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Unlocking Financial Stability: How Locus of Control Shapes Well-being in Malaysia's Low-income Households

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ABSTRACT

This study investigates the complex interplay between financial stress, financial vulnerability, financial behaviour, and the financial well-being (FWB) of Malaysia's low-income households, spotlighting locus of control (LOC) as a mediating factor and income as a control variable. Using a comprehensive model that accounts for 29% of the variance in FWB, the research analyses responses from 432 household heads across Peninsular and East Malaysia, selected through multi-stage sampling. Questionnaires are employed for data collection, and covariance-based structural equation modelling is used for analysis. The findings reveal that financial behaviours, financial vulnerability, and financial stress significantly influence FWB, with internal LOC acting as a partial mediator. The results underscore the potential for low-income families to improve their FWB by adopting adaptive financial behaviours and strengthening their internal LOC, offering critical insights for policymakers and government bodies. This research emphasises the need to develop targeted, nuanced policies to improve financial decision-making and resilience among economically disadvantaged households, fostering financial stability and overall well-being.

Keywords: Financial behaviour, financial stress, financial vulnerability, financial well-being, locus of control

INTRODUCTION

Malaysia stands on the precipice of a transformative economic shift, poised to transition from a developing to a high-income nation by 2024. This ambitious goal is underscored by a decade of robust economic growth, exemplified by a 4.3% GDP increase in the first quarter of 2020, as the Economic Planning Unit (2021) reported.

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However, this growth masks underlying disparities that pervade the nation's socio-economic fabric, particularly affecting the low-income (B40) and middle-income (M40) groups, constituting approximately 80% of all households.

The country's strategic integration of the Sustainable Development Goals (SDGs) into its national development strategy, notably through initiatives like the Shared Prosperity Vision 2030 and the Twelfth Malaysia Plan, reflects a concerted effort to enhance living standards and mitigate poverty. Despite these initiatives, there remains a significant research gap in understanding the economic resilience of individual households within these income groups during macroeconomic stability and crisis.

Current literature primarily focuses on broader demographic impacts, often overlooking the granular nuances of FWB that affect individual households. For instance, while national policies have effectively curbed unemployment rates and enhanced infrastructure, they have yet to be more successful in addressing the escalating cost of living, disproportionately impacting the lower income brackets. Studies such as those by Ismail et al. (2021) and Thinagar et al. (2021) highlight the precarious financial situations exacerbated by the COVID-19 pandemic, where low-income households faced heightened financial distress due to job losses and reduced economic activity.

The landscape of FWB research in Malaysia is rich but fragmented. Prior studies have primarily concentrated on FWB demographic and economic predictors, often overlooking the nuanced influences of psychological and behavioural factors. Research by Abdullah et al. (2019) explored the direct impact of financial literacy and financial management practices on the well-being of Malaysian households, revealing a significant positive correlation between financial knowledge and the financial stability of families. However, these studies seldom delve into the mediating role of intrinsic psychological factors such as locus of control (LOC), which could offer deeper insights into how individuals perceive and react to financial challenges.

Research predominantly focused on demographic and economic predictors of FWB often overlooks the psychological dimensions that significantly influence financial behaviour and outcomes. Netemeyer et al. (2018) and Ponchio et al. (2019) emphasised the importance of financial behaviours and literacy but did not integrate the role of psychological constructs such as LOC. Similarly, Brüggen et al. (2017) highlighted the complexity of FWB, suggesting the necessity of a multifaceted approach that incorporates both objective financial metrics and subjective psychological factors.

The socio-economic shocks introduced by global crises, such as the COVID-19 pandemic, further underscore the need to understand households' psychological resilience. Studies by Hassan et al. (2021) and the Department of Statistics Malaysia (2020) documented the immediate adverse effects of the pandemic on household income, particularly among the B40 group. These studies pointed out the increase

in financial vulnerability due to reduced incomes and heightened unemployment yet did not explore how psychological factors like LOC might mediate the impact of these financial stressors on FWB.

This study addresses the gaps in the literature by focusing on the role of internal LOC as a mediating factor between financial stress, financial vulnerability, financial behaviours, and FWB among low-income households in Malaysia. This approach provides a more holistic view of the factors contributing to FWB. It offers insights for policy-makers to develop targeted interventions that enhance economically disadvantaged populations' financial and psychological resilience.

Given the importance of FWB as a subjective measure of an individual's ability to sustain a desired lifestyle and achieve financial autonomy (Brüggen et al., 2017), there is a critical need for an in-depth exploration of the relationship between personal financial management and its impact on FWB among Malaysia's low-income households. This study aims to bridge the gap in the literature by focusing on the relationship between personal financing, financial behaviour, and the internal LOC among low-income families in Malaysia. It critically examines how factors such as financial stress, financial vulnerability, and financial behaviours mediate this relationship, focusing on the role of LOC as a potential moderator. Theoretical and empirical research suggests that individuals with a high internal LOC are more likely to engage in positive financial behaviours, enhancing their FWB.

LITERATURE REVIEW

Financial Well-being (FWB)

FWB is a critical area of inquiry that delves into individual practices around money management, including spending, saving, and investing (Nanda & Banerjee, 2021). It is increasingly recognised as a vital indicator of economic growth, reflecting a nation's success in enhancing its citizens' financial health (Ghazali et al., 2020). The field has converged towards the Consumer Financial Protection Bureau (CFPB) definitions of FWB in recent literature (Netemeyer et al., 2018; Nicolini & Cude, 2019; Ponchio et al., 2019). However, Brüggen et al. (2017) note the diversity in FWB conceptualisation, leading to varied definitions and measurement approaches. These can be categorised into three main clusters: objective measures of financial health, such as creditworthiness and savings (Delafrooz et al., 2011); subjective perceptions of financial status, including satisfaction and debt management (Kim et al., 2003); and hybrid approaches that blend both subjective and objective assessments, like comparing debt levels with financial satisfaction (Xiao et al., 2009). This multifaceted approach underscores the complexity of assessing FWB, highlighting the need for comprehensive measures considering tangible financial metrics and individual perceptions of financial security.

Financial Stress

The literature presents a variety of definitions of financial stress. It has been described as an interaction between physical arousal and

emotional responses to financial stimuli, such as an urgent payment (Choi et al., 2020). Factors like job loss, medical bills, or unexpected costs can cause financial stress. It can also lead to psychological stress, such as depression, anxiety, and feelings of helplessness. Friedline et al. (2020) argue that this contributes to economic hardship. In general, financial stress is usually characterised as physical or mental health symptoms that are triggered by difficulty meeting basic needs and paying bills, which may result in depression. There is a strong correlation between financial stress and both physical and psychological health, and financial stress is particularly relevant to low-income families, who are constantly faced with monetary obligations and obligations that are accompanied by financial stress (Kramer et al., 2019).

Mahdzan et al. (2019) distinguish between financial stress and financial distress, conceptualising financial stress as arising from sudden shocks and abrupt changes in an individual's life. This definition underscores the dynamic nature of financial stress, differentiating it from the broader, often more enduring concept of financial distress. However, financial distress pertains to the opposite perspective of FWB. Additionally, previous research indicates that financial stress negatively correlates with individuals' FWB (Mahdzan et al., 2020; Sabri & Zakaria, 2015).

Therefore, the first hypothesis is as follows:

Ha1: Financial stress has a negative effect on the FWB of low-income households in Malaysia

Income

Additionally, the impact of the study on household baseline income varies from one study to another. Studies have shown that low-income households are disproportionately affected by the economic crisis. In most cases, low-income households are employed in traditional economic sectors that have been negatively affected (Adams Prassl et al., 2020; Almeida et al., 2021; Galasso, 2020; Tanaka, 2022). Nonetheless, in some cases, such as Ghana (Bukhari, 2021) and Uganda (Mahmud & Riley, 2021), the higher- and middle-income classes suffered more regarding income reductions, as demonstrated by their consumption patterns.

Ha2: Income has a positive effect on the FWB of low-income households in Malaysia

Financial Vulnerability

Financial vulnerability is conceptualised as the potential or actual situation in which an individual faces financial difficulties, highlighting the risk of future financial hardship rather than current financial management or living standards (O'Connor et al., 2019). This concept focuses on the prospective nature of financial challenges, encompassing the inability to meet financial obligations, the risk of default, and financial insecurity due to possible shocks. Households, especially those with low income, are deemed vulnerable if they struggle to cover monthly expenses, face unpaid bills, or cannot meet financial commitments (Magli et al., 2022). Financial

vulnerability is often quantified through ratios that gauge a household's capacity to fulfil its obligations, with a particular emphasis on debt service-to-income and debt-to-asset ratios, among others, offering a more nuanced understanding of financial fragility compared to absolute debt levels (Daud et al., 2019).

Ha3: Financial vulnerability has a negative effect on the FWB of low-income households in Malaysia

Financial Behaviour

Financial behaviour encompasses actions related to finances, including daily personal financial activities like budgeting, tracking expenditures, borrowing, utilising credit, investing, and managing liquidity, as outlined by Xiao et al. (2022). These behaviours can be categorised based on their impact on financial health as beneficial or detrimental. Positive financial practices enable individuals to monitor and regulate their expenses, establish financial objectives, prepare for future needs, save funds, and timely settle bills, according to Zakaria et al. (2023). Conversely, negative financial behaviours resulting from financial blunders or negligent actions adversely affect one's personal and professional life. The role of financial behaviour as a determinant of FWB has been recognised and examined in various studies, indicating that responsible financial actions correlate with higher subjective FWB (SFWB), as reported by Mahdzan et al. (2019), while irresponsible financial actions are linked to lower SFWB levels (Mahdzan et al., 2022).

Based on these insights, the proposed hypotheses are:

Ha4: Positive financial behaviour has a positive effect on the FWB of low-income households in Malaysia

Ha5: Positive financial behaviour strengthens the internal LOC among low-income households in Malaysia

Internal Locus of Control (LOC)

In psychology, the concept of LOC centres on an individual's belief in their capability to influence outcomes through their actions, as proposed initially by Rotter (1966). An internal LOC reflects a belief in personal agency, where individuals consider their actions as the primary determinants of life outcomes and satisfaction rather than external forces (Cobb-Clark et al., 2016).

The belief in one's ability to control and influence life events significantly impacts FWB. Consequently, they are more inclined to take proactive steps towards improving their financial status, adhere to their financial plans, and take responsibility for their financial outcomes. This proactive and responsible approach towards finances leads to lesser concerns about financial matters and greater satisfaction with their financial state (Strömbäck et al., 2017).

Given these insights, the subsequent hypotheses are proposed:

Ha6: Internal LOC acts as a mediator in the relationship between financial behaviour and the FWB of low-income families in Malaysia

Ha7: A strong internal LOC has a positive effect on the FWB of low-income households in Malaysia

Conceptual Framework of Financial Well-being (FWB)

The conceptual framework of FWB as shown in Figure 1 integrates the roles of financial stress, income, financial vulnerability, and financial behaviour alongside the internal LOC in shaping FWB. Drawing on Expected Utility Theory, as discussed by Morgenstern (1976) and furthered by Daniel Bernoulli's hypothesis, this framework explores how households' financial decisions under risk and uncertainty can predict future behaviour by evaluating current consumption and outcomes. This theory posits that individuals are likelier to engage in behaviours that they perceive as beneficial and relevant, suggesting that positive financial behaviour and a solid internal LOC contribute to higher utility and life satisfaction, thereby enhancing FWB. Additionally, the framework incorporates the Resource Management Model (Deacon & Firebaugh, 1988), rooted in System Theory, to argue that improved financial inputs—like lower financial vulnerability and better financial management—lead to superior FWB outcomes.

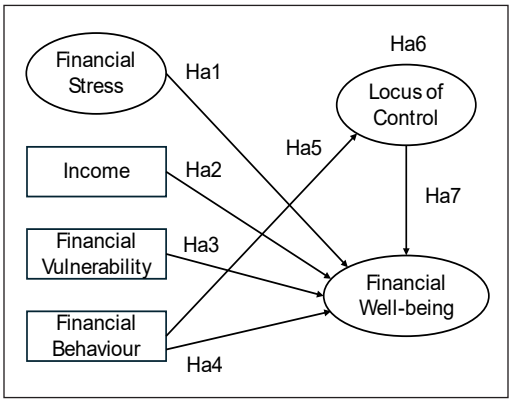

Figure 1. A conceptual framework for FWB

MATERIALS AND METHOD

Research Design and Data Sampling

This pivotal study, part of the Malaysian Long Research Grant Scheme University Network (LRGS MRUN), targets the socio-economic challenges facing Malaysia's B40 demographic, representing the bottom 40% of the income spectrum. Working in conjunction with the Department of Statistics Malaysia (DOSM), the study used the National Household Sampling Frame (NHSF) to implement a multi-stage random sampling technique as the first sampling, which is detailed in the accompanying flowchart (Figure 3). This technique enabled the selection of 2,215 households across five key regions in Malaysia, both Peninsular and East Malaysia (Selangor, Johor, Penang, Pahang, Sabah, and Sarawak) as presented in Figure 2 ensuring a broad and representative sampling base. Ultimately, 1,948 valid responses were collected, resulting in a high response rate of 91.67%.

Conducted during a crucial time frame from September 2020 to March 2021, amidst the global upheaval caused by the COVID-19 pandemic, the study's timing was instrumental in capturing the nuanced impacts of the pandemic on the economic and social well-being of the B40 households. The research team ensured the integrity and relevance of their findings by employing the SPSS software for data analysis, focusing specifically on urban household heads with a monthly income below RM4,850. The methodical selection of households within specific Enumeration Blocks (E.B) and Residential Places (R.P.)

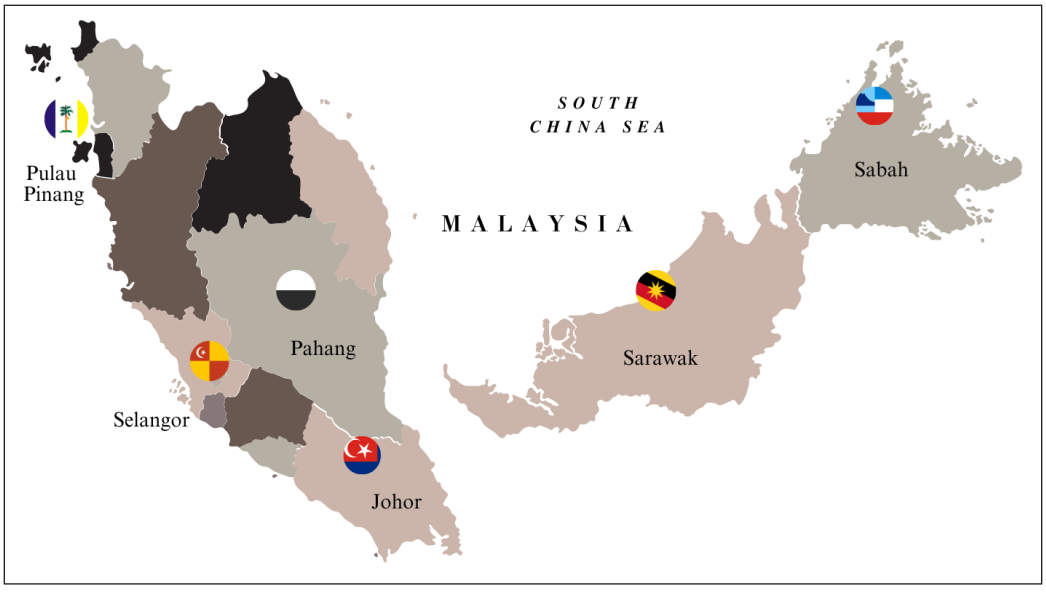

Figure 2. States in data sampling

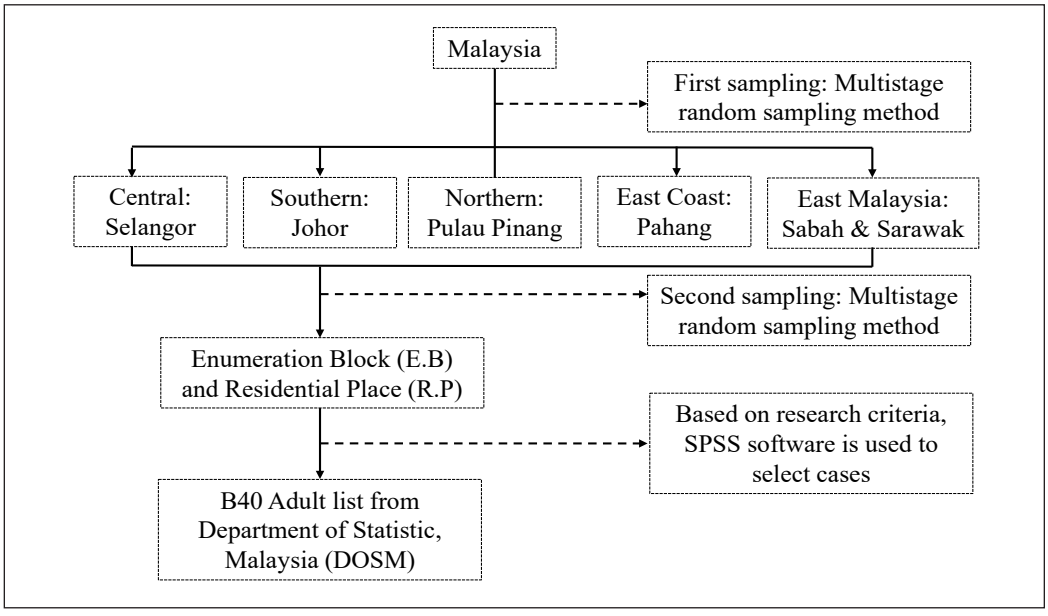

Figure 3. Flow chart of sampling method

across the chosen states was carried out through the second stage of sampling, multi-stage random sampling. Further refining the granularity and accuracy of the data collected based on research criteria: head of households and households belonging to the B40 income group (income less than RM4,850), ultimately resulting in 432 valid datasets for comprehensive analysis, as depicted in Figure 3.

The adherence to established statistical standards and methodologies for sample size determination and data analysis, as highlighted by Hair et al. (2019), underscores the importance of ensuring adequate sample sizes to achieve reliable results. Specifically, Reinartz et al. (2009) emphasise the potential for spurious outcomes in CB-SEM analyses when sample sizes are too small, advocating for sample sizes in the range of 250 to 500 to mitigate such risks and enhance structural modelling accuracy. The robustness of CB-SEM's maximum likelihood estimates against non-normality further underscores the appropriateness of the 432-sample size for this study's CB-SEM analysis (Chou et al., 1991; Olsson et al., 2000). Through its meticulous design and execution, this study offers profound insights into the socio-economic conditions of Malaysia's B40 demographic, providing a valuable resource for policymakers and researchers alike in devising targeted interventions for this vulnerable population segment.

Data Collection

Measurement of Variables

This study incorporates several scales to assess participants' various dimensions of FWB. The Malaysian Financial Well-Being Scale (MFWBS), developed by Jariah (2007), is used to explore participants' ability to meet short-term financial goals, maintain emergency funds, and cover daily expenses, with responses ranging from Strongly Disagree (1) to Strongly Agree (4). Additionally, the Financial Management Behaviour Scale by Dew and Xiao (2011) evaluates participants' financial behaviours across nine areas, including cash and credit management, savings, and investments, on a scale from Never (1) to Very Frequently (4).

Financial stress is measured through items adapted from Aldana and Liljengquist (1998), focusing on health impacts, financial contentment, and stress levels, while the financial vulnerability is assessed using Anderloni et al.'s (2012) criteria on the ability to cover essentials, handle unexpected expenses, and sustain financial commitments. Lastly, the LOC scale, developed by Sumarwan and Hira (1993), examines individuals' beliefs in their capacity to control their financial situations and overall life circumstances, ranging from Strongly Disagree (1) to Strongly Agree (4). These scales comprehensively evaluate FWB, financial behaviours, financial stress, financial vulnerability, and LOC among the study's participants.

Data Analysis

The data analysis encompassed five distinct steps. Initially, descriptive statistics were computed to delineate the univariate characteristics of the socio-economic constructs. Following this, the internal consistency of the examined constructs was evaluated using Cronbach's alpha coefficients. The third step involved conducting a bivariate analysis through the Pearson correlation test to elucidate the relationships between the constructs under review. Subsequently, the fitness of the FWB and mediation model was assessed employing Covariance-Based Structural

Equation Modelling (CB-SEM) analysis, providing insights into the structural dynamics and interrelations among the variables.

RESULTS AND DISCUSSION

Profile of Respondents

The socio-demographic profile of the participants in this study is detailed in Table 1, revealing significant insights into the composition of the respondent group. The study's findings on the socio-demographic profile of participants reveal a predominantly male-led household composition (94.2%) within the surveyed low-income segments in Malaysia, reflecting traditional family structures. Age distribution indicates a focus on middle-aged to older individuals, with significant representations in the 31 to 60 age range but fewer younger participants aged 21 to 30. Ethnically, Malays form

Table 1
Socio-demographic backgrounds

Respondents Characteristics (Head of Households)	Pooled Sample (N=432)	
	Frequency	Percentage (%)
Gender		
Male-headed household	407	94.2
Female-headed household	25	5.8
Age		
21–30 years old	39	10.6
31–40 years old	88	23.9
41–50 years old	107	29.1
51–60 years old	92	25.0
61–70 years old	34	9.2
71–80 years old	8	2.2
Marital Status		
Single	9	2.1
Married	415	96.1
Widowed	5	1.2
Divorced	3	0.7
Education level		
No education qualification	17	3.9
Primary Education	31	7.2
Secondary Education (PMR/PT3, SPM, STPM)	305	70.6
Tertiary Education (Diploma/Certificate, Degree, Masters, Ph.D.)	79	18.2
Ethnicity		
Malay	336	77.8
Chinese	30	6.9
Indian	24	5.6
Peribumi Sabah	26	6.0
Peribumi Sarawak	16	3.7

the majority (70%), followed by smaller proportions of Chinese, Indians, and indigenous groups, showcasing Malaysia's multicultural identity even within low-income demographics. Most respondents are married (95%), and a vast majority have at least secondary education (70.5%), with a smaller percentage holding tertiary qualifications (18.2%). This demographic snapshot highlights the gender, age, ethnic, marital, and educational dynamics of low-income households participating in the study.

Reliability Test

The pilot study conducted in April 2020 with 47 respondents confirmed the survey instrument's reliability, utilising Cronbach's alpha as the metric for internal consistency. The reliability coefficients for the various constructs examined ranged from 0.75 to 0.92, exceeding the established acceptability threshold of 0.7 as recommended by Nunally (1978), thus demonstrating the questionnaire's satisfactory reliability. The specific Cronbach's alpha values were 0.92 for FWB, 0.88 for financial stress, 0.89 for financial behaviour, 0.78 for financial vulnerability, and 0.78 and 0.75 for the internal and external LOC, respectively, as presented in Table 2.

The Assessment of Convergent Validity and Composite Reliability for Each Construct

The study employed Confirmatory Factor Analysis (CFA) and Structural Equation Modelling (SEM) based on methodologies by Awang (2014, 2015) and Awang et al. (2018), focusing on construct, convergent, and discriminant validity for latent constructs' validation. Convergent validity was assessed using the Average Variance Extracted (AVE) with a threshold of >0.5. Composite Reliability (CR) was calculated to evaluate reliability, requiring a CR >0.6 for acceptability, aligning with standards set by Afthanorhan et al. (2020), Mahfouz et al. (2020) and Rahlin et al. (2020). Table 3 outlines the AVEs and CRs for all constructs, ensuring the study's measurements are valid and reliable.

The Structural Model and Structural Equation Modelling (SEM)

The study utilised Structural Equation Modeling (SEM) to explore the determinants of FWB, identifying financial stress as a predictive construct and LOC as a mediating factor. Table 4 presents the model fit indices,

Table 2
Cronbach's Alpha Reliability in the pilot-test (n = 47)

No	Scale	Total Items	Cronbach α
1	Financial Well-Being	10	0.92
2	Financial Stress	10	0.88
3	Financial Behaviour	10	0.89
4	Financial Vulnerability	10	0.78
5	Locus of Control (LOC)	8	Internal LOC: 0.78 External LOC:0.75

Table 3
Convergent validity and reliability for all constructs

Construct	Item	Factor Loading	CR (above 0.6)	AVE (above 0.5)
FWB	FWB2	0.67	0.89	0.54
	FWB3	0.61		
	FWB4	0.82		
	FWB5	0.80		
	FWB6	0.80		
	FWB7	0.66		
	FWB8	0.73		
LOC	LOC_IN_4	0.76	0.80	0.56
	LOC_IN_5	0.84		
	LOC_IN_6	0.62		
Financial Stress	FV12	0.65	0.92	0.63
	FV13	0.75		
	FV14	0.85		
	FV15	0.84		
	FV16	0.85		
	FV17	0.80		
	FV18	0.81		

categorized into absolute, incremental, and parsimonious fit. The RMSEA value of 0.053 and GFI of 0.928 indicate a good absolute fit. Incremental fit indices, including AGFI (0.901), CFI (0.965), TLI (0.956), and NFI (0.938), confirm a robust model fit. The parsimonious fit, represented by a chisq/df ratio of 2.207, further supports the model's adequacy.

These findings are visualized in Figure 4, which illustrates the structural equation model of FWB. The diagram highlights the relationships among financial stress, financial vulnerability, financial behaviour, and LOC in predicting financial well-being, using standardised estimates. This combined presentation of Table 4 and Figure 4 underscores the robustness and validity of the proposed model.

Mediation Analysis

The study on FWB among low-income households in Malaysia, detailed in Table 5, employed a comprehensive analytical approach to validate hypotheses related to financial stress, income, financial vulnerability, financial behaviour, and LOC.

Hypothesis H_a1 (Estimate = 0.389; p-value = 0.001) challenges the negative perception of financial stress by suggesting it may motivate improved financial management, thus enhancing FWB, a notion supported by Netemeyer et al. (2018). This hypothesis posits that increased financial stress reduces overall FWB, exacerbating economic hardship. The findings support this hypothesis, demonstrating that households' ability to achieve financial stability diminishes as financial stress intensifies.

Table 4
Index category and the Model Fit Level of Acceptance

Category	Name of Index	Index Value	Result	Indicator
1. Absolute fit	RMSEA	0.053	Achieved the requirement	Good
	GFI	0.928	Achieved the requirement	Good
2. Incremental fit	AGFI	0.901	Achieved the requirement	Good
	CFI	0.965	Achieved the requirement	Good
	TLI	0.956	Achieved the requirement	Good
	NFI	0.938	Achieved the requirement	Good
3. Parsimonious fit	Chisq/df	2.207	Achieved the requirement	Good

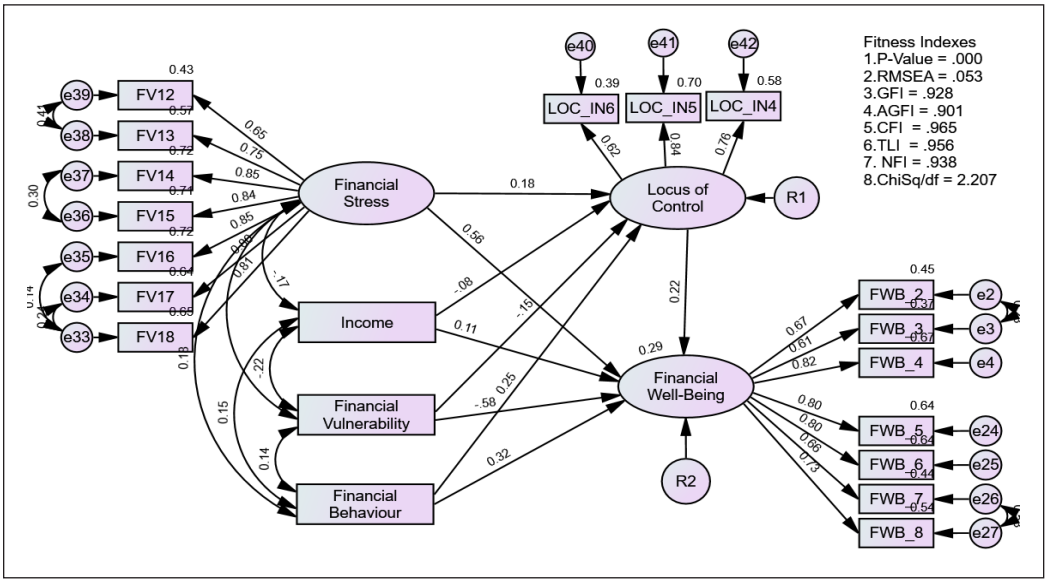

Figure 4. Structural equation modelling of FWB (standardised estimate)

H_a2 (Estimate = 0.005; p-value = 0.018) confirms that increased income positively impacts FWB, reflecting the findings of Magli et al. (2022). This hypothesis suggests that higher income levels lead to better FWB. Analysis confirms that improvements in household income are significantly associated with enhancements in their financial health, offering a buffer against economic instability. Moreover, based on findings reported in Table 5, FWB was least affected by income (B=0.005,

$p<0.05$) compared to other predictors ($p<0.01$). The findings in Table 5 indicate that income has a relatively minor effect on FWB, with a coefficient ($B=0.005$, $p<0.05$). This effect is significantly less impactful than other predictors ($p<0.01$). This observation necessitates reevaluating the traditional belief that income is the primary determinant of FWB.

Historically, income has been regarded as a critical indicator of an individual's financial health. However, the results of this study suggest that in the contemporary context, factors such as how individuals manage financial stress, their behavioural finance strategies, and their LOC play a more pivotal role in defining their FWB. These findings align with emerging perspectives in financial psychology that posit that FWB is increasingly influenced by personal management strategies rather than mere income levels.

Specifically, it is highlighted that while income contributes to financial security, its role is overshadowed by the effectiveness of financial behaviours, the ability to manage vulnerabilities, and the strength of an individual's LOC in influencing financial stability. This shift underscores the complexity of FWB in today's economic environment. It suggests that a broader range of factors should be considered in strategies to enhance financial health.

H_a3 (Estimate = -0.035; p-value = 0.001) indicates that financial vulnerability adversely affects FWB, highlighting the importance of resilience, as noted by Mahdzan et al. (2019) and Sabri and Aw (2020). According to this hypothesis, greater financial vulnerability, characterised by an inability to absorb financial shocks—adversely impacts FWB. The data corroborate this assumption, indicating that more vulnerable households experience lower levels of FWB.

H_a4 (Estimate = 0.052; p-value = 0.001) shows that prudent financial behaviours significantly improve FWB, aligning with insights from Netemeyer et al. (2018). This hypothesis asserts that engaging in beneficial financial behaviours such as saving, budgeting, and prudent debt management enhances FWB. The empirical evidence supports this relationship, highlighting the critical role of sound financial practices in improving economic outcomes.

H_a5 (Estimate = 0.033; p-value = 0.001) reveals a positive relationship between financial behaviour and internal LOC, suggesting financial conduct strengthens individuals' belief in their financial control, echoing Aryani and Khaddafi (2021). It is hypothesised that responsible financial behaviour fosters a stronger sense of personal control over financial outcomes. Findings affirm this relationship, suggesting that good financial habits enhance individuals' beliefs in their ability to control and improve their financial situations.

Further, H_a6 and H_a7 explore internal LOC's role, finding it serves as a mediator between financial behaviour and FWB (Direct effect Estimate = 0.270; p-value = 0.001) and directly enhances FWB (Estimate = 0.270; p-value = 0.001), advocating for a comprehensive FWB enhancement approach that includes economic, behavioural, and psychological elements. This hypothesis

proposes that a higher internal LOC, where individuals believe they can influence their financial outcomes through their actions, contributes positively to their FWB. Results indicate that households with a more robust internal LOC exhibit better financial health, supporting the hypothesis.

This finding indicates that households with strong internal LOC beliefs and who actively apply them tend to enjoy improved FWB, in accordance with prior research findings (Magli et al., 2021). Those with a heightened internal LOC view life events as outcomes of their actions, fostering stability, motivation for achieving goals, and the capacity to make informed decisions—all collectively contributing to an enhanced FWB. As a result, they often exhibit reduced financial anxieties and increased satisfaction with their financial circumstances, as corroborated by earlier studies (Strömbäck et al., 2017).

The results outlined in Table 5 provide a compelling insight into the determinants of an individual's LOC. It is observed that financial or economic status—encompassing financial stress, income level, and financial vulnerability—does not significantly predict LOC ($p>0.10$). Contrarily, financial behaviour emerges as the sole significant predictor ($p<0.01$), indicating that LOC is primarily influenced by how individuals manage their financial activities.

These results align with the findings of Netemeyer et al. (2018), who demonstrated that financial behaviours significantly predict FWB. Similarly, Ponchio et al. (2019) found that financial literacy and positive financial behaviours are crucial determinants of FWB. However, unlike these studies, our research highlights the mediating role of LOC, which adds a psychological dimension to the understanding of financial behaviours and outcomes.

Brüggen et al. (2017) emphasised the complexity of FWB, suggesting that a multifaceted approach, which includes both objective financial metrics and subjective psychological factors, is necessary for a comprehensive understanding. These findings support this perspective by demonstrating how internal LOC mediates the relationship between financial stress, financial vulnerability, and FWB. This mediation effect underscores the importance of psychological resilience in managing financial stress and vulnerability.

The rationale behind LOC's significant mediating role can be attributed to the psychological empowerment it provides. Individuals with a strong internal LOC believe in their ability to influence their financial outcomes, which motivates them to engage in positive financial behaviours and effectively manage financial stress and vulnerability. This finding is consistent with the Resource Management Model (Deacon & Firebaugh, 1988), which posits that improved financial inputs and better financial management lead to superior financial outcomes.

This finding is critical, especially considering the potential for early intervention through education. Among the predictors of LOC, financial behaviour is unique. It can be effectively developed and enhanced through targeted educational interventions, such as financial management

Table 5
The direct and indirect effect for the path model of FWB

			Standardise Estimate	Estimate (Beta)	S.E.	C.R.	P	Result
Indirect Effect (A)								
LOC	<---	Financial Stress	.104	.181	.098	1.063	.288	Not Significant
LOC	<---	Income	-.003	-.078	.002	-1.429	.153	Not Significant
LOC	<---	Financial Vulnerability	-.007	-.149	.008	-.906	.365	Not Significant
LOC	<---	Financial Behaviour	.033	.250	.007	4.421	***	Significant
Indirect Effect (B)								
FWB	<---	Income	.005	.113	.002	2.371	.018	Significant
FWB	<---	Financial Behaviour	.052	.324	.008	6.270	***	Significant
FWB	<---	Financial Vulnerability	-.035	-.583	.009	-3.931	***	Significant
FWB	<---	Financial Stress	.389	.559	.107	3.631	***	Significant
Direct Effect (C)								
FWB	<---	LOC	.270	.222	.068	3.993	***	Significant

***The observed difference is statistically significant at the 0.001 level (two-tailed)
*0.05 Significant & 0.01 Significant

courses or comprehensive financial literacy training. The implication is profound for educational policy and curriculum design in schools and higher education institutions. By integrating structured financial literacy programs into the educational system, there is an opportunity to foster a more robust internal LOC among students, equipping them with the skills necessary to make informed financial decisions from an early age.

CONCLUSION

This analysis delves into the pronounced disparity in FWB among low-income households in Malaysia, pinpointing the LOC as a pivotal factor influencing financial behaviour. The study underscores the urgent need for interventions to enhance this demographic's financial literacy and decision-making skills. A comprehensive strategy is proposed, grounded in a conceptual model that interlinks financial stress, financial vulnerability, financial behaviour, and LOC, drawing from behavioural finance and psychology theories. This model advocates for empowering individuals by enhancing their financial knowledge and control, suggesting that a heightened LOC could lead to better financial decisions and improved FWB.

Identifying financial management deficiencies and poor financial practices among these households underscores the necessity for government and corporate interventions. These interventions should address immediate financial threats

and engage low-income communities in understanding market dynamics and building beneficial networks. The strategy suggests a partnership model that aligns the resources of various stakeholders for mutual and societal benefits.

Assessing the community's readiness to adopt new financial education programs and services is critical. It involves evaluating existing infrastructure, resources, and cultural attitudes toward financial management and education to tailor programs that are both accessible and acceptable to the target audience. Collaboration with local organisations and utilising existing community networks are vital for seamlessly integrating these programs into daily life.

The findings from this study suggest several directions for future research that could provide deeper insights into the dynamics of FWB among low-income households. First, longitudinal research could explore the long-term effects of interventions to enhance financial literacy and LOC. Such studies would help determine the sustainability of financial behaviour and well-being improvements over time.

Second, there is a significant opportunity to examine the scalability of successful financial education programs across different regions and cultural contexts within Malaysia. Comparative studies could identify the modifications necessary to adapt these programs to diverse environments, enhancing their effectiveness nationwide.

Third, future investigations could also incorporate qualitative methodologies to understand better the personal and emotional impacts of financial stress and poor financial literacy on low-income individuals. Interviews and focus groups could provide rich, narrative data that reveal the underlying reasons for financial behaviours and the barriers to improving FWB.

Finally, incorporating more advanced statistical techniques and models in the analysis of FWB could yield more nuanced insights. Techniques such as machine learning and predictive analytics could identify patterns and predictors of FWB that are not apparent through traditional statistical methods. These future research directions extend the current findings and contribute to a more comprehensive policy framework that could significantly improve the financial stability and quality of life for low-income households in Malaysia.

Implications for Theory and Practices

The findings of this study have significant implications for both theory and practice in the realm of FWB among low-income households. Theoretically, the study advances understanding by integrating psychological constructs, particularly the internal LOC, into models of FWB. This approach enriches traditional models by incorporating subjective psychological factors alongside objective financial metrics, offering a more holistic view of financial behaviour and outcomes. Empirically, the study demonstrates that a strong internal LOC mediates the relationship between financial stress, financial vulnerability,

financial behaviour and FWB, aligning with Expected Utility Theory and the Resource Management Model. These findings suggest that individuals with a higher internal LOC are more likely to engage in positive financial behaviours, enhancing their FWB.

Practically, the study underscores the need for financial education programs to not only improve financial literacy but also empower individuals by enhancing their internal LOC. Policymakers can use these insights to develop holistic policies that address both economic and psychological aspects of FWB, such as providing financial counselling and support services. Interventions should target financial vulnerability by building psychological resilience and improving financial management skills, offering emergency financial assistance and debt management services. Additionally, practitioners should integrate financial planning with psychological counselling to support informed financial decision-making. Community-based initiatives that promote financial literacy and empowerment can leverage local resources to provide accessible support, fostering a sense of community and shared responsibility.

In conclusion, the study highlights the critical role of internal LOC in mediating FWB among low-income households in Malaysia. By integrating psychological factors into FWB models and developing targeted interventions, stakeholders can enhance economically disadvantaged populations' financial stability and overall well-being.

Limitation and Recommendations

This research provides critical insights into the FWB of low-income households in Malaysia, yet several limitations need to be addressed in future studies. The primary limitation is the study's cross-sectional design, which restricts the ability to establish causality among the variables of interest. Longitudinal research would offer a more nuanced understanding of the temporal dynamics between financial behaviours, LOC, and FWB, revealing how these relationships evolve and the long-term effects of financial interventions.

This study's geographical and demographic focus also limits the generalisability of the findings. Expanding the demographic scope to include various income levels and age groups would enhance the robustness of the research. Such an approach would allow for comparative analysis across different socio-economic statuses and life stages, providing a broader perspective on the financial challenges and behaviours prevalent in different segments of the Malaysian population.

Finally, it is recommended that future research explore more sophisticated analytical techniques to deepen the understanding of FWB. Employing advanced statistical methods such as machine learning and predictive analytics could uncover hidden patterns and predictors of financial stability that are not evident through traditional methods. This approach would provide policymakers and practitioners with sharper tools for designing effective and

adaptive interventions that meet the needs of Malaysia's diverse population.

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