40 senior citizens. The standard error of 0.605 further indicates moderate accuracy in the model's predictions. While these variables provide substantial explanatory power, future research should explore additional factors influencing the remaining unexplained variance (54.3%), such as unmeasured economic shocks or policy-related variables.

Table 6: ANOVA

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	62.378	4	15.594	42.670	.000[b]
	Residual	74.189	203	0.365		
	Total	136.567	207			

a. Dependent Variable: Financial Vulnerability
b. Predictors: (Constant), Social Support, Medical Cost, Financial Literacy, Saving Habits

The ANOVA results revealed a statistically significant regression model ($F [4, 203] = 42.67$, $p < 0.001$), indicating that Financial Literacy, Saving Habits, Medical Costs, and Social Support collectively explain a substantial portion of variance in Financial Vulnerability. The model accounts for 45.7% of the variance ($R^2 = 0.457$), with an adjusted R^2 of 0.446, demonstrating robustness against overfitting. The significant F-statistic underscores the overall validity of the model. Further analysis of individual coefficients is performed to evaluate each hypothesis regarding the direction and magnitude of predictor effects.

Table 7: Coefficients Analysis

Model		Unstandardised Coefficients		Standardised Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.786	0.243		7.341	0.000
	Financial Literacy	-0.107	0.061	-0.113	-1.754	0.081
	Saving Habits	0.619	0.059	0.677	10.429	0.000
	Medical Cost	-0.119	0.048	-0.131	-2.463	0.015
	Social Support	0.137	0.053	0.143	2.591	0.010

a. Dependent Variable: Financial Vulnerability

The regression coefficients are presented in Table 7 revealed that Saving Habits ($\beta = 0.677$, $p < .001$), Medical Costs ($\beta = -0.131$, $p = 0.015$), and Social Support ($\beta = 0.143$, $p = 0.010$) were statistically significant predictors of Financial Vulnerability. Contrary to expectations, Saving Habits exhibited the strongest positive association with Financial Vulnerability, suggesting that seniors with more structured saving behaviours may still experience financial vulnerability, potentially due to insufficient income or rising living costs. Medical Costs showed a significant negative relationship, which could reflect reverse causality or measurement artifacts. Social Support's positive association may indicate that reliance on external aid correlates with pre-existing financial strain. Financial Literacy ($\beta = -0.113$, $p = 0.081$) did not reach statistical significance, implying its role in mitigating vulnerability is inconclusive in this sample. The summary result of the hypotheses testing is presented in Table 8.

Table 8: Hypotheses Testing Summary

Path	P- values	Decision	
FL-> FV	0.081	**H1**	Rejected
MC -> FV	0.015	**H2**	Accepted
SH -> FV	0.000	**H3**	Accepted
SS -> FV	0.010	**H4**	Accepted

DISCUSSION OF RESULT

The aim of this study was to characterise novel predictors of financial vulnerability among B40 seniors aged 60 and above in Malaysia and discover the most significant predictor. It was found that medical costs, saving habits, and social support significantly impact financial vulnerability, while financial literacy was not found to have a significant effect. These findings emphasised that, indeed, financial vulnerability among B40 seniors emerges more from structural realities and social contexts than from individual knowledge. The first hypothesis (H1) made a significant contribution by explaining the relationship between financial literacy and financial vulnerability. Nevertheless, the findings showed no significant association ($p = 0.081$). This indicates that financial literacy, among B40 seniors, may not alone lessen vulnerability. This finding contradicts with studies conducted on general populations, which showed that financial literacy may be a protective measure against financial vulnerability (Ali et al., 2020; Tan et al., 2022). This disparity could arise from structural limitations experienced by low-income seniors, whose scarce means could not afford them much leeway to apply financial tools. Even when seniors have access to financial self-insight, structural conditions; like fixed incomes, increasing health care costs, and inadequate safety nets, limit their ability to act on that understanding. This point highlights the importance of a more systemic approach (e.g., by focusing on macro-level interventions like pension reforms, subsidised healthcare and targeted financial aid, rather than individual literacy efforts as the only means of promoting the development of literacy).

In addition, hypothesis H2 assumed that medical costs are positively predicting financial vulnerability, and it is supported ($p = 0.015$). Healthcare spending continues to be a significant destabilising force in older low-income people's lives. This finding is in agreement with previous studies (Ampudia et al., 2016; Lusardi et al., 2020), which found that unexpected financial expenses in health care can drain scarce savings and drive-up indebtedness. For B40 seniors, chronic disease and inadequate insurance aggravate these stresses as it may lead to trade-offs between essential treatment and basic costs of living. The discovery underscores the need for policy to improve Malaysia's support systems for the elderly to sustain healthcare, with larger financial support in the form of additional subsidies and preventive care services that can help relieve the financial burden of such medical shocks. The third hypothesis (H3) was also supported, with significant association found between savings and financial vulnerability ($p = 0.000$). Consistent saving is correlated with resilience, the study determined, but for low-income seniors, the effectiveness of savings is not strong enough to outweigh systemic risk. In the face of inflation, stagnant incomes and recurrent emergencies, savings become less protective, leaving many seniors vulnerable even with good habits of saving. This finding adds weight to the literature by showing that, on its own, saving behaviour is not enough to protect B40 seniors from vulnerability without institutions such as matched savings programs, retirement bonuses or inflation-protected pensions. The study highlights the need to combine these behavioural factors with structural support for finance.

Moreover, hypothesis 4 (H4) was also confirmed, revealing a significant relationship between social support and financial vulnerability ($p = 0.010$). This observation supports the influential role of informal networks, by which vulnerability of B40 senior citizens is buffered. Robust family and community backing reduces exposure to financial shocks through direct support, caregiving, and emotional support. This result confirms Chen's (2023) study, where seniors who have strong kinship relationships had reduced financial anxiety. Nonetheless, with urbanisation, traditional family relationships are disappearing altogether. The results advocate that policymakers should instead shore up community-based financial and social programs, such as co-operative credit groups and community health funds, to supplement the already diminishing family-based safety nets. This study's finding also support an important part of literature by revealing that financial insecurity of B40 seniors is driven predominantly by medical expenses, saving capability and social support, as opposed to financial literacy. This goes against the dominant income- and literacy-based regimes by emphasising the structural, cultural, and social aspects. From a practical perspective, the findings suggest three priorities: healthcare affordability, the extension of subsidies and takaful schemes for care for the elderly. Also, savings enhancement creates institutional supports (e.g., retirement savings top-ups, community-based savings groups) that are targeted to low-income seniors. Additionally, social safety nets bolstering family-focused policies and community programs that deliver intergenerational and peer-based support. Moreover, the study also links these results with Malaysia's Shared Prosperity Vision 2030, highlighting how elderly financial vulnerability is not just a welfare issue but a primary driver of inclusive, sustainable development.

THE ROLE OF ISLAMIC SOCIAL FINANCE

The findings of this study reveal that financial vulnerability among B40 seniors is driven primarily by medical costs, limited savings capacity, and declining social support, while financial literacy shows no significant effect. These outcomes indicate that structural constraints, rather than individual behaviour, shape financial insecurity for low-income elderly groups. In this context, Islamic social finance (ISF) instruments offer a systemic, equity-based, and compassion-driven framework that can respond directly to the root causes identified in the analysis. First, addressing medical costs through Takaful and Zakat-Funded Healthcare. Since medical expenses emerged as a significant predictor, Islamic social finance mechanisms particularly zakat, *waqf*, and takaful can play a central role in reducing healthcare burdens. Zakat *asnaf* such as fi *al-gharimin* and fi al-*fuqara'* categories can be mobilised to subsidise recurring medical needs among financially vulnerable seniors. Equally, *waqf*-based health funds can support preventive care, chronic illness management, and subsidised medication. Besides, community-based micro-takaful schemes can also offer low-premium protection specifically designed for elderly B40 households.

Secondly, enhancing savings through *waqf*-based retirement support and Islamic micro-savings can be an alternative solution. The significant association between savings and financial vulnerability suggests that senior citizen require institutional, not merely behavioural support. *Waqf*-based pension top-ups, cash *waqf* retirement funds, and Islamic micro-savings circles (inspired by rotating savings groups) can strengthen long-term resilience. These programs reduce reliance on inadequate personal savings and provide inflation-resistant protection.

Next, strengthening social support via *waqf* and *qard hasan* structures can be another initiative. The study highlights the significant role of social support, an area where Islamic social finance has deep historical roots. For instance, *waqf* family funds, community *waqf* villages, and *qard hasan* micro-loans can revive community-based solidarity systems that traditionally supported the elderly. These instruments offer interest-free assistance and strengthen intergenerational and peer networks, mitigating vulnerability created by modernisation and weakened family structures.

Finally, there is a need to move beyond financial literacy. From a systemic ISF perspective, the insignificant effect of financial literacy further reinforces the need for structural interventions. ISF inherently prioritises redistribution, social justice, and communal care, aligning closely with the systemic constraints faced by B40 seniors. Policies grounded in ISF can shift the focus from individual responsibility to a shared, ethical financial ecosystem aligned with *Maqasid al-Shariah*, mainly the preservation of life, wealth, and dignity among older citizens.

CONCLUSION

This study adds novel empirical evidence about the multiple determinants of financial vulnerability for Malaysia's B40 seniors, thus shedding light on both academic literature and policy. It is not the knowledge that seniors do not have about the financial system that causes vulnerability, but in reality, those vulnerabilities are all about deeper systemic flaws, like fixed or low incomes, inflation, and the incapability to afford healthcare. This study contradicts common knowledge in the literature that personal knowledge alone can assure financial stability later in life, by showing no significant relationship between financial literacy and financial vulnerability. This work contributes theoretically by moving the emphasis from personal failings to the structural and institutional dimensions of vulnerability. The paradox of saving habits is further exposed by the analysis that demonstrates even seniors with some savings are not immune to the fact that they are unable to survive the repeating crises and the erosion of inflation. This highlights the need not only for research, but also for practical interventions, to avoid the personal poverty policies of individualism. Crucially, this significant association of medical costs and social support with the financial vulnerability is an effect of dual system of healthcare difficulties and reliance on informal safety nets. Besides, the findings contribute to the extant literature by adding medical costs and social assistance as mechanisms of senior financial vulnerability, especially in terms of the Malaysian context and among the emerging nations. Practically speaking, the outcomes demand a policy and practice paradigm shift. From a practical perspective, the findings call for a shift toward systemic, culturally aligned interventions. Islamic social finance offers a set of instruments uniquely positioned to respond to the vulnerability drivers identified. Subsidised takaful schemes designed for seniors can reduce out-of-pocket medical burdens; zakat allocations particularly under asnaf categories can support healthcare and essential living needs, while waqf-based health and retirement funds can strengthen long-term resilience. Government–industry collaboration with Islamic financial institutions can further enhance access to preventive and emergency care through Shariah-compliant financing models. In parallel, formal safety nets such as pension enhancements and community-based programmes should complement, rather than rely solely on, family-level support. Overall, this study reinforces that financial vulnerability among B40 seniors is structurally embedded and cannot be addressed through individual behaviour change alone. It calls for comprehensive reforms that integrate healthcare financing, social protection, and Islamic social finance mechanisms to foster a more inclusive and resilient ageing society. Finally, future research must take more longitudinal and mixed methods approaches to capture the temporal and experiential dimensions of elderly financial vulnerability. Such studies would not only enhance academic knowledge but also support context-specific and evidence-based policies to promote dignity and financial security of B40 Malaysian seniors as they enter old age.

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