Received 10 March 2023
Revised 20 October 2023
13 May 2024
17 September 2024
19 January 2025
6 April 2025
Accepted 27 August 2025

On the link between financial literacy and financial well-being in times of economic stagnation: an integrated framework

Youssef Chetioui, Hind Lebdaoui and Tahar Harkat
School of Business Administration, Al Akhawayn University, Ifrane, Morocco
Hajar Chetioui
L'École Nationale de Commerce et de Gestion de Fès, Sidi Mohamed Ben Abdellah University, Fez, Morocco
Chaimae Jerbouri
School of Business Administration, Al Akhawayn University, Ifrane, Morocco, and
Mohamed Makhtari
FSJES, Sidi Mohamed Ben Abdellah University, Fez, Morocco

Abstract

Purpose – The purpose of this paper is to propose a thorough framework to investigate and understand the key antecedents of financial literacy (FL) and how it contributes to indebtedness and financial well-being (WEL) in the context of a developing country (i.e. Morocco). The moderating effects of age, gender and education are also scrutinized using the partial least squares multi-group analysis (PLS-MGA).

Design/methodology/approach – Survey data from a sample of 848 respondents from Morocco were used to test the hypotheses using structural equation modeling.

Findings – First, financial socialization, financial knowledge, financial behavior, financial attitude and parental norms were all validated as key determinants of FL. Second, while FL was demonstrated to significantly improve individuals' WEL, it had no impact on individuals' indebtedness. Finally, the PLS-MGA emphasized a number of disparities among the different demographic groups of the sample, confirming the posited moderating effects of gender, age and education.

Social implications – The current research underscores important social implications, particularly in contexts marked by economic stagnation. First, our findings suggest that strengthening financial literacy and emphasizing behavioral aspects (e.g., budgeting, saving, and long-term planning) can help individuals better navigate economic uncertainty and maintain financial well-being. Second, tailored financial literacy programs can reduce social inequalities by addressing gender, age, and education differences in financial knowledge and behavior, ensuring that vulnerable groups receive the support they need. The signficant impact of parental norms also highlights the importance of equipping parents with tools for effective financial socialization, thereby fostering intergenerational financial awareness and resilience. These insights provide valuable guidance for policymakers and financial institutions to design inclusive, practical interventions that prevent financial distress, reduce social vulnerability, and promote long-term economic stability and financial well-being at both the individual and societal levels.

Originality/value – The current research bridges a gap in FL literature by offering a thorough understanding of the antecedents of FL and its impact on individuals' WEL in an emerging market context. It contributes to existing literature by offering a set of empirical generalizations related to FL in developing countries, where financial vulnerability is more prevalent. As well, the reflection of the moderating effects of gender, age and education emphasizes the necessity of using customized financial education programs that take into consideration the disparities among dissimilar demographic segments.

Keywords Financial literacy, Financial well-being, Indebtedness, Financial knowledge, Demographics, MGA

Paper type Research article

1. Introduction

Due to the unprecedented rates of inflation and economic stagnation in recent years, individuals in both developing and developed countries have been exposed to financial vulnerability. On top of that, financial vulnerability is no longer constrained to individuals with lower levels of education. Those with higher educational levels can also be financially vulnerable because of suboptimal financial behavior (BHV) or the lack of financial

International Journal of Social Economics
Vol. 53 No. 5, 2026
pp. 816-831
© Emerald Publishing Limited
e-ISSN: 1758-6712
p-ISSN: 0306-8293
DOI 10.1108/IJSE-02-2023-0153

management capability (O'Connor *et al.*, 2019). Financial literacy (FL) was subsequently proposed by a number of scholars as a key resolution. According to Philippas and Avdoulas (2019), FL helps in making sound financial decisions and is therefore essential to WEL. The current research aims to provide a deeper understanding of the key antecedents of FL, and how it contributes to indebtedness and financial well-being (WEL) in the context of an emerging market that is marked by higher levels of financial vulnerability (i.e. Morocco).

Despite the increasing interest in FL literature in developed countries (Goyal and Kumar, 2021), a limited number of studies have tacked it in developing markets (Chetioui *et al.*, 2024a, b, c, 2025; Lebdaoui *et al.*, 2021). The Middle East and North African (MENA) region seems overlooked when it comes to Karasz financial development and well-being (Lyons and Kass-Hanna, 2019; Neaime and Gaysset, 2018). In Morocco, an emerging MENA country, the nexus between FL and WEL have not been well-explored in prior literature. In such a financially non-industrial nation, the absence of studies related to monetary issues among households and/or individuals is a key concern (Armantier *et al.*, 2021). As of 2023, the significant increases in the prices of basic necessities have represented a key concern for most citizens, namely in an economy that is still recovering from the COVID-19 economic shutdown (Zhang *et al.*, 2023). In times of economic stagnation, FL can be the key as it makes societies more resilient (Ruch, 2020). It is therefore fundamental to investigate the antecedents and consequences of FL during these times, namely in developing nations where financial vulnerability is more prevalent.

According to Huhmann (2014), FL refers to individuals' level of financial knowledge (KND) and how well they are able to apply this knowledge to improve their BHV and status. Prior studies have analyzed FL following different lines of thoughts, namely, effect on the stock market (Sivaramakrishnan *et al.*, 2017), effect on individuals' willingness to invest (Lebdaoui *et al.*, 2021), effect on individuals' indebtedness (Azma *et al.*, 2019), impact on WEL (Brüggen *et al.*, 2017) and impact on personal saving (Dholakia *et al.*, 2016), among others. This diverse range of studies in many times has conveyed divergent results regarding the effects produced by FL. While the employment of more consistent criteria for FL measurement is critical, the incongruencies in prior studies' findings can partially be assigned to different methodological approaches, cultural differences or economic influences (Santini *et al.*, 2019).

While reviewing prior literature, numerous research gaps were identified (Adesina *et al.*, 2024; Goyal and Kuma, 2021; Munyuki and Jonah, 2022). First, most studies focused on specific factors to investigate the antecedents of FL (Goyal and Kuma, 2021; Adesina *et al.*, 2024). Accordingly, their findings do not take into consideration intercorrelated and varied elements that can influence together the level of FL among individuals and households. Based on Deacon and Firebaugh's (1988) family resource management (FRM) theory, the current research attempted to investigate the key demographic and behavioral factors explaining FL through an integrated conceptual model. Our review of literature also suggests that the inter-relationships between FL, BHV, and financial wellbeing remain underexplored (O'Connor *et al.*, 2019). Incorporating financial norms, knowledge, behavior, and other related constructs together allows a comprehensive understanding of the subject matter. Finally, while most studies have examined FL in the context of high-income consumers (Munyuki and Jonah, 2022), research investigating the level of KND and literacy in low-income countries is still lacking. Our study investigates FL and well-being in the context of a low-income context (i.e. Morocco). We also identified a lack of public policy actions to promote FL in Morocco and we therefore proposed a holistic approach for promoting FL in Morocco and other emerging market settings. The above discussions signify the relevance of the current research.

The current study has several theoretical and practical implications. First, our findings make a valuable contribution to FL literature as it provides an integrated framework to explain FL antecedents and effects in an emerging market context where research is still very limited. In addition, we identified possible disparities among individuals based on gender, age, and education. From a managerial viewpoint, public policy makers can use the study findings to present better public policies, promotional campaigns, and financial education programs to promote FL and therefore ensure a better WEL of larger shares of the population. Our findings also offer interesting implications to society by emphasizing the importance of FL in ensuring better financial status. The remainder of this research is organized as follows: the literature review and hypotheses development are presented in section 2, followed by the methods used in section 3. The results are illustrated in Sections 4. The discussion and conclusions are elaborated in Section 5 and the limitations and future research in Section 6.

2. Literature review and hypotheses development

2.1 Theoretical foundation: Deacon and Firebaugh's (1988) family resource management theory

The proposed conceptual model, as illustrated in Figure 1, is essentially based on Deacon and Firebaugh (1988) FRM theory; other relevant constructs were sourced from prior literature. The FRM theory has been widely recognized by prior literature in personal finance (Hira, 2012). It illustrates a combined framework covering aspects of resource allocation and management within the family. It also concentrates on the impact of appropriate allocation of resources on managerial response and output (i.e. WEL). The FRM theory was deemed appropriate for the current study for two main reasons. First, family is where most individuals are first financially socialized. Grounding FL and wellbeing in a family philosophy is therefore worth investigating. Second, in collectivistic cultures (i.e. Morocco), the use of a theory that accommodates varied inputs (i.e. financial socialization (FSOC), KND, BHV and parental norms (PNOR)) to achieve WEL is substantially essential. The current research therefore employs the FRM Theory, which comprises input, throughput and output, to understand how Moroccan household perceived their WEL (Deacon and Firebaugh, 1988). In the context of the current study, respondents' WEL was included as an output (dependent variable), whereas FL and indebtedness were incorporated as input and throughput, respectively. The study also attempted to explore the antecedents of FL, namely FSOC, KND, BHV, Financial attitude (ATT), and PNOR. Finally, in view of the significant role of moderators in explaining the different associations related to FL(Lusardi and Mitchell, 2014), the current research investigates the moderating effect of age, gender, and education to fortify the explanatory power of the proposed conceptual model.

2.2 Hypotheses

FSOC refers to the process of learning financial viability and well-being through the development of a set of values, knowledge, standards, attitudes, norms and behaviors (Danes and Yang, 2014). It is a subcategory of human socialization that describes how individuals are being assisted to become a member of a social group (Grusec and Hastings, 2015). In other words, FSOC underlines the way seasoned members guide new ones in incorporating the group's rules, attitudes, norms, and values into their daily behavior and thinking (Gudmunson *et al.*, 2016). These experienced agents can be family members, colleagues, religious and

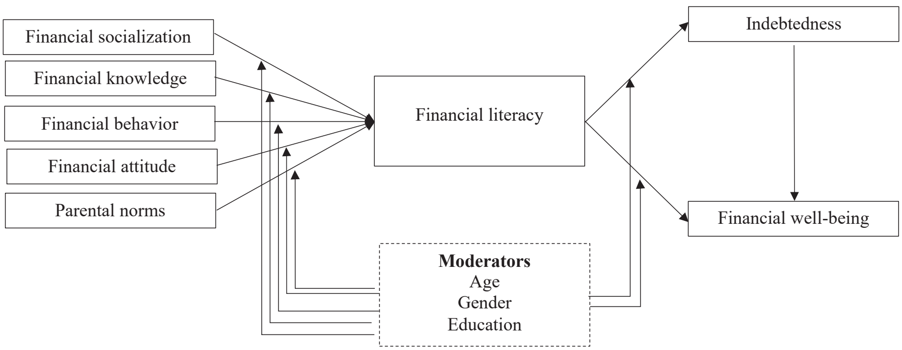

Figure 1. Conceptual model. Source: Authors' own work

educational institutions (Gudmunson and Danes, 2011). FSOC isn't linked to money management only, it englobes the development of values, norms, and attitudes as well (Ullah and Yusheng, 2020). Prior studies revealed a significant influence of FSOC on FL (Xiao and Porto, 2017; Zhao and Zhang, 2020). It was also found that the relationship between FSOC and FL was moderated by age (Clarke, 2005) and gender (Agnew and Cameron-Agnew, 2015; Chowa and Despard, 2014). Thereby, it can be hypothesized that:

H1. Financial socialization has a positive impact on financial literacy.

H1a–c. Age, gender and education will moderate the effect of financial socialization on financial literacy.

KND is an aspect of human capital acquired by learning that impacts one's ability to effectively manage savings, expenses, and income (Delavande *et al.*, 2008). It reflects the degree to which individuals fully understand financial products' risks and concepts. KND can significantly affect individuals' financial decisions (Bucher-Koenen *et al.*, 2017). It also increases FL (Santini *et al.*, 2019). According to Lusardi and Mitchell (2014), males have higher KND and perceive financial calculations as easy and simple as compared to females. Individuals with superior education were also found to have better knowledge and literacy as compared to those with lower educational levels (Atkinson and Messy, 2012). Accordingly, the following can be hypothesized:

H2. Financial knowledge has a positive impact on financial literacy.

H2a–c. Age, gender and education will moderate the effect of KND on FL.

BHV consists of observable financial outcomes of a particular individual (Gudmunson *et al.*, 2016). Investing, budgeting, saving and planning are key indicators of one's BHV (Tang and Baker, 2016). Grohmann (2018) conveys that individuals with higher levels of FL are more likely to engage in favorable financial decisions. BHV was also found to have a positive association with FL (Atkinson and Messy, 2012). Although females are keen on monitoring finances and budgeting, their lack of financial education influences their final BHV (OECD, 2013), which explains why males scored higher in BHV in contrast to females (Dwivedi *et al.*, 2015). Based on the above, the following can be hypothesized:

H3. Financial behavior has a positive impact on financial literacy.

H3a–c. Age, gender and education will moderate the effect of financial behavior on financial literacy.

ATT can be defined as the combination of information, emotions and concepts that are associated to the predisposition to behave unfavorably or favorably in financial situations (Hogarth and Hilgert, 2002). It can be either a judgment, state of mind or a view that accepts or rejects financial management practices based on psychological inclination (Parrotta and Johnson, 1998). ATT shapes how an individual manages his spending, saving and investing activities. Prior literature suggests that positive ATT enhances FL (Heuberger *et al.*, 2018). According to Dwivedi *et al.* (2015), female respondents scored higher with regard to ATT as opposed to their males. Thus, it can be hypothesized that:

H4. Financial attitude has a positive impact on financial literacy.

H4a–c. Age, gender and education will moderate the effect of financial attitude on financial literacy.

PNOR are another key determinant of FL. Parents significantly impact the monetary skills and the final knowledge of their offspring (Sabri *et al.*, 2020). They are remarkably persuasive in incorporating money-related knowledge in the minds of their kids (Luo *et al.*, 2010). In general, children are considered as financial replicas of their parents (Sundarasen *et al.*, 2016). Hence, a significant part of FL and monetary learning derive from the KND and influence of the parents (Clarke, 2005). According to Gutter *et al.* (2010), females encounter more learning opportunities by discussing with parents and observing their financial decisions. Accordingly, it can be hypothesized that:

H5. Parental norms have a positive impact on financial literacy.

H5 a–c. Age, gender and education will moderate the effect of parental norms on financial literacy.

Indebtedness (DEBT) was observed to be one of the major issues that face society today (Azma *et al.*, 2019). It is mainly caused by suboptimal BHV and/or the lack of FL (Lebdaoui and Chetioui, 2021). Previous studies revealed a significant relationship between indebtedness and FL (Flores and Vieira, 2014). This is consistent with the idea that FL positively influences long run financial outcomes (Azma *et al.*, 2019), as it determines whether savings are sufficient to sustain future consumption (Rahman *et al.*, 2020). Ward and Lunch (2019) further argue that better financial and income-related decisions are directed impacted by FL. Lastly, Lebdaoui and Chetioui (2021) revealed that education influenced indebtedness, with higher rates observed among individuals with greater levels of education, whereas age was found to have no significant influence. Thus, the following can be hypothesized:

H6. Financial literacy has a negative impact on indebtedness.

H6a–c. Age, gender and education will moderate the effect of financial literacy on indebtedness.

FL facilitates habitual transactions and accumulation of wealth (Sundarasen *et al.*, 2016). It is key to avoiding money-related issues (Arianti, 2018). In the present framework, FL refers to generating and producing WEL based on personal skills and knowledge (Fernandes *et al.*, 2014). This suggests that greater WEL requires higher knowledge about managing money (Braunstein and Welch, 2002). While a number of studies confirmed the positive impact of FL on WEL (Taft *et al.*, 2013), others suggest no significant influence (Prakash *et al.*, 2022). Prior research also suggests that the impact of FL on WEL is influenced by demographic variables (Prakash *et al.*, 2022). Hence, it can be hypothesized that:

H7. Financial literacy has a positive impact on financial well-being.

H7a–c. Age, gender and education will moderate the effect of financial literacy on financial well-being.

In view of its significant impact on WEL, FL has been investigated in several academic fields, namely psychology, financial counseling, decision-making of consumers, economics and service marketing (Brüggen *et al.*, 2017). Maintaining a healthy balance between saving and spending yields personal and WEL in the long run (Van Praag *et al.*, 2003). In contrast, consistent over-indebtedness increases the likeliness of experiencing depressive symptoms (Hojman *et al.*, 2016). In case of a financial emergency, limited reserves engender financial hardship and great difficulty. Emerging adults have increasing levels of indebtedness, which is inversely linked with well-being in different aspects of life (Serido and Deenanath, 2016; Lebdaoui *et al.*, 2021). In the context of our study, we presume that indebtedness negatively impacts WEL. Thereby, the following hypothesis can be proposed:

H8. Indebtedness has a direct impact on financial well-being.

Based on the above, the current study proposed the research model presented in Figure 1.

3. Methods

3.1 Measures

All constructs were borrowed, with minor adjustments, from prior studies. The questionnaire scales and items were presented in French, as it is the most frequently used among Moroccans

(Chetioui *et al.*, 2021a, b; Lebdaoui *et al.*, 2022). We also opted for the back-translation technique (Chetioui *et al.*, 2024a, b, c) to translate all items from English to French. Demographic questions relating to age, gender, education, income and job were also incorporated at the end of the questionnaire.

3.2 Sample and data collection

In January 2021, a pilot survey was conducted with 20 respondents to filter the questions and obtain additional feedback on the content and structure of the final items. The respondents of the pilot study were asked to deliver feedback when the questions were not clear. They also responded to all questions by following the instructions. The items were adjusted based on the pilot test recommendations. The pilot survey data was not included in the final analysis.

For the practicality of our study, we opted for a nonprobability sampling method, combining convenience and purposive sampling. The questionnaire was issued on WhatsApp, Messenger, emails and Facebook, as a voluntary selection method where individuals accepted to take part of the study (Lebdaoui and Chetioui, 2020). Respondents were asked to complete the questionnaire and share it with other parties. Throughout a four months' period (February through May 2021), a total of 900 respondents successfully completed the questionnaire. About 848 valid responses were maintained (94.22%), while 52 responses were rejected for missing or abnormal answers. The valid responses were analyzed to assess reliability, validity and appropriateness for hypotheses testing.

Our analysis of the sample descriptive statistics suggests an equal gender distribution among respondents, with 439 (51.8%) males and 409 (48.2%) females. As for age, 422 respondents belong to generation Z while the remaining belong to other age generations. The sample accounts for high education levels as 71.6% of participants have either a bachelor's degree or more and only 28.4% have no bachelor's degree. Concerning the income distribution, 31.6% of respondents earned less than 3,000 Moroccan dirham (MAD), 11.0% earned between 3001 MAD and 5000 MAD, 23.6% earned between 5001 MAD and 7000 MAD, 18.0% earned between 7001 MAD and 10,000 MAD, and 15.8% earned more than 10,001 MAD. This includes a share of 66.6% of respondents that experienced taking a loan from either banks, friends, or family members.

4. Results

Structured equation modeling (SEM) is widely used in behavioral finance research as an advanced statistical technique using a combination of statistical data and qualitative causal assumptions (Henseler *et al.*, 2009). The use of Partial least squares (PLS) was deemed appropriate due to: (a) the initial stage of the theoretical development; and (b) the novelty of the model and (c) the complexity of the study's structural relationships. First, we examine the measurement model to assess the convergent and discriminant validity. Then, we move to testing the structural relationships proposed in the posited conceptual model. SmartPLS 4.0 was used for data analysis.

4.1 Assessment of the measurement model

First, to analyze the indicator reliability, the loadings should be higher than 0.7 (Chin, 1998; Hair *et al.*, 2010). All items have loadings higher than 0.7, which confirms that the indicator reliability is achieved. Second, construct reliability is assessed using Cronbach's alpha (CA) and the composite reliability (CR), which should be above the threshold of 0.7 (Chin, 1998; Henseler *et al.*, 2009). Our results also suggest that all CR and CA values exceed 0.7, confirming the constructs' reliability. Finally, all Average Variance Extracted (AVE) values are greater than the threshold of 0.5 (Hair *et al.*, 2010; Henseler *et al.*, 2009), confirming the convergent reliability (See Table 1).

Table 1. Factor loadings, composite reliabilities, Cronbach's alpha and average variance extracted ($n = 848$)

Constructs	Loadings	CR	CA	AVE	Constructs	Loadings	CR	CA	AVE
Financial attitude		0.927	0.904	0.719	*Financial socialization*		0.851	0.741	0.655
ATT1	0.874				FSOC1	0.789			
ATT2	0.892				FSOC2	0.829			
ATT3	0.828				FSOC3	0.810			
ATT4	0.810								
ATT5	0.831								
Financial behavior		0.879	0.828	0.594	*Financial well being*		0.860	0.796	0.608
BHV1	0.815				WEL1	0.738			
BHV2	0.718				WEL2	0.711			
BHV3	0.826				WEL3	0.856			
BHV4	0.743				WEL4	0.805			
BHV5	0.834								
Financial knowledge		0.901	0.865	0.646	*Indebtedness*		0.728	0.750	0.504
KND1	0.805				DEBT 1	0.965			
KND2	0.829				DEBT2	0.731			
KND3	0.804				DEBT3	0.893			
KND4	0.814				DEBT4	0.775			
KND5	0.766								
Financial literacy		0.796	0.795	0.535	*Parental norms*		0.752	0.804	0.565
FL1	0.703				PNOR1	0.768			
FL2	0.789				PNOR2	0.718			
FL3	0.794				PNOR3	0.945			
FL4	0.757								
FL5	0.702								
FL6	0.989								

Note(s): All item loadings. Composite reliabilities (CR) and Cronbach's alphas (CA) are above the 0.7 threshold, while the average variance extracted (AVE) is above the 0.5 threshold, confirming the structural model convergent validity

Source(s): Authors' own work

With regards to the discriminant validity, it is assessed using the HTMT criterion as suggested by Hair and Alamer (2022). As illustrated in Table 2, all HTMT values are below the threshold of 0.9 (Henseler *et al.*, 2015). Therefore, the measurement model is satisfactory, and constructs can be used to test the conceptual model.

4.2 Assessment of the structural model

Following the assessment of the measurement model, it is now possible to assess the structural model. We used a bootstrapping of 5,000 resamples to estimate the statistical significance of path coefficients (Chetioui *et al.*, 2024a, b, c). According to Chin (1998), the coefficient of determination (R-square) is a crucial criterion for assessing the structural model. The coefficient of determination should be above 0.2 to be considered moderate.

First, 40.5% of the variation in FL can be explained by the factors proposed in our conceptual model. As expected, the hypotheses of FSOC ($\beta = 0.146$; $p < 0.01$), KND ($\beta = 0.300$; $p < 0.01$), BHV ($\beta = 0.331$; $p < 0.01$), ATT ($\beta = 0.225$; $p < 0.01$), and PNOR ($\beta = 0.169$; $p < 0.01$) are all statistically significant with positive coefficients. In line with prior literature, our results indicate that the higher the levels of these variables, the higher is FL. Therefore, hypotheses H1, H2, H3, H4, and H5 are supported.

Table 2. Heterotrait-monotrait ratio (HTMT)

	Financial attitude	Financial behavior	Financial knowledge	Financial literacy	Financial socialization	Financial well being	Indebtedness	Parental norms
Financial attitude								
Financial behavior	0.756							
Financial knowledge	0.671	0.660						
Financial literacy	0.198	0.235	0.371					
Financial socialization	0.628	0.495	0.481	0.130				
Financial well being	0.521	0.659	0.641	0.253	0.372			
Indebtedness	0.054	0.126	0.065	0.121	0.164	0.127		
Parental norms	0.463	0.441	0.462	0.131	0.587	0.457	0.143	

Note(s): All HTMT values are below the threshold of 0.9, confirming the structural model discriminant validity
Source(s): Authors' own work

Second, the research explains 21.1% of the variation in indebtedness through the conceptual model. Surprisingly, our findings indicate that FL does not impact indebtedness ($\beta = 0.105$; $p > 0.05$), and H6 is rejected.

Finally, the model explains 47.9% of the variance in WEL. Our results indicate that FL exhibits a statistically significant positive impact on WEL ($\beta = 0.202$; $p < 0.01$), supporting H7. Still, indebtedness had no significant impact on respondents' WEL ($\beta = 0.066$; $p > 0.05$), not supporting H8. In summary, and as illustrated in Table 3, out of a total of 8 hypotheses in the model, 6 are supported and 2 are not.

4.2.1 Multi-group analysis (MGA). To explain the inter-group variations in individual data group model estimations, a MGA is performed. The Henseler-MGA nonparametric technique was used to evaluate the differences between path coefficients among the different groups (Hair *et al.*, 2017). As can be illustrated in Table 3, the *p*-values of the differences in path coefficients between females and males for the structured associations hypothesized in H3a, H4a, H5a, H6a, and H7a are all above 5%. Therefore, no significant difference between males and females was proved in the above-mentioned structural relationships, rejecting the moderating effect of gender. However, significant differences are noticed in H1a ($\beta = 0.152$; $p < 0.01$), H2a ($\beta = -0.160$; $p < 0.01$), and H7a ($\beta = 0.141$; $p < 0.01$). The positive coefficients

Table 3. Path coefficients for the direct effects (all respondents) and the multi-group analysis (MGA)

	Relationship	All respondents (*n* = 848)		Female *vs* male (*n* = 409) (*n* = 439)		Gen Z *vs* other generations (*n* = 422) (*n* = 426)		Bachelor or more *vs* others (*n* = 607) (*n* = 241)	
		β	*p*-value	β	*p*-value	β	*p*-value	β	*p*-value
H1	Financial socialization → Financial literacy	0.146	*0.000*	0.152	*0.001*	0.022	0.816	−0.019	0.873
H2	Financial knowledge → Financial literacy	0.300	*0.000*	−0.160	*0.004*	0.051	0.570	0.132	*0.001*
H3	Financial behavior → Financial literacy	0.331	*0.000*	0.011	0.911	0.053	0.584	0.154	*0.000*
H4	Financial attitude → Financial literacy	0.225	*0.003*	−0.063	0.519	−0.061	0.563	0.137	*0.003*
H5	Parental norms → Financial literacy	0.169	*0.000*	−0.150	0.610	0.189	*0.001*	−0.272	0.093
H6	Financial literacy → Indebtedness	0.105	0.339	−0.229	0.221	0.125	*0.002*	0.049	0.799
H7	Financial literacy → Financial well being	0.202	*0.000*	0.141	*0.002*	0.064	0.308	−0.044	0.518
H8	Indebtedness → Financial well being	0.066	0.277	−0.137	0.232	0.122	0.480	−0.057	0.744

Note(s): The results are based on the two-tail test at 95% confidence level. The *p*-values of the structural relations hypothesized in H1. H2. H3. H4. H5. H7 are all below the 5% threshold, supporting the aforementioned hypotheses (H6 and H8 were not supported as the *p*-values were above 0.05). As for the multi-group analysis (MGA), the *p*-values of the difference in path coefficients for the structural relations reflects whether there is a significant difference between different groups of respondents (i.*e.* Males *vs* females. Gen Z *vs* other generations, and bachelor's degree or more *vs* others)
Values in italic denote statistical significance at 5% level
Source(s): Authors' own work

of H1a and H7a suggests that FSOC has a high impact on females compared to males when determining FL while FL has a high impact on females compared to males when determining indebtedness. But for the negative coefficient of H2a, it indicates that KND has a more significant impact on male in determining FL compared to females.

For the moderating effect of age, no significant difference between gen Z and other generations is found except in the relationship between PNOR and FL ($\beta = 0.189$; $p < 0.01$), and the relationship between FL and indebtedness ($\beta = 0.125$; $p < 0.01$), supporting H5b and H6b. These findings indicate that PNOR exhibit higher impact on gen Z in determining their FL. Gen Z were also found to take fewer loans when they are financially literate as compared to older generations.

Finally, we assessed the difference between respondents with a bachelor degree or more, and those without (others as illustrated in Table 3). Our findings indicate that KND ($\beta = 0.132$; $p < 0.01$), BHV ($\beta = 0.154$; $p < 0.01$), and ATT ($\beta = 0.137$; $p < 0.01$) exhibit more impact on respondents with higher educational levels. Therefore, H2c, H3c, and H4c are supported.

4.2.2 Importance–performance matrix (IPMA). To assess the relative importance and performance of each construct for FL, an additional analysis was conducted using the IPMA (Ringle and Sarstedt, 2016). Our results suggest that KND is the most important antecedent of FL (0.631), followed by BHV (0.561) and PNOR (0.512). In terms of performance criteria, KND and BHV have the highest performance while ATT has the minimum value (The IPMA table is available from the author upon request).

4.2.3 Model goodness of fit (GoF). Finally, the goodness of fit (GoF) test serves as an important indicator of whether the model has sufficient global PLS model validity, ensuring that the model adequately represents the data (Schermelleh *et al*., 2003). In our study, the calculated GoF value of 0.845 exceeds the established threshold of 0.36, which suggests that our model demonstrates strong global validity. This result provides confidence in the robustness and reliability of the model's fit to the data. For further transparency and reproducibility, GoF calculation details are available from the authors upon request.

5. Discussion

While the study's proposed integrated framework mainly builds upon existing literature, it offers novel insights into FL and its predictors. First, while prior studies have recognized the importance of FSOC, KND, and BHV in shaping FL (Xiao and Porto, 2017; Grohmann, 2018), the current research extends this understanding by using an inclusive structural equation model (SEM) to analyze their combined effects in an emerging context (i.e. Morocco). Additionally, we introduce PNOR as an influential factor, aligning with previous studies (Dwivedi *et al*., 2015; Sabri *et al*., 2020), while providing a deeper understanding of its role across various demographic groups. Our study also contributes to a more refined understanding of how these factors influence FL by integrating gender, age, and education as moderators. While gender and education have been considered in earlier works, our MGA reveals gender-specific differences in the impact of FSOC and knowledge on FL, as well as variations between Gen Z and other generations regarding PNOR and BHV. This emphasizes the need for tailored financial education programs that consider these demographic differences. In terms of methodological choice, the use of PLS for data analysis differentiates our approach from earlier studies that primarily relied on more traditional regression techniques. This methodological choice allowed us to examine the structural relationships in a more flexible way, accommodating the complexities of the variables involved. Our findings confirmed the significant relationships proposed in prior studies, while providing new evidence that FL does not necessarily impact indebtedness, contrary to what previous research suggests (Flores and Vieira, 2014; Lebdaoui and Chetioui, 2021). Finally, the use of the IPMA offers additional insights by highlighting that KND, BHV, and PNOR are the most significant antecedents of FL, whereas ATT shows the least impact.

5.1 Theoretical implications

First, FSOC has been validated as a key predictor of individuals' FL. This is consistent with the findings of prior studies (Xiao and Porto, 2017). As a subcategory of human socialization, FSOC underlines how individuals are guided to incorporate their surroundings' financial attitudes, norms, and values into their daily behavior and thinking (Gudmunson *et al.*, 2016). Individuals' surroundings may incorporate family members, colleagues, religious and educational institutions as well as social media and television. When an individual is surrounded by financial literate people, he is more likely to develop sound FL that he can use in daily decisions.

Second, KND was found to have a significant positive impact on respondents' FL. This is, as well, in line with the findings of prior studies suggesting a direct effect of KND of FL (Santini *et al.*, 2019; Lusardi and Mitchell, 2014). Individuals with a better understanding of financial information, products and risks are more likely to develop better FL and therefore make sound financial decisions.

Another determining factor of FL is BHV. Our findings suggest BHV as another predictor of FL. This is consistent with the findings of prior studies (Grohmann, 2018; Santini *et al.*, 2019). Indeed, FL shape financial behaviors like future planning and financial security building (Atkinson and Messy, 2012).

In line with the findings of prior research, our findings also confirm ATT as a determinant of FL (Dwivedi *et al.*, 2015; Heuberger *et al.*, 2018). ATT reflects the combination of information, emotions and concepts that are associated to the predisposition to behave unfavorably or favorably in financial situations. Individuals with a good ATT tend to possess good levels of FL. It also shapes how individuals manage their spendings, savings and investments.

The last antecedent of FL is PNOR. In line with extent literature (Dwivedi *et al.*, 2015; Sabri *et al.*, 2020; Serido and Deenanath, 2016), our findings confirm that parents are remarkably persuasive in transferring FL to their kids. In that same context, individuals with financial literate parents are more likely to have a good level of FL.

Finally, based on the IPMA analysis, our findings suggest KND, BHV and PNOR as the most important antecedents of FL, while ATT as the construct having the lowest impact.

While FL was validated as a main determinant of WEL, it had no significant impact on individuals' indebtedness. Indeed, indebtedness was observed to be one of the major issues facing individuals from different social classes (Azma *et al.*, 2019). While prior research (Flores and Vieira, 2014; Lebdaoui *et al.*, 2021) revealed that FL is negatively associated with individuals' indebtedness, our findings suggest no significant impact of FL on indebtedness. We also found that indebtedness has no effect on WEL. Indeed, while most indebtedness studies associate it with unsound financial decisions and status, we believe that individuals with good FL levels can also engage in debt. Debt might be considered bad when it is not possible to repay or when it does not offer any long-term benefits. Still, financially literate individuals can engage in a loan to finance things that can offer a good return on investment. FL was also validated as a key antecedent of WEL, which is consistent with prior findings (Braunstein and Welch, 2002b; Santini *et al.*, 2019; Sundarasen *et al.*, 2016). This suggests that WEL requires good knowledge and financial management skills (i.e. FL).

For the moderating effect of gender, age, and education in affecting the prior discussed relationships, various conclusions are derived. First, FSOC has a higher influence on FL for females compared to males, which is the opposite of the impact of KND on FL. This means that females benefit more from FSOC compared to KND to build higher levels of FL in Morocco, which is the opposite for males. Additionally, the level of indebtedness is more likely to be impacted by FL for females compared to males. Second, results also indicate that gen Z is more likely to be influenced by PNOR in determining their FL, and is more likely to have their level of indebtedness impacted by their FL. Finally, results indicate that education is key to equipping individuals with more KND, more financial behaviors, and positive financial attitudes, which influences the FL of individuals with a bachelor's degree or more compared to less educated people. Finally, our findings suggest that KND, BHV, and PNOR are the best predictors of individuals' FL in terms of importance and performance, respectively.

5.2 Practical implications

Our findings suggest valuable insights into how FL and well-being can be enhanced, particularly during times of economic stagnation. In times of economic stagnation and uncertainty, having a strong foundation in FL becomes essential. Our research underscores that KND, behavior, and PNOR are key predictors of FL. Policymakers and financial institutions can design targeted educational programs focusing on revealing practical skills related to budgeting, saving, and understanding financial products. Emphasizing behavioral aspects, such as the importance of financial discipline and long-term planning, can help individuals manage their finances more effectively in challenging economic times.

Our study also reveals significant differences in how demographic factors such as gender, age, and education impact FL. For instance, FSOC has a greater impact on females than males, while KND plays a larger role in FL for males. During economic stagnation, these insights can guide the development of tailored FL programs that cater to the unique needs of different groups. For example, financial education initiatives aimed at females could focus on improving financial decision-making skills, while programs for Gen Z might highlight the importance of responsible borrowing and managing debt, especially in times of economic uncertainty.

Our findings emphasize the crucial role of PNOR in shaping FL, especially among younger generations. Parents can play a critical role in teaching financial resilience, such as how to prioritize essential spending, manage limited resources, and make informed financial decisions. Such skills are especially valuable in today's challenging economic climate. Policymakers could also leverage this by promoting programs that educate parents about effective FSOC techniques. This approach will not only help improve individual FL but also fosters a culture of financial awareness that can be passed down to future generations.

Finally, while FL was found to directly impact WEL, our results reveal that indebtedness does not necessarily correlate with FL. During economic stagnation, individuals might struggle with managing debt, making WEL programs crucial. Financial counselors and advisors can use our findings to assist individuals in understanding how to manage debt responsibly while ensuring their WEL. Programs focused on debt management and responsible borrowing practices can help individuals avoid financial pitfalls, maintain economic stability, and plan for the future.

6. Limitations and future research

Despite the valuable theoretical and practical implications of our study, there are several limitations. First, the use of a nonprobability sampling technique for data collection may be criticized; however, adopting a probability sampling method was impractical within the context of our framework. Second, the data collection relied on self-reported information from consumers, which may introduce biases. Future research could explore FL using objective measures and indices. Additionally, this study was based on a cross-sectional analysis, and a longitudinal approach could provide deeper insights into consumer FL, indebtedness, and behaviors over time. Finally, the study focused on consumers from only one country. Testing the proposed framework in other countries would be valuable to account for cultural and economic differences, offering a broader perspective.

References

Adesina, F., Carnaghan, C. and Smith, J. (2024), "The relationship between financial education in young adults and financial literacy: a review of the literature in Canada and the United States", *Accounting Perspectives*, Vol. 24 No. 1, pp. 47-78, doi: 10.1111/1911-3838.12366.

Agnew, S. and Cameron-Agnew, T. (2015), "The influence of consumer socialization in the home on gender differences in financial literacy", *International Journal of Consumer Studies*, Vol. 39 No. 6, pp. 630-638, doi: 10.1111/IJCS.12179.

Arianti, B.F. (2018), "The influence of financial literacy, financial behavior, and income on investment decisions", *EAJ (Economic and Accounting Journal)*, Vol. 1 No. 1, pp. 1-10, doi: 10.32493/EAJ.V1I1.Y2018.P1-10.

Armantier, O., Koşar, G., Pomerantz, R., Skandalis, D., Smith, K., Topa, G. and Van der Klaauw, W. (2021), "How economic crises affect inflation beliefs: evidence from the Covid-19 pandemic", *Journal of Economic Behavior and Organization*, Vol. 189, pp. 443-469, doi: 10.1016/j.jebo.2021.04.036.

Atkinson, A. and Messy, F.-A. (2012), "Measuring financial literacy: results of the OECD/International Network on Financial Education (INFE) pilot study", *OECD Working Papers on Finance, Insurance and Private Pensions*, No. 15, OECD Publishing, doi: 10.1787/5k9csfs90fr4-en.

Azma, N., Rahman, M., Adeyemi, A.A. and Rahman, M.K. (2019), "Propensity toward indebtedness: evidence from Malaysia", *Review of Behavioral Finance*, Vol. 11 No. 2, pp. 188-200, doi: 10.1108/RBF-05-2017-0046/FULL/XML.

Braunstein, S. and Welch, C. (2002), "Financial literacy: an overview of practice, research, and policy", *Federal Reserve Bulletin*, Vol. 88, pp. 445-457.

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

Bucher-Koenen, T., Lusardi, A., Alessie, R. and van Rooij, M. (2017), "How financially literate are women? An overview and new insights", *Journal of Consumer Affairs*, Vol. 51 No. 2, pp. 255-283, doi: 10.1111/joca.12121.

Chetioui, H., Bouchikhi, Y.E., Makhtari, M., Sahli, M. and Lebdaoui, H. (2024c), "An investigation of the impact of financial literacy on households' financial well-being: an emerging market study", *International Journal of Economics and Financial Issues*, Vol. 14 No. 3, pp. 97-105, doi: 10.32479/ijefi.15840.

Chetioui, Y., Butt, I. and Lebdaoui, H. (2021a), "Facebook advertising, eWOM and consumer purchase intention: Evidence from a collectivistic emerging market", *Journal of Global Marketing*, Vol. 34, pp. 220-237, doi: 10.1080/08911762.2021.1891359.

Chetioui, Y., El Bouchikhi, Y., Lebdaoui, H., Ennassiri, M., Jannah, H., Yunsi, G. and Ghamas, A. (2024a), "Modeling the socio-economic factors affecting Islamic insurance adoption: a structural equation modeling analysis", *International Journal of Economics and Financial Issues*, Vol. 14 No. 3, pp. 106-114, doi: 10.32479/ijefi.16047.

Chetioui, Y., Lebdaoui, H., Belouali, Z. and Sarea, A. (2024b), "Antecedents of Murabaha home financing among Muslim household – an integrated framework", *International Journal of Social Economics*, Vol. 51 No. 12, pp. 1646-1661, doi: 10.1108/IJSE-10-2022-0680.

Chetioui, Y., Lebdaoui, H. and Chetioui, H. (2021b), "Factors influencing consumer attitudes toward online shopping: the mediating effect of trust", *EuroMed Journal of Business*, Vol. 16, pp. 544-563, doi: 10.1108/EMJB-05-2020-0046.

Chetioui, H., Lebdaoui, H., Satt, H., Chetioui, Y. and Makhtari, M. (2025), "How does financial literacy contribute to Muslim females' financial inclusion: the moderating effect of age and education using PLS-MGA", *Journal of Islamic Marketing*, doi: 10.1108/JIMA-02-2024-0072.

Chin, W.W. (1998), "The partial least squares approach to structural equation modeling", in Marcoulides, G.A. (Ed.), *Modern Methods for Business Research*, Psychology Press, pp. 295-336.

Chowa, G.A.N. and Despard, M.R. (2014), "The influence of parental financial socialization on youth's financial behavior: evidence from Ghana", *Journal of Family and Economic Issues*, Vol. 35, pp. 376-389, doi: 10.1007/s10834-013-9377-9.

Clarke, M.C. (2005), "The acquisition of family financial roles and responsibilities", *Family and Consumer Sciences Research Journal*, Vol. 33, pp. 321-340, doi: 10.1177/1077727X04274117.

Deacon, F. and Firebaugh, F.M. (1988), *Family Resource Management: Principles and Applications*, 2nd ed., Allyn and Bacon, MA.

Delavande, A., Rohwedder, S. and Willis, R.J. (2008), "Preparation for retirement, financial literacy and cognitive resources", *SSRN Journal*, doi: 10.2139/ssrn.1337655.

Dholakia, U., Tam, L., Yoon, S. and Wong, N. (2016), "The ant and the grasshopper: understanding personal saving orientation of consumers", *Journal of Consumer Research*, Vol. 43 No. 1, pp. 134-155, doi: 10.1093/JCR/UCW004.

Dwivedi, M., Purohit, H. and Mehta, D. (2015), "Improving financial literacy among women: the role of universities", *Economic Challenger*, Vol. 55, doi: 10.5958/0974-1852.2016.00011.0.

Fernandes, D., Lynch, J.G. and Netemeyer, R.G. (2014), Financial literacy, financial education, and downstream financial behaviors, Vol. 608, pp. 1861-1883, doi: 10.1287/MNSC.2013.1849

Flores, S.A.M. and Vieira, K.M. (2014), "Propensity toward indebtedness: an analysis using behavioral factors", *Journal of Behavioral and Experimental Finance*, Vol. 3, pp. 1-10, doi: 10.1016/J.JBEF.2014.05.001.

Goyal, K. and Kumar, S. (2021), "Financial literacy: a systematic review and bibliometric analysis", *International Journal of Consumer Studies*, Vol. 45 No. 1, pp. 80-105, doi: 10.1111/ijcs.12605.

Grohmann, A. (2018), "Financial literacy and financial behavior: evidence from the emerging Asian middle class", *Pacific-Basin Finance Journal*, Vol. 48, pp. 129-143, doi: 10.1016/J.PACFIN.2018.01.007.

Grusec, J.E. and Hastings, P.D. (2015), Handbook of socialization : theory and research.

Gudmunson, C.G. and Danes, S.M. (2011), "Family financial socialization: theory and critical review", *Journal of Family and Economic Issues*, Vol. 32, pp. 644-667, doi: 10.1007/s10834-011-9275-y.

Gudmunson, C.G., Ray, S.K. and Xiao, J.J. (2016), "Financial socialization", in Xiao, J.J. (Ed.), *Handbook of Consumer Finance Research*, Springer, Cham, pp. 61-72, doi: 10.1007/978-3-319-28887-1_5.

Gutter, M.S., Garrison, S. and Copur, Z. (2010), "Social learning opportunities and the financial behaviors of college students", *Family and Consumer Sciences Research Journal*, Vol. 38, pp. 387-404, doi: 10.1111/j.1552-3934.2010.00034.x.

Hair, J. and Alamer, A. (2022), "Partial least squares structural equation modeling (PLS-SEM) in second language and education research: guidelines using an applied example", *Research Methods in Applied Linguistics*, Vol. 1, 100027, doi: 10.1016/j.rmal.2022.100027.

Hair, J.F., Black, W.C., Babin, B.J. and Anderson, R.E. (2010), *Multivariate Data Analysis*, 7th ed., Pearson, New York.

Hair, J.F., Matthews, L.M., Matthews, R.L. and Sarstedt, M. (2017), "PLS-SEM or CB-SEM: updated guidelines on which method to use", *International Journal of Multivariate Data Analysis*, Vol. 1, p. 107, doi: 10.1504/IJMDA.2017.087624.

Henseler, J., Ringle, C.M. and Sarstedt, M. (2015), "A new criterion for assessing discriminant validity in variance-based structural equation modeling", *Journal of the Academy of Marketing Science*, Vol. 43, pp. 115-135, doi: 10.1007/s11747-014-0403-8.

Henseler, J., Ringle, C.M. and Sinkovics, R.R. (2009), "The use of partial least squares path modeling in international marketing", in Sinkovics, R.R. and Ghauri, P.N. (Eds), *Advances in International Marketing*, Emerald Group Publishing, pp. 277-319, doi: 10.1108/S1474-7979(2009)0000020014.

Heuberger, B., Kasman, M. and Hammond, R.A. (2018), "Recommendations for improving youth financial literacy education E C O N O M I C S T U D I E S AT B R O O K I N G S ii/// recommendations for improving youth financial literacy education".

Hira, T.K. (2012), "Promoting sustainable financial behaviour: implications for education and research", *International Journal of Consumer Studies*, Vol. 36 No. 5, pp. 502-507, doi: 10.1111/j.1470-6431.2012.01115.x.

Hojman, D.A., Miranda, Á. and Ruiz-Tagle, J. (2016), "Debt trajectories and mental health", *Social Science and Medicine*, Vol. 167, pp. 54-62, doi: 10.1016/J.SOCSCIMED.2016.08.027.

Huhmann, B. (2014), *Social and Psychological Influences on Financial Literacy. Routledge Companion to Financial Services Marketing*, Routledge, London, pp. 45-61.

Lebdaoui, H. and Chetioui, Y. (2020), "CRM, service quality and organizational performance in the banking industry: a comparative study of conventional and Islamic banks", *International Journal of Bank Marketing*, Vol. 38 No. 5, pp. 1081-1106, doi: 10.1108/IJBM-09-2019-0344.

Lebdaoui, H. and Chetioui, Y. (2021), "Antecedents of consumer indebtedness in a majority-Muslim country: assessing the moderating effects of gender and religiosity using PLS-MGA", *Journal of Behavioral and Experimental Finance*, Vol. 29, 100443, doi: 10.1016/j.jbef.2020.100443.

Lebdaoui, H., Chetioui, Y. and Guechi, E. (2021), "The impact of behavioral biases on investment performance: does financial literacy matter?", *International Journal of Economics and Financial Issues*, Vol. 11 No. 3, pp. 13-21, doi: 10.32479/ijefi.11318.

Lebdaoui, H., Chetioui, Y. and Harkat, T. (2022), "Propensity towards Islamic banking among non-users: a mixed-methods analysis", *Journal of Financial Services Marketing*, Vol. 29, pp. 1-22, doi: 10.1057/s41264-022-00178-5.

Luo, X.R., Li, H., Zhang, J. and Shim, J.P. (2010), "Examining multi-dimensional trust and multi-faceted risk in initial acceptance of emerging technologies: an empirical study of mobile banking services", *Decision Support Systems*, Vol. 49 No. 2, pp. 222-234, doi: 10.1016/j.dss.2010.02.008.

Lusardi, A. and Mitchell, O.S. (2014), "The economic importance of financial literacy: theory and evidence", *Journal of Economic Literature*, Vol. 52, pp. 5-44, doi: 10.1257/jel.52.1.5.

Lyons, A.C. and Kass-Hanna, J. (2019), "Financial inclusion, financial literacy and economically vulnerable populations in the Middle East and North Africa", *Emerging Markets Finance and Trade*, Vol. 57 No. 9, pp. 2699-2738, doi: 10.1080/1540496X.2019.1598370.

Munyuki, T. and Jonah, C.M.P. (2022), "The nexus between financial literacy and entrepreneurial success among young entrepreneurs from a low-income community in cape town: a mixed-method analysis", *Journal of Entrepreneurship in Emerging Economies*, Vol. 14 No. 1, pp. 137-157, doi: 10.1108/JEEE-01-2020-0020.

Neaime, S. and Gaysset, I. (2018), "Financial inclusion and stability in MENA: evidence from poverty and inequality", *Finance Research Letters*, Vol. 24, pp. 230-237, doi: 10.1016/j.frl.2017.09.007.

O'Connor, G.E., Newmeyer, C.E., Wong, N.Y.C., Bayuk, J.B., Cook, L.A., Komarova, Y., Warmath, D. and Lin Ong, L. (2019), "Conceptualizing the multiple dimensions of consumer financial vulnerability", *Journal of Business Research*, Vol. 100, pp. 421-430, doi: 10.1016/j.jbusres.2018.12.033.

OECD (2013), Financial literacy and inclusion: results of OECD/INFE survey across countries and by gender.

Philippas, N.D. and Avdoulas, C. (2019), "Financial literacy and financial well-being among generation-Z university students: evidence from Greece", *The European Journal of Finance*, Vol. 26 Nos. 4-5, pp. 360-381, doi: 10.1080/1351847X.2019.1701512.

Prakash, N., Alagarsamy, S. and Hawaldar, A. (2022), "Demographic characteristics influencing financial wellbeing: a multigroup analysis", *Managerial Finance*, Vol. 48 Nos. 9-10, pp. 1334-1351, doi: 10.1108/MF-09-2021-0466.

Rahman, M., Azma, N., Masud, M.A.K. and Ismail, Y. (2020), "Determinants of indebtedness: influence of behavioral and demographic factors", *International Journal of Financial Studies*, Vol. 8 No. 1, p. 8, doi: 10.3390/IJFS8010008.

Ringle, C.M. and Sarstedt, M. (2016), "Gain more insight from your PLS-SEM results: the importance-performance map analysis", *Industrial Management & Data Systems*, Vol. 116 No. 9, pp. 1865-1886, doi: 10.1108/IMDS-10-2015-0449.

Ruch, F.U. (2020), "Prospects, risks, and vulnerabilities in emerging and developing economies lessons from the past decade", *Policy Research Working Paper 9181, washingthon DC*, available at: http://www.worldbank.org/prwp

Sabri, M.F., Gudmunson, C.G., Griesdorn, T.S. and Dean, L.R. (2020), "Influence of family financial socialization on academic success in college", *Journal of Financial Counseling and Planning*, Vol. 31 No. 2, pp. 267-283, doi: 10.1891/JFCP-18-00052.

Santini, F.D.O., Ladeira, W.J., Mette, F.M.B. and Ponchio, M.C. (2019), “The antecedents and consequences of financial literacy: a meta-analysis”, *International Journal of Bank Marketing*, Vol. 37 No. 6, pp. 1462-1479, doi: 10.1108/IJBM-10-2018-0281/FULL/PDF.

Schermelleh-Engel, K., Moosbrugger, H. and Müller, H. (2003), “Evaluating the fit of structural equation models: tests of significance and descriptive goodness-of-fit measures”, *Methods of psychological research online*, Vol. 8 No. 2, pp. 23-74.

Serido, J. and Deenanath, V. (2016), “Financial parenting: Promoting financial self-reliance of young consumers”, in Xiao, J. (Ed.), *Handbook of Consumer Finance Research*, pp. 291-300, Springer, doi: 10.1007/978-3-319-28887-1_24.

Sivaramakrishnan, S., Srivastava, M. and Rastogi, A. (2017), “Attitudinal factors, financial literacy, and stock market participation”, *International Journal of Bank Marketing*, Vol. 35 No. 5, pp. 818-841, doi: 10.1108/IJBM-01-2016-0012/FULL/PDF.

Sundarasen, D.S., Rahman, M.S. and Danaraj, J. (2016), “Impact of financial literacy, financial socialization agents, and parental norms on money management”, *Journal of Business Studies Quarterly*, Vol. 8 No. 1, pp. 140-156.

Taft, M.K., Hosein, Z.Z. and Mehrizi, S.M.T. (2013), “The relation between financial literacy, financial wellbeing and financial concerns”, *International Journal of Business and Management*, Vol. 8 No. 11, pp. 63-75, doi: 10.5539/ijbm.v8n11p63.

Tang, N. and Baker, A. (2016), “Self-esteem, financial knowledge and financial behavior”, *Journal of Economic Psychology*, Vol. 54, pp. 164-176, doi: 10.1016/J.JOEP.2016.04.005.

Ullah, S. and Yusheng, K. (2020), “Financial socialization, childhood experiences and financial well-being: the mediating role of locus of control”, *Frontiers in Psychology*, Vol. 11 2162, doi: 10.3389/FPSYG.2020.02162/BIBTEX.

Van Praag, B.M.S., Frijters, P. and Ferrer-i-Carbonell, A. (2003), “The anatomy of subjective well-being”, *Journal of Economic Behavior & Organization*, Vol. 51, pp. 29-49, doi: 10.1016/S0167-2681(02)00140-3.

Ward, A.F. and Lynch, J.G. (2019), “On a need-to-know basis: how the distribution of responsibility between couples shapes financial literacy and financial outcomes”, *Journal of Consumer Research*, Vol. 45 No. 5, pp. 1013-1036, doi: 10.1093/JCR/UCY037.

Xiao, J.J. and Porto, N. (2017), “Financial education and financial satisfaction: financial literacy, behavior, and capability as mediators”, *International Journal of Bank Marketing*, Vol. 35 No. 5, pp. 805-817, doi: 10.1108/IJBM-01-2016-0009/FULL/PDF.

Zhang, C., Tang, J., Jiang, E., Chen, W., Guo, A. and Huang, Z. (2023), “Data-driven investigation of inflation concerns caused by COVID-19 pandemic in the US”, *Processes*, Vol. 11 No. 11, p. 3217, doi: 10.3390/pr11113217.

Zhao, H. and Zhang, L. (2020), “Talking money at home: the value of family financial socialization”, *International Journal of Bank Marketing*, Vol. 38 No. 7, pp. 1617-1634, doi: 10.1108/IJBM-04-2020-0174/FULL/PDF.

Corresponding author
Hajar Chetioui can be contacted at: hajar.chetioui@usmba.ac.ma