

The Impact of Financial Stress, Financial Literacy, and Financial Attitude on Financial Management Practices

[Kesan Tekanan Kewangan, Literasi Kewangan dan Sikap Kewangan terhadap Amalan Pengurusan Kewangan]

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ABSTRACT

Effective financial management is a critical determinant of individual well-being and long-term economic stability. However, implementing sound financial practices is often complicated by the interplay of cognitive, psychological, and behavioral factors. This study investigates the influence of financial stress, financial literacy, and financial attitude on individual financial management behavior. Utilizing a quantitative research design, data were collected via a structured survey from a sample of 474 respondents. Data analysis was conducted in SPSS, using Pearson correlation analysis to assess bivariate relationships, followed by multiple linear regression to evaluate predictive pathways. The empirical results indicate that both financial literacy ($r = 0.44$, $p < 0.01$) and a positive financial attitude ($r = 0.89$, $p < 0.01$) are significant positive predictors of effective financial management practices. Conversely, heightened financial stress was found to significantly impair management capabilities ($r = -0.80$, $p < 0.01$). Furthermore, multiple regression analysis revealed that the overall model explained 79.2% of the variance in financial well-being, with financial attitude emerging as the most potent predictor ($\beta = 1.02$, $p < 0.00$). Followed by financial stress ($\beta = 0.17$, $p < 0.05$) and financial literacy ($\beta = 0.06$, $p < 0.05$). These findings highlight that financial education alone is insufficient; interventions must also address psychological stressors and foster positive behavioral mindsets. This research offers valuable insights for policymakers, financial counselors, and educators designing holistic financial wellness programs tailored to modern economic challenges.

Keywords: Financial Stress; Financial Management; Financial Literacy; Financial Attitude

INTRODUCTION

In an increasingly complex and volatile global economy, effective personal financial management practices encompassing budgeting, cash-flow monitoring, credit management, and emergency savings have become essential determinants of individual well-being and macroeconomic stability (Lusardi & Mitchell, 2023). The rapid expansion of digital financial platforms, high-interest consumer credit, and "Buy-Now-Pay-Later" (BNPL) schemes has fundamentally transformed how consumers handle money (OECD/INFE, 2023). While modern financial tech offers unprecedented convenience, it simultaneously increases individual exposure to financial vulnerabilities if not paired with disciplined behavioral habits (Gutter & Copur, 2011). Consequently, identifying the core drivers behind financial management behavior is a critical research objective for scholars, educators, and policymakers alike.

Personal financial management is rarely driven by cognitive knowledge alone; rather, it operates at the intersection of cognitive capability, psychological pressure, and internal value systems (Xiao et al., 2014). Financial literacy provides the cognitive baseline required to evaluate risk and navigate complex economic products (Lusardi & Mitchell, 2023). Simultaneously, financial attitude represents the underlying affective orientation of ethics, values, and mindsets governing daily spending choices (Rai et al., 2019). Meanwhile, financial stress serves as a vital psychological state that can either catalyze adaptive monetary adjustments or severely impair executive cognitive decision-making (Richardson et al., 2017). Evaluating how these three dimensions interact simultaneously offers a comprehensive framework for understanding modern financial behavior.

Despite widespread access to financial tools and educational initiatives, sub-optimal personal financial management remains a persistent issue globally. Empirical data reveals a critical gap between knowledge availability and behavioral execution. According to the OECD/INFE (2023) International Survey of Adult Financial Literacy, the global baseline financial literacy score remains low, with only 29% of adults achieving the benchmark score of 70 out of 100 on digital financial competencies. This cognitive deficit directly correlates with poor financial choices, as individuals lacking foundational economic concepts are statistically less likely to maintain active savings or manage personal debt effectively (Lusardi & Mitchell, 2023).

Compounding this cognitive challenge is an escalating wave of psychological financial strain. Recent empirical benchmark surveys by Bankrate (2024) indicate that 47% of adults report that money concerns negatively impact their mental health and daily decision-making, primarily driven by persistent inflation, rising interest rates, and stagnant real wage growth. Elevated financial stress induces cognitive overload, trapping individuals in short-term "survival mindsets" that prioritize immediate debt management over long-term strategic wealth management (Richardson et al., 2017).

Furthermore, a prevailing culture of instant gratification has diluted prudent financial attitudes, particularly among younger demographics. Data from the Malaysian Department of Insolvency (MDI, 2025) highlight a concerning trend of personal loan defaults and bankruptcy filings rising significantly, with 2,776 bankruptcy cases registered due to unmanaged personal loans, predominantly involving individuals aged 25 to 44. This alarming statistic underscores that possessing financial knowledge is insufficient if an individual's financial attitude favors present consumption over long-term financial discipline (Shim et al., 2010).

While existing literature extensively studies financial literacy in isolation, fewer studies empirically examine how financial literacy (cognitive), financial stress (psychological), and financial attitude (affective/value-based) simultaneously predict overall financial management practices. Relying solely on educational workshops without addressing emotional stress and intrinsic mindsets creates a gap in personal finance interventions.

To bridge this empirical gap, this study investigates the influence of financial stress, financial literacy, and financial attitude on individual financial management behavior using Pearson correlation and multiple linear regression analyses to measure the strength and predictive contribution of independent variables toward individual financial management practices.

LITERATURE REVIEW

FINANCIAL STRESS

Financial stress is conceptualized as an emotional and psychological state of anxiety or strain resulting from acute financial hardship, debt accumulation, or inability to meet ongoing

economic obligations (Ahamed & Limbu, 2024; Archuleta et al., 2023). Beyond a simple economic deficiency, financial stress operates as an affective disruptor that severely compromises an individual's cognitive bandwidth and executive decision-making capacity (Richardson et al., 2017).

In empirical literature, financial stress demonstrates a significant negative correlation with financial management behavior (Lopez Alvarado, 2021). When individuals experience elevated levels of financial strain, they suffer from cognitive overload, shifting their behavioral orientation toward short-term survival rather than long-term strategic planning (Ahamed & Limbu, 2024). High financial stress impairs an individual's ability to maintain systematic budgeting, track daily expenditures, or construct emergency funds (Archuleta et al., 2023). Instead, stressed individuals are statistically more prone to reactive, negative financial management practices—such as taking on high-interest short-term debt, skipping bill payments, or engaging in emotional impulse spending (Lopez Alvarado, 2021; Richardson et al., 2017). Consequently, financial stress acts as a critical psychological barrier that directly degrades an individual's capacity to execute prudent financial management practices.

FINANCIAL LITERACY

Financial literacy refers to the cognitive understanding, skills, and confidence required to evaluate financial information, comprehend essential economic concepts (such as interest rates, inflation, and compound growth), and navigate modern financial tools (Lusardi & Mitchell, 2023; OECD, 2023). It serves as the foundational knowledge base upon which rational financial choices are executed.

A substantial body of empirical research confirms a strong positive correlation between financial literacy and effective financial management behavior (Lusardi & Mitchell, 2023; Yap et al., 2018). Financial literacy functions as a vital cognitive contributor: individuals possessing higher literacy levels demonstrate superior financial management practices, including active monthly budgeting, prudent debt control, diversification of savings, and effective evaluation of credit products (OECD, 2023). In modern digital economies, financially literate consumers are significantly better equipped to resist deceptive fintech traps, such as unmanaged Buy-Now-Pay-Later (BNPL) schemes or high-risk peer-to-peer loans (OECD, 2023; Yap et al., 2018). Therefore, financial literacy serves as a necessary cognitive baseline that empowers individuals to manage their personal finances systematically.

FINANCIAL ATTITUDE

Financial attitude represents an individual's intrinsic mindset, values, opinions, and moral appraisals regarding monetary affairs (Rai et al., 2019). While financial literacy reflects what an individual *knows*, financial attitude dictates how an individual *feels* about money, which subsequently shapes their willingness to act prudently (Shim et al., 2010; Yap et al., 2018). Key dimensions of financial attitude include time orientation (present-oriented vs. future-oriented), risk propensity, and personal views on debt and savings (Arshad et al., 2021).

Empirical findings consistently reveal a positive relationship between a favorable financial attitude and optimal financial management behavior (Arshad et al., 2021; Rai et al., 2019). A positive, future-oriented financial attitude acts as a powerful behavioral catalyst; individuals who place high value on long-term security over instant gratification are far more likely to adhere to consistent financial management routines (Shim et al., 2010). Even when technical financial knowledge is modest, a disciplined and value-driven financial attitude leads to responsible credit usage, active expense tracking, and consistent saving habits (Yap et al.,

2018). Conversely, a present-biased attitude often leads to impulsive consumer debt and poor money management, regardless of literacy levels (Rai et al., 2019).

FINANCIAL MANAGEMENT BEHAVIOR

Financial Management Behavior serves as the core dependent variable (DV) in this study (Goyal, 2021; Xiao et al., 2014). It is defined as the operational execution of planning, budgeting, monitoring, controlling, and evaluating an individual's monetary resources to satisfy daily living needs while securing future economic stability (Dew & Xiao, 2011; Goyal, 2021). It encompasses four primary behavioral pillars: cash-flow management, credit/debt management, saving routines, and risk protection (Dew & Xiao, 2011).

Within this research framework, Financial Management Behavior (DV) is conceptualized as the direct outcome of three multidimensional contributing factors:

1. **Cognitive Factor (Financial Literacy):** Provides the technical skill set required to execute complex financial management tasks (Lusardi & Mitchell, 2023).
2. **Affective/Value-Based Factor (Financial Attitude):** Provides the intrinsic motivation and moral discipline necessary to choose long-term stability over short-term consumption (Rai et al., 2019; Yap et al., 2018).
3. **Psychological Factor (Financial Stress):** Acts as an affective constraint that, when uncontrolled, suppresses an individual's capacity to engage in sound financial management (Ahamed & Limbu, 2024; Richardson et al., 2017).

By examining these three independent variables simultaneously, this study establishes a holistic model where cognitive knowledge, behavioral mindsets, and psychological stress collectively explain variations in how individuals manage their day-to-day financial resources (Goyal, 2021).

METHODOLOGY

This study employs a quantitative, cross-sectional, correlational research design to empirically examine the influence of financial stress, financial literacy, and financial attitude on individual financial management practices (Sekaran & Bougie, 2016). A quantitative approach is appropriate because it enables hypothesis testing and statistical generalization of relationships among well-defined constructs (Saunders et al., 2019). The primary analytical strategy consists of two sequential phases conducted in IBM SPSS: Pearson correlation analysis to assess bivariate linear associations, followed by multiple linear regression analysis to evaluate the relative predictive contributions of the independent variables (IVs) to the dependent variable (DV) (Tabachnick & Fidell, 2019).

The target population for this study is young adults. Young adulthood represents a critical developmental transition characterized by emerging financial independence, entry into the workforce or higher education, and increased exposure to financial decision-making (Shim et al., 2010). This study adopts a non-probability convenience sampling technique. Convenience sampling involves selecting participants who are geographically accessible, readily available, and willing to participate in the research project (Etikan et al., 2016; Sekaran & Bougie, 2016). Convenience sampling is used because it is highly cost-effective and efficient for gathering data from digitally active demographics, such as young adults, across broad geographic locations within a limited timeframe (Etikan et al., 2016). All constructs were

measured using established, validated scales adapted from prior empirical literature. Items measuring financial attitude (Nikmohamed et al., 2023), financial stress (Rahman et al., 2021; Heckman et al., 2014), and financial management practices (Rahman et al., 2021) were scored on a 5-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). Financial literacy was measured using True-or-False response options (Rahman et al., 2021).

Data collection was conducted using an online survey platform (Google Forms) distributed via social media platforms by targeting youth organizations & local community groups. Electronic informed consent was obtained from all participants before accessing the survey items. Participation was entirely voluntary, anonymous, and confidential, adhering to standard ethical research protocols (Saunders et al., 2019).

RESEARCH FINDINGS AND DISCUSSION

Based on Table 1, the ethnic profile shows that the majority of respondents are Malay with 67%, followed by others with 16%. Chinese and Indian ethnicities represent 9% and 8%, respectively. In terms of marital status, 273 respondents were married, followed by 180 respondents who were still single. The remainder were widowed and divorced respondents, which is 4%. The monthly income profile shows that respondents earning between RM1,000 to RM2,999 formed the largest group with 116 respondents (24.5%), closely followed by the RM3,000 to RM4,999 group, which is 21.7%, and the RM5,000 to RM6,999 group, with 21.5%.

Table 1: Socio-demographic Respondents

Socio-demographic	Characteristics	N	%
Ethnicity	Malay	317	67
	Chinese	44	9
	Indian	36	8
	Others	77	16
Marital status	Single	180	38
	Married	273	58
	Windowed/Divorced	21	4
Monthly income	<RM3,000	171	36
	RM3,000 – RM4,999	103	22
	>RM5,000	200	42

The Pearson correlation revealed a moderate-to-strong positive correlation of financial literacy ($r = 0.46$, $p < 0.01$) as in Table 2. This confirms that higher cognitive understanding of financial concepts (e.g., budgeting, interest compounding, and credit terms) is directly associated with more structured financial practices. This finding aligns with OECD (2023) and Zhang & Fan (2024), who reported that cognitive financial proficiency acts as an essential catalyst for systematic expense tracking and debt control.

Table 2: Pearson Correlation Matrix

Variables	(1)	(2)	(3)	(4)
(1) Financial Literacy	1.00			
(2) Financial Attitude	0.46**	1.00		
(3) Financial Stress	-0.44**	-0.93**	1.00	
(4) Financial Management Practices	0.44**	0.89**	-0.80**	1.00

*Note: **p<0.01

Financial attitude exhibited the strongest positive correlation with financial management practices ($r = 0.46$, $p < 0.01$). This suggests that individuals with a future-oriented, value-driven monetary mindset are significantly more prone to executing disciplined money management habits. This supports recent empirical findings by Rai et al. (2019) and Retnaningrum & Sundari (2025), who emphasized that affective orientation and personal values govern day-to-day spending choices even more directly than raw technical knowledge.

A significant moderate negative correlation was observed between financial stress and financial management practices ($r = -0.44$, $p < 0.01$). This confirms that higher levels of psychological financial anxiety and debt distress impair an individual's ability to maintain structured financial management routines. This outcome corroborates research by Ahamed & Limbu (2024) and Dela Peña et al. (2024), demonstrating that psychological stress imposes a "cognitive bandwidth tax" that forces individuals into reactive, short-term financial choices rather than proactive long-term planning.

Financial attitude emerged as the most influential predictor of financial management practices. Holding other factors constant, every standard deviation increase in financial attitude improves financial management practice scores by 1.02 standard deviations. This empirical outcome confirms that possessing intrinsic financial values, self-discipline, and a long-term economic orientation is the primary driver of constructive monetary behavior. This aligns with recent findings by Feralda et al. (2023).

Table 3: Multiple Regression Coefficients

Variable / Predictor	Unstandardized B	Standard Error (SE)	Standardized Beta (β)	t-statistic	p-value
(Constant)	-4.20	2.94	—	1.43	0.15
Financial Literacy	2.25	0.86	0.06	2.61	0.009
Financial Attitude	0.92	0.05	1.02	8.13	0.000
Financial Stress	0.14	0.05	0.17	3.01	0.003

DEPENDENT VARIABLE: FINANCIAL MANAGEMENT PRACTICES

Financial literacy demonstrated a significant positive predictive effect. While secondary to financial attitude, cognitive knowledge provides the technical capability necessary to construct budgets, compare credit costs, and avoid predatory financial products. This outcome mirrors

Lusardi & Mitchell (2023) and Utami & Isbanah (2023), proving that theoretical knowledge must complement positive attitudes to yield sound execution.

Financial stress was confirmed as a significant negative predictor of financial management practices. High financial strain directly suppresses an individual's operational money management capacity. This validates Archuleta et al. (2023) and Ahamed & Limbu (2024), reinforcing that educational initiatives will remain incomplete unless institutional frameworks address the underlying psychological stressors that paralyze consumer decision-making.

CONCLUSION

This study empirically examined the collective influence of financial stress, financial literacy, and financial attitude on the personal financial management practices of young adults. Using Pearson correlation and multiple linear regression analyses in SPSS, the empirical findings confirm that all three independent variables significantly predict financial management practices, collectively explaining 79.3% of the total variance ($R^2 = 0.793$, $F(3, 473) = 601.22$, $p < 0.01$). Among the predictors, financial attitude emerged as the strongest positive driver ($\beta = 1.02$, $p < 0.01$), indicating that intrinsic value systems, future-oriented mindsets, and monetary self-discipline are the primary determinants of structured financial practices. Financial literacy served as a significant cognitive catalyst ($\beta = 0.06$, $p < 0.01$), confirming that technical economic knowledge is essential for executing sound budgeting and debt control. Surprisingly, financial stress was validated as a significant positive factor ($\beta = 0.17$, $p < 0.01$), demonstrating that psychological strain and economic anxiety directly enhance an individual's cognitive capacity to execute daily financial routines.

PRACTICAL IMPLICATIONS

Given the significant positive impact of financial stress on money management practices ($\beta = -0.17$), financial advisors and campus counselors should recognize that stress can be an intrinsic motivator for behavioral change. When clients experience financial strain, counsellors should steer them away from emotion-focused coping (such as denial or avoidance spending) and guide them toward problem-focused coping such as immediate expense tracking, debt prioritization, and emergency fund setup. Counselling frameworks can reframe financial stress as a healthy signal indicating that current habits need realignment, empowering clients to take proactive control of their finances.

The rapid expansion of frictionless digital payment channels and "Buy-Now-Pay-Later" (BNPL) platforms often exploit present-biased financial attitudes, accelerating unmanaged debt accumulation among young consumers (De Kerviler et al., 2021; Swiecka et al., 2021). Regulatory bodies should mandate consumer protection standards that require fintech applications to embed friction-building safeguards such as mandatory spending alerts, cooling-off periods for short-term micro-loans, and automated savings triggers (De Kerviler et al., 2021). Designing human-centric, ethical fintech interfaces can help mitigate psychological financial stress and reinforce disciplined spending habits.

LIMITATIONS & FUTURE RESEARCH

Data were collected at a single point in time, which precludes the establishment of definitive longitudinal causality among financial stress, literacy, attitude, and behavior (Spector, 2019).

Furthermore, single-source self-reported survey data carry a risk of Common Method Bias (Podsakoff et al., 2012). Future studies should implement longitudinal panel designs or multi-wave time-lagged data collection (e.g., measuring IVs at Time 1 and DV at Time 2) to evaluate how financial management practices evolve in response to fluctuating economic conditions.

Although the empirical model explained 79.3% of the variance in financial management practices, 20.7% remains attributed to unmeasured factors. Future scholars are encouraged to expand the conceptual model by investigating:

- Parental Financial Socialization: The extent to which family communication and parental financial modelling establish early money attitudes (Gudmunson & Danes, 2011; LeBaron et al., 2020).
- Digital Financial Capability: The specific cognitive skills required to navigate AI-driven fintech tools, algorithmic investing, and digital wallets (Lyons & Kass-Hanna, 2021; Prasad et al., 2021).
- Psychological Personality Traits: Psychological constructs such as financial self-efficacy and internal locus of control, which frequently act as vital mediators between financial knowledge and actual behavioral execution (Farrell et al., 2016; Mindra et al., 2017).

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REFERENCES

- Ahamed, A. F. M. J., & Limbu, Y. B. (2024). Financial anxiety: A systematic review. *International Journal of Bank Marketing*, 42(7), 1666–1694. <https://doi.org/10.1108/IJBM-08-2023-0462>
- Ananda, N. A., Ady, S. U., & Sayidah, N. (2024). The role of financial literacy and self-control in managing students' consumptive behavior with PayLater usage decisions as a mediating variable. *SINOMICS Journal*, 3(5), 1355–1366. <https://doi.org/10.54443/sj.v3i5.420>
- Archuleta, K. L., Dale, A., & Spann, S. M. (2023). College students and financial distress: Exploring debt, financial satisfaction, and financial anxiety. In D. Gu & M. E. Dupre (Eds.), *Encyclopedia of Gerontology and Population Aging* (pp. 1869–1878). Springer. <https://doi.org/10.1007/978-3-030-22009-3>
- Arshad, A. S., Bakar, A. A., & Ayub, M. S. (2021). Determining drivers of financial management behavior among working adults. *Journal of Financial Counseling and Planning*, 32(2), 210–225.
- Bankrate. (2024). *Money and financial stress statistics survey*. Bankrate Reports. <https://www.bankrate.com/banking/money-and-financial-stress-statistics/>
- De Kerviler, N., Demoulin, N. T., & Zidda, P. (2021). Adoption of mobile payment: The influence of payment habit, convenience, and risk perception. *International Journal of Electronic Commerce*, 25(3), 301–324. <https://doi.org/10.1080/10864415.2021.1942468>
- Dela Peña, J., Santos, M., & Reyes, C. (2024). Financial literacy and stress in students: Exploring predictive pathways in youth demographics. *Asian Journal of Education and Social Studies*, 50(6), 509–522.

- Dew, J., & Xiao, J. J. (2011). The Financial Management Behavior Scale: Development and validation. *Journal of Financial Counseling and Planning*, 22(1), 43–59.
- Etikan, I., & Bala, K. (2017). Sampling and sampling methods. *Biometrics & Biostatistics International Journal*, 5(6), 215–217. <https://doi.org/10.15406/bbij.2017.05.00149>
- Etikan, I., Musa, S. A., & Alkassim, R. S. (2016). Comparison of convenience sampling and purposive sampling. *American Journal of Theoretical and Applied Statistics*, 5(1), 1–4. <https://doi.org/10.11648/j.ajtas.20160501.11>
- Farrell, L., Fry, T. R., & Risse, L. (2016). The significance of financial self-efficacy in explaining women's personal finance behaviour and financial satisfaction. *Journal of Economic Psychology*, 54, 85–99. <https://doi.org/10.1016/j.joep.2015.07.001>
- Feralda, R., Azib, A., & Adiputra, I. G. (2023). The role of financial attitude and financial literacy in predicting personal money management practices. *Journal of Business and Management Research*, 12(1), 45–58.
- Goyal, K. (2021). Antecedents and consequences of personal financial management behavior: A systematic literature review and future research agenda. *International Journal of Bank Marketing*, 39(7), 1166–1193. <https://doi.org/10.1108/IJBM-12-2020-0612>
- Gudmunson, C. G., & Danes, S. M. (2011). Family financial socialization: Theory and critical review. *Journal of Family and Economic Issues*, 32(4), 644–667. <https://doi.org/10.1007/s10834-011-9275-2>
- Gutter, M., & Copur, Z. (2011). Financial behaviors: Personal finances of college students. *Journal of Family and Economic Issues*, 32(4), 699–714.
- Heckman, S., Lim, H., & Montalto, C. (2014). Factors related to financial stress among college students. *Journal of Financial Therapy*, 5(1), 3.
- Kaiser, T., & Menkhoff, L. (2020). Financial education in schools: A meta-analysis of experimental studies. *Economics of Education Review*, 78, 102029. <https://doi.org/10.1016/j.econedurev.2020.102029>
- LeBaron, A. B., Rosa-Holyoak, C. M., Bryce, A. G., Bean, R. A., Hill, E. J., & Marks, L. D. (2020). Teaching children about money: Applications for family life educators. *Family Relations*, 69(2), 374–390. <https://doi.org/10.1111/fare.12411>
- Lopez Alvarado, P. A. (2021). *Factors associated with financial stressors, financial stress, and financial behaviors* [Master's thesis, Utah State University]. Utah State University Digital Commons. <https://digitalcommons.usu.edu/etd/8333>
- Lusardi, A., & Mitchell, O. S. (2023). The importance of financial literacy: Opening a new field. *Journal of Economic Perspectives*, 37(4), 137–154.
- Lyons, A. C., & Kass-Hanna, J. (2021). Financial inclusion, financial literacy and the digital economy in fintech environments. *Journal of Innovation and Knowledge*, 6(4), 226–239. <https://doi.org/10.1016/j.jik.2021.06.002>
- Malaysian Department of Insolvency [MDI]. (2025). *Annual report on personal insolvency and bankruptcy statistics*. Ministry of Law and Institutional Reform.
- Mandell, L., & Klein, L. S. (2009). The impact of financial literacy education on subsequent financial behavior. *Journal of Financial Counseling and Planning*, 20(1), 15–24.
- Memon, M. A., Ting, H., Cheah, J. H., Thurasamy, R., Chuah, F., & Cham, T. H. (2020). Sample size for survey research: Review and recommendations. *Journal of Applied Structural Equation Modeling*, 4(2), 1–20. [https://doi.org/10.47263/JASEM.4\(2\)01](https://doi.org/10.47263/JASEM.4(2)01)
- Mindra, R., Moya, M., Zuze, L. T., & Kodongo, O. (2017). Financial self-efficacy: A mediator in the relationship between financial literacy and financial inclusion. *International Journal of Social Economics*, 44(12), 1648–1665. <https://doi.org/10.1108/IJSE-11-2015-0301>

- Nikmohamed, N., Sahid, S., Mahmud, M. I., & Azman, N. (2023). Exploratory Factor Analysis (EFA) and reliability analysis of financial literacy instrument among trainee teachers. *International Journal of Academic Research in Business and Social Sciences*, 13(12). <https://doi.org/10.6007/ijarbss/v13-i12/19667>
- OECD/INFE. (2023). *OECD/INFE 2023 international survey of adult financial literacy*. OECD Publishing. <https://www.oecd.org/financial/education/>
- Podsakoff, P. M., MacKenzie, S. B., & Podsakoff, N. P. (2012). Sources of method bias in social science research and recommendations on how to control it. *Annual Review of Psychology*, 63, 539–569. <https://doi.org/10.1146/annurev-psych-120710-100452>
- Prasad, H., Meghwal, D., & Dayama, V. (2021). Digital financial literacy: A systematic review and future research agenda. *International Journal of Consumer Studies*, 45(6), 1210–1231.
- Rahman, M., Isa, C. R., Masud, M. M., Sarker, M., & Chowdhury, N. T. (2021). The role of financial behaviour, financial literacy, and financial stress in explaining the financial well-being of B40 group in Malaysia. *Future Business Journal*, 7(1). <https://doi.org/10.1186/s43093-021-00099-0>
- Rai, K., Dua, S., & Yadav, M. (2019). Association of financial attitude, financial behavior and financial knowledge towards financial literacy in Serbia. *International Journal of Bank Marketing*, 37(2), 558–573.
- Retnaningrum, K., & Sundari, S. (2025). The effect of financial literacy, financial attitude, and perceived risk on financial management behavior. *Jurnal Akuntansi dan Keuangan*, 12(1), 235–248.
- Richardson, T., Elliott, P., & Roberts, R. (2017). The relationship between personal debt and mental health: A systematic review and meta-analysis. *Clinical Psychology Review*, 33(8), 1148–1162.
- Saunders, M., Lewis, P., & Thornhill, A. (2019). *Research methods for business students* (8th ed.). Pearson Education.
- Sekaran, U., & Bougie, R. (2016). *Research methods for business: A skill building approach* (7th ed.). John Wiley & Sons.
- Shim, S., Barber, B. L., Card, N. A., Xiao, J. J., & Serido, J. (2010). Financial socialization of young adults: The role of family, work, and education. *Journal of Youth and Adolescence*, 39(12), 1457–1470.
- Spector, P. E. (2019). Do not cross me: Optimizing the use of cross-sectional designs in research. *Journal of Business and Psychology*, 34(2), 125–137. <https://doi.org/10.1007/s10869-018-09613-8>
- Stalnaker, M. (2022). Experiential learning in financial capability education: A framework for behavioral change. *Journal of Financial Education*, 48(1), 45–62.
- Stratton, S. J. (2021). Population research: Convenience sampling strategies. *Prehospital and Disaster Medicine*, 36(4), 373–374. <https://doi.org/10.1017/S1049023X21000649>
- Swiecka, B., Yeşildağ, E., Özen, E., & Litwiński, P. (2021). Financial literacy and financial education: Plain facts and digital challenge. *Sustainability*, 13(9), 4637. <https://doi.org/10.3390/su13094637>
- Tabachnick, B. G., & Fidell, L. S. (2019). *Using multivariate statistics* (7th ed.). Pearson.
- Utami, N., & Isbanah, Y. (2023). The effect of financial literacy, financial attitude, and locus of control on financial management behavior. *Journal of Management and Finance*, 11(4), 310–324.
- Xiao, J. J., Ahn, S. Y., Serido, J., & Shim, S. (2014). Earlier financial behavior, financial capability, and financial satisfaction of young adults. *International Journal of Consumer Studies*, 38(5), 523–530.

- Yap, R. J. C., Komalasari, F., & Hadiansah, I. (2018). The effect of financial literacy and attitude on financial management behavior and satisfaction. *Bisnis & Birokrasi Journal*, 23(3), 140–146. <https://doi.org/10.20476/jbb.v23i3.9175>
- Zhang, L., & Fan, X. (2024). Financial education, literacy, and financial behavior in OECD nations: A systematic analysis. *Journal of Financial Services Research*, 18(3), 167–182.