Fikri: Jurnal Kajian Agama, Sosial dan Budaya
https://journal.iaimnumetrolampung.ac.id/index.php/jf

Building Resilience in Sandwich-Generation Families: Financial Literacy and Emergency Fund Ownership from an Islamic Socio-Cultural Perspective

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Abstract
Families in the sandwich-generation shoulder responsibilities for children and elderly parents, creating significant financial strain. This study examines how demographic characteristics and financial literacy, encompassing knowledge, attitudes, and behaviour, affect emergency fund ownership among sixty sandwich-generation households in Bogor Regency, Indonesia. Data were collected through structured interviews and supported by several in-depth interviews to capture socio-cultural context. Descriptive statistics, Spearman/Kendal tau-b correlation, and logistic regression were employed in the analysis. The findings indicate that most respondents demonstrated low financial knowledge and poor financial behaviour, though their financial attitudes were moderately positive. More than half of the families lacked adequate emergency savings, with higher income significantly improving the likelihood of ownership, while a greater number of children reduced it. Importantly, financial knowledge emerged as a positive and significant predictor of emergency fund ownership. Beyond economic implications, the results highlight the socio-religious dimension of family resilience. In Islamic tradition, safeguarding wealth (*ḥifẓ al-māl*) and fulfilling intergenerational obligations reflect both moral duty and social solidarity. Thus, strengthening financial literacy not only enhances economic security but also aligns with Islamic values of prudence, responsibility, and care for family members. Integrating these insights contributes to a deeper socio-cultural understanding of resilience within Muslim families.

Article History
Received: 05-09-2025
Revised: 22-09-2025
Accepted: 01-10-2025

Keywords:
Emergency Fund Ownership; Financial Literacy; Islamic Socio-Cultural Values; Sandwich-Generation Families.

INTRODUCTION

The sandwich generation has become an increasingly significant socio-economic reality in Indonesia, where adults must simultaneously care for their children and elderly parents. According to the 2023 National Socio-Economic Survey (Susenas), many millennials and Gen Z individuals are financially supporting dependents across two generations (Badan Pusat Statistik, 2023a). This condition reflects broader demographic shifts: elderly people now constitute 11.75% of the national population, or around 31 million individuals, with an old-age dependency ratio of 17.08 (Badan Pusat Statistik, 2023b). In addition, an estimated 8.4 million Indonesians live in extended households that include both elderly parents and dependent children (Badan Pusat Statistik, 2022). Such patterns underscore the growing prevalence of intergenerational obligations within Indonesian families.

Financial strain often emerges when limited income must be divided between two generations. Many working-age adults report difficulties in managing financial shocks, as the lack of preparation in previous generations amplifies pressures on the current one (Artanti & Sobaya, 2024). In this context, financial resilience depends heavily on sound household management, particularly the ability to establish and maintain emergency savings.

Emergency funds are widely recognized as a vital component of financial resilience, especially for households with multigenerational obligations. Keynes' liquidity preference theory (Keynes, 1936) explains that individuals hold money for three motives: transactions, precaution, and speculation. Among these, the precautionary motive is most relevant here, highlighting the importance of maintaining reserves to address unexpected circumstances such as illness, income disruption, or family emergencies. However, in sandwich-generation households, the ability to set aside precautionary savings is frequently constrained by income limitations and financial behaviour.

The term "sandwich generation," first introduced by Miller (1981), refers to individuals who simultaneously provide care and financial support to both dependent children and aging parents (Pashazade et al., 2024). Its relevance has grown with rising life expectancy, delayed financial independence of adult children, and inadequate pension systems. These demographic and institutional shifts contribute to greater intergenerational dependency. Studies show that household income and educational attainment are strong predictors of financial stability, yet additional factors, such as family size, number of dependents, and caregiving intensity, also influence the ability to save (Rahman & Wongkaren, 2022; Wang et al., 2025). In Indonesia, co-residence with elderly parents reflects not only economic necessity but also deeply rooted cultural and religious norms of filial duty.

Financial literacy plays a central role in this process. It encompasses knowledge, attitudes, and behaviours that enable individuals to plan and act prudently in financial matters (Sabri & Zakaria, 2015; Lusardi, 2019). Although Indonesia's financial literacy index has risen significantly—from 21.84% in 2013 to 65.43% in 2024 (Otoritas Jasa Keuangan & Badan Pusat Statistik, 2024)—many households still lack adequate knowledge and practices for saving and risk management. Empirical evidence consistently shows that individuals with greater financial knowledge are more likely to plan effectively, exercise discipline, and adopt behaviours conducive to long-term stability (Lusardi & Mitchell, 2007; Yew et al., 2017). Within the Islamic perspective, this resonates with the principle of *ḥifẓ al-māl* (protection of wealth), which calls for prudence in managing resources as part of the broader *maqāṣid al-sharīʻah*.

Beyond knowledge, financial attitude influences how individuals value and prioritize financial matters. A positive attitude may foster stronger commitment to saving and greater motivation to prepare for the future (Widjayanti et al., 2025). Yet favourable attitudes do not always translate into consistent practice, especially when constrained by insufficient income or competing obligations (Yeo et al., 2024). In Islamic teaching, attitudes of moderation, gratitude (*syukr*), and avoidance of extravagance (*isrāf)* align with the cultivation of prudent financial behaviour.

Financial behaviour reflects how money is actually managed in daily life, including budgeting, controlling expenditure, and allocating income for future needs (Potrich et al., 2015). Good financial behaviour is closely associated with preparedness for shocks. Households that regularly track expenses and maintain savings are more resilient to emergencies (Lusardi & Mitchell, 2011). In Muslim societies, such behaviours mirror traditions of thrift and collective responsibility, often reinforced through community mechanisms such as *zakāt, ṣadaqa,* and *infāq*. These traditions highlight how financial discipline is not only an individual practice but also embedded in wider religious and social systems.

The Knowledge-Attitude-Practice (KAP) framework provides a useful lens to explain the interaction of these dimensions. Knowledge informs attitudes, which in turn shape behaviour (Kadoya & Khan, 2020). This framework is particularly valuable in examining sandwich-generation households, where financial decisions must balance competing demands across generations. Integrating KAP with socio-religious values underscores that effective financial practices are influenced not only by cognitive factors but also by cultural expectations of solidarity and filial responsibility.

Emergency funds, ideally equivalent to three to twelve months of living expenses, function as essential buffers against unexpected events (Garman & Forgue, 2008; Shellyna et al., 2022). Yet surveys consistently show that a large proportion of Indonesian families are unable to meet even the minimum threshold. Previous studies have examined specific aspects, such as financial literacy as a bridge to stability (Dewi & Wiksuana, 2022) and income as a determinant of preparedness (Cong & Feng, 2021). However, few have explored how financial knowledge, attitudes, and behaviour jointly shape emergency fund ownership in sandwich-generation households, while also considering family structure factors such as household size and number of dependents.

Beyond economics, this issue resonates with Islamic values. The principle of safeguarding wealth (*ḥifẓ al-māl*) underscores the duty to protect family welfare, while teachings on prudent spending, avoiding *isrāf,* and preparing for uncertainties align with the concept of emergency savings. Caring for elderly parents while raising children reflects both the Qur'anic command of *birr al-wālidain* (dutifulness to parents) and the cultural expectation of solidarity within Muslim families. Thus, strengthening financial literacy in sandwich-generation households can be understood not only as an economic necessity but also as an expression of moral responsibility and intergenerational care.

Accordingly, this study offers several contributions. Theoretically, it builds on Keynes' Theory of Consumption by incorporating behavioural dimensions and family structure variables into the analysis of saving behaviour. Practically, it highlights how financial knowledge, attitudes, and behaviour interact with demographic realities to shape emergency fund ownership. Religiously and culturally, it frames financial preparedness as consistent with Islamic principles of moderation and prudent planning. By combining quantitative analysis with qualitative insights, this study contributes new evidence on how structural and cognitive factors interact to build resilience in multigenerational families.

The objectives of this study are to: (1) describe family characteristics, financial literacy levels, and emergency fund ownership among sandwich-generation families; (2) analyze the relationship between demographic and financial capability variables with emergency fund ownership; and (3) examine the combined influence of family characteristics, financial knowledge, attitudes, and behaviour on the likelihood of maintaining emergency savings.

METHODS

This study employed an explanatory research design to examine the relationship between family characteristics, financial literacy, and emergency fund ownership among sandwich-generation families. Research was conducted in Cibanteng Village, Ciampea District, Bogor Regency, West Java, purposively selected because of its high proportion of elderly residents (BPS Kabupaten Bogor, 2023). Data collection took place from March to May 2024.

A purposive sampling technique was used due to the absence of reliable data on sandwich-generation households. The population consisted of families in which wives simultaneously supported dependent children and co-residing elderly parents. Sixty respondents were selected after rigorous screening to ensure dual financial responsibility, with wives chosen as primary respondents given their role in household financial management. Although the sample size was relatively small, this reflects the rigorous screening process undertaken to ensure conceptual alignment with the operational definition of the sandwich generation. Particular care was taken to exclude households in which the direction or extent of financial support was unclear, ensuring that respondents genuinely bore dual financial responsibility across generations. The sample size was considered adequate as it met the minimum threshold for statistical analysis (Bujang et al., 2024; Uttley, 2019).

Primary data were obtained through structured questionnaires that addressed five main constructs, that is, family characteristics, financial knowledge, financial attitudes, financial behaviour, and emergency fund ownership. Family characteristics captured demographic such as age, education, occupation, income, family size, number of children, co-residence with elderly members, housing status, and elderly health condition. Financial knowledge was assessed using 15 dichotomous questions (Hilgert et al., 2003). Next, financial attitudes were measured with 15 statements on a four-point Likert scale, which was adapted from Amagir et al. (2020) and Potrich et al. (2015), while financial behaviour was examined with 12 indicators that were adapted from

Potrich et al. (2015). Finally, emergency fund ownership was measured following Kumajas and Wuryaningrat (2021) using a dichotomous measure (0 = no, 1 = yes).

The research instrument was adapted from previous studies and adjusted for the Indonesian context to ensure cultural and linguistic relevance. Accordingly, its validity and reliability were re-examined prior to the main analysis. Reliability was assessed using Cronbach's alpha, while construct validity was evaluated through factor loadings. Table 1 presents the results of the reliability and validity analysis for the variables financial knowledge, financial attitudes, and financial behaviour. The reliability values, which indicate internal consistency, are 0.786, 0.903, and 0.875 respectively. Since values above 0.70 are generally considered acceptable, all three variables demonstrate good reliability, with Financial Attitudes showing the highest consistency. The validity of each variable is represented by the range of factor loadings, which are 0.453-0.861 for financial knowledge, 0.425-0.836 for financial attitudes, and 0.348-0.835 for financial behaviour. Factor loadings above 0.40 are typically acceptable, and while some items fall slightly below the ideal threshold of 0.70, most items load sufficiently well onto their constructs. Overall, the findings suggest that the instrument used to measure these variables possesses strong reliability and acceptable validity, making it suitable for assessing financial knowledge, attitudes, and behaviour.

Table 1. The result of the reliability and validity of the research instrument

Variables	Reliability	Validity
Financial Knowledge	0.786	0.453-0.861
Financial Attitudes	0.903	0.425-0.836
Financial Behaviour	0.875	0.348-0.835

In addition, to gain a deeper understanding, in-depth interviews were conducted with eight wives from households that varied in income, saving practices, and family size. In-depth interviews explored financial practices, perceptions of emergency funds, and challenges in resource allocation, each lasting 45-60 minutes. Thematic analysis was applied to identify recurring patterns, which were used to contextualize the quantitative results.

Data processing included editing, coding, entry, and cleaning before analysis with SPSS. Variables were standardized into indices (0–100) following Chen and Volpe (1998), categorized as low (<60), moderate (60–79), and high (≥80). Each variable was scored and standardized into an index using the following formula:

$$Variable\ Index = \frac{Total\ Score - Minimum\ Score}{Maximum\ Score - Minimum\ Score} \times 100$$

Descriptive analysis summarized respondents' profiles, while Spearman and Kendall tau-b correlation tested relationships among variables due to the scale types and non-normal distribution, and logistic regression identified the influence of family and financial literacy factors on emergency fund ownership. For the logistic regression analysis, assumption testing was conducted. Multicollinearity among predictors was examined using Variance Inflation Factor (VIF), and the linearity of the logit for conto=inous variabels (wife's age, husband's age, family size, number of children, and total income) was assessed using the Box-Tidwell procedure.

RESULTS AND DISCUSSION

Characteristics of Sandwich Generation Respondents

The descriptive results show that 58.3% of husbands and 56.6% of wives fall into the late adulthood category, with average ages of 36.38 and 39.38 years, respectively. Education levels were predominantly secondary, as 80% of husbands and 60% of wives had completed high school. In terms of occupation, more than half of husbands (56.6%) worked as laborers, while over half of wives (51.6%) were not engaged in formal employment, and around one quarter (26.6%) worked as small-scale entrepreneurs.

Household size averaged five members, with most families (48.3%) raising two children, and ranging from four to eight. Combined income was modest, with nearly one-third of households (28.3%) earning IDR 3-4 million monthly. Reported incomes ranged between IDR 1.2 million and IDR 8.6 million. Housing status revealed that 55% owned their homes, while 43.3% lived in their parents' homes, yet still contributed to expenses and parental support.

In-depth interviews highlighted the dual responsibility of wives in their late thirties. One (38 years old, housewife) remarked, "*It feels heavy to divide my time and money between my children and my mother.*" This testimony illustrates the social and spiritual weight of *amānah* (trust) in Islam, aligning with *birr al-wālidain* (dutifulness to parents) alongside providing for children. Thus, respondents' experiences echo the dual caregiving role identified in earlier studies (Putri et al., 2022), showing how sandwich generation realities are not only economic but also moral.

Profile of Co-Residing Elderly Parents

Among co-residing elderly parents, 63.3% were early elderly (average age 66.12). Most lived with the wife's mother (60%) or husband's mother (35%), while fathers were less represented due to widowhood. The largest proportion of households reported a co-residence duration of 6–10 years (22.4%). For 71.6% of respondents, co-residence was primarily motivated by caregiving needs, while 28.8% reported that it was initiated at the parent's request.

Qualitative narratives reinforce cultural norms that caregiving often falls to the youngest child. One wife (38, housewife) explained, *"I live with my mother because she cannot stay alone after my father passed away, and it is our responsibility as children to take care of her."* Such practices are consistent with Qur'anic injunctions (Surah Luqmān:14) that command believers to honour their parents. Within Islamic thought, these responsibilities are understood as *'ibādah* (worship) and *'amal jāriyah* (ongoing good deeds), elevating caregiving beyond cultural duty to spiritual obligation.

The majority of elderly parents had no income and depended on adult children. Although 83.3% of respondents reported no major caregiving burden, 16.6% faced conditions such as stroke, cancer, thyroid disorders, or diabetes. Health coverage through BPJS alleviated part of the financial strain. Yet even with medical support, the coexistence of caregiving and financial obligations illustrates the precarity of sandwich households, echoing Lestari et al. (2021) who note pension inadequacies and intergenerational dependency in Indonesia. The data reinforces previous research that emphasizes the economic vulnerability of elderly populations without pensions (Rahman & Wongkaren, 2022). Co-residence provides practical and emotional support but often increases financial pressure on working-age households.

Financial Knowledge

The descriptive analysis shows that respondents' average financial knowledge score was 55.22 (SD = 21.26), placing more than half (53.3%) in the low category, while only 18.3% achieved a high level of knowledge (Table 2). These findings highlight limited understanding of key financial concepts such as budgeting, debt management, and saving.

Table 2. Distribution of Financial Knowledge Categories, Minimum-Maximum Values, Mean, and Standard Deviation

Financial Knowledge	n	%
Low	32	53.3
Moderate	17	28.3
High	11	18.3
Total	60	100.0
Minimum–Maximum	13.3–93.3	

Table 2. Distribution of Financial Knowledge Categories, Minimum-Maximum Values, Mean, and Standard Deviation

Mean ± Standard Deviation	55.22 ± 21.263

In-depth interviews confirmed the quantitative results. A 37-year-old entrepreneur explained, "*We only learn about money from our parents or trial and error, never from school or training*." Another respondent admitted she had never heard the term "emergency fund" before participating in this study. Such statements reinforce the persistent lack of formal financial education, especially among women in household financial management roles.

This gap is consistent with prior studies. Lusardi and Mitchell (2007, 2011, 2022) consistently show that limited financial knowledge restricts households' ability to plan and prepare for financial risks. Similar evidence from Yew et al. (2017) and Katnic et al. (2024) confirms that higher levels of financial literacy strengthen saving and investment decisions, even in low- and middle-income settings. The relatively low scores in this study suggest that sandwich-generation families are particularly vulnerable, as their dual obligations magnify the risks of inadequate knowledge.

From a theoretical perspective, these results align with Keynes' (1936) proposition that saving is often postponed until after consumption needs are met. Without sufficient financial knowledge, families may lack the tools to prioritize saving, even when small surpluses exist. Hence, knowledge functions as an enabler that bridges income with behaviour, allowing households to translate limited resources into precautionary savings.

In the Islamic socio-cultural context, the findings resonate with the principle of *ḥifẓ al-māl* (protection of wealth) within the *maqāṣid al-sharī'ah,* which emphasizes safeguarding resources for the benefit of dependents. Respondents' limited knowledge reflects missed opportunities to practice *tadbīr* (prudent planning) and to avoid *isrāf* (wastefulness). Embedding financial literacy into both formal schooling and informal, faith-based settings could therefore strengthen resilience. As Sabri and Zakaria (2015) argue, financial literacy must be positioned not only as technical competence but also as life skills education, aligning with values of moderation (*wasatiyyah*) and responsibility for family welfare.

Financial Attitudes

Respondents' average financial attitude score was 70.70 (SD = 9.87). Most (66.7%) were moderate, 21.7% positive, and 11.7% low (Table 3). Approximately two-thirds of the respondents (66.7%) were classified as having a neutral or moderate level of financial attitude category, suggesting that while they do not strongly reject or endorse financial responsibility, there is potential for further improvement. The proportion of respondents with a positive attitude remained relatively low (21.7%), which may reflect limited confidence, awareness, or motivation in managing financial matters effectively.

Table 3. Distribution of Financial Attitude Categories, Minimum-Maximum Values, Mean, and Standard Deviation

Financial Attitude	**n**	**%**
Low	7	11.7
Moderate	40	66.7
High	13	21.7
Total	60	100.0
Minimum–Maximum	57.77-93.33	
Mean ± Standard Deviation	70.70±9.87	

While respondents generally valued saving, competing needs limited action. A 39-year-old housewife said, "*We know saving is important, but when money is short, we just can't do it*". This highlights the dissonance between intention (*niyyah*) and action (*'amal*), which is consistent with

Shefrin & Thaler's (1988) findings on behavioural constraints. The finding aligns with Khasanah et al. (2023), who observed that attitudes alone do not guarantee proactive financial behaviour among sandwich-generation families. In Islamic terms, this reflects the tension between *niyyah* (intention) and *'amal* (action): valuing savings as an ideal but lacking the capacity to realize it in practice. The Qur'an emphasizes *tadbīr* (prudent planning) as a necessary complement to intention, urging believers to prepare for the future while meeting present obligations.

Thus, while financial attitude is moderately positive, its limited effect on emergency fund ownership suggests that interventions must go beyond shaping values. Programs should bridge the gap between conviction and practice by combining financial education with behavioural nudges and accessible savings mechanisms.

Financial Behaviour

The average financial behaviour score was only 51.11 (SD = 16.71) (Table 3). More than half (55%) were categorized as demonstrating poor financial behaviour, and only 5% exhibited good financial behaviour (Table 4). This indicates weakness in budgeting, saving, and expenditure management.

Table 4. Distribution of Financial Behaviour Categories, Minimum-Maximum Values, Mean, and Standard Deviation

Financial Behaviour	**n**	**%**
Low	33	55.0
Moderate	24	40.0
High	3	5.0
Total	60	100.0
Minimum–Maximum	27.78-80.56	
Mean ± Standard Deviation	51.11±16.715	

A recurring theme in interviews was the difficulty of maintaining savings due to family obligations. One (36, housewife) explained, "*Even if we try to save, unexpected requests from our children or parents always make the money disappear. We feel it is part of our duty as children, because that is also what our religion teaches us. But it leaves almost nothing left for emergencies.*" This illustrates tension between filial duty and financial sustainability. While caregiving is an *amānah* (trust) and an act of *birr al-wālidain* (dutifulness to parents), it often erodes the capacity to build precautionary reserves. Empirical research (Potrich et al., 2015; Lusardi & Mitchell, 2011) similarly shows that weak financial discipline reduces resilience to shocks. From an Islamic ethic, good financial behaviour requires avoiding *tabżīr* (extravagance), balancing obligations across dependents, and practicing *tadbīr* (prudent planning). Prior studies (Potrich et al., 2015; Johan et al., 2021) similarly found that budgeting and expenditure control are critical to household resilience. The findings highlight the urgent need to strengthen daily financial practices as a form of stewardship over family resources.

Emergency Fund Ownership

Although 43.3% of respondents were reported to own an emergency fund, the overall level of preparedness was considered inadequate. Among those with emergency funds, the majority had savings covering less than six months of household expenses. This amount is far below the recommended threshold for families, which is advised to reach up to 12 months of living costs. In terms of form, cash was by far the most commonly held type of emergency fund (88.46%), with much smaller proportions held in bank savings (7.69%) and gold or other valuables (3.84%). The remaining 56.7% of respondents were reported not to have any emergency fund. The most frequently cited reason was that income was entirely allocated to consumption (73.52%), while other reasons included having regular savings (11.76%), perceiving no need for an emergency fund

(11.76%), or having insufficient income (2.94%) (Table 5). These findings highlight a critical gap in both ownership and adequacy of emergency funds, suggesting the need for stronger financial planning and literacy interventions.

Table 5. Distribution of Families Based on Emergency Fund Ownership

Category	n	%
Emergency Fund Ownership		
No	34	56.7
Yes	26	43.3
Total	60	100.0
Amount of Emergency Fund Owned		
More than 6 months of family needs	2	7.69
Equal to 6 months of family needs	2	7.69
Less than 6 months of family needs	22	84.61
Total	26	100.0
Form of Emergency Fund Owned		
Cash	23	88.46
Bank Savings	2	7.69
Deposit	0	0.0
Gold, Diamonds	1	3.84
Others	0	0.0
Total	26	100.0
Reasons for Not Having an Emergency Fund		
Don't know about emergency funds		
Income is insufficient	1	2.94
Income is spent on consumption	25	73.52
Already have regular savings	4	11.76
Do not feel it is necessary	4	11.76
Total	34	100.00

The findings on emergency fund ownership among sandwich generation households reveal a critical gap not only in the rate of ownership but also in the adequacy and form of savings. While 43.3% of the respondents reported having some form of emergency fund (Table 4), the vast majority of these savings were insufficient to cover even six months of household expenses, falling short of both national and international recommendations for financial preparedness. This limited capacity reflects the broader financial vulnerability faced by sandwich generation families, who must juggle the financial demands of two dependent generations within the constraints of modest and often irregular income.

Households reported several reasons for not keeping emergency funds, the most frequent response was that their income was fully spent on daily necessities. This reflects income insufficiency, consistent with Keynes' view that savings are postponed when earnings barely exceed basic needs. In-depth interviews also confirmed that the lack of income was the main obstacle to build emergency funds. One participant, a 37 years old, farmer's wife noted, "*It is challenging to save money because our income only enough for food and electricity, so there is nothing left to save.*" Conversely, families with higher income reported greater flexibility to save, illustrating how income sufficiency functions as an enabler of precautionary savings. Individuals with greater income are better positioned to meet daily needs while setting aside funds for emergencies and investment (OECD, 2017). Interviews revealed that families who did save often framed it as a religious duty to provide security for their children and elderly parents, reflecting the Qur'anic call to protect dependents from hardship.

Moreover, a few participants believed their regular savings were sufficient, while others saw no different between their ordinary savings and emergency funds. Such perceptions may indicate a misunderstanding of the unique role of emergency reserves and the need for financial education that frames them not only as modern financial practice but also part of *ikhtiār* (effort) and *maṣlaḥah* (protection of dependents).

A deeper reflection on the form of emergency funds also provides insight into respondents' access to and trust in formal financial institutions. The dominance of cash savings (88.46%) over bank deposits or other assets indicates a preference, or perhaps a necessity, for liquidity and immediate accessibility (Table 4). While this may offer short-term flexibility, it may also leave households exposed to risks such as impulsive spending, lack of growth in value, and vulnerability to theft or emergencies that exceed liquid reserves. The lack of investment-oriented emergency savings, such as deposits or other growing assets, may indicate both gaps in finansial literacy and limited access to suitable financial services in rural low-incme settings.

The reliance on cash highlights both liquidity needs and limited trust or access to formal financial institutions. In interviews, respondents noted that small savings placed in banks were often diminished by fees, prompting them to keep money at home. One respondent (39, entrepreneur) explained, "*We prefer to keep cash at home because it is faster to use when something urgent happens, moreover, if the amount is small, saving it in the bank only gets eaten up by admin fees."* This practical wisdom reflects a pragmatic strategy for low-income households, but it also underscores financial literacy gaps and structural barriers to financial inclusion. This study also points to the unavailability of Sharia-compliant savings options, such as *wadī'ah* deposits and *muḍārabah* accounts, that could provide safer alternatives to manage their limited resources. Embedding these products into community financial education could help families strengthen emergency preparedness while remaining consistent with Islamic principles that encourage *tadbīr* (prudent planning) and discourage *isrāf* (wastefulness).

Overall, the low rate and adequacy of emergency fund ownership reflect both structural and behavioural constraints. Consistent with Dewi & Wiksuana (2022) and Shellyna et al. (2022), income insufficiency and weak financial practices remain barriers. From an Islamic socio-cultural view, this condition calls for a revival of financial ethics emphasizing *amānah,* moderation, and protection of dependents as acts of both worldly prudence and spiritual responsibility.

The Relationship Between Family Characteristics and Financial Knowledge, Financial Attitude, Financial Behaviour, and Emergency Fund Ownership

As the data did not meet the normality assumption, bivariate correlation were examined using Spearman's rho and Kendall's tau-b. The analysis (Table 6) highlighted several significant associations. Both wife's and husband's ages were negatively correlated with financial knowledge and financial behaviour, and wife's age was also negatively related to financial attitude. Additionally, older wives and husbands showed a lower likelihood of maintaining emergency funds. These findings suggest that aging may be associated with declining financial capability and preparedness, consistent with Lusardi and Mitchell (2022), who found that older individuals are not necessarily more financially capable and may struggle to adapt to modern financial practices. From an Islamic perspective, this reflects potential shortcomings in *tadbīr* (prudent planning), where older households continue to prioritize immediate consumption needs over structured preparation for uncertainty.

Education demonstrated a consistently positive influence. Wife's education was strongly correlated with financial knowledge, attitude, behaviour, and emergency fund ownership, while husband's education was significantly correlated with financial knowledge and attitude. These results emphasize the central role of women's education in strengthening household financial resilience. Interview narratives reinforced this point: a 37-year-old housewife explained, "*I only finished junior high school, so I never learned about emergency funds*." This finding aligns with prior studies (Ali et al., 2015; Johan et al., 2021; Senduk et al., 2024; Xiao & Porto, 2017), which document the role of education in enhancing financial cognition, decision-making, and intra-household communication. Embedding financial literacy into school curricula and faith-based education could further bridge these gaps, in line with Islamic injunctions against *isrāf* (wastefulness) and the encouragement of foresight (*tadbīr*).

Interestingly, family income, family size, and number of children did not exhibit significant correlations with financial knowledge, attitudes, behaviour, or emergency fund ownership in the bivariate analysis. This contrasts with much of the literature (Lusardi, 2019; Margaretha & Pambudhi, 2015) which emphasises the centrality of income sufficiency in financial preparedness. Nevertheless, qualitative interviews still reflected income as a barrier. As one 37-year-old street vendor explained, "*If our income is just enough for daily needs, saving is almost impossible*." This resonates with Keynes' (1936) consumption theory, where limited income leaves little scope for precautionary saving, and with Islamic perspectives on *rizq* (provision), where households are encouraged to balance wise resource management with trust in divine sustenance.

Finally, financial knowledge, attitudes, and behaviours were significantly correlated with emergency fund ownership in the correlation analysis, affirming the Knowledge-Attitude-Practice (KAP) framework (Kadoya & Khan, 2020). However, in the regression model, only financial knowledge retained independent significance, suggesting it is the most crucial driver once other factors are considered. In Islamic thought, this highlights the principle that *'ilm* (knowledge) should guide *'amal* (action), with financial preparedness and saving as acts of stewardship (*khilāfah*) over household resources.

Table 6. Relationship Between Family Characteristics and Financial Knowledge, Financial Attitude, Financial Behaviour, and Emergency Fund Ownership

Family Characteristics	**Financial Knowledge**	**Financial Attitude**	**Financial Behaviour**	**Emergency Fund Ownership**
Wife's age	-.770**	-.540**	-.752**	-.574**
Husband's age	-.425**	-0,235	-.420**	-.328*
Wife's education	.788**	.375**	.543**	.551**
Husband's education	.338**	.275*	0,244	.259*
Family size	-0,117	-0,139	-0,245	0,000
Number of children	-0,139	-0,068	-0,204	-0,087
Total income	0,094	-0,029	0,062	-0,013

Notes: *Significant at $p < 0.05$ **Significant at $p < 0.01$

The Influence of Family Characteristics, Financial Knowledge, Financial Attitude, and Financial Behaviour on Emergency Fund Ownership

The logistic regression analysis (Table 7) reported a Nagelkerke R^2 of 0.864, indicating that 86.4% of the variance in emergency fund ownership could be explained by the included variables. A Variance Inflation Factor (VIF) value of less than 5 indicates that there is no multicollinearity among the predictor variables. The Omnibus Test of Model Coefficients indicated that the logistic regression model with the included predictors was statistically significant, $\chi^2(11) = 60.07$, $p < .001$, demonstrating that the predictors collectively improve model fit compared to the null model. Furthermore, the Box-Tidwell test showed p-values greater than 0.05 for all continuous predictors, conforming that the linearity of the logit assumption was satisfied. These diagnostic results confirm that the regression estimates are methodologically robust, allowing the identified predictors of emergency fund ownership to be interpreted with greater confidence.

While several family characteristics such as family size, number of children, and household income did not show significant associations in the bivariate correlation analysis, they became significant predictors when tested simultaneously in the logistic regression model. This indicates that their effects emerge only after controlling for other household and financial factors

Financial knowledge had a significant positive effect (p = 0.026; B = 0.327), confirming that households with higher knowledge were more likely to maintain emergency savings. This aligns with Baptista & Dewi (2021) and Bakri & Hardi (2023), who found that knowledge enhances precautionary financial behaviour. Similar perspectives appear in studies of Muslim investors, who emphasize risk mitigation and Sharia compliance, prioritizing prudence and fairness over short-term profit (Primadhita, et al., 2025). In the present study, this framing resonates with sandwich-generation households, where emergency savings are viewed not only as rational financial planning but also as an *amānah* to protect dependents, avoid *isrāf,* and practice *tadbīr* in managing family resources. From an Islamic perspective, this finding illustrates how *'ilm* enables families to act with foresight and responsibility

Family size also showed a positive influence (p = 0.030; B = 6.917). Larger households, particularly those pooling resources, were more likely to build savings. In interviews, respondents described combining earnings among siblings as part of collective responsibility *(takaful)*, echoing Islamic social finance principles where mutual support strengthens resilience.

By contrast, the number of children exerted a significant negative effect (p = 0.038; B = -6.123), confirming evidence from Lugauer et al. (2019); Nadia et al. (2022); and West et al. (2017), that more dependents increase consumption pressures and limit saving. Respondents explained how children's education costs drained household income. This reflects the life-cycle hypothesis (van Bochove & Zuijderduijn, 2022) and underscores the strain of balancing multiple obligations despite the Qur'anic emphasis on planning for one's dependents.

Household income also had a significant positive effect (p = 0.022), consistent with Lusardi (2019) and Despard et al. (2020), showing that income sufficiency is a precondition for saving. Interviews confirmed that higher-income households could save "little by little" for emergencies, aligning with Keynes' precautionary motive and Islamic teachings on moderation and preparedness.

Interestingly, financial attitude and behaviour were not significant predictors in the multivariate model. This reflects findings by Khasanah et al. (2023) and Lamas & Labotka (2025), that positive attitudes alone do not guarantee action when resources are constrained. In Islamic thought, this gap reflects the principle that *niyyah* (intention) must be supported by '*amal* (action) and capacity, not just intention.

Table 7. The Influence of Family Characteristics, Financial Knowledge, Financial Attitude, and Financial Behaviour on Emergency Fund Ownership

Variables	**B**	**Exp(B)**	**Sig.**
Wife's age	-0.466	0.627	0.213
Husband's age	0.768	2.155	0.070
Wife's education	2.864	17.525	0.275
Husband's education	2.991	19.914	0.092
Family size	6.917	1009.228	0.030*
Number of children	-6.123	0.002	0.038*
Total income	0.000	1.000	0.022*
Financial knowledge	0.327	1.386	0.026*
Financial attitude	-0.197	0.821	0.095
Financial behaviour	0.205	1.228	0.112
Model diagnostics:			
Negelkerke R^2		0.864	
Cox & Snell R^2		0.644	
Variance Inflation Factor (VIF)		2.334	
Omnibus Test of Model Coefficient		$\chi^2(11) = 60.07$, $p < .001$	
Box-Tidwell test:		All p-values >.05	

Sig	0.000

*Note: *Significant at $p < 0.05$*

These findings can be linked to broader Islamic socio-cultural research on financial behaviours. A recent study on impulsive buying among Muslim students found that while Islamic norms like moderation and avoidance of *isrāf* impact financial views, they do not always lead to regular application (Desky et al., 2025). Islamic sources also show an awareness of advance provision. In Surah Al-Baqarah verse 240, the text speaks of providing a year's support for widows, a reminder of careful planning and family protection. Surah Yusuf verses 48-49 tells of storing grain in good years to withstand the years of famine. Taken together, this reminder parallels the modern idea of emergency funds (*Note: for clarity, the references are mentioned only in a general, non-exegetical sense).*

Our study found that sandwich-generation households prioritised emergency savings but struggled to implement them due to income limits and caregiving duties. These findings show the necessity for financial literacy programs that combine technical skills with faith-based instruction, despite the moral framework provided by Islamic socio-cultural values. This comparison lends credibility to our findings: while sandwich-generation families recognise saving as both a financial necessity and a moral responsibility, their ability to put it into practice is dependent on knowledge alignment, income capacity, and supportive cultural-religious frameworks.

CONCLUSION

This study demonstrates how family structure, financial literacy, economic capacity, and cultural-religious responsibilities together shape financial resilience of sandwich-generation families. The regression results show that having a large number of dependents, especially children, decreases the ability to keep emergency funds, whereas having a sufficient income and sound financial understanding increases the likelihood of doing so. On the other hand, families with more members may demonstrate stronger motivation to save as part of collective responsibility. Education, especially of wives, emerges as a key factor in strengthening financial capability and household preparedness. From a theoretical perspective, the results refine classical views of saving behaviour by emphasizing that household preparedness is not only determined by disposable income but also by cognitive and behavioural dimensions. Financial literacy is an essential part of resilience as it allows people to budget, plan, and recognize between emergency funds and ordinary savings. Within Islamic socio-cultural framework, preparedness is also understood as a moral obligation. Norms such as *tadbīr (*careful planning), the avoidance of *isrāf* (wastefulness), and the pursuit of *maṣlaḥah* (protection of dependents) frame saving not simply as financial prudence but as an act of responsibility and faith. These results directly highlight the need of incorporating financial literacy into life skills learning in schools, families, and communities. Practical guidance on emergency fund accumulation, saving, and budgeting should be adapted to the realities of multigenerational households. Financial institutions are encouraged to design products that are simple, easy to access, and aligned with Sharia principles, enabling low-income families to save without over reliance on cash. Additionally, social safety nets, vocational training, and income-generating programs can ease the pressures of dual caregiving.

To conclude, building resilience in sandwich-generation families requires a multidimensional-approach that integrates income support, financial education, and cultural-religious values. Recognizing financial literacy as a blend of technical knowledge and ethical responsibility enables families to foster consistent saving habits, protect household members, and strengthen solidarity across generations in ways that are consistent with Islamic principles.

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