The Influence of Financial Attitude, Financial Behaviour, and Self-Belief towards Financial Vulnerability among Public Employees in Malaysia

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Abstract

Previously, the World Bank reported that Malaysia's household debt in 2019 rose to 294.3 billion US dollars, thus placing the country as having the second-highest household debt among the nations in the Asia Pacific region. A high household debt is associated to the decrement of welfare and higher vulnerability among public employees in the country, especially those in current and retirement phases alike. Therefore, this research aimed to determine the factors potentially leading to financial vulnerability among 590 public employees in Malaysia, which was carried out by using multi-stage random sampling. To this end, a self-administered questionnaire was constructed to gather the data required. Consequently, binary logistic regression indicated that financial attitude, financial behaviour, and self-belief significantly predicted the likelihood of financial vulnerability. Meanwhile, the elements of gender and income were utilised as the control variables and found to be significant. Furthermore, the non-significant Hosmer and Lemeshow test reflected the fitness of the final logistic model, which yielded moderate classification of 74.6 per cent. The results of this study will undoubtedly benefit the government and non-governmental organisations alike in their bid to create a holistic strategy explicitly designed towards improving the general living standards. They will also promote good financial management, financial attitude, and behaviour, as well as self-belief, especially in the context of the lower-income group. Moreover, a deeper understanding of the financial vulnerability determinants plays a vital role in supporting every individual and equipping them with the financial prudence required, which would minimise the rate of financial risk in the long-run.

Keywords: financial attitude, financial behaviour, financial vulnerability, household debt, self-belief

1.0 Introduction

Malaysian domestic debts are now and continuously among the highest in Asia, thereby causing much concern for its sustainability. Nonetheless, the most worrying problem is the debt served by public employees, encompassing one-fifth of the overall household debt; yet, their debts are still accumulating. In general, the public employees recorded an eventually increasing household debt by 7.6 per cent since 2010 at the compound annual growth rate (Bank Negara, 2018), which was higher than the total nominal Gross Domestic Product (GDP) growth (CAGR: 6.2%). By the end of February 2018, the total debt shouldered by public employees stood at RM236 billion, which was equivalent to 17 or 20 per cent of the GDP and well above the cumulative household debt recorded in 2012 (i.e. 18% or 15% of GDP). Public employees, particularly those of the low-to-medium income category (i.e. RM5,000 and below), are highly indebted, thus experiencing greater vulnerability due to revenue shock and the rising living costs. This has caused the Malaysian public employees to be less secure and highly vulnerable in their current and retirement stages alike.

Furthermore, Bank Negara Malaysia (2018) has revealed that public employees typically spend more than half (i.e. 52 per cent) of their salaries on debt repayment, which is 20 per cent higher than the national average. Consequently, this will inevitably leave them with a limited financial buffer against any income shocks. Similarly, high household debt has led to various harmful effects, impacting one's mental and physical health, reducing job confidence, and increasing workplace absenteeism, delays, and concentration shortages (Van Praag et al., 2003). In fact, 49,000 Malaysian public employees have been found to facing bankruptcy due to debt problems (Bank Negara, 2018). This situation eventually raises concerns about debt efficiency and the extent to which borrowers are financially vulnerable.

Therefore, this study explores the financial vulnerability determinants in Malaysia among public employees and examines the factors of financial attitude, financial behaviour, and self-belief that can affect their financial vulnerability. Concurrently, it is imperative to ascertain the characteristics of financial vulnerability that an individual possesses.

2.0 Literature Review

2.1 Financial Vulnerability

In the growing and diverse literature, various definitions of household financial vulnerability can be found. The existing studies have shown that financial vulnerabilities or financial fragilities are a condition in which consumers are not able to sustain their expenses, unforeseen expenses cannot be met, and debts or real household net wealth decrease to the income ratio (Anderloni et al., 2012; Clercq et al., 2015; Disney et al., 2008; Jappelli et al., 2008; Kamakia, 2017).

Most of the above studies, however, have investigated households in developed countries, whereas little work has been done in the context of developing countries, such as Malaysia. Regardless, a small but increasing number of studies has been undertaken in the country to analyse this issue. For example, Yusof et al. (2015) have examined the magnitude of Malaysian urban households' ability to cope with financial shocks and the concurrent factors leading to their financial vulnerability.

In general, financial vulnerability is commonly associated with financial obligations, consumer problems, and risk of default (Kim et al., 2016). Meanwhile, it also explains households' inability to service their debts efficiently and meet basic everyday needs, despite it being a prerequisite for one to recover from unforeseen financial shocks. Accordingly, financial vulnerability also indicates that income is unexpectedly reduced due to unemployment or spending increases due to uncontrollable factors. Nonetheless, financial instability is not necessarily connected to high debt.

Furthermore, households may be described as vulnerable or depressed if they are unable to do what they want, such as taking a holiday, going out with family and friends for a meal, or enjoying hobbies and leisure activities (Worthington, 2006). They are also considered as fragile and vulnerable if they are incapable of meeting their monthly costs and prevented from making outstanding bills for utilities, especially so in the case of households with low income (Bridges & Disney, 2004). Whether the vulnerability arises from high debt commitments or high non-debt commitments, these households are vulnerable to unfavourable shocks caused by changing environments, including interest rates, GDP or income changes, sudden unemployment, or change in asset prices (Kim et al., 2016). In this case, vulnerable households usually experience hardship and deprivation (Narayan et al., 2000; Smelser & Lipset, 2005), thus leading to low productivity, absenteeism, and financial exclusion in their workplaces.

2.2 Financial Attitude

Financial attitude is typically viewed as the outcome of exclusive benefits, functions, and resources, which can eventually influence one's consumer-purchasing behaviour (Kristanto, 2011). Here, Qamar et al. (2016) have expressed it as one's discernment of money, wherein an individual may define money as an instrument capable of influencing their money management activities. Furthermore, one's attitude towards money is influenced for every purchase and saving done, thereby ultimately affecting the fulfilment of certain life objectives (Nga & Yeoh, 2015).

In contrast, financial attitude has also been identified as one of the factors leading to high debt burden among individuals (Idris et al., 2016). According to Herdjiono and Damanik (2016), it is a significant factor in financial behaviour in which financial attitudes are usually affected by social engagement and environment. Therefore, positive money attitudes will help people be cautious in their expenditures, which is achievable via budgeting and planning for upcoming financial necessities (Sabri et al., 2020). Similarly, an individual with a positive attitude towards money, implementing elements such as retention, inadequacy, effort and ability will aid them in managing their money wisely (Abdullah et al., 2019).

2.3 Financial Behaviour

Financial behaviour is deemed an important financial variable influencing the financial outcomes of individuals. The terminology refers to the arrangement of regular techniques or standardised working methods that lead to structured accounting completion, cash-related detailing, budgeting, and various business finance exercises. In contrast, poor financial conduct such as the lack of budget planning and accumulation of over- excessive debt may lead to increased financial burden. Malaysian Financial Planning Council, 2016). Here, a study by Poh and Sabri (2017) has revealed that an increased financial management behaviour will significantly improve one's financial standing. Out of the factors that can affect financial management behaviour, the element of financial attitude has also been suggested

(Pankow, 2012; Yap et al., 2018). Besides, it can be characterised as an individual's state of mind, opinion, and judgment on finances.

It is deemed good and timely to initiate one's financial management behaviour by applying proper financial attitudes (Parahiyangan, 2013). The use of an ordered probit model has previously identified financial behaviour in money management as a significant determinant of financial vulnerability, including elements such as income, marital status, age, and education (Siti Nurazira et al., 2019).

2.4 Self-belief

Past literature has typically examined the significance of one's financial self-belief in explaining their personal financial behaviour (Farrell et al., 2016). However, managing their own finances requires more than financial knowledge and learning; generally, they will often need a sense of self-assurance or self-belief in their own abilities. In fact, the role of self-belief as a predictor of behavioural changes in the health domain has been extensively explored throughout a remarkable amount of studies (O'Leary, 1992; Schwarzer, 1992). In addition, financial self-belief was found to emerge as a good indicator of financial debt in the 2013 Australian Survey (Farrell et al., 2016).

In general, Bandura (1977) defines self-belief as a component of behaviour-specific construct that is adapted to a narrow situation; accordingly, several scholars have subsequently introduced its characteristics otherwise called as dispositional or generalised perceived self-efficacy. This refers to one's collective confidence in their ability to cope in many difficult situations. In line with this, Wallston (1989, 1992) has introduced a different scale, thus classifying it as generalised self-efficacy or perceived potential or capability (Smith et al., 1991; Smith & Wallston, 1992). Here, perceived self-efficacy or self-belief requires certain expectations of success as people will automatically assume that they can provide the requisite answers for the desired results (Qamar et al., 2016).

3.0 Theoretical Framework

In this study, a conceptual model is introduced for the purpose of analysing the effect of employees' financial vulnerability on their financial attitude, financial behaviour, and self-belief. These variables are eventually connected to financial vulnerability, thereby related to efficiency and performance in the overall life success. Figure 1 displays the conceptual framework for the study accordingly.

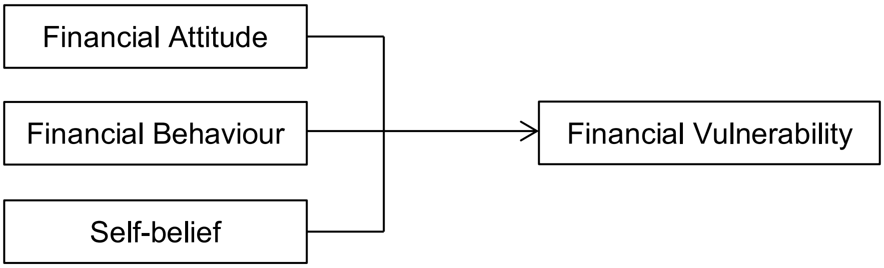

Figure 1 : Conceptual framework for the current financial vulnerability study

The research model for this study can be explained based on Bandura's Self Efficacy Theory (1977), Life-Cycle Hypothesis, and Permanent Income Hypothesis. Bandura's Theory of Self-Efficacy (1977), in particular, suggests that a person's confidence in their proficiency for carrying out specific tasks is called self-effectiveness. Meanwhile, financial performance in Vosloo et al. (2014) study has been described according to one's satisfaction with their financial knowledge and ability to meet financial objectives.

In turn, self-belief is influenced by individual financial literacy and financial ability (Fox & Bartholomae, 2008). This supports Ando and Modigliani's (1963) theory of the Life-Cycle Hypothesis in which younger working adults appear to have low income and may not have accumulated ample savings easily convertible into liquid funds, thus rendering them more vulnerable to income shocks. However, the same population is likely to fund their existing debt inflow in the future as their incomes rise in anticipation of debt repayment. In contrary, older people may have earned more money to repay their loans, thus resulting in a lower level of debt service.

In contrast, the Permanent Income Hypothesis (Friedman, 1957) explains that individual usage patterns are entirely dependent on fixed income rather than inconsistent income, which is mainly due to variations in permanent revenue. Therefore, one's varying use patterns can further affect their personal financial vulnerability. As the elements of financial attitude, financial behaviour, and self-efficacy are among the important factors affecting financial vulnerability, the Permanent Income Hypothesis is thus implemented as one of the theoretical hypotheses. Past research is thus underlined in the bid to develop a hypothesis according to the accompanying manner.

H_0: Financial attitude, financial behaviour, and self-belief are not significantly predicting financial vulnerability.

4.0 Methodology

Malaysia has been found to record the highest number of public employees throughout the global population (Faruqi, 2011). Therefore, this survey was geared towards examining respondents specifically selected from the government sector. wherein four states in Malaysia were randomly selected before five government agencies from each state were arbitrarily chosen. In overall, 30 respondents were required from each government agency to participate in this study, whereby the sample was selected from the Peninsular Malaysia region using the multi-stage random sampling technique.

First, Peninsular Malaysia was divided into four regions, namely: East (i.e. Pahang, Terengganu, and Kelantan), West (i.e. Selangor, Perak, and Wilayah Persekutuan); North (i.e. Melaka, Johor, and Penang), and South (i.e. Pahang, Terengganu, and Kelantan). Second, one state was randomly selected from each zone via the balloting technique, resulting in the states of Penang (north), Johor (south), Terengganu (east), and Perak (west) being selected as sampled areas.

The present study required 384 respondents as indicated by a calculation of the sample size (Krejcie & Morgan, 1970). Nonetheless, 600 respondents were selected to compensate for any lost and unreturned questionnaires, following which 150 individuals were engaged with from each nation, respectively. A list of all government agencies in the chosen areas was collected from the official website upon the confirmation of study locations. Besides, five government agencies were chosen by random voting from each zone, following which 30 participants from the respective agencies were randomly selected. Consequently, this study sampled 590 employees and yielded a response rate of 98.3 per cent.

4.1 Instrumentation

The questionnaire employed in this study elicited information regarding the demographic and socioeconomic backgrounds of the participating households and the spending trends shown by the respondents. Besides, additional questions were included on the elements of financial attitude, financial behaviour, self-belief, and financial vulnerability that they possessed. Accordingly, sources obtained from Michelangeli and Pietrunti (2014) were thus implemented to calculate the financial vulnerability of employees. To this end, the Cronbach's alpha value was ascertained for 9 statements by using a 10-point scale measuring from 1=financially insecure to 10=financially secure, yielding 0.942. Lower scores of the financial vulnerability scale would reflect higher financial vulnerability and vice-versa.

Next, a 5-point Likert scale measurement ranging from 1= strongly disagree to 5= strongly agree was implemented from Furnham (1984) and used to calculate the financial attitude of employees, resulting in Cronbach's alpha value of 0.710. Meanwhile, employee financial behaviour was measured using statements adopted from Sabri, McDonald, and Hira (2010), which contained five frequency-scale items ranging from 1 = never to 5 = often. This was applied to assess selected employee financial behaviours, including budgeting, planning, financial objectives, and spending discipline, thereby generating Cronbach's alpha value of 0.706 for all nine statements. Lastly, the self-belief measurement was adopted from Chen et al. (2001), otherwise also known as the New General Self-Belief Scale. The included questions were evaluated using a 5-point Likert scale and revealed Cronbach's alpha value of 0.700 for six items.

4.2 Data Analysis

All data collected were analysed by using the SPSS version 25, whereby all statistical results obtained for the independent and dependent variables would be described accordingly. The subsequent binary logistic regression models developed would also be discussed, including the Hosmer and Lemeshow tests.

Table 1 displays a summary of the descriptive results obtained in this study. In reference with the mid-point "3" generated for the range of score, financial attitude and financial behaviour of the respondents were noted to be at a moderate level, while their self-belief tended to be slightly higher towards high self-belief. Meanwhile, financial vulnerability was at a moderate level (range of score 1 to 10); however, this variable was recoded into two groups of low and high financial vulnerability for the purpose of logistic regression. Therefore, the low financial vulnerability group (i.e. higher scores) consisted of 65.5 per cent of the respondents, while the remaining 34.5 per cent were those in the high financial vulnerability group (i.e. lower scores). Thus, it could be noted that more of the respondents were less financially vulnerable.

Table 1 : Summary of descriptive results

Variables	**Number of Items**	**Overall Mean**
Financial Vulnerability	9	6.31
Financial Attitude	6	2.91
Financial Behaviour	9	3.05
Self-Belief	6	3.60

Range of scores: Financial Vulnerability 1-10; Others 1 to 5

5.0 Results and Discussions

5.1 Characteristics of the Respondents

A sample frequency distribution was carried out in this study to understand the respondent background. As illustrated in Table 2, the elements of gender, age, ethnicity, marital status, education level, and income denote the demographic factors thus included in this study.

Table 2 : Sample frequency distribution

Variables	**Frequency (n=590)**	**Percentage (%)**
Gender		
Male	248	42.0
Female	342	58.0
Age		
<29 years old	146	24.7
30-39 years old	312	52.9
40-49 years old	89	15.1
50 years old and above	43	7.3
Ethnicity		
Malay	541	92.6
Chinese	16	2.7
Indian	13	2.2
Others	14	2.4
Marital Status		
Single	168	28.4
Married	422	71.6
		3

Table 2 : Sample frequency distribution - continued

Variables	Frequency (n=590)	Percentage (%)
Education Level		
Primary	1	0.2
Secondary	95	16.2
Diploma/Certificate	189	32.1
Degree	204	34.7
Masters	91	15.5
Doctorate	8	1.4
Income		
<RM3,000	248	42.7
RM3,000-RM4,999	218	36.0
RM5,000-RM6,999	102	17.6
RM7,000-RM8,999	17	2.9
≥RM9,000	5	0.9

With regard to gender, 52 per cent of the participants were females, whereas the remaining were males. Slightly more than half (52.9%) and two-thirds (71.6%) of the overall samples were aged in the range of 30 to 39 years and married, respectively. Furthermore, most were of Malay ethnicity (92.6%), while a very small percentage consisted of Chinese (2.7%), Indian (2.2%), and others (2.4%). In terms of education, nearly half of the respondents were enrolled in a university or had college/tertiary education. The results, however, revealed a greater percentage of respondents who earned less than RM3,000 for their monthly income.

5.2 Financial Vulnerability Model

In this study, gender and income were employed as the control variables in the first block, whereby the results were found to be significant. In particular, the fitness test subjected on the logistic model showed a fit model with a non-significant Hosmer and Lemeshow Test (Chisq. = 4.936; p = 0.764), following which a moderate classification of 74.6 per cent was achieved. Furthermore, the model explained about the employee's income, whereby it would be 2.2 times more likely to predict less financial vulnerability. The results of the Hosmer and Lemeshow test are shown in Table 3.

Table 3 : Hosmer and Lemeshow test

Chi-Square	Df	Sig.
4.936	8	0.764

Note: $^{*}p \leq 0.05$

The data obtained were evaluated using a binary logistic regression model in which financially vulnerable was denoted as the dependent variable, namely due to its status as a dichotomous metric of three predictor and three control variables alike. The result subsequently indicated that financial attitude, financial behaviour, and self-belief significantly predicted the likelihood of financial vulnerability other than income. Next, Table 4 exhibits the results of logistic regression analysis carried out concerning the factors influencing the likelihood of financial vulnerability among public employees in Malaysia.

Table 4 : Logistic regression results on financial vulnerability

Variables	B	S.E	Wald	df	Sig.	Exp(B)
Gender (Male)	-0.347	0.209	2.747	1	0.097	0.707
Marital Status (Married)	0.150	0.235	0.407	1	0.523	1.161
Income (>RM3,000)	0.780	0.216	13.015**	1	0.000	2.181
Financial Attitude	-0.59	0.027	4.794*	1	0.029	0.943
Financial Behaviour	0.135	0.022	36.992**	1	0.000	1.145
Self-belief	0.058	0.014	16.973*	1	0.000	1.060

Note: * $p \leq 0.05$; ** $p \leq 0.01$

It could be concluded based on the outcomes obtained that if a person earned an income of more than RM3,000, the likelihood for them to experience financial vulnerability would be low (i.e. high scores reflect low financial vulnerability). Given such results, income was deemed the main determinant posing the strongest effect on the financial vulnerability of public employees.

Furthermore, Table 2 shows that 42.7 per cent of the public sector employees have an income less than RM3,000 per month and yet a majority of them (83.7%) are equipped with tertiary education. These groups are typically government servants who are probably from lower pay grades (Grade 29-41), which have a lower salary scale. Therefore, this would indicate that most of the respondents were young workers who had just started working or recruited into government service. Although many of them possessed tertiary education, the low income being earned reflected that some might have secured jobs at a lower grade than their education level.

These findings are thus supported by prior literature claiming that low-income groups are easily exposed to the risk of financial vulnerability (Loke, 2015). In contrary, higher income reduces financial vulnerability. Therefore, the results revealed the importance of income level and its impact on individual financial vulnerability. Besides, it can be observed that education contributes to the reduction of financial vulnerability in the long-term throughout one's working life due to the time-based[2] job promotion allocated to public servant employees. This element has always and undoubtedly posed positive effects on personal financial management (Anderloni et al., 2012; McCarthy, 2011).

Furthermore, financial behaviour was found to be significantly predictive of low financial vulnerability and moderate based on the mean score. This is similar to the findings by Siti Nurazira et al. (2019) in their financial vulnerability study conducted among Malaysian households. Prior to this study, respondent financial vulnerability has been found to be moderate and a good financial behaviour will lead to financial stability or render one less financially vulnerable. However, this study showed that a majority of the public employees had an income below RM3,000 and would be easily exposed to financial vulnerability or income shock. Regardless, they were also associated with moderate financial vulnerability due to their moderate financial behaviour.

According to a previous study, self-belief has significantly predicted financial vulnerability (Farrell et al., 2016), wherein it can be hypothesised that the higher one's self-belief, the more likely they will experience low financial vulnerability. This can be correlated with individuals with high self-belief as they are equipped with a greater self-assuredness in managing their financial management capacities. As a result, they are more likely to hold high-risk investments and risk exposing themselves to high-return investment-related products, thus likely to experience lower financial vulnerability. It is commonly believed that possessing an adequate level of financial knowledge and executing sound financial behaviour would thus prevent the occurrence

[1] Time-based job promotion is referring to the "Pekeliling Perkhidmatan Bilangan 8 Tahun 2013"

of related financial outcomes such as over-indebtedness (Anderloni & Vandone, 2011; Lusardi & Tufano, 2015).

In contrast, the results obtained in this study also revealed that financial attitude posed a negative yet significant impact on financial vulnerability. Here, the element measured the aspect of money attitude in which it was favourable towards money and would always involve money in one's activities, thereby leading to high spending. Therefore, a negative financial attitude will result in lower financial vulnerability, whereas a good financial attitude empowers individuals to succeed in the context of their financial status. This may be done by budgeting and intensifying their determination to gain better income and secure future financial positions. Thus, financial attitude is undoubtedly an important contributor towards one's journey in achieving successful or failed financial aspects. In fact, applying a good and proper financial attitude throughout life will lead and generate a better financial management behaviour.

In summary, the results obtained showed that all three independent variables (i.e. financial attitude, financial behaviour, and self-belief) significantly predicted the likelihood of financial vulnerability, rendering the null hypothesis was rejected.

6.0 Conclusion and Implications

This study provides numerous key understandings and practical implications for public servants and relevant authorities in Malaysia alike. First, the results suggest for employees to engage in good financial behaviours such as practicing good savings habit, cash and lending, and others to become financially sound. In line with this, financial vulnerability is expressed as ''low'' if they show good financial behaviours and positive financial attitudes. These statements align with the past literature, which has underlined the common belief that possessing adequate financial awareness and sound financial conduct would avoid such associated financial outcomes as over-debt (Anderloni & Vandone, 2011; Lusardi & Tufano, 2015).

Consequently, numerous programmes should be designed by the government to help these households in effectively managing their income and improve their financial capacity. Results indicate that employees with good financial behaviours such as investing and budgeting are less likely to indulge in risky credit card conduct and less susceptible to compulsive purchases, thus significantly reducing the financial risk leading to financial vulnerability. Therefore, organising financial management programmes geared towards directly improving the employee's well-being is highly recommended to strengthen their positive financial behaviour.

Second, an optimistic financial attitude helps people to be more cautious about their expenditure and is achievable through budgeting and planning for subsequent financial needs. It also demonstrates the impact of such attitudes on the association between subjective and objective wealth indicators in Malaysia.

Third, the findings confirm the presence of a positive correlation between self-belief and financial vulnerability. Accordingly, the analyses by Farrell et al. (2016) are utilised to verify the analysis, wherein self-belief is shown to significantly predict the element of financially vulnerable. This finding is further supported by prior literature claiming that individuals with high self-belief are more likely to hold high-risk investment. This exposes them to insecure investment-related products and result in the higher likelihood to experience more financial vulnerability (Farrell et al., 2016). Therefore, it is crucial for consumers to learn the extent to which living within their means and being financially responsible is imperative.

Consequently, continuous efforts should be made to provide consumers with financial education towards ensuring that they are better-equipped and confident to handle personal finances effectively. Here, the government should implement intervention programmes geared towards ensuring better focus on managing financial administrative tasks among public employees to minimise their financial vulnerability. The expected outcome will allow these people to improve their personal quality and virtuous financial factors. In summary, this study successfully provided additional knowledge about the effects of financial behaviour, financial attitude, and self-belief towards financial vulnerability.

Additionally, the importance of examining the instrumental aspects of financial behaviour, self-belief, and financial attitudes cannot be denied as their effects on the correlation between subjective and objective wealth indices would differ. Therefore, a comprehensive study exploring household financial situations may further provide useful inputs for the purpose of short-term and long-term policy formulation, as well as contributing to the small but growing household finance achievement as a whole.

7.0 Limitations and Recommendations for Future Studies

This study yields several noteworthy findings but several limitations should be addressed in future research. First, the analysis carried out is cross-sectional in nature, thus restricting its capacity to infer causation. Therefore, longitudinal research is also recommended for future investigations in order to analyse the impact of predictors identified in this analysis. Second, a subjective measurement of money domain management is employed in this study; despite its validity, it is recommended for future research to supplement it with an objective measurement capable of comparing both objective and subjective measures. Such approach would provide additional direction for future research to succeed. Finally, future research should look into considering psychological variables as they may closely correlate a person's feeling, particularly, with the sense of money management.

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