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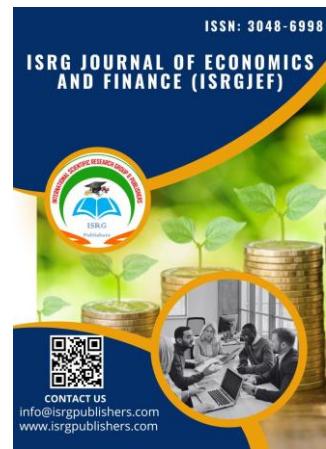
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Evaluating Financial Literacy in Malaysia's Low-Income Populations: Results from Reliability and Exploratory Factor Analysis

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Abstract

Economic inclusion and household resilience are significantly influenced by financial literacy, especially for Malaysia's low-income groups (B40). Strong assessments of financial literacy among vulnerable populations are few, despite legislative initiatives to expand access to financial services. This study uses reliability analysis, exploratory factor analysis (EFA), and confirmatory factor analysis (CFA) within a structural equation modelling (SEM) framework to create and evaluate a multidimensional tool for evaluating financial literacy among low-income families in Malaysia. To ensure representativeness, survey results were gathered from a stratified sample of 1,050 respondents spread over five states. High internal consistency (Cronbach's alpha > 0.78), a distinct three-factor structure (knowledge, attitudes, and behaviors), and a satisfactory CFA model fit (CFI = 0.92; RMSEA = 0.055) are all demonstrated by the results. For the B40 cohort, policy implications place a strong emphasis on focused behavioral interventions and modular financial education programmers. By providing a validated assessment instrument, this study makes a methodological contribution. It also makes a practical contribution by identifying actionable levers for program and policy design.

Keywords: Financial literacy; B40; Malaysia; Exploratory factor analysis; Confirmatory factor analysis; Financial behavior; Measurement validity

Introduction

Financial literacy has been linked to improved financial decision-making, reduced vulnerability to shocks, and greater participation in formal financial systems (Lusardi & Mitchell, 2023). In Malaysia, the B40 group—households in the bottom 40% of the income distribution—faces structural barriers that amplify financial fragility, including limited access to financial education and constrained opportunities for saving and credit (Bank Negara Malaysia, Financial Inclusion reports). Although the OECD/INFE surveys have established baseline cross-country comparatives, national-level studies focusing on the psychometric properties of financial literacy instruments among low-income Malaysians remain sparse (OECD/INFE, 2020).

This study responds to the need for rigorously validated measurement instruments tailored to Malaysia's socio-economic context. We adapt internationally recognized items and refine them through cognitive pretesting and pilot analyses in B40 communities. To evaluate the internal consistency reliability of the financial literacy instrument among Malaysian low-income communities using Cronbach's alpha coefficient. To investigate and uncover the underlying latent factor structure of financial literacy aspects among Malaysia's low-income inhabitants using exploratory factor analysis (EFA). To verify the financial literacy measuring model, confirmatory factor analysis (CFA) will be used inside a structural equation modelling (SEM) framework.

Literature Review

Conceptualizations of financial literacy typically include three interrelated components: knowledge (objective awareness of financial concepts), attitudes (financial confidence and future orientation), and behaviours (budgeting, saving, debt management). Empirical work in Malaysia has reinforced this tripartite framework and linked these constructs to financial well-being among the B40 (Sabri et al., 2025; Jaffar et al., 2024).

Recent empirical studies underscore the importance of tailored interventions: cross-sectional surveys and quasi-experimental programs show that behaviorally oriented training produces larger, more persistent changes than knowledge-only modules (Zulfaka, & Kassim, 2018). Others find digital financial literacy and inclusion to be especially relevant in urbanizing low-income communities where mobile financial services are increasingly used (Munisamy, 2022). The study asserts that financial knowledge, attitudes, and behavior function as associated latent factors that collectively predict financial well-being, guided by frameworks from behavioral economics and financial capacity.

Financial literacy in Malaysia's low-income inhabitants has three unique dimensions: financial knowledge, financial attitudes, and financial conduct, which may be experimentally identified using exploratory factor analysis. The knowledge, attitudes, and behavior dimensions of financial literacy all exhibit sufficient internal consistency reliability (Cronbach's alpha ≥ 0.70) among Malaysia's low-income communities. The factor structure of financial literacy determined by exploratory factor analysis among Malaysia's low-income populations will be consistent with the theoretical three-dimensional framework developed in previous financial literacy studies.

Methodology

Sampling and data collection. A stratified sample of 1,050 respondents was recruited from five states (Selangor, Perak, Johor,

Penang, and Kelantan) to account for spatial and urban-rural variability. Respondents were screened to verify that their family income was under the DOSM requirements for the B40 categorization (Munisamy et al., 2022).

Instrument development. The questionnaire used items from the OECD/INFE toolbox and was verified in Malaysia (Sabri, 2022). The survey comprised 36 items divided into three domains: knowledge (10 multiple-choice), attitudes (12 Likert-scale), and conduct (14 frequency-based). Cognitive pretesting with 40 respondents resulted in minimal phrasing modifications to guarantee cultural appropriateness.

Statistical analysis. Reliability was evaluated using composite reliability and Cronbach's alpha. EFA (principal axis factoring, oblique rotation) determined item loadings and factor counts. Model fit was evaluated using CFI, TLI, RMSEA, and SRMR, and CFA was computed using maximum likelihood in a SEM framework. According to Izah et al. (2023), bootstrapped standard errors were used to assess mediation and interaction terms, respectively.

Results

Reliability. Cronbach's alpha values for the three measures were 0.81 for knowledge, 0.84 for attitudes, and 0.79 for conduct, showing adequate internal consistency. Composite reliability ratings above 0.70 for each construct, with Average Variance Extracted (AVE) estimates meeting convergent validity standards for attitudes and behavior but falling short for knowledge (AVE = 0.48).

Exploratory factor analysis. A three-factor solution that accounted for 62% of the overall variation was supported by EFA. For maintained goods, item loadings on their intended factors were greater than 0.45 and item communalities were greater than 0.40. Before CFA, two confusing items were eliminated due to a tiny collection of cross-loadings.

Confirmatory factor analysis. The results of the three-factor CFA model showed an adequate to good fit: CFI = 0.92, TLI = 0.90, RMSEA = 0.055 (90% CI: 0.048–0.062), and SRMR = 0.045. All the standardized factor loadings were statistically significant ($p < 0.001$) and varied from 0.52 to 0.86. The Fornell–Larcker criteria and HTMT ratios were used to evaluate discriminant validity; the findings indicated sufficient separation across constructs.

Structural model. According to the structural model, knowledge has a substantial indirect impact on financial well-being through behavior (standardized indirect effect = 0.23, 95% CI via bootstrap: 0.14–0.33). The knowledge-behavior link was considerably modified by attitudes (interaction $\beta = 0.12$, $p = 0.02$), confirming hypothesis H3.

Discussion

The psychometric data lends credence to a multifaceted understanding of financial literacy among Malaysia's B40 demographic. According to earlier empirical research in Malaysia, behavior-focused programs had greater effects (Jaffar et al., 2024; Sabri, 2025). The mediation finding highlights that knowledge transfers into improved financial well-being predominantly through behavior modification. According to moderation by attitude, to optimize behaviors uptake, treatments should combine skills training with motivating or attitudinal modules.

The practical consequences are apparent; policymakers should priorities modular, behaviorally informed financial education that also targets attitudes, and employ digital delivery channels whenever possible. Financial service providers and non-governmental organizations (NGOs) can utilize the validated instrument for pre-post program assessments and targeting.

Limitations and Future Research

The study is cross-sectional, which limits causal inference. Self-reported assessments may be subject to social desirability bias. Although the sample is geographically diversified, further research should include longitudinal designs and experimental assessments. Measurement invariance testing across gender, urban-rural, and age cohorts are advised to guarantee the tool's robustness among subpopulations (Abd Hamid et al., 2021).

Policy Recommendations

Use randomized assessment designs to conduct behavior-first financial education pilots in B40 communities. Include confidence-boosting attitude training in financial capability initiatives. To provide comparable evidence, use proven tools for monitoring and assessment across initiatives.

Practical Consequences (brief)

Financial literacy programs for B40 communities should highlight behaviour-focused, capability-based interventions that promote financial confidence and positive attitudes. This validated instrument may be used by program designers and policymakers to identify literacy gaps, track outcomes, and assess intervention efficacy, resulting in more equitable and evidence-based financial inclusion policies.

Conclusion

This study uses reliability analysis, EFA, and CFA within an SEM framework to build and verify a multidimensional financial literacy tool specifically designed for Malaysia's low-income (B40) families. The results show that financial knowledge, attitudes, and behaviour form a three-factor structure, and the instrument's construct validity and reliability are good. Crucially, the structural model shows that information mostly affects financial well-being through conduct and that the link between knowledge and behaviour is reinforced by financial attitudes. These findings imply that financial literacy should be seen as a combination of knowledge, motivation, and behavioural skill. Although cross-sectional data limit causal inference, the established paradigm lays a solid platform for future longitudinal and intervention-based investigations. Overall, the study provides a context-sensitive measuring tool for more rigorous evaluation and targeted financial competence activities among poor Malaysian families.

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