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The New Educational Review

DOI: 10.15804/tner.2025.80.2.12

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Young Ages, Big Decisions: Development and Initial Validation of the Multidimensional Financial Literacy Scale for Adolescents

Abstract

This study developed the Financial Literacy Scale for Adolescents (FLSADO) to assess adolescents' financial literacy and examined its psychometric properties. Exploratory (n = 382) and confirmatory (n = 512) factor analyses revealed an 18-item scale with three subscales: conscious consumption, savings and future planning, and the meaning of money, explaining 50.16% of the variance. A brief five-item version (FLSADO-5) was created based on EFA loadings, representing all sub-dimensions and accounting for 33.92% of the variance. CFA supported both the three-factor structure of FLSADO and the unidimensional structure of FLSADO-5. Internal consistency coefficients indicated good reliability for both versions. Correlations with external measures supported concurrent validity.

Keywords: financial literacy, scale development, psychometric testing, adolescents

Introduction

In today's complex economic landscape, financial literacy is essential for individuals to manage their lifelong financial well-being effectively. Defined as

a multidimensional competence encompassing knowledge, attitudes, and behaviors necessary for budgeting, saving, investing, and managing debt (Lusardi & Mitchell, 2014), financial literacy underpins both personal security and sustainable economic growth. As financial products become increasingly sophisticated, equipping people with not only theoretical knowledge but also the confidence and self-efficacy to apply it in real-world contexts is crucial (Shim et al., 2010).

Research highlights that financial outcomes depend on psychosocial factors, such as family socialization, past experiences, and perceived self-efficacy, in addition to factual knowledge (Moreno-Herrero et al., 2018). Effective budgeting, for instance, involves creating and adhering to a spending plan that prevents debt accumulation and supports saving for future goals (Bai, 2023; Davydenko et al., 2021). Those who consistently budget report greater financial stability and lower stress levels, underscoring the role of behavior-oriented competence in overall well-being (Gathergood, 2012; Rehman & Mia, 2024). Traditionally, financial literacy is examined through three interrelated dimensions: knowledge, attitude, and behavior (Méndez Prado et al., 2022; Potrich et al., 2025). Knowledge equips individuals with conceptual frameworks; attitudes shape motivations and habits; and behaviors translate both into practice. Thus, valid measurement tools must capture not only what people know but also how they feel and act regarding financial matters (Jay et al., 2022; Zhu & Chou, 2020). Despite the proliferation of scales for adults, few instruments adequately address the developmental stages and contextual realities of young people. Middle school, a period marked by the development of abstract thinking and the emergence of financial awareness, presents a strategic window for intervention. Early education in money management has long-term benefits, fostering healthier financial behaviors in adulthood (Pramitasari et al., 2023; Sherraden et al., 2011). However, existing tools often lack sensitivity to socioeconomic and cultural contexts, limiting their applicability.

Current Study

In response to these gaps, this research aims to develop a reliable, multidimensional financial literacy scale tailored to Turkish middle school students. Grounded in theoretical and empirical insights, the study examines the limitations of prevailing measures and constructs an instrument that integrates cognitive knowledge, attitudes, self-efficacy, and behaviors. Our objectives are to ensure contextual validity, provide age-appropriate content, and establish

a connection to practical outcomes, thereby offering educators and policymakers actionable insights.

The resulting scale undergoes rigorous psychometric evaluation, including exploratory and confirmatory factor analyses, to verify its dimensional structure and reliability. By focusing on a population at a critical developmental stage, this tool aspires to inform early financial education programs and contribute to the broader literature on cultivating long-term financial resilience.

Research Methodology

Participants and procedure

Table 1 presents the demographic characteristics of the samples used for exploratory factor analysis (EFA) and confirmatory factor analysis (CFA). The study was conducted on a randomly selected group of Turkish adolescents aged 10-14 years from various middle schools and grade levels (i.e., 5th- 8th grades). Ethics committee permission and research application permission were obtained for the research, and the ethical and research application principles were adhered to in the research. The data collection process was conducted face-to-face by the researchers. Participants were not given any incentives, and the study relied on volunteerism. The participants were not asked any questions to reveal themselves; Table 1 provides demographic characteristics about the participants.

Table 1. Demographic characteristics of the samples

	Mean (SD) or n (%)	
Characteristics	**EFA sample (n = 382)**	**CFA sample (n = 512)**
Age	11.68 (1.50)	11.85 (1.17)
Daily Pocket Money	55.83 TL (43.71)	60.27 TL (58.91)
Gender		
Girl	202 (53%)	283 (55%)
Boy	180 (47%)	229 (45%)
Piggy Bank		
Yes	241 (63.1%)	341 (66.6%)
No	141 (36.9%)	171 (33.4%)
Father's Employment Status		
Yes	365 (95.5%)	481 (93.9%)

	Mean (SD) or n (%)	
Characteristics	**EFA sample (n = 382)**	**CFA sample (n = 512)**
No	17 (4.5%)	31 (6.1%)
Mother's Employment Status		
Yes	109 (28.5%)	144 (28.1%)
No	273 (71.5%)	368 (71.9%)
Grade level		
5th	116 (30.4%)	142 (27.7%)
6th	89 (23.3%)	103 (20.1%)
7th	101 (26.4%)	146 (28.5%)
8th	76 (19.9%)	121 (23.6%)

Note. SD = standard deviation; TL = Turkish Lira

Measure development

The Financial Literacy Scale for Adolescents (FLSADO) was developed based on the principles proposed by DeVellis and Thorpe (2022). As a result of a comprehensive literature review, a 28-item item pool was created, encompassing dimensions of financial knowledge, financial attitude, and financial behavior (see Table 2). An increase in the scores obtained from the five-point Likert-type scale (1 = Strongly Disagree, 5 = Strongly Agree) was interpreted as an increase in adolescents' financial literacy levels. FLSADO was developed in the Turkish language. Three Turkish language experts and four measurement and evaluation experts evaluated the 28 items for grammar, semantic clarity, and content validity. In line with the experts' opinions, some items were revised, and three items were removed from the pool. For example, the item "I do not make unnecessary expenses" was revised as "I avoid unnecessary expenses" in line with the expert opinion. After deleting items with low factor loadings (i.e. < 0.4) or cross-loading problems (i.e. > 0.4 on two or more factors; please see the 'Data analysis' section for details), the final FLSADO consisted of 18 items and three subscales: conscious consumption (seven items), savings and future planning (seven items) and meaning of money (four items).

Other scales

10-14 age form of the Brief Self-Control Scale (BSCS). The nine-item BSCS (Tangney et al., 2004; Turkish Adaptation = Authors, XXXX) was used to as-

sess self-control. The items of the unidimensional BSCS are evaluated on a five-point scale (1 = Not suitable for me at all, 5 = Very suitable for me). Higher scores indicate greater levels of self-control. The internal consistency of the BSCS was good (Cronbach's α = 0.725).

10-14 age form of the Patience Scale. The six-item Patience Scale (Gökalp, 2021) was used to assess patience. The items of the unidimensional patience scale are evaluated on a four-point scale (1 = does not describe me at all; 4 = describes me completely). Higher scores indicate greater levels of patience. The internal consistency of the Patience Scale was good (Cronbach's α = 0.826).

Data Analysis

A sample (i.e., n = 382) was used for EFA to explore the initial factor structure of the FLSADO, and a separate sample (i.e., n = 512) was used for CFA to confirm the factor structure obtained from EFA. CFA sample was used to test the discriminant validity (based on the heterotrait-monotrait [HTMT] ratio method), internal consistency, concurrent validity with external criterion measures, and difference tests between gender, piggy bank, and grade level groups. Analyses for EFA, concurrent validity, and difference tests were performed using SPSS version 25; the rest of the analyses were conducted using JASP version 0.18.3.

For EFA, the Kaiser-Meyer-Olkin (KMO) test was first performed to assess the adequacy of the sample for factor analysis, with a KMO value of ≥ .70 being considered adequate (Watkins, 2018). The number of factors was determined by principal axis factoring using the Kaiser criterion, which considers factors with eigenvalues > 1 (Shrestha, 2021). The "Promax Oblique Rotation" method was adopted to determine the item-factor relationship. Items with factor loadings < 0.35 and cross-loaded items were removed. All items were repeated until only one factor loading was greater than 0.35 in a factor (Hair et al., 2014). A short five-item version of the FLSADO (i.e., FLSADO-5) was also developed using the EFA. The FLSADO-5 was also tested using EFA to examine if it could simplify the multidimensional FLSADO into a unidimensional measure.

After the EFA, CFA was performed for both FLSADO and FLSADO-5 (using the maximum likelihood estimator). The factor structure obtained from EFA results was confirmed using the fit indices calculated from CFA. The fit indices were: SRMR < 0.08, RMSEA < 0.08, TLI > 0.9, and CFI > 0.9 (Byrne, 2016). The HTMT ratio between the sub-dimensions of the FLSADO was calculated; this ratio is expected to be < 0.85 to support discriminant validity (Henseler et al., 2015). Lastly, the total FLSADO with all its sub-dimensions and the FLSADO-5 were examined for their internal consistency using both

McDonald's ω and Cronbach's α. A value > 0.70 McDonald's ω or Cronbach's α is sufficient for internal consistency (George & Mallery, 2016).

The total FLSADO, along with all its sub-dimensions and the FLSADO-5, was examined for concurrent validity with related measures (i.e., the external criterion measures of the BSCS and Patience Scale) using the Pearson product-moment correlation coefficient.

Results

Table 2 presents the final factor structure and factor loadings based on EFA for the FLSADO and FLSADO-5. The KMO value was acceptable for conducting EFA, and EFA results suggested a three-factor structure for the FLSADO. All items were loaded on the expected three factors. 50.16% of the total variance explained (see Table 3), although some items were deleted due to low factor loadings. EFA results supported the unidimensional structure of the FLSADO-5. 33.92% of the total variance explained (see Table 3). The factor loadings of the FLSADO-5 items ranged between 0.530 and 0.661 (see Table 2).

Table 3 presents the CFA results for the FLSADO and FLSADO-5. The three-factor structure of the FLSADO, as identified in the EFA results, was confirmed by the acceptable fit of the CFA fit indices from a different sample. Because the HTMT ratio of factor loadings was less than 0.85, discriminant validity was supported. CFA results confirmed the unidimensional structure of the FLSADO-5, as obtained with EFA. CFA results of FLSADO-5 indicated a significant and acceptable fit. The total FLSADO, its sub-dimensions, and FLSADO-5 had reliable internal consistency coefficients.

Table 4 presents the correlations between the total FLSADO, its sub-dimensions, FLSADO-5, BSCS, and the Patience Scale. The total FLSADO and FLSADO-5 positively correlate with the BSCS and the Patience Scale. Conscious consumption, savings, and future planning are positively correlated with the BSCS and Patience Scale. However, there is no statistically significant relationship between the meaning of money and the BSCS and the Patience Scale.

Table 2. The final factor structure and factor loadings of the FLSADO and the FLSADO-5 based on exploratory factor analysis

Items	Conscious consumption	Savings and future planning	Meaning of money	FLSADO-5
I think about whether I need something before I buy it.	.704			
I know that I cannot buy everything I want.	.694			
My needs come before my wants.	.683			
Needs are obligatory for people, but wishes are not.	.622			
I look at the price and quality of a product before I buy it.	.502			
If my things do not get old enough, I do not insist that my family buy me new things.	.472			
I avoid unnecessary expenses.	.453			
I plan my spending in advance so that I can afford it.		.739		
I believe it is essential to plan now in order to achieve financial comfort in the future.		.670		
It is important to save money to buy the things I aim for.		.568		
I try to save what is left over from my allowance.		.529		
I realize that saving money is important because it will help me a lot when I grow up.		.446		
I think it is a good idea to save money for things I want to buy in the future.		.402		
I save the rest of my money after I have met my needs.		.384		
I realize that money is necessary for me to get things.			.729	
I realize that money is important and I need to spend it carefully.			.677	
I am aware that it is difficult to earn money and easy to spend it.			.625	
I know that money is a means of payment to buy something.			.600	
I think about whether I need something before I buy it.				.661
If my things do not get old enough, I do not insist that my family buy me new things.				.588
I realize that saving money is important because it will help me a lot when I grow up				.569
I save the rest of my money after I have met my needs.				.555
I am aware that it is difficult to earn money and easy to spend it.				.530

Table 3. Scale properties of the FLSADO and FLSADO-5

	FLSADO	Conscious consumption	Savings a nd future planning	Meaning of money	FLSADO-5
Cronbach's α[a]	.906	.842	.814	.780	.750
McDonald's ω[a]	.920	.843	.820	.767	.751
EFA[b]					
Eigenvalue	–	6.336	1.427	1.266	–
Variance explained	–	35.201	7.929	7.034	33.920
KMO	.910	–	–	–	.777
CFA[c]					
χ^2 (df)	311.92 (132)	–	–	–	14.23 (5)
p-value	.001	–	–	–	.014
CFI	.946	–	–	–	.982
TLI	.937	–	–	–	.963
RMSEA	.052	–	–	–	.060
SRMR	.041	–	–	–	.023
HTMT method[c]					
Conscious consumption	–	1.00			–
Savings and future planning	–	.813	1.00		–
Meaning of money	–	.687	.688	1.00	–

a: Based on CFA sample. *b*: Based on EFA sample. *c*: Based on CFA sample.

Table 4. Concurrent validity of the FLSADO

	Pearson correlation with an external criterion measure	
	Brief Self-Control Scale	**Patience Scale**
FLSADO	.170*	.200*
Conscious consumption	.221*	.226*
Savings and future planning	.186*	.171*
Meaning of money	-.039	.085
FLSADO-5	.221*	.210*

* $p < .001$.

Discussion

In this study, a FLSADO and its short form, FLSADO-5, were developed to assess the financial literacy levels of Turkish adolescents aged 10-14 years, and their psychometric properties were examined in detail. EFA and CFA results indicated that the scale has a valid and reliable 18-item structure consisting of three sub-dimensions: conscious consumption, saving and future planning, and the meaning of money. In addition, FLSADO-5 was also found to confirm a unidimensional construct and to be a valid and reliable measurement tool. One of the main results of the study was that both the FLSADO and the FLSADO-5 had good internal consistency. Correlation analyses conducted within the scope of concurrent validity revealed that FLSADO and FLSADO-5 scores indicated significant positive relationships with self-control and patience scales. The results suggest that financial literacy is associated with important psychological traits, such as self-control and patience (Gathergood, 2012; Rehman & Mia, 2024), and that saving habits acquired at an early age play a crucial role in the development of financial literacy (Fabris & Luburic, 2016). This result supports that financial literacy is related not only to knowledge but also to psychological characteristics that shape individuals' financial behaviors. In particular, self-control, which is the ability to stick to financial plans and avoid impulsive spending (Anita et al., 2022), and patience, which is the ability to delay gratification to achieve long-term goals (Bai, 2023; Mabkhot & Talat, 2023), are important predictors of financial literacy.

FLSADO and FLSADO-5 are important psychometric tools that can be used to validly and reliably measure the multidimensional nature of financial literacy of adolescents aged 10-14 in Türkiye. These scales can provide valuable information to researchers and educators in evaluating the effectiveness of financial literacy education programs, comparing the financial literacy levels of adolescents in different socio-demographic groups, and examining the developmental processes of financial literacy. While prior scales exist for broader age groups (e.g., Potrich et al., 2025) or adult populations (Özyeşil & Tembelo, 2024), this study is the first to offer a validated multidimensional scale specifically for Turkish early adolescents (ages 10–14). Unlike existing tools, FLSADO integrates cognitive, behavioral, and attitudinal components of financial literacy, tailoring it to the cultural and socioeconomic context of Turkish middle school students. The development of a short version (FLSADO-5) further enhances its practical applicability in large-scale educational settings. This dual-scale approach could make a significant contribution to the litera-

ture by addressing the lack of age-appropriate and culturally sensitive financial literacy scales, especially for early adolescents, when combined with rigorous psychometric validation.

While this study focuses on Turkish adolescents, the findings can be contextualized within the broader regional landscape. Compared to studies conducted in countries such as the Netherlands (Amagir et al., 2020), Malaysia (Murugiah et al., 2023), and Saudi Arabia (Mabkhot & Talat, 2023), Turkish adolescents demonstrate similar multidimensional financial literacy profiles, particularly in areas of savings behavior and conscious consumption. However, cultural factors such as family financial socialization, the prevalence of informal saving tools like piggy banks, and the structure of financial education in schools may explain both similarities and differences. Future cross-cultural validation of FLSADO could provide deeper insights into these regional dynamics.

The results of this study yield several significant implications for education, particularly in the context of financial literacy instruction. The strong associations identified between financial literacy and psychological characteristics such as self-control and patience underscore the importance of integrating financial education within broader socio-emotional learning frameworks. Given the multidimensional nature of financial literacy, curricula should employ experiential pedagogies, including budgeting simulations, peer-led discussions on the distinction between "needs" and "wants," and family-involved projects, to foster deeper engagement and long-term financial resilience. The FLSADO, encompassing sub-dimensions such as conscious consumption, savings and future planning, and the meaning of money, presents educationally teachable constructs that can be systematically incorporated into middle school curricula. For instance, conscious consumption may be addressed through classroom activities that help students differentiate between needs and wants, while savings and future planning can be cultivated through budgeting exercises and goal-setting tasks. Additionally, the meaning of money can serve as a foundation for discussions on the value of labor, ethical consumption, and the socio-cultural role of money in everyday life. In this regard, the FLSADO functions not only as a valid measurement tool but also as a practical framework for designing culturally relevant and developmentally appropriate financial education programs. By leveraging the scale to assess student needs and monitor progress, educators can implement more targeted and effective interventions aimed at enhancing students' long-term financial well-being.

Limitations and Directions for Future Research

The study has some limitations. First, this study employs a cross-sectional design. Therefore, it is not possible to make definite implications about the causal relationships between financial literacy, self-control, and patience. Future longitudinal studies may help to better understand the development of financial literacy over time and the role of factors such as self-control, patience, and responsibility in this development. Second, financial literacy was measured through self-reporting. The possibility that respondents may misreport their financial knowledge and behaviors cannot be overlooked. Future research could enhance the process of identifying financial literacy by employing various data collection methods, such as behavioral financial literacy tasks or parent-teacher assessments, in addition to self-report measures (Ahunov & Van Hove, 2025). Third, while FLSADO was validated for Turkish adolescents, its applicability to other regional contexts (e.g., Balkan or Middle Eastern countries) remains untested. Future studies should examine cross-cultural equivalence and compare financial literacy drivers, such as parental employment norms or access to digital banking, across socioeconomic settings. Longitudinal studies can help us better understand how adolescents' financial literacy levels develop over time and the factors that influence this development.

Conclusions

FLSADO and FLSADO-5 are valid and reliable psychometric instruments to assess the financial literacy levels of Turkish adolescents. Using these scales, adolescents' levels of financial knowledge, financial attitudes, and financial behaviors can be measured more comprehensively. The FLSADO not only functions as a psychometric tool but also offers a framework for designing educational interventions. Its sub-dimensions can assist curriculum developers and educators in creating age-appropriate, culturally relevant financial literacy programs that promote conscious consumption, saving habits, and an understanding of money's value.

References:

Ahunov, M., Van Hove, L. (2025). Are you financially literate or not? experimental evidence on discrepancies between two metrics. *Finance a Uver*, *75*(1), 59–75. https://doi.org/10.32065/CJEF.2025.01.03.

Amagir, A., Groot, W., Maassen van den Brink, H., Wilschut, A. (2020). Financial literacy of high school students in the Netherlands: Knowledge, attitudes, self-efficacy, and behavior. *International Review of Economics Education, 34*, 100185. https://doi.org/10.1016/j.iree.2020.100185.

Amagir, A., Groot, W., Maassen Van Den Brink, H., Wilschut, A. (2018). A review of financial-literacy education programs for children and adolescents. *Citizenship, Social and Economics Education*, *17*(1), 56–80. https://doi.org/10.1177/2047173417719555.

Anita, A., Njotoprajitno, R.S., Hadianto, B. (2022). Self-control, financial literacy, and behavior in organizing money. *Economics and Business Quarterly Reviews, 5*(3), 32–40. https://doi.org/10.31014/aior.1992.05.03.433.

Bai, R. (2023). Impact of financial literacy, mental budgeting and self-control on financial wellbeing: Mediating impact of investment decision making. *PLOS ONE*, *18*(11), e0294466. https://doi.org/10.1371/journal.pone.0294466.

Byrne, B.M. (2016). *Structural equation modeling with Amos: Basic concepts, applications, and programming* (3rd ed.). Routledge.

Davydenko, M., Kolbuszewska, M., Peetz, J. (2021). A meta-analysis of financial self-control strategies: Comparing empirical findings with online media and lay person perspectives on what helps individuals curb spending and start saving. *PLOS ONE*, *16*(7), e0253938. https://doi.org/10.1371/journal.pone.0253938.

DeVellis, R.F., Thorpe, C.T. (2022). *Scale development: Theory and applications* (15th ed.) Sage.

Fabris, N., Luburic, R. (2016). Financial education of children and youth. *Journal of Central Banking Theory and Practice, 5*(2), 65–79. https://doi.org/10.1515/jcbtp-2016-0011.

Gathergood, J. (2012). Self-control, financial literacy and consumer over-indebtedness. *Journal of Economic Psychology*, *33*(3), 590–602. https://doi.org/10.1016/j.joep.2011.11.006.

George, D., Mallery, P. (2016). *IBM SPSS Statistics 23 step by step: A simple guide and reference*. Routledge.

Gökalp, A. (2021). *Investigation of the relationship between secondary school students' empathy skills and their root values: A structural equation modelling* (Doctoral dissertation). Uşak University, Türkiye.

Hair, J.F., Black, W.C., Babin, B.J., Anderson, R.E. (2014). *Exploratory factor analysis. Multivariate data analysis*. Prentice Hall.

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

Jay, T., Rashid, S., Xenidou-Dervou, I., Moeller, K. (2022). Measuring financial literacy of children aged 4 to 6 years: design and small-scale testing. *Loughborough University. Report*. https://maps.org.uk/content/dam/maps-corporate/en/our-work/uk-strategy-for-financial-wellbeing/maps-measuring-financial-literacy-age-4-to-6-testing-2022.pdf.

Lusardi, A., Mitchell, O.S. (2014). The economic importance of financial literacy:

Theory and evidence. *Journal of Economic Literature, 52*(1), 5–44. https://doi.org/10.1257/jel.52.1.5.

Mabkhot, H., Talat, S. (2023). Impact of social factors, self-control, and financial education on financial literacy and financial saving behaviour among university students in Saudi Arabia. *Eurasian Journal of Educational Research, 106*(106), 192–210. https://doi.org/10.14689/ejer.2023.106.012.

Méndez Prado, S.M., Chiluiza, K., Everaert, P., Valcke, M. (2022). Design and Evaluation among Young Adults of a Financial Literacy Scale Focused on Key Financial Decisions. *Education Sciences*, *12*(7), 460. https://doi.org/10.3390/educsci12070460.

Moreno-Herrero, D., Salas-Velasco, M., Sánchez-Campillo, J. (2018). Factors that influence the level of financial literacy among young people: The role of parental engagement and students' experiences with money matters. *Children and Youth Services Review, 95*, 334–351. https://doi.org/10.1016/j.childyouth.2018.10.042.

Murugiah, L., Ismail, R., Taib, H.M., Applanaidu, S.D., Long, M.N.H.B.H. (2023). Children's understanding of financial literacy and parents' choice of financial knowledge learning methods in Malaysia. *MethodsX, 11*, 102383. https://doi.org/10.1016/j.mex.2023.102383.

Özyeşil, M., Tembelo, H. (2024). *Financial literacy scale development: reliability and validity analysis on managers in* ınstitutions *affiliated to Istanbul Provincial Health Directorate*. In: El Khoury, R. (eds). Technology-Driven Business Innovation. Studies in Systems, Decision and Control, vol. 223 (pp 613–630). Springer, Cham. https://doi.org/10.1007/978-3-031-51997-0_52.

Potrich, A.C., Vieira, K.M., Paraboni, A.L. (2025). Youth Financial Literacy Short Scale: Proposition and validation of a measure. *Social Sciences & Humanities Open*, *11*, 101214. https://doi.org/10.1016/j.ssaho.2024.101214.

Pramitasari, M., Siti Syarah, E., Risnawati, E., & Shofiyah Tanjung, K. (2023). Early childhood financial literacy: A systematic literature review. *Aṭfālunā Journal of Islamic Early Childhood Education*, *6*(1), 1–11. https://doi.org/10.32505/atfaluna.v6i1.5724.

Rehman, K., Mia, M.A. (2024). Determinants of financial literacy: A systematic review and future research directions. *Future Business Journal*, *10*(1), 75. https://doi.org/10.1186/s43093-024-00365-x.

Sherraden, M.S., Johnson, L., Guo, B., Elliott, W. (2011). Financial capability in children: effects of participation in a school-based financial education and savings program. Journal of Family and Economic Issues, 32(3), 385–399. https://doi.org/10.1007/s10834-010-9220-5.

Shim, S., Barber, B.L., Card, N.A., Xiao, J.J., Serido, J. (2010). Financial socialization of first-year college students: The roles of parents, work, and education. *Journal of Youth and Adolescence, 39*(12), 1457–1470. https://doi.org/10.1007/s10964-009-9432-x.

Shrestha, N. (2021). Factor analysis as a tool for survey analysis. *American Journal of Applied Mathematics and Statistics, 9*(1), 4–11. https://doi.org/10.12691/ajams-9-1-2.

Tangney, J.P., Baumeister, R.F., Boone, A.L. (2004). High self-control predicts good adjustment, less pathology, better grades, and interpersonal success. *Journal of Personality, 72*(2), 271–324. https://doi.org/10.1111/j.0022-3506.2004.00263.x.

Watkins, M.W. (2018). Exploratory factor analysis: A guide to best practice. *Journal of Black Psychology, 44*(3), 219–246. https://doi.org/10.1177/0095798418771807.

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