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The Relationship between Subjective Financial Knowledge and Financial Well-Being among Emerging Adults in Malaysia: Mediating Effect of Financial Behaviour

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Abstract

This study aims to examine the relationship between subjective financial knowledge, financial behaviour, and financial well-being in emerging adults in Malaysia. Additionally, this study establishes the role of financial behaviour as a moderator in the indirect association between subjective financial knowledge and financial well-being. In total, 500 of the 700 questionnaires distributed were returned and usable in this study, resulting in a response rate of 71.4 percent. Between the ages of 19 and 29, respondents from Selangor, Pahang, Perak, Melaka, and Sabah were asked to answer the online questionnaire. On the basis of the data, the hypothetical model was statistically tested using Partial Least Square–Structural Equation Modelling (PLS-SEM), more precisely Smart Partial Least Square (SmartPLS) version 3.3.2. The findings indicated that subjective financial knowledge significantly improved financial well-being. Financial behaviour and financial well-being also have a substantial direct relationship. The findings indicate that financial behaviour has a significant positive indirect effect on the relationship between subjective financial knowledge and financial well-being. The findings of this study could add to the existing body of knowledge and set a new standard for governments and other groups who want to improve the public's financial well-being, especially for young people.

Keywords: Emerging Adults, Financial Behaviour, Subjective Financial Knowledge, Financial Well-Being.

Introduction

Throughout the years, counsellors, planners, researchers, educators, economists, and even governments have demonstrated their commitment and interest in the subject of overall well-being by planning or investigating the most effective methods for improving public well-being. According to Orem (1985), well-being is a description of an individual's overall life perception, and it is the most crucial factor in overcoming personal, family, and health difficulties (McLellan, 2017). Individual well-being can be derived from various sources, including financial, career, physical, social, and community (Rath & Harter, 2010; Zemtsov & Osipova, 2016). Finances, on the other hand, have been identified as the primary predictor of overall well-being (Netemeyer et al., 2018; Rath & Harter, 2010; Wilmarth, 2020), which means that a lower level of financial well-being will have a detrimental effect on an individual's overall well-being. Therefore, the health of the economy as a whole and the financial well-being of individuals and families are all intertwined (Diener, 2000).

Financial well-being has also been identified as a critical factor in assisting employees in tracking their financial status, with studies indicating that a high level of financial well-being results in increased productivity, commitment, and retention levels for businesses (CIPD), 2017). Conversely, a decline in financial well-being directly impacts the mental and physical health of employees (e.g., increased levels of anxiety and stress, migraine, and lower health levels) (Barclays, 2014). This situation will have a more significant negative impact on the employee and the company, particularly on work productivity, due to poor performance, decreased concentration, and increased absenteeism. (Danes & Yang, 2014; Gutter & Copur, 2011; Mokhtar & Husniyah, 2017; Sabri et al., 2013; Strömbäck et al., 2017; Ullah & Yusheng, 2020). Moreover, several suicide cases have been related to poor financial well-being. For this reason, the study of financial well-being must be carried out. Additionally, it is worth noting that the study on how to improve financial well-being is identical to the study on how to reduce poverty and raise the standard of living (Iramani & Lutfi, 2021).

Although a bulk of financial well-being studies conducted in Malaysia focused on specific groups of respondents, including college students, young employees under the age of 40 or older adults, there are few studies focus on emerging adults (Pahlevan Sharif et al., 2020), defined as those aged 19 to 29 (Arnett, 2015). This is a flaw in the financial well-being study, as current trends indicate that an increasing number of emerging adults are financially insecure, associated with lower levels of well-being across multiple domains of life (Serido & Deenanath, 2016). In addition, LeBaron and Kelley (2020) decade review noted that most emerging adult samples used in financial well-being studies were college students, which does not accurately reflect the country's total emerging adult population. According to the researchers, non-college emerging adults should be the primary focus of future research. Researchers who study emerging adult students have made a similar recommendation, urging the researcher to place a greater emphasis on emerging adult workers (Joonas, 2018; Saurabh & Nandan, 2018; Pahlevan Sharif et al., 2020).

The Organization for Economic Co-operation and Development (OECD) and the Consumer Financial Protection Bureau (CFPB) both emphasise the importance of financial knowledge in enhancing individual financial well-being (Vieira et al., 2021). Financial knowledge that demonstrates an individual's competence and confidence in dealing with

financial matters is necessary to make sound financial decisions and achieve individual goals (Consumer Financial Protection Bureau (CFPB), 2015a; OECD, 2020). In addition, a person with adequate financial knowledge can influence the conditions of life and work and can be highly beneficial in forecasting the future to increase income (Philippas & Avdoulas, 2020). However, despite the critical nature of financial knowledge, recent reports indicate that the global population's level of financial knowledge is insufficient. For example, the recent OECD (2020)reports found that financial knowledge among adult workers is low, with an average score of only 50% being able to answer more than 5 out of 7 financial knowledge questions.

Additionally, the report notes that emerging adults (aged 19-29) have the lowest financial knowledge, financial behaviour, and attitude when compared to other age groups (OECD, 2020). Individuals who lack financial knowledge and are incapable of making sound financial decisions are more likely to engage in poor financial behaviour, such as being saddled with problems of non-payment of personal credit and excessive levels of debt, which can have a direct impact on their financial well-being (So-hyun Joo & John E. Grable, 2004). According to reports, Malaysia is one of the countries with the lowest scores, with only 34.3 percent able to answer more than five out of seven financial knowledge questions correctly (OECD, 2020).

Previous research regarding the underlying subjective factors of financial well-being has proven that financial behaviour is the main determinants of financial well-being (Elaine Kempson et al., 2017; Joo & Grable, 2004; Joonas, 2018; Magli et al., 2021; Mokhtar & Husniyah, 2017). However, mixed findings are found from prior studies regarding the potential antecedents that affect the behaviour to increase financial well-being (Brüggen et al., 2017; Sorgente & Lanz, 2017). Financial knowledge is one of the most important determinants of financial well-being with mixed findings. Nevertheless, the majority of local studies had measured financial knowledge by using objective or cognitive approaches (Mahdzan et al., 2019; Mokhtar & Husniyah, 2017; Pahlevan Sharif et al., 2020; Sabri et al., 2012), such as quizzes and tests, while subjective approaches like individual assessments are often ignored and understudied (She et al., 2022). This situation is a shortcoming in financial well-being research because, according to Fernandes et al. (2014)'s meta-analysis, objective financial knowledge can predict only a 0.1 percent difference in financial well-being. In contrast, Xiao and Porto (2017) argue for a more subjective role in explaining financial well-being. These factors should be addressed in order to improve financial well-being because subjective financial knowledge is at least as important as objective financial knowledge in terms of financial well-being (Lind et al., 2020; Riitsalu & Murakas, 2019).

On the basis of the preceding argument, it is necessary to emphasise that financial well-being studies are still lacking and warrant additional research to improve the level of financial well-being among Malaysian emerging adults in particular. Therefore, the objective of the study is:

1. To examine the significant influence of subjective financial knowledge on the financial well-being
2. To determine the significant influence of financial behaviour on the financial well-being

3. To assess the mediating influence of financial behaviour in the relationship between subjective financial knowledge and financial well-being.

The study's findings can contribute to the existing body of knowledge and establish a new benchmark for governments and other interested parties seeking to improve the financial well-being of the public, particularly emerging adults.

Literature Review

Financial Well-being

Although the bulk of research on financial well-being has been conducted across disciplines, there is no widely accepted definition of financial well-being or agreement on how it should be measured (Kempson & Poppe, 2018; Oquaye et al., 2020; Sorgente & Lanz, 2017; Yeo & Lee, 2019). However, contemporary research demonstrates that the concept of financial well-being is consistent with the earlier concept theorised by Williams (1983) i.e. financial well-being should have elements related to material and non-material indicators of individual financial condition in both objective and subjective measurements. Moreover, this concept is agreed upon by scholars in determining the definition of financial well-being (Falahati & Sabri2, 2015; Husniyah & Fazilah, 2012; Joo & Garman, 1998; Joo & Grable, 2004; Sorgente & Lanz, 2017).

In the earlier study Joo and Garman (1998) defined financial well-being as the level of one's financial health. Along with satisfaction with the material and non-material aspects of one's financial situation, it encompasses the perception of financial stability, which includes the adequacy of financial resources and the objective amount of financial resources that each individual possesses. Along the way, Goldsmith (2003) states that financial well-being as the degree to which individuals or families possess economic sufficiency or security. Protecting them against the economic risks they face daily, such as illness, job loss, and poverty, is critical to their overall financial plan. These definitions of financial well-being encompass both objective and subjective aspects of financial well-being.

In addition, Joo and Grable (2004) extended upon the notion by stating that financial well-being is a state of satisfaction with one's current financial condition (objective and subjective). Several scholars basically apply this definition in developing the measurement and scale for financial well-being (Ali et al., 2015; Fazli Sabri et al., 2012; Prawitz et al., 2006).

Furthermore, the Consumer Financial Protection Bureau (CFPB) (2015b) conducted an extensive empirical study to define financial well-being by interviewing 59 consumers and 30 practitioners. Financial well-being, according to the interview and expert reviews, is defined as the state of being fully capable of meeting current and future financial obligations, feeling secure about one's financial future, and having the ability to make decisions that allow one to enjoy life to the fullest (Consumer Financial Protection Bureau (CFPB), 2015a). According to this definition, financial well-being encompasses an individual's capacity to manage his or her financial future and make decisions that enable them to enjoy life. In comparison to the previous definition, the Consumer Financial Protection Bureau's (CFPB) (2015b) discussion of financial well-being is more comprehensive, though it retains both objective and subjective components. The definition provided by the Consumer Financial Protection Bureau (CFPB) is pointing in a new direction toward the definition of financial well-being by considering the

holistic aspect of an individual's capacity on financial matters that consider not only the present financial situation but also the future.

This definition also provides a new approach to researchers and policymakers in addressing the problem of poor financial well-being, one that addresses the current financial situation and considers the long-term plan for public financial well-being in the future. Therefore, a large number of academics are applying this new definition in their most recent study on defining and quantifying financial well-being (Ali et al., 2015; Brüggen et al., 2017; Iannello et al., 2020; Kavita et al., 2021; Kempson & Poppe, 2018; Oquaye et al., 2020; Sorgente & Lanz, 2019; Wilmarth, 2020). As a result of the exhaustive definition used in a recent study, this current thesis also makes use of this definition to guide the researcher.

Financial Knowledge and Financial Well-being

In a report about the financial knowledge of teenagers and parents in the United States, Bowen (2002) stated that financial knowledge is the understanding of basic financial terms and elements necessary to ensure that someone can function in society on a daily basis. Understanding critical financial elements, such as banking, investments, taxes, and other areas of personal finance, is critical for daily financial transactions and decisions (Bowen, 2002).

In general, an individual with an excellent level of financial knowledge is assumed to be able to make competent financial decisions that would improve his/her financial well-being. Therefore, financial knowledge is typically considered an input to assess the need for related education and explain the different types of financial outcomes (Huston, 2010). This was proven by several empirical studies that confirmed the significant relationship between financial knowledge and financial well-being. For example, the study by Joo and Grable (2004) stressed that good financial knowledge would improve household financial satisfaction.

An earlier study by O'Neill supports this result et al (2005) noted that an individual with basic knowledge of financial matters would have a better financial management aptitude that will later improve his/her financial satisfaction. The result also applies to working women where financial knowledge elements such as the division concept, direct and indirect effects of inflation, interest rates, risk diversification, expected future value of a present amount in the presence of inflation, and investment decisions form a critical factor in determining the financial well-being of women (Zulfiqar, 2016). The result is also supported by the current study, which concludes that having good financial knowledge can increase financial well-being (Agyei et al., 2019; Lee et al., 2019; Philippas & Avdoulas, 2020). However, it is essential to note that the study employs the objective measurement of financial knowledge.

However, some studies did not find any significant relationship between financial knowledge and financial well-being. For example, Shim et al (2009) failed to establish a relationship between financial knowledge and financial satisfaction among college students in the US. Using married couples as respondents, a study using the financial management model derived from the Deacon, and Firebaugh Family Resource Management Model also did not find any significant relationship between the two variables (Parrotta & Johnson, 1998). Bir (2016) discovered the same result among emerging adults students and concluded that

when financial attitudes and financial knowledge are tested together for their effects on financial well-being, the effect of financial knowledge is eliminated. The study by Utkarsh et al. (2020) in India also did not find any significant relationship between these variables and claimed that objective financial knowledge is not a crucial factor in improving the financial well-being of emerging adults.

On the other hand, Netemeyer et al (2018) discovered a negative relationship between financial knowledge and financial well-being, implying that superior financial knowledge is associated with diminished financial well-being. According to the study, academics and policymakers must prioritise acquiring perceived financial knowledge such as financial confidence over acquiring actual financial knowledge such as interest rates, bonds, and the like (Netemeyer et al., 2018).

Mixed findings regarding the relationship between financial knowledge and financial well-being were also found in local studies. For example, the study by Sabri et al (2013; 2012) used different respondents and contexts, i.e. working adults and college students, but still showed a positive relationship between financial knowledge and financial well-being. The study also suggests that an individual knowledgeable in personal finance is likely to have higher financial well-being than participants with lower levels of financial knowledge (Sabri et al., 2013). The same result was also found in young working adults (aged 20 to 40), whereby an individual with higher marks for financial knowledge also scores high in their financial well-being (Mohamed, 2017). To add, an adequate level of knowledge would apparently help a young worker aged between 20 to 40 years old improve his/her financial skills, which is required to achieve financial well-being (Abdullah et al., 2019).

By contrast, Mahdzan et al (2019) discovered a significant negative correlation between financial knowledge and financial well-being across three income groups in Malaysia. However, their study stressed that the result does not negate the importance of financial knowledge in enhancing financial well-being; instead, they highlighted the critical reason for the contradictory finding, such as the possibility of external conditions or non-cognitive factors impeding the implementation of financial knowledge into beneficial actions that would increase financial well-being. Furthermore, because the study examined only objective financial knowledge, the researcher suggested that additional dimensions of financial knowledge be examined, such as financial confidence or perceived financial knowledge, which may improve financial well-being (Mahdzan et al., 2019).

Furthermore, several local studies that used adult workers and college students as respondents also ended up with non-significant results (Mokhtar & Husniyah, 2017; Pahlevan Sharif et al., 2020). The researcher concludes that high basic financial knowledge does not necessarily translate into positive financial attitudes and behaviours that would lead to higher financial well-being. However, it is critical to note that all of the local studies discussed previously assessed financial knowledge through objective perception.

On the other hand, Riitsalu and Murakas (2019) study on subjective financial knowledge, as opposed to actual financial knowledge, has a stronger relationship with financial well-being than actual financial knowledge. According to the study's findings, having

a higher score in objective financial knowledge has only a minor impact on one's financial well-being (Riitsalu & Murakas, 2019). This result is also supported by earlier studies that highlighted the same conclusion (Allgood & Walstad, 2013; Anderson et al., 2017). The same result was revealed by Kumar Saurabh and Tanuj Nandan (2018), which confirmed the significant positive relationship between subjective financial knowledge and financial well-being among emerging adult students in India. The relationship also improves when financial behaviour is included as a mediator (Kumar Saurabh & Tanuj Nandan, 2018).

Additionally, the latest study by Lind et al. (2020) also concluded that subjective financial knowledge, specifically individual financial confidence, is more critical than financial competence in both financial behaviour and financial well-being. The study stressed that although the best combination of subjective and objective financial knowledge is to have correspondingly high levels of financial well-being, the results also indicate that subjective financial knowledge is beneficial for financial well-being. The study is against the conclusion made by Peters et al. (2019), which mentioned that confidence is only beneficial for an individual with adequate knowledge. This finding emphasises the critical role of subjective perceptions of financial knowledge in boosting an individual's financial confidence and, consequently, financial well-being (Lind et al., 2020).

The same conclusion is reached in the study by Prakash et al. (2022), who acknowledge the importance of instilling perceived financial knowledge in new employees, particularly those in technical roles. The findings indicate that a lack of financial confidence contributes significantly to these individuals' poor financial well-being. This study also supports Hadar et al (2013)'s recommendation to incorporate subjective financial knowledge into any financial knowledge programme or workshop.

Although several global studies have been conducted on the relationship between subjective financial knowledge and financial well-being, the literature search done by researchers shows that this relationship is an understudy in the context of local study. To date, only two local studies have been found to investigate those relationships, which are by (She et al., 2022; Shahrina and Shafinar, 2021). In the study by She et al (2022), which focused on Malaysian working adults, subjective financial knowledge was positively related to financial behaviour and financial well-being. As a result of this finding, working adults who have higher levels of subjective financial knowledge are more likely to engage in responsible financial behaviour and demonstrate a higher level of financial well-being than those who have lower levels of such knowledge. Furthermore, the findings of this study confirm that individuals with a high level of subjective financial knowledge are less likely to avoid financial information, which enables them to critically analyse financial knowledge, which could help them engage in more prudent financial behaviours and achieve greater financial well-being, as stated by the (Lind et al., 2020).

In conclusion, although a large number of studies have been conducted on the relationship between financial knowledge and financial well-being, there is still disagreement in the findings, with a mixed results being discovered. Therefore, a more nuanced understanding of the relationship between these constructs is required. More importantly, when it comes to the context of a local study, the majority of the scholars are placing a greater

emphasis on objective financial knowledge and a lesser emphasis on subjective financial measurement. As a result, there is a gap in the local study because researchers worldwide believe that subjective financial well-being is more important than objective financial knowledge, and some believe that the impact is more significant than that of financial competence. Therefore, this is an excellent opportunity for local researchers to investigate financial knowledge not only as a cognitive assessment but also as a subjective assessment to confirm the relationship with financial well-being. Based on the analysis and argument presented above, the following hypothesis is developed:

H1: There is a positive relationship between subjective financial knowledge and financial well-being

Financial Behaviour and Financial Well-being

Financial behaviour is a term used to evaluate an individual's financial management and how an individual reacts and makes decisions based on the financial information obtained (Marsh, 2006). Xiao (2008) stressed that financial behaviour is an individual character trait relevant to money management, focusing on what someone does about their money, such as income utilization, saving precaution, and debt control. Financial behaviour also comprises other dimensions such as financial planning, investment, and risk management (Husniyah & Fazilah, 2011).

Mugenda et al (1990) measured financial well-being using financial satisfaction among US residents in the earlier study. The result showed that individual solvency and financial behaviour are positively related to financial satisfaction and that good financial behaviour practises lead to financial and career satisfaction. Not only that, but another study on the effects of financial behaviour also proved that financial behaviour is positively related to the preparation for financial emergencies (Mugenda et al., 1990).

The same result was also indicated by Joo and Grable (2004) who concluded the positive direct effect between financial behaviour and financial satisfaction. According to the study, an individual that practices proper financial behaviour will achieve a higher level of financial well-being. Both studies led to the conclusion that financial behaviour is the dominant contributor to an individual's financial well-being status (Joo & Grable, 2004). The impact of financial satisfaction goes beyond other variables such as socio-economic characteristics.

Consistent with the above studies, the current trend of the current researcher also came up with similar results despite employing different respondents or measurements. For example, the study by Strömbäck et al (2017; 2020) that utilised financial anxiety and security to measure financial well-being revealed that financial behaviour is positively related to financial security but negatively related to financial anxiety. The opposite relationship between financial behaviours and financial anxiety is in line with the study by Prawitz et al. (2006), which concluded that financial distress and anxiety were opposite measures of financial well-being. Furthermore, the recent studies by Brüggen et al (2017); Kempson and Poppe (2018); Saurabh and Nandan (2018); Oquaye et al (2020); Iramani and Lutfi (2021);

Kavita et al (2021) also highlighted the significant relationship between financial behaviour and financial well-being.

Many local works also concentrated on the relationship between financial behaviour and financial well-being and revealed significant results. According to Sabri et al (2013), apart from income and financial knowledge, financial behaviour is the most influential factor for financial well-being. The same result was revealed by Mokhtar and Husniyah (2017) in their study on Malaysian civil servants in Putrajaya, which proved that financial behaviour is a prominent factor of financial well-being. They suggested that the efficient way to increase financial well-being is through sound financial management practice. The finding by Mahdzan et al (2019); the study by AFBES'18 (2018); Othman (2017); Zaiton et al (2018); Falahati and Paim (2011) also revealed that financial well-being would increase in parallel to positive financial behaviour. Therefore, based on the above result, the following hypothesis is derived:

H2: There is a positive relationship between subjective financial knowledge and financial well-being

Financial Behaviour as a Mediator

Existing studies on the determinants of financial well-being have proved that financial behaviour is the most dominant and consistent factor. However, except for the social demographic factors, which were proven to affect financial well-being directly, there are inconsistencies in determining the effect of subjective financial knowledge on financial well-being (Kempson et al., 2017; Joo & Grable, 2004). According to researchers, these inconsistencies are due to cultural differences or differences in the socio-economic class of respondents (Saurabh & Nandan, 2018). This leads to the assumption that middle factors need to enhance or mediate the relationship between the determinants and financial well-being.

Although most of the studies have focused on the direct relationship between the determinants and financial well-being, some indicate that the rules of financial behaviour can enhance the relationship as mediating factors. For example, the inconsistency in determining the effect of financial knowledge on financial well-being motivated Kumar Saurabh and Tanuj Nandan (2018) to investigate the middle rule of financial behaviour between the two variables. The result revealed the weak influence of financial knowledge on financial well-being. However, when financial behaviour is included in the analysis, the impact of financial knowledge on financial well-being mildly improves.

The same significant result can also be found in the study by Iramani and Lutfi (2021), which also concluded that financial behaviour mediates the effect of financial knowledge on financial well-being. Based on the discussion, someone with good knowledge of financial matters will perform and practice good financial behaviour such as better saving behaviour, preparing better retirement funds, and not delaying debt payments. Which also concluded that financial behaviour mediates the effect of financial knowledge on financial well-being. Based on the discussion, someone with good knowledge of financial matters will perform and practise good financial behaviours such as better saving behaviour, preparing better

retirement funds, and not delaying debt payments. Therefore, the following hypotheses are derived:

H3: The relationship between subjective financial knowledge and financial well-being is mediate by financial behaviour.

Methodology

A cross-sectional sample survey is used in this study because the data is collected at a single point in time. It is used to study emerging adults in Malaysia who are between the ages of 19 and 29. First, a researcher divides people into groups based on where they live in Malaysia. This group is made up of East Malaysia (Sabah, Sarawak), North (Perlis, Kedah, Penang), South (Johor, Melaka, Negeri Sembilan), East Malaysia (Terengganu, Pahang, Kelantan), and West Malaysia. Next, the researcher randomly selected one state through the ballot representing each region. As a result, Sabah, Pahang, Perak, Selangor, and Melaka were chosen. Due to time and cost constraints, the main towns representing an urban area and the second town representing a rural area for each state are then chosen.

The data for this study was gathered via electronic and online surveys. This approach was chosen after considering a number of factors, including the fact that it is faster and easier to collect data while also saving time and money. One of the factors considered in choosing this technique is the pandemic situation, which is COVID-19, which restricts researchers' movement in areas where the traditional method is challenging to implement. The data is collected through non-probability sampling techniques used in conjunction with purposive and quota sampling techniques. Before data collection begins, an enumerator is assigned to conduct a preliminary quick screening process to ensure that the respondents meet the research requirements. This process is carried out while data collection is underway. Emerging adults, full-time workers who have been employed for more than six months, and those who have the ability to make their own financial decisions are all among the requirements for eligibility. It is also important to take into account the different socio-economic characteristics of each person who responds. This is in addition to the mix of people who have different levels of education, income, and age used to make the samples. A total of 750 papers containing the QR-Code were distributed to eligible respondents in five regions in Malaysia.

Measures

For measurement, this current study employs the questionnaire of the Financial Well-being Scale developed by the Consumer Financial Protection Bureau (CFPB, 2017). The measurement is based on the definition of financial well-being drawn from the perspective of consumers and practitioners (Consumer Financial Protection Bureau (CFBP), 2017). It consists of ten general items of subjective financial well-being rated on a 5-point Likert scale where one represents "strongly disagree," and five represents "strongly agree." The measurement is based on having control over day-to-day and month-to-month finances, having the capacity to absorb financial shocks, being on track to meet financial goals, and having the financial freedom to make choices that allow enjoyment of life.

This study's general components of financial behaviours include financial planning, investment, risk management, credit management, cash flow management, and saving. Financial behaviour was measured using a 5-point Likert scale where one represents "strongly disagree," and five represents "strongly agree." Most of the items are initially adopted from Grable and Joo (2004) with 0.74 Cronbach's Alpha.

The variable of financial knowledge entails how the emerging adults' financial knowledge influences their financial well-being. The item of financial knowledge is adapted from Perry and Morris (2005) with 0.91 Cronbach alpha and focuses on the dimension of subjective financial knowledge. According to expert suggestions, some modifications have been made to suit the Malaysian context.

Result

Respondent profile

The 500 respondents eligible for analysis represent the approximate proportions of Malaysia's major ethnic groups, which are 70.4 percent Bumiputera, 21.2 percent Chinese, and 8.4 percent Indian. Out of 500 respondents, mostly are from Pahang (127), Selangor (120), Perak (95), Melaka (88), and Sabah have the fewest respondents (70). Males account for more than half of all respondents (54.6 percent), while females are 45.4 percent. The majority of respondents (46%) are between the ages of 27 and 29. This roughly corresponds to most emerging adults who have recently entered the labour force and have a stable jobs and income. Meanwhile, 25% of respondents are in their early adulthood (19-22 years old). The majority of young adults are still enrolled in college or other postsecondary institutions. As a result, they do not meet the criteria for participation in this survey. Over 70% of respondents earn less than RM1000 per month, and only 14.6% earn less than RM1000. The private sector employs 56.8 percent of respondents, while the rest work in the public sector or are self-employed.

Construct Reliability and Validity

The current study employs the composite reliability method (CR) to determine internal consistency reliability. This is because the CR has the ability to quantify indication reliability differently via the PLS-SEM algorithm, as suggested by (Hair et al., 2014). As a result, reporting composite reliability is more appropriate, as it depicts individual indicators differently than Cronbach's alpha, which describes overall reliability. If the CR value for each construct is more significant than 0.70, the construct's elements have adequate internal consistency reliability (Hair et al., 2014; Thurasamy et al., 2018). As shown in Table 1, the composite reliability values for all constructs exceed the desired threshold value of 0.7, indicating that internal consistency reliability has been met.

Table 1: Properties of measurement item

	Items	Loadings	CR	AVE
	Financial Well-being (FWB)		0.880	0.557
FWB1	I can handle a significant unexpected expense	0.802		
FWB2	I am securing my financial future	0.823		
FWB3	Because of my money situation, I feel like I will never have the things I want in life	0.802		
FWB4	I can enjoy life because of the way I'm managing my money	0.763		
FWB5	I am just managing my expenses with my current income	Item deleted		
FWB6	I am concerned that the money I have or will save will not last in the long run	Item deleted		
FWB7	Giving a gift for a wedding, birthday or another occasion would put a strain on my finances for the month	0.507		
FWB8	I have money left over at the end of every month	0.770		
FWB9	I am unable to pay my bills as and when they fall due	Item deleted		
FWB10	My finances control my life	0.768		
	Financial Behaviour (FB)		0.876	0.541
FB1	I set money aside for retirement.	0.722		
FB2	I have a plan to reach my financial goals.	0.702		
FB3	I set money aside for savings.	0.785		
FB4	I save for emergencies.	0.755		
FB5	I have life insurance.	Item deleted		
FB6	I am calm regarding my financial matters.	Item deleted		
FB7	I have a weekly or monthly budget that I follow.	0.736		
FB8	I invested some money in an investment instrument.	0.709		
FB9	I spend more money than I have.	Item deleted		
	Subjective Financial Knowledge			
FK1	I know about interest rates charged by banks	0.839	0.874	0.557
FK2	I know about borrowing rates charged by financial institutions	0.841		
FK3	I know about the credit report by the Central Credit Reporting System (CCRIS) and Credit Tip-Off Service (CTOS)	0.666		
FK4	I know how to invest my money in buying shares on the stock market	0.666		
FK5	I know about managing my personal finance	0.738		
FK6	I clearly understand the balance on my bank statement	0.629		

The indicator reliability assessment's objective is to ascertain the degree to which each latent construct accurately measures what it claims to measure (Urbach & Ahlemann, 2010). To meet the indicator reliability criteria, the construct must account for at least 50% of the variance in each indicator. In general, a loading value of 0.4 or greater is acceptable if the total loading result contributes to an average variance extracted (AVE) score of 0.5 or greater (Hulland, 1999). During this time period, any loading value of less than 0.4 should be deleted. According to Hair et al (2017), a loading value of 0.708 or greater indicates that the latent variable may account for 50% of the indicator variance. On the other hand, the omission of loading values less than 0.708 can be justified only if the omission improves the composite reliability of the AVE.

Except for a few indicators, the majority of the items in the indicator reliability evaluation shown in Table 1 exceed the value proposed by Hair et al (2014), which is greater than 0.708. Only six indicators, FWB4, FWB5, FWB6, FB5, FB6, and FB9, are eliminated from the analysis since the composite reliability and the AVE have already reached the threshold value of 0.50. This is because item deletion is advised when the composite reliability value is less than 0.5, and item deletion may result in a greater composite reliability value (Hair et al., 2014; Urbach & Ahlemann, 2010). After removing the identified items, it is possible to conclude that each of the constructs under consideration met the criteria for reliability and convergent validity.

The degree to which particular indicators represent the constructs in relation to indicators measuring other constructs is referred to as convergent validity (Urbach & Ahlemann, 2010). The AVE value, according to Hair et al (2014), can be used to assess convergent validity. If each construct has an AVE value of 0.50 or greater (AVE ≥ 0.50), the convergent validity is regarded satisfactory (Hair et al., 2014). If the AVE value is more than 0.50, the constructs can explain more than half of the variance in its indicators (Hair et al., 2014). According to Table 1, all of the constructs' AVE values exceeded the threshold value of 0.50, indicating convergent validity, as proposed by Hair et al. (2014).

Discriminant validity displays the degree to which each indicator represents their construct, while also showing how each construct differs from the others (Urbach & Ahlemann, 2010). Table 2 shows that discriminant validity is established when the threshold range of less than 0.85 is fulfilled, with HTMT.85 having a threshold value of 0.85. (Hair et al., 2014). As a result of this finding, the study can proceed to the structural model approach for hypothesis testing.

Table 2: Discriminant Validity Heterotrait-Monotrait Ratio (HTMT)

	FB	FK	FWB
FB			
FK	453		
FWB	540	0.443	

Structural Equation Modelling

The evaluation of the structural model begins by assessing the significance and relevance of the structural model relationship. The goal of the following stage is to investigate the suitable estimated path coefficient which reveals the significance of the relationship between one variable and another. The following procedure is the assessment of the significance and relevance of the structural model's relationships, which is done by determining the significance of the path coefficients of the hypothesised relationships in the structural model. To identify the statistical significance of the path values of the hypothesised relationships, the non-parametric bootstrapping procedure with 5000 subsamples is used to obtain the t-values (Vinzi et al., 2010). Table 3 presents the results of the bootstrapping procedure.

Table 3: Results of the Significance in Structural Model Relationships

	Hypotheses	β	t-Statistics	95.0% Confidence intervals	P-value	Result
1	SFK> FWB	0.250	3.785	0.311	0.000	Significant
H2	FB>FEB	0.427	11.794	0.484	0.000	Significant
H3	SFK>FB>FWB	0.193	8.848	0.234	0.000	Significant

Note: β: path coefficient *p<0.05 (one-tailed t > 1.645)

The results of SEM analysis presented in Table 3 show that subjective financial knowledge had significant positive effects on financial well-being with the (β5 0.260, p < 0.000). In addition, the significant direct relationship also can be found in the relationship between financial behaviour and financial well-being with a beta value of 0.427 and p-value of 0.000. Therefore, H1 and H2 are supported.

To test the mediating effect of financial behaviour in the relationship between subjective financial knowledge and financial well-being, the 'bootstrapping of the indirect effect method' introduced by Preacher and Hayes (2008) is employed. The result shows that in the relationship between subjective financial knowledge and financial well-being, a positive significant indirect effect on financial behaviour has a value of β=0.193, p-values=0.000, and t-values=9.848. In summary, all the hypotheses proposed in this study were supported.

Discussion

Financial knowledge is measured in this study using a subjective perspective adapted from self-assessment, which entails what an individual believes or knows about financial matters (Perry & Morris, 2005). This subjective approach is considered underexplored in local studies because the majority of them assessed financial knowledge by evaluating cognitive ability via a series of questionnaires that assessed respondents' correctness, thereby reflecting their knowledge of finance (Sabri et al., 2012; Mahdzan et al., 2019; Mokhtar & Husniyah, 2017; Sharif et al., 2020; Zaiton et al., 2018).

The findings of this study indicate that subjective financial knowledge has a statistically significant effect on financial well-being. Furthermore, the positive relationship between subjective financial knowledge and financial well-being indicates that individuals who have a high level of subjective financial knowledge will have a higher level of financial well-being than those who have a low level of subjective financial knowledge. This finding is consistent with

previous research that has also used a subjective approach to assess financial knowledge (Robb & Woodyard, 2011; Hadar et al., 2013; Saurabh & Nandan, 2018; Perry & Morris, 2005; Riitsalu & Murakas, 2019).

Additionally, this study examines the substantial relationship between financial behaviour and financial well-being. Consistent with previous research, the findings indicate that financial behaviour has a beneficial effect on financial well-being (Brüggen et al., 2017; Iramani & Lutfi, 2021; Kempson & Poppe, 2018). For example, Gutter and Copur (2011) acknowledged in a study of emerging adult students that financial behaviour is a critical factor in determining one's level of financial well-being and suggested that in order to have healthy finances, each component of financial behaviour, such as debt and cash management, must be improved. Additionally, the study confirmed recent findings by Kavita et al (2021) that financial behaviour and financial well-being are inextricably linked. These findings also suggest that financial behaviour plays a significant role in determining an individual's financial well-being. This is unsurprising, given that the sampled individuals work and have some control over their respective finances. However, It is critical to remember, that those unconcerned with prudent financial behaviour will face difficulties in everyday life, let alone after retirement (Robb & Woodyard, 2011). Although this finding was anticipated, it is still significant, particularly for newly employed emerging adults in Malaysia.

Finally, this study establishes that financial behaviour moderates the relationship between financial knowledge and financial well-being. These findings emphasise the critical role of financial behaviour in determining how these influences on financial well-being are regulated. This finding is supported by Çera et al (2020) 's finding that financial knowledge has a significant indirect effect on financial well-being and the mediating role of financial capability. This finding implies that the function of financial knowledge has a direct effect on financial well-being and broadens the scope of financial behaviour, which is associated with financial well-being. In short, sound financial knowledge can help emerging adults improve their financial behaviour, enabling them to make sound financial decisions that contribute to their financial well-being.

Contributions and Implications of the Study

Along with enriching existing literature on financial knowledge, the study advances research by demonstrating that subjective financial knowledge is just as necessary as objective financial knowledge to improve financial well-being. This finding is consistent with other research indicating that subjective financial knowledge is a strong predictor of financial behaviour and well-being. One possible explanation for this finding is that individuals with subjective financial knowledge are less likely to avoid financial information that could affect their behaviour or well-being (Barrafrem et al., 2020). This finding establishes a new perspective on subjective financial knowledge, particularly in local studies, where previous research has concentrated on objective financial knowledge and its effect on subjective perception.

Additionally, this study focuses on non-student emerging adults who have worked for at least six months. This is a novel contribution to the study's context, as most previous research on financial well-being has concentrated on students and emerging adults. The current study focuses on emerging adult workers and paints a complete picture of emerging

adults' financial struggles. This is because working emerging adults are distinct from student emerging adults in that the former has achieved complete financial independence. Instead, students and emerging adults rely on their parents, government scholarships, or education loans for financial assistance.

The revelation that subjective financial knowledge is a significant factor that directly or indirectly influences financial well-being should be taken seriously. This is because previous local studies assessing financial literacy placed a greater emphasis on objective financial knowledge. The current findings emphasise the critical nature of subjective financial knowledge as an element to consider when assessing financial literacy and its impact on financial behaviour and well-being. The findings remind interested parties to investigate potential strategies for improving subjective financial knowledge among emerging adults in Malaysia. This may be the time for regulatory bodies to develop financial education programmes that improve financial literacy and motivate individuals to develop subjective financial knowledge, such as increased confidence in making financial decisions.

Providing positive and authentic experiences to emerging adults is one way to help them improve their subjective financial knowledge. This method could also be implemented in Malaysia through AKPK or BNM-led financial literacy campaigns or programmes. This could be a call for financial educators or innovators to design or develop interactive tools that provide enjoyable learning experiences. For example, new learning tools that use virtual money investments can teach people about the stock market.

Preparing emerging adults for subjective financial knowledge awareness and competence should begin during their academic years, particularly in high school or university. As a result, universities and schools should do a better job of equipping students with cognitive financial knowledge that will aid in their comprehension and new learning styles that will aid in their subjective knowledge improvement. This is because financial knowledge advancement is inextricably linked to financial confidence advancement. Confidence in financial matters may aid emerging adults in developing sound financial habits, thereby improving their financial well-being. The implementation of gamified financial education programmes in schools and universities is an excellent example of improving an individual's subjective financial knowledge. By utilising technological advancements and video games as a teaching tool, these programmes foster problem solving by simulating real-world scenarios without real-world consequences. This approach complements the emerging adult learner's style, in which computers and smartphones have become indispensable tools.

Employers bear a similar obligation, as they should ensure that each employee is aware of their current level of financial knowledge. Numerous strategies can be used when a financial counsellor or financial advisor is involved. Organizing various programmes such as financial advisory services, financial training, or financial workshops are all examples of corporate actions that can improve employees' financial efficiency and ensure a more secure financial future. It's worth noting that financial security is required for productive work results. As a result, the importance of employers playing an equal role in resolving this issue is emphasised.

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References

Abdullah, N., Fazli, S. M., & Arif, A. M. M. (2019). The Relationship between attitude towards money, financial literacy and debt management with young worker's financial well-being [Article]. *Pertanika Journal of Social Sciences and Humanities*, *27*(1), 361-387. https://www.scopus.com/inward/record.uri?eid=2-s2.0-85064613743&partnerID=40&md5=e141009ec3c36fd1acdd8603a2638c3c

AFBES'18. (2018). AKPK Financial Behaviour and State of Finanical Well-being of Malaysian Working Adult. *AKPK Financial Behaviour Survey 2018 (AFBES'18)*.

Agyei, S. K., Adam, A. M., & Agyemang, O. S. (2019). Financial Literacy, Cultural Dominance, and Financial Well-Being of SME Owners in Ghana [Article]. *Poverty and Public Policy*, *11*(3), 222-237. https://doi.org/10.1002/pop4.254

Ali, A., Rahman, M. S. A., & Bakar, A. (2015). Financial Satisfaction and the Influence of Financial Literacy in Malaysia. *Social Indicators Research*, *120*(1), 137-156. https://doi.org/10.1007/s11205-014-0583-0

Allgood, S., & Walstad, W. (2013). Financial Literacy and Credit Card Behaviors: A Cross-Sectional Analysis by Age. *Numeracy*, *6*(2). https://doi.org/10.5038/1936-4660.6.2.3

Anderson, A., Baker, F., & Robinson, D. T. (2017). Precautionary savings, retirement planning and misperceptions of financial literacy. *Journal of Financial Economics*, *126*(2), 383-398. https://doi.org/https://doi.org/10.1016/j.jfineco.2017.07.008

Arnett, J. J. (2015). *Emerging adulthood: The winding road from the late teens through the twenties, 2nd ed* [doi:10.1093/oxfordhb/9780199795574.013.9]. Oxford University Press. https://doi.org/10.1093/oxfordhb/9780199795574.013.9

Barclays. (2014). *Barclays Bank PLC Annual Report 2014.*

Barrafrem, K., Västfjäll, D., & Tinghög, G. (2020). *Financial Homo Ignorans: Measuring vulnerability to behavioral biases in household finance*.

Bir, J. S. (2016). Knowledge, Attitude and their Effect on the Recently Graduated Employee" Financial Management Practices and Satisfaction.

Bowen, C. F. (2002). Financial Knowledge Of Teens And Their Parents. *Financial Counseling and Planning Volume*, *13*.

Brüggen, E. C., Hogreve, J., Holmlund, M., Kabadayi, S., & Löfgren, M. (2017). Financial well-being: A conceptualization and research agenda. *Journal of Business Research*, *79*, 228-237. https://doi.org/10.1016/j.jbusres.2017.03.013

Çera, G., Khan, K. A., Belas, J., & Ribeiro, H. N. R. (2020). The Role of Financial Capability and Culture in Financial Satisfaction [Article]. *Economic Papers*, *39*(4), 389-406. https://doi.org/10.1111/1759-3441.12299

CIPD, C. I. O. P. A. D. (2017). *CIPD Manifesto for Work 2017*.

Consumer Financial Protection Bureau (CFBP). (2017). *CFPB Financial Well-Being Scale-Scale Development Technical Repor*.

Consumer Financial Protection Bureau (CFPB). (2015a). Consumer Response Annual Report 2015. *Consumer Financial Protection Bureau*.

Consumer Financial Protection Bureau (CFPB). (2015b). *Financial well-being: The goal of financial education*.

Danes, S. M., & Yang, Y. (2014). Assessment of the use of theories within the journal of financial counseling and planning and the contribution of the family financial socialization conceptual model. *Journal of Financial Counseling and Planning*, *25*(1), 53-68.

Diener, E. (2000). Subjective well-being: The science of happiness and a proposal for a national index. *American Psychologist*, *55*(1), 34-43. https://doi.org/10.1037//0003-066x.55.1.34

Falahati, L., & Paim, L. H. (2011). Toward a framework of determinants of financial management and financial problems among university students [Article]. *African Journal of Business Management*, *5*(22), 9600-9606. <Go to ISI>://WOS:000297654600084

Falahati, L., & Sabri, M. F. (2015). An Exploratory Study of Personal Financial Wellbeing Determinants: Examining the Moderating Effect of Gender. *Asian Social Science*, *11*, 33-42. https://doi.org/10.5539/ass.v11n4p33

Sabri, F. M., Cook, C. C., & Gudmunson, C. G. (2012). Financial well-being of Malaysian college students. *Asian Education and Development Studies*, *1*(2), 153-170. https://doi.org/10.1108/20463161211240124

Fernandes, D., Lynch, J. G., & Netemeyer, R. G. (2014). Financial Literacy, Financial Education, and Downstream Financial Behaviors. *Management Science*, *60*(8), 1861-1883. http://www.jstor.org/stable/42919641

Goldsmith, E. B. (2003). *What Is Family Resource Management And Why Is It Important To Today's American Family?* (Vol. 2).

Grable, J. E., & Joo. (2004). Environmental and biopsychosocial factors associated with financial risk tolerance [Article]. *Journal of Financial Counseling and Planning*, *15*(1), 73-82. https://www.scopus.com/inward/record.uri?eid=2-s2.0-34547318641&partnerID=40&md5=28ed25e97a9d6bd423fb76c3a4724546

Gutter, M., & Copur, Z. (2011). Financial behaviors and financial well-being of college students: Evidence from a national survey. *Journal of Family and Economic Issues*, *32*(4), 699-714. https://doi.org/10.1007/s10834-011-9255-2

Hadar, L., Sood, S., & Fox, C. R. (2013). Subjective Knowledge in Consumer Financial Decisions. *Journal of Marketing Research*, *50*(3), 303-316. https://doi.org/10.1509/jmr.10.0518

Hair, J. F., Matthews, L. M., Matthews, R. L., & Sarstedt, M. (2017). PLS-SEM or CB-SEM: Updated guidelines on which method to use. *International Journal of Multivariate Data Analysis*, *1*, 107-123.

Henseler, J., Reinartz, W., & Haenlein, M. (2009). An empirical comparison of the efficacy of covariance-based and variance-based SEM. *International journal of research in marketing*, *26*, 332-344.

Hulland, J. (1999). Use of partial least squares (PLS) in strategic management research: a review of four recent studies. *Strategic Management Journal*, *20*(2), 195-204. https://doi.org/https://doi.org/10.1002/(SICI)1097-0266(199902)20:2<195::AID-SMJ13>3.0.CO;2-7

Husniyah, A. R., & Fazilah, A. S. (2011). Factors contributing to financial stability of urban and rural families. *Pertanika Journal of Social Science and Humanities ·*.

Husniyah, A. R., & Fazilah, A. S. (2012). Financial well-being among main ethnicities in Malaysia. *MALAYSIAN JOURNAL OF CONSUMER AND FAMILY ECONOMICS*, 1-14.

Huston, S. J. (2010). Measuring Financial Literacy. *Journal of Consumer Affairs*, *44*(2), 296-316. https://doi.org/https://doi.org/10.1111/j.1745-6606.2010.01170.x

Iannello, P., Sorgente, A., Lanz, M., & Antonietti, A. (2020). Financial Well-Being and Its Relationship with Subjective and Psychological Well-Being Among Emerging Adults: Testing the Moderating Effect of Individual Differences. *Journal of Happiness Studies*. https://doi.org/10.1007/s10902-020-00277-x

Iramani, R., & Lutfi, L. (2021). An integrated model of financial well-being: The role of financial behavior. *Accounting*, 691-700. https://doi.org/10.5267/j.ac.2020.12.007

Joo, & Garman, E. T. (1998). The relationship between personal financial wellness and employee productivity: A conceptual model. *Personal Finances and Worker Productivity*, *2(2)*, 162-171.

Joo, & Grable, J. E. (2004). An exploratory framework of the determinants of financial satisfaction [Article]. *Journal of Family and Economic Issues*, *25*(1), 25-50. https://doi.org/10.1023/B:JEEI.0000016722.37994.9f

Joonas, H. (2018). *Financial behavior and well-being of young adults: effects of self-control and optimism* University of Jyväskylä]. findland.

Kavita, C., Prasanna, M. R., & Riyaz, A. (2021). Does Financial Behavior Influence Financial Well-being. *Journal of Asian Finance, Economics and Business*, *8*, 273-280. https://doi.org/10.13106/jafeb.2021.vol8.no2.0273

Kempson, E., & Poppe, C. (2018). *Understanding Financial Well-Being and Capability - A Revised Model and Comprehensive Analysis*.

Saurabh, K., & Nandan, T. (2018). Role of financial risk attitude and financial behavior as mediators in financial satisfaction: Empirical evidence from India. *South Asian Journal of Business Studies*. https://doi.org/10.1108/SAJBS-07-2017-0088

LeBaron, A. B., & Kelley, H. H. (2020). Financial Socialization: A Decade in Review. *J Fam Econ Issues*, 1-12. https://doi.org/10.1007/s10834-020-09736-2

Lee, J. M., Lee, J., & Kim, K. T. (2019). Consumer Financial Well-Being: Knowledge is Not Enough. *Journal of Family and Economic Issues*. https://doi.org/10.1007/s10834-019-09649-9

Lind, T., Ahmed, A., Skagerlund, K., Strömbäck, C., Västfjäll, D., & Tinghög, G. (2020). Competence, Confidence, and Gender: The Role of Objective and Subjective Financial Knowledge in Household Finance [Article]. *Journal of Family and Economic Issues*. https://doi.org/10.1007/s10834-020-09678-9

Magli, A. S., Sabri, M. F., Rahim, H. A., Othman, M. A., Mahzan, N. S. A., Satar, N. M., . . . Janor, H. (2021). Mediation Effect of Financial Behaviour on Financial Vulnerability among B40 Households. *MALAYSIAN JOURNAL OF CONSUMER AND FAMILY ECONOMICS*, *21*, 191-217.

Mahdzan, N. S., Zainudin, R., Sukor, M. E. A., Zainir, F., & Wan Ahmad, W. M. (2019). Determinants of Subjective Financial Well-Being Across Three Different Household Income Groups in Malaysia [Article]. *Social Indicators Research*, *146*(3), 699-726. https://doi.org/10.1007/s11205-019-02138-4

Marsh, B. A. (2006). *Examining the Personal Finance Attitudes, Behaviors, and Knowledge Levels of First-Year and Senior Students at Baptist Universities in the State of Texas* Bowling Green State University]. http://rave.ohiolink.edu/etdc/view?acc_num=bgsu1151189375

McLellan, R. K. (2017). Work, Health, And Worker Well-Being: Roles And Opportunities For Employers. *Health Aff (Millwood)*, *36*(2), 206-213.

https://doi.org/10.1377/hlthaff.2016.1150

Mohamed, N. A. (2017). Financial socialization: a cornerstone for young employees' financial well-being. *Reports on Economics and Finance*, *3*, 15-35. https://doi.org/10.12988/ref.2017.711

Mokhtar, N., & Husniyah, A. R. (2017). Determinants of Financial Well-Being among Public Employees in Putrajaya, Malaysia [Article]. *Pertanika Journal of Social Science and Humanities*, *25*(3), 1241-1260. <Go to ISI>://WOS:000426845200014

Mugenda, O. M., Hira, T. K., & Fanslow, A. M. (1990). Assessing the causal relationship among communication, money management practices, satisfaction with financial status, and satisfaction with quality of life. *Lifestyles*, *11*(4), 343-360. https://doi.org/10.1007/BF00987345

Netemeyer, R. G., Warmath, D., Fernandes, D., Lynch, J. G., Fischer, E., & Toubia, O. (2018). How Am I Doing? Perceived Financial Well-Being, Its Potential Antecedents, and Its Relation to Overall Well-Being. *Journal of Consumer Research*, *45*(1), 68-89. https://doi.org/10.1093/jcr/ucx109

Shahrina, N. M. R., & Shafinar, I. (2021). Determinants of Financial Well-being Among Young Workers: An Empirical Investigation Asian Conference on Business, Economics and Social Science (ACBESS), UiTM Melaka.

O'Neill, B., Sorhaindo, B., Xiao, J. J., & Garman, E. T. (2005). Financially Distressed Consumers: Their Financial Practices, Financial Well-being, and Health. *Association for Financial Counseling and Planning Education*, 73-87.

OECD. (2020). *International Survey of Adult Financial Literacy*.

Oquaye, M., Owusu, G. M. Y., & Bokpin, G. A. (2020). The antecedents and consequence of financial well-being: a survey of parliamentarians in Ghana [Article; Early Access]. *Review of Behavioral Finance*, 23. https://doi.org/10.1108/rbf-12-2019-0169

Orem, D. E. (1985). A CONCEPT OF SELF-CARE FOR THE REHABILITATION CLIENT. *Rehabilitation Nursing*, *10*(3), 33-36. https://doi.org/https://doi.org/10.1002/j.2048-7940.1985.tb00428.x

Pahlevan Sharif, S., Ahadzadeh, A. S., & Turner, J. J. (2020). Gender Differences in Financial Literacy and Financial Behaviour Among Young Adults: The Role of Parents and Information Seeking. *Journal of Family and Economic Issues*, *41*(4), 672-690. https://doi.org/10.1007/s10834-020-09674-z

Parrotta, J. L., & Johnson, P. J. (1998). The impact of financial attitudes and knowledge on financial management and satisfaction of recently married individuals [Article]. *Journal of Financial Counseling and Planning*, *9*(2), 59-75. https://www.scopus.com/inward/record.uri?eid=2-s2.0-34548482571&partnerID=40&md5=cdc475f49fa0643f748027c4d9d933e8

Perry, V. G., & Morris, M. D. (2005). Who Is in Control? The Role of Self-Perception, Knowledge, and Income in Explaining Consumer Financial Behavior. *Journal of Consumer Affairs*, *39*(2), 299-313. https://doi.org/10.1111/j.1745-6606.2005.00016.x

Philippas, N. D., & Avdoulas, C. (2020). Financial literacy and financial well-being among generation-Z university students: Evidence from Greece [Article]. *European Journal of Finance*, *26*(4-5), 360-381. https://doi.org/10.1080/1351847X.2019.1701512

Prakash, N., Alagarsamy, S., & Hawaldar, A. (2022). Demographic characteristics influencing financial well-being: a multigroup analysis [Article]. *Managerial Finance*. https://doi.org/10.1108/MF-09-2021-0466

Prawitz, A. D., Garman, E. T., Sorhaindo, B., O'Neill, B., Kim, J., & Drentea, P. (2006). InCharge Financial Distress/Financial Well-Being Scale: Development, Administration, and Score Interpretation. *Journal of Financial Counseling and Planning*, *17*(1), 34-50. https://doi.org/10.1037/t60365-000

Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, *40*(3), 879-891. https://doi.org/10.3758/BRM.40.3.879

Rath, T., & Harter, J. (2010). *Well-being: The five essential elements*. Gallup Press.

Riitsalu, L., & Murakas, R. (2019). Subjective financial knowledge, prudent behaviour and income: The predictors of financial well-being in Estonia [Article]. *International Journal of Bank Marketing*, *37*(4), 934-950. https://doi.org/10.1108/IJBM-03-2018-0071

Sabri, M. F., Cook, C. C., Shelley, M. C., Hira, T. K., Garasky, S. B., & Swanson, P. M. (2012). The relation of early childhood consumer experience, financial socialization and financial knowledge with perceived financial well-being [Article]. *Asia Life Sciences*, *21*(2), 537-563. <Go to ISI>://WOS:000306379900015

Sabri, M. F., Paim, L., Falahati, L., & Masud, J. (2013). Determinants of employees' financial well-being: The moderation effect of work sectors [Article]. *MALAYSIAN JOURNAL OF CONSUMER AND FAMILY ECONOMICS*, *16*(1), 91-105. https://www.scopus.com/inward/record.uri?eid=2-s2.0-84940225099&partnerID=40&md5=3dd4b97948d25d73a8e6128707a1d729

Serido, J., & Deenanath, V. (2016). Financial Parenting: Promoting Financial Self-Reliance of Young Consumers.

She, L., Rasiah, R., Turner, J. J., Guptan, V., & Sharif Nia, H. (2022). Psychological beliefs and financial well-being among working adults: the mediating role of financial behaviour [Article]. *International Journal of Social Economics*, *49*(2), 190-209. https://doi.org/10.1108/IJSE-07-2021-0389

Shim, S., Xiao, J. J., Barber, B. L., & Lyons, A. C. (2009). Pathways to life success: A conceptual model of financial well-being for young adults. *Journal of Applied Developmental Psychology*, *30*, 708-723. https://doi.org/10.1016/j.appdev.2009.02.003

Sorgente, A., & Lanz, M. (2017). Emerging Adults' Financial Well-being: A Scoping Review. *Adolescent Research Review*, *2*(4), 255-292. https://doi.org/10.1007/s40894-016-0052-x

Sorgente, A., & Lanz, M. (2019). The multidimensional subjective financial well-being scale for emerging adults: Development and validation studies. *International Journal of Behavioral Development*, *43*(5), 466-478. https://doi.org/10.1177/0165025419851859

Strömbäck, C., Lind, T., Skagerlund, K., Västfjäll, D., & Tinghög, G. (2017). Does self-control predict financial behavior and financial well-being? *Journal of Behavioral and Experimental Finance*, *14*, 30-38. https://doi.org/10.1016/j.jbef.2017.04.002

Thurasamy, R., Cheah, J., Chuah, F., Ting, H., & Memon, M. A. (2018). *Partial Least Squares Structural Equation Modeling (PLS-SEM) using SmartPLS 3.0: An Updated guide and practical guide to statistical analysis* (Vol. 2). Pearson Malaysia Sdn Bhd.

Ullah, S., & Yusheng, K. (2020). Financial Socialization, Childhood Experiences and Financial Well-Being: The Mediating Role of Locus of Control [Article]. *Frontiers in Psychology*, *11*, Article 2162. https://doi.org/10.3389/fpsyg.2020.02162

Urbach, N., & Ahlemann, F. (2010). Structural Equation Modeling in Information Systems Research Using Partial Least Squares. *The Journal of Information Technology Theory and Application*, *11*, 2.

Utkarsh, Pandey, A., Ashta, A., Spiegelman, E., & Sutan, A. (2020). Catch them young: Impact of financial socialization, financial literacy and attitude towards money on financial well-being of young adults [Article; Early Access]. *International Journal of Consumer Studies*, 11. https://doi.org/10.1111/ijcs.12583

Vieira, K. M., Bressan, A. A., & Fraga, L. S. (2021). Financial Well-Being of the Beneficiaries of the Minha Casa Minha Vida Program: Perception and Antecedents. *RAM. Revista de Administração Mackenzie*, *22*(2). https://doi.org/10.1590/1678-6971/eramg210115

Vinzi, V. E., Chin, W. W., Henseler, J., & Wang, H. (2010). *Handbook of Partial Least Squares: Concepts, Methods and Applications* (Vol. 1). Springer-Verlag Berlin Heidelberg. https://doi.org/10.1007/978-3-540-32827-8_3

10.1007/978-3-540-32827-8

Williams, F. L. (1983). Money income, nonmoney income, and satisfaction as determinants of perceived adequacy of income. *Proceedings of the Symposium on Perceived Economic Well-Being* 106-125.

Wilmarth, M. J. (2020). Financial and Economic Well-Being: A Decade Review from Journal of Family and Economic Issues. *Journal of Family and Economic Issues*. https://doi.org/10.1007/s10834-020-09730-8

Xiao, J. J. (2008). Applying Behavior Theories to Financial Behavior. In J. J. Xiao (Ed.), *Handbook of Consumer Finance Research* (pp. 69-81). Springer New York. https://doi.org/10.1007/978-0-387-75734-6_5

Xiao, J. J., & Porto, N. (2017). Financial education and financial satisfaction: Financial literacy, behavior, and capability as mediators. *International Journal of Bank Marketing*, *35*, 805-817.

Yeo, J. H., & Lee, Y. G. (2019). Understanding the Association Between Perceived Financial Well-Being and Life Satisfaction Among Older Adults: Does Social Capital Play a Role? [Article]. *Journal of Family and Economic Issues*, *40*(4), 592-608. https://doi.org/10.1007/s10834-019-09634-2

Zaiton, O., Erni Marlina, M., & Phang, I. (2018). In Pursuit of Financial Well-being: The Effects of Financial Literacy, Financial Behaviour and Financial Stress on Employees in Labuan. *nternational Journal of Service Management and Sustainability*, *3*, 55-94.

Zemtsov, A., & Osipova, T. Y. (2016). Financial Well-being as a Type of Human Wellbeing: Theoretical Review.

Zulfiqar, M. (2016). Financial Well-being is the Goal of Financial Literacy. *Research Journal of Finance and Accounting*, *7*, 94-103.