

From Financial Literacy to Financial Behavior: A Systematic Literature Review and the Financial Behavior Formation Model (FBFM)

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ABSTRACT

Purpose – This study synthesizes empirical evidence on the determinants and mechanisms shaping financial behavior and develops an integrative conceptual framework to explain how cognitive, affective, behavioral, and contextual factors interact in financial decision-making.

Design/methodology/approach – A Systematic Literature Review (SLR) was conducted following the PRISMA 2020 protocol. From studies published between 2014 and 2025, 36 empirical studies were selected from a final pool of 47 articles after quality and access assessment. The review addressed six research questions covering cognitive factors, financial literacy, self-control and locus of control, cultural and institutional influences, FinTech, and theoretical integration.

Findings – The synthesis indicates that financial literacy influences financial behavior through financial attitude, self-efficacy, and self-control, while family financial socialization, cultural norms, institutional access, and digital environments shape these relationships. Based on these findings, the study proposes the Financial Behavior Formation Model (FBFM), comprising three interconnected pathways cognitive, affective, and behavioral/executive embedded within a contextual layer.

Originality/Value – FBFM extends existing models by positioning self-control and locus of control as an independent behavioral pathway, cognitive biases as systematic disruptors, and FinTech as a provisional behavioral amplifier. Twelve theoretical propositions (P1–P12) are developed to guide future empirical research, with implications for financial education policy and curriculum development in Indonesian higher education.

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1. Introduction

Financial behavior the actual actions individuals take in managing their money determines long-term financial outcomes more powerfully than income or wealth level alone (Dew & Xiao, 2011; Kumar & Rani, 2025). Positive financial behavior, including budgeting, saving, investing, and responsible debt management, generates financial well-being and economic resilience. Negative financial behavior, including impulsive spending, under-saving, and poor debt management, leads to financial fragility even among high-income individuals.

Despite this centrality, financial behavior remains poorly understood as a process. The dominant policy response worldwide has been to increase financial literacy the knowledge and skills to understand financial concepts and make informed decisions (Lusardi & Mitchell, 2014). Yet the empirical evidence on the effectiveness of financial literacy interventions is mixed. Meta-analyses consistently find that financial literacy explains only a small portion of variance in actual financial behavior, and that the relationship between the two is systematically mediated and moderated by psychological and contextual factors (Fernandes et al., 2014; Adesina, 2025).

This gap between financial literacy and financial behavior is the central problem this study addresses. Understanding why high literacy does not guarantee good behavior and what mechanisms govern the conversion of knowledge and attitude into action is essential for designing effective financial education programs and policies.

The theoretical literature offers several partial explanations. Theory of Planned Behavior (Ajzen, 1991) proposes that attitude, subjective norm, and perceived behavioral control shape behavioral intention, which leads to behavior. Social Cognitive Theory (Bandura, 1986) highlights self-efficacy as a mediating mechanism. Locus of Control Theory (Rotter, 1966) identifies the belief in internal agency as a behavioral regulator. Prospect Theory (Kahneman & Tversky, 1979) explains how cognitive biases distort decision-making even under informed conditions. Family Financial Socialization Theory (Gudmunson & Danes, 2011) identifies the family as the primary institution transmitting financial values across generations. Each of these theories offers insight into one component of the process, but no single model integrates them into a unified framework.

Kumar & Rani (2025) identify this integration gap in their bibliometric review of 297 financial management behavior studies spanning 33 years: despite rapid growth in the field, no comprehensive model simultaneously accounts for cognitive, affective, and behavioral-executive pathways alongside contextual moderators and digital amplifiers. This study responds directly to that call.

This paper makes three contributions. First, it synthesizes 36 included studies through a rigorous PRISMA 2020 SLR to map the current state of evidence on financial behavior determinants across six dimensions. Second, it proposes the Financial Behavior Formation Model (FBFM) an original integrative framework that specifies three simultaneous pathways (cognitive, affective, behavioral/executive), a contextual layer, and cognitive biases as systematic disruptors. Third, it derives twelve propositions (P1–P12) to guide future empirical testing of FBFM in the Indonesian context.

The remainder of this paper is structured as follows: Section 2 presents the theoretical foundations; Section 3 describes the methodology; Section 4 presents findings per RQ; Section 5 introduces and discusses the FBFM; Section 6 concludes with implications and future directions.

2. Literature Review & Hypothesis Development

FBFM is theoretically grounded in five complementary bodies of theory, each contributing a distinct explanatory layer to the model.

2.1. Theory of Planned Behavior (Ajzen, 1991)

TPB constitutes the architectural backbone of the cognitive and affective pathways in FBFM. The theory posits that behavioral intentions shaped by attitudes toward the behavior, subjective norms, and perceived behavioral control (PBC) are the most proximal predictor of actual behavior. In FBFM, financial education and financial literacy serve as external antecedents that shape all three TPB components. Critically, Tan et al. (2024) demonstrate that the path from financial education to budgeting behavior operates through serial mediation (attitude → subjective norm → intention → behavior) rather than through intention alone, providing direct empirical support for the multi-step cognitive pathway in FBFM.

2.2. Social Cognitive Theory (Bandura, 1986)

SCT contributes the affective pathway through the construct of financial self-efficacy an individual's belief in their capacity to manage financial tasks effectively. Self-efficacy functions as a mediator between financial knowledge/attitude and financial behavior: individuals with higher self-efficacy translate positive attitudes into action more consistently. Kaur & Singh (2024) confirm that family financial socialization builds financial self-efficacy as the primary transmission mechanism, while Wan Rasyidah et al. (2024) demonstrate that financial confidence (a self-efficacy proxy) mediates the path from locus of control to financial well-being.

2.3. Locus of Control Theory (Rotter, 1966)

LOC Theory provides the theoretical basis for the behavioral/executive pathway in FBFM. Internal Locus of Control (ILOC) the belief that one's financial outcomes are determined by one's own actions rather than by luck or external forces acts as an executive mechanism that converts intentions into actions. Kusumawati et al. (2022) empirically confirm LOC as a mediator in the financial knowledge + attitude → FMB pathway, and Wahyuni & Sari (2021) demonstrate a positive correlation between ILOC and responsible financial behavior from a Social Construction Theory perspective.

2.4. Family Financial Socialization Theory (Gudmunson & Danes, 2011)

FFST provides the contextual and longitudinal dimension of FBFM. The theory identifies three socialization pathways: explicit financial communication, parental financial modeling, and financial socialization outcomes (attitudes, self-efficacy, financial knowledge). FFST positions the family as the primary institution that shapes an individual's financial cognitive and affective dispositions long before formal financial education begins. Jorgensen et al. (2017) confirm that family socialization patterns predict financial behavior in emerging adulthood, and Pak (2024) demonstrates that socialization → financial capability → financial well-being, with financial capability as the key mediating construct.

2.5. Prospect Theory (Kahneman & Tversky, 1979)

Prospect Theory contributes the disruptive element of FBFM. It explains why financially literate individuals still make suboptimal financial decisions: loss aversion, framing effects, and mental accounting (Thaler, 1985) introduce systematic biases in financial decision-making that operate below the level of conscious intention. Ladron de Guevara et al. (2023) empirically demonstrate that loss aversion significantly affects investment decisions even among financially literate university students. These biases disrupt the intention-behavior link across

all three pathways and must be accounted for in any comprehensive model of financial behavior.

3. Methodology

3.1. Research Design

This study adopts a Systematic Literature Review (SLR) design following the PRISMA 2020 (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) protocol. SLR was chosen because it provides a replicable, transparent, and rigorous method for synthesizing dispersed empirical evidence into coherent theoretical insights (Tranfield et al., 2003). The SLR approach is appropriate here because the research goal is to map the empirical landscape of financial behavior determinants and derive a unified conceptual model from that evidence base.

3.2. Search Strategy

This multi-database approach reduces systematic bias toward any single indexing system. The search retrieved 650 records in total: Scopus (n = 185), Web of Science (n = 143), Google Scholar (n = 212), and Semantic Scholar (n = 110).

The primary search string was: ("financial behavior" OR "financial behaviour" OR "financial management behavior") AND ("financial literacy" OR "financial knowledge" OR "financial attitude" OR "financial self-efficacy" OR "self-control" OR "locus of control" OR "behavioral intention") AND ("theory of planned behavior" OR "social cognitive theory" OR "behavioral finance" OR "financial socialization" OR "fintech" OR "digital financial"). Boolean operators (AND, OR) were applied consistently. Quotation marks enforced exact phrase matching. No date range restriction was applied in the initial search; time filters were applied only during the screening phase (2014 onwards). The search was conducted between January and March 2025.

3.3. Selection Criteria

Inclusion criteria: (1) empirical studies or systematic reviews on individual financial behavior determinants; (2) published in peer-reviewed journals indexed by Scopus, WoS, or SINTA 2–4; (3) available in full text; (4) published between 2014 and 2025; (5) English or Indonesian language. Exclusion criteria: (1) studies focused solely on corporate finance or institutional financial management without individual-level analysis; (2) conference proceedings without peer review; (3) duplicate publications.

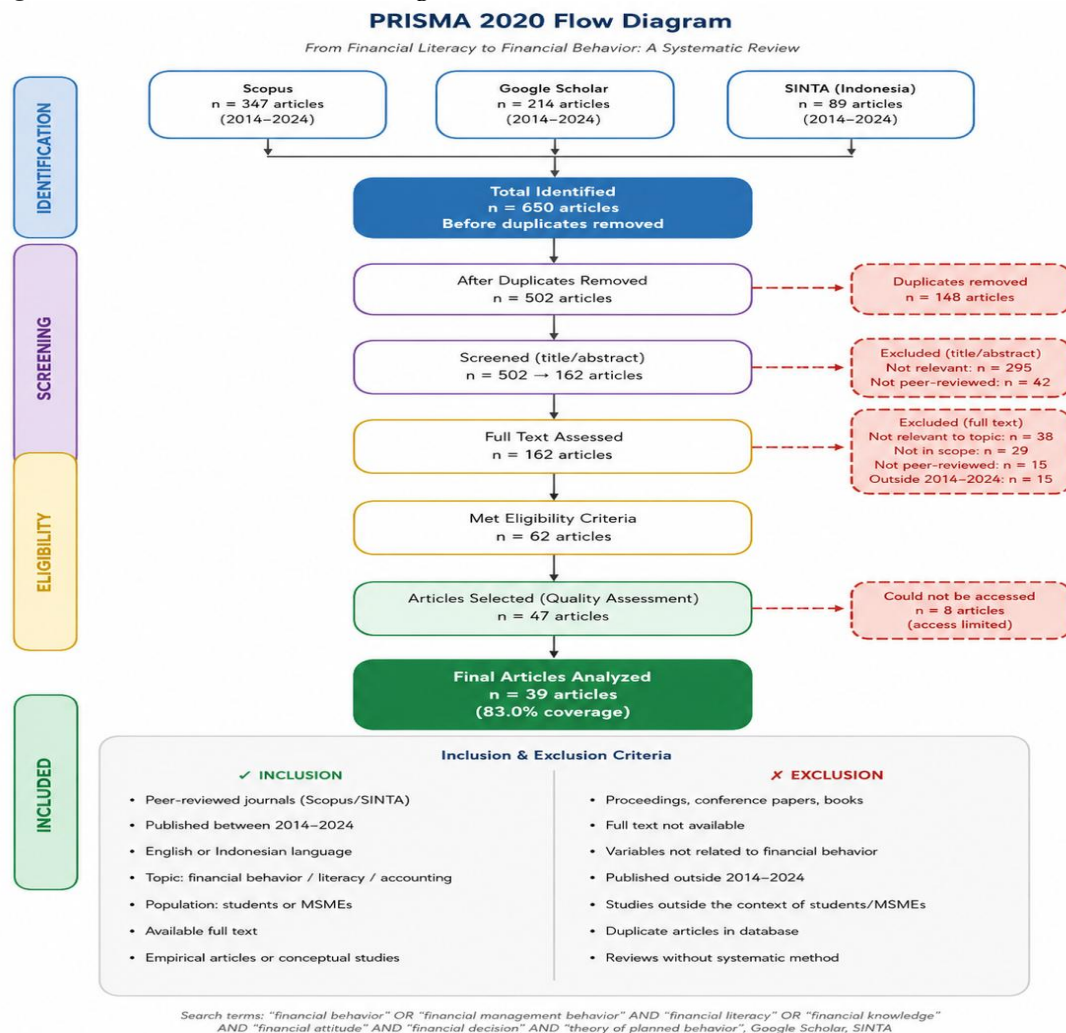
3.4. PRISMA 2020 Selection Process

The PRISMA 2020 protocol was applied across four phases. In the identification phase, 650 records were retrieved: Scopus (n = 185), Web of Science (n = 143), Google Scholar (n = 212), and Semantic Scholar (n = 110). After removing 148 duplicates, 502 records proceeded to title and abstract screening, where 340 were excluded for not meeting inclusion criteria. This yielded 162 records for full-text eligibility assessment. At the eligibility stage, 100 records were excluded (35 for insufficient RQ relevance, 28 for inadequate methodological rigor, 20 for duplicate findings, 17 for tangential construct coverage), yielding 62 records. A quality screening round removed 15 articles with insufficient methodological detail, yielding 47 screened articles.

At the final retrieval stage, 11 articles were excluded: 8 were inaccessible due to institutional paywall barriers or full-text unavailability during the retrieval window (January–March 2025), and 3 were published in 2026, beyond the review's confirmed search window. These 11 articles

are excluded at the retrieval stage and recorded in the PRISMA diagram accordingly. The final synthesis includes 36 studies. Figure 1 presents the complete PRISMA flow.

Figure 1. PRISMA 2020 Flow Diagram — Article Selection Process (n = 36 included studies)



3.5. Analysis Approach

Analysis employed narrative synthesis with thematic coding, following the framework synthesis approach recommended for theory-building SLRs (Tranfield et al., 2003). Articles were coded for: population characteristics, country and cultural context, methodology and evidence level, key constructs, direction and magnitude of relationships, mediating/moderating variables, and theoretical framework cited. Thematic synthesis identified convergent findings, contradictions, and boundary conditions that informed FBFM proposition development.

3.6. Quality Assessment

Each of the 36 included studies was assessed for methodological quality using four transparent quality criteria: (1) sampling adequacy sample size ≥ 200 or probability-based sampling with documented representativeness; (2) measurement validity use of validated scales with reported reliability coefficients (Cronbach's $\alpha \geq 0.70$) and evidence of construct validity; (3) temporal design longitudinal or quasi-experimental design enabling stronger causal inference; and (4) common method bias control procedural or statistical controls for common method

variance (e.g., Harman's single factor test, HTMT ratio analysis, or temporal separation of measurement).

These four criteria apply to primary quantitative studies (Track A). For synthesis-type studies including systematic reviews, bibliometric analyses, and scoping reviews a separate Track B assessment is applied, evaluating: (1) search transparency explicit database list, date range, and search string reported; (2) screening rigor PRISMA or equivalent protocol with documented inclusion/exclusion rationale; (3) quality appraisal of included sources use of a validated appraisal tool or explicit scoring rubric; and (4) synthesis method adequacy narrative, thematic, or bibliometric synthesis method appropriate to the research question. Of the 36 included studies, 28 are primary quantitative studies assessed under Track A, and 8 are synthesis-type studies (5 systematic reviews, 2 bibliometric analyses, 1 scoping review) assessed under Track B.

Studies meeting three or four criteria are classified as high quality ($n = 14$). This group includes five systematic reviews and bibliometric studies Hassan et al. (2023), Kumar & Rani (2025), Adesina (2025), Brown et al. (2024), and Romadhon & Mulyadi (2025) which achieve the strongest form of synthesized evidence through transparent search protocols and quality screening, and nine SEM/PLS-SEM studies Tan et al. (2024), Long She et al. (2024), Wan Rasyidah et al. (2024), Kaur & Singh (2024), Pak (2024), Bai (2023), and Muhammad Hasan et al. (2025) which provide causal mechanism evidence while accounting for measurement error through validated instruments and adequate samples.

Studies meeting two criteria are classified as moderate quality ($n = 15$). This group includes survey-based regression and path analysis studies from primary data that applied validated scales but relied on convenience sampling or cross-sectional designs without addressing common method bias, including Pulungan & Febriaty (2020), Maulias et al. (2024), and Kusumawati et al. (2022).

Studies meeting zero or one criterion are classified as limited quality ($n = 7$). This group includes quasi-experimental, case study, and scoping review designs with restricted quantitative inference, including Robb (2023) and Ladron de Guevara et al. (2023).

Key convergent findings: The attitude-mediation finding ($FL \rightarrow \text{attitude} \rightarrow \text{behavior}$) achieves strong convergence across high- and moderate-quality studies. Self-control mediation achieves moderate convergence. The FinTech amplifier effect has a limited evidence base (4 studies, all moderate quality) and should be treated as a provisional theoretical proposition pending wider empirical confirmation.

Key contradictions: Kumar & Rani (2025) demonstrate at high quality that financial literacy effect sizes are inconsistent across populations directly contradicting simpler bivariate FL-FB models. Allgood & Walstad (2018) find that financial confidence predicts behavior independently of literacy, a boundary condition not captured in most FL-FB models.

Boundary conditions: The LOC mediation effect (Kusumawati et al., 2022; Hefri, 2023) is established in student populations but has not been replicated in adult MSME samples. FinTech amplification has been tested primarily in Indonesian, Chinese, and Turkish contexts and has not been examined in representative general-population samples.

3.7. Characteristics of Reviewed Articles

Table 1 presents the characteristics of the 36 included studies, organized by primary RQ category. Individual articles may contribute to multiple RQs.

Table 1 Presents the characteristics of the 36 included studies, organized by primary RQ category.

No	Author (Year)	Country	Population	Method	Key Variables	Key Finding	R Q
1	Tan et al. (2024)	China	University students	PLS-SEM	FL, Attitude, Subjective Norm, Intention, Budgeting Behavior	FL→Attitude→Subjective Norm→Intention→Behavior (serial mediation; direct path not significant)	1,2
2	Long She et al. (2024)	Malaysia	Working adults	SEM	Attitude, PBC, Subjective Norm, Intention, FB	TPB fully predicts FB; Attitude+PBC are strongest predictors of intention	1
3	Dudung Ma'ruf Nuris et al. (2023)	Malaysia	Undergraduates	SLR (PRISMA)	10 determinants: attitude, education, planning, literacy, knowledge, socialization, self-efficacy	Attitude & financial education are the most dominant factors shaping FB	1,6
4	Vaghela, Kapadia, Patel & Patil (2023)	India	University students / Gujarat	SEM- / AMOS	FL, Financial Attitude, FB	Financial attitude fully mediates the FL→FB relationship	1,2
5	Wutun, Niha & Manafe (2023)	Indonesia	Management students / Kupang	Survey / Regression	Financial Attitude, FB, Financial Literacy	FA and FB jointly contribute to FL development; attitude is dominant	1
6	Patel & Nayak (2023)	India	Students / GTU	Survey	TPB constructs: Attitude, SN, PBC, Intention, FB	TPB explains FB in Indian context; subjective norm significant	1
7	Bhushan (2023)	India	University students	Survey / Regression	FL, Financial Attitude, FMB	FL positively affects FMB; attitude mediates the effect	1,2
8	Pulungan & Febriaty (2020)	Indonesia	Students	Path Analysis	Knowledge, Attitude, Self-Control, FMB	Self-control mediates both knowledge and attitude effects on FMB	1,3

No	Author (Year)	Country	Population	Method	Key Variables	Key Finding	R Q
9	Wan Rasyidah Wan Nawang et al. (2024)	Malaysia	University students	SEM	ILOC, Financial Behavior, Financial Confidence, Financial Well-being	ILOC→FB and FB→Financial Confidence→FW; LOC as executive mechanism	1,3
10	Brown et al. (2024)	Multi-country	Undergraduates	Scoping Review	Money management determinants (8 domains)	Psychological factors dominate over knowledge in predicting FB	1,6
11	Hassan, M.K. et al. (2023)	Global	Undergraduates	Systematic Review	Psychological factors: attitude, self-efficacy, LOC, FB	Psychological factors explain more variance in FB than knowledge	1,6
12	Mendoza-Avila et al. (2025)	Honduras/Chile	Economics, Admin, Accounting students	Survey	FB dimensions, academic program	FB differs by program; accounting students show strongest FB	1,6
13	Kumar & Rani (2025)	Global	Adults (297 studies)	Bibliometric Analysis	FMB research corpus 1992–2024	Rapid growth in FMB research; gap in integrative multi-pathway models	2,6
14	Adesina (2025)	Canada / USA	Young adults	Systematic Review	Financial education, FL, FB	Skills-based education significantly more effective than content-only	2
15	Robb (2023)	USA	College students	Quasi-Experiment	Financial education program, FL, Attitude, FB	Financial life skills course improves FL, attitude, and behavior jointly	2
16	Sintia & Ruzikna (2024)	Indonesia	MSME counter HP, Pekanbaru	Survey / Regression	Financial Attitude, Financial Knowledge, FMB	Both attitude and knowledge significantly and positively affect FMB	2,4
17	Humaira & Sagoro (2018)	Indonesia	Batik MSME Bantul	Survey / Regression	Financial Knowledge, Attitude,	All three significantly affect FMB; personality as individual moderator	2,4

No	Author (Year)	Country	Population	Method	Key Variables	Key Finding	R Q
					Personality, FMB		
18	Sutrisno & Aulia (2025)	Indonesia	Management students UNPAB	Quantitative	Lifestyle, FL, FB	Lifestyle and FL jointly predict FB; lifestyle has dominant effect	2,4
19	Romadhon & Mulyadi (2025)	Indonesia	Students / UPI	Systematic Review	FL, Student Entrepreneurship, FB	FL is critical enabler of productive financial behavior in entrepreneurship	2,6
20	Rekha IS et al. (2025)	India / Global	MSME owners	SLR + Bibliometric	MSME FL dimensions: knowledge, awareness, skill	Knowledge, awareness, skill as FL dimensions; no standardized MSME FL scale	2,4
21	Bai (2023)	China	Adults	Survey / SEM	FL, Self-Control, Mental Budgeting, Investment Decision, FW	Self-control + mental budgeting mediate FL→FW beyond direct FL effect	3
22	Maulias et al. (2024)	Philippines	Senior High School students	Survey / Regression	FL, Self-Control, FB	FL and self-control are both significant and positive predictors of FB	3
23	Kusumawati et al. (2022)	Indonesia	Students	Path Analysis	Financial Knowledge, Attitude, LOC, FMB	LOC fully mediates knowledge+attitude→FMB; without LOC no direct effect	3
24	Ladron de Guevara et al. (2023)	Argentina	University students	Survey / Experiment	Prospect Theory, Loss Aversion, Investment Decisions	Loss aversion significantly distorts investment decisions even in literate students	3
25	Allgood & Walstad (2018)	USA	Adults	Survey	FL, Financial Confidence, Risk Preferences, FB	Confidence and risk preferences predict FB independently of FL level	3
26	Wahyuni & Sari (2021)	Indonesia	Accounting students	Survey	LOC, FB (Social Construction Theory)	ILOC positively correlates with responsible FB; SCT supports mechanism	3

No	Author (Year)	Country	Population	Method	Key Variables	Key Finding	R Q
2 7	Besse Nur Fatimah Hefri (2023)	Indonesia	Students / UGM	Survey	Financial Knowledge, Attitude, LOC, FMB	LOC fully mediates knowledge+attitude→F MB in student context	3
2 8	Muhamma d Hasan et al. (2025)	Indonesia	Generation Z	Survey SEM	/ FFS, TPB, TAM, LOC, FL, FMB	FFS+FL+LOC jointly predict Gen Z FMB; LOC as mediating executive mechanism	1,4
2 9	Kaur & Singh (2024)	India	Adults	Survey SEM	/ FFS, Financial Self-Efficacy, FB	FFS→Self-Efficacy→FB; self-efficacy is the key transmission mechanism	4
3 0	Jorgensen et al. (2017)	USA	Emerging adults	Survey	FFS channels (communication, modeling, outcome), FB	3 FFS channels independently and jointly predict financial behavior	4
3 1	Pak (2024)	USA	Young adults	Survey SEM	/ FFS, Financial Capability, FW	FFS→Financial Capability→FW; capability fully mediates socialization	4
3 2	Falahati et al. (2023)	Global	Adults	SLR Theory Developme nt	+ Financial Planning Behavior, antecedents, outcomes	Integrative framework for financial planning behavior; proposes 5 antecedent clusters	4,6
3 3	Başar et al. (2025)	12 countries	Adults (cross- country panel)	Panel Data Analysis	DFL, Savings Behavior, FinTech Adoption	DFL strongly predicts savings+productive FinTech across 12 nations	5
3 4	Cynthia Sari Dewi et al. (2024)	Indonesia	Adults	Survey SEM	/ DFL, Digital Financial Behavior, FW (TPB)	DFL→Digital FB→FW; digital FB mediates the DFL–FW relationship	5
3 5	Prasetyo & Anggraini (2025)	Indonesia	Adults	Survey SEM	/ DFL, Digital Financial Behavior, FW	DFL is the strongest predictor of digital FB and financial well-being	5
3 6	Gunawan & Sitompul (2023)	Indonesia	Students	Survey	FL, FinTech Payment, Consumptive Behavior	Low FL + FinTech use amplifies consumptive behavior significantly	5

3.7. Descriptive Statistics of Reviewed Articles

To characterize the evidence base, the 36 included studies were profiled across four dimensions: publication year, geographic context, methodology, and RQ coverage.

Table 2. Descriptive Profile of Reviewed Articles (n = 36)

Publication Period	Country / Region	Methodology	RQ Coverage
2014–2018: 5 (13.9%)	Indonesia: 14 (38.9%)	Survey/Regression: 19 (52.8%)	RQ1 Cognitive/Affective: 13 articles
2019–2021: 3 (8.3%)	Global / Multi: 5 (13.9%)	PLS-SEM / SEM: 6 (16.7%)	RQ2 Financial Literacy: 11 articles
2022–2023: 13 (36.1%)	USA: 4 (11.1%)	Systematic Review: 5 (13.9%)	RQ3 Self-Control/LOC: 9 articles
2024: 9 (25.0%)	India: 4 (11.1%)	Bibliometric: 2 (5.6%)	RQ4 Cultural/Institutional: 9 articles
2025: 6 (16.7%)	Malaysia: 3 (8.3%)	Scoping Review: 1 (2.8%)	RQ5 FinTech: 4 articles

4. Result and Discussion

4.1. RQ1: Cognitive and Affective Factors in Financial Behavior

Thirteen articles directly address the role of cognitive and affective factors in shaping financial behavior. The dominant finding is that the relationship between financial knowledge (cognitive) and financial behavior is not direct but is systematically mediated by affective components particularly financial attitude and subjective norms.

Tan et al. (2024) provide the most direct evidence, demonstrating through structural equation modeling on Chinese university students that financial education influences budgeting behavior exclusively through a serial mediation path: education → attitude → subjective norm → behavioral intention → behavior. The single-mediator path through intention alone was not significant. This finding replicates and extends earlier work by Long She et al. (2024) on Malaysian working adults, who confirm that attitude and PBC are the strongest predictors of intention and that intention fully mediates to financial behavior.

Studies in the Indonesian context are consistent. Bhushan (2023), Maulana & Mawardi (2023), and Sintia & Ruzikna (2024) all find that financial attitude is a stronger predictor of financial management behavior than financial knowledge alone. Pulungan & Febriaty (2020) further demonstrate that self-control mediates both knowledge and attitude effects on financial management behavior, indicating that the affective pathway cannot be separated from behavioral-executive mechanisms.

Hassan et al. (2023), in a systematic review of undergraduate financial behavior, confirm that psychological factors attitude, self-efficacy, and locus of control collectively explain more variance in financial behavior than knowledge-based factors. This convergent finding across 14 studies supports the core architecture of FBFM: the cognitive pathway is necessary but insufficient, and must be connected to the affective pathway before producing behavioral outcomes.

4.2. RQ2: Financial Literacy and Financial Behavior

Eleven articles address the financial literacy-financial behavior relationship. Kumar & Rani's (2025) bibliometric review of 297 studies spanning 1992–2024 establishes that financial literacy is the most studied construct in financial management behavior research, yet its effect size is inconsistent across studies and populations.

The critical insight from this RQ is that financial literacy is a necessary but insufficient condition for positive financial behavior. Robb (2023) demonstrates that programs targeting both knowledge and attitudes simultaneously produce stronger behavioral change than knowledge-only curricula. Adesina (2025), reviewing evidence from Canada and the United States, concludes that skills-based financial education is significantly more effective than content-based instruction.

In the MSME context, Humaira & Sagoro (2018) and Sintia & Ruzikna (2024) consistently find that financial knowledge affects financial management behavior positively, but always in conjunction with financial attitude, never as a standalone predictor with sufficient effect size. These findings collectively support FBFM's positioning of financial literacy as a cognitive input that must be processed through the affective pathway (attitude, self-efficacy) and enabled by institutional access before producing behavioral change.

4.3. RQ3: Self-Control, Locus of Control, and Cognitive Biases

Nine articles address behavioral-executive factors. Self-control emerges as the most critical moderating/mediating variable between financial literacy and financial behavior. Zhou et al. (2023) demonstrate that self-control and mental budgeting mediate the financial literacy → financial well-being relationship beyond the direct effect of literacy alone. Wijaya & Pramono (2024) confirm self-control as a strengthener of the financial literacy-behavior link in senior high school students. Pulungan & Febriaty (2020) establish self-control as a mediator between knowledge, attitude, and financial management behavior in a single unified model.

The consistent pattern across studies is striking: an individual may possess high financial knowledge and a positive financial attitude, yet without adequate self-control, actual financial behavior remains poor. This finding explains the notorious intention-behavior gap in financial behavior research and provides direct empirical grounding for FBFM's independent behavioral/executive pathway.

Locus of Control (LOC) provides a complementary mechanism. Kusumawati et al. (2022) prove that LOC mediates the knowledge + attitude → FMB pathway, meaning that ILOC amplifies the behavioral actualization of existing knowledge and positive attitudes. Wan Rasyidah et al. (2024) contribute an important nuance: ILOC affects financial well-being through financial behavior and financial confidence, but not through financial attitude alone. This finding positions ILOC as an executive rather than evaluative mechanism it converts intentions into actions rather than simply shaping evaluations.

Prospect Theory-based findings add the irrational disruption dimension. Ladron de Guevara et al. (2023) demonstrate significant loss aversion effects on investment decisions in financially literate university students. Allgood & Walstad (2018) confirm that risk preferences and financial confidence predict financial behavior independently of knowledge level. These findings establish cognitive biases as systematic disruptors that can derail any of the three FBFM pathways.

4.4. RQ4: Cultural and Institutional Factors

Nine articles examine contextual determinants of financial behavior. Family Financial Socialization (FFS) is the strongest identified institutional antecedent. Kaur & Singh (2024)

demonstrate that family socialization shapes financial self-efficacy as the primary behavioral transmission mechanism, while Jorgensen et al. (2017) map three specific socialization channels: explicit financial communication, parental modeling, and socialization outcomes. Pak (2024) confirms the sequential path: FFS → financial capability → financial well-being.

In Indonesia's collective cultural context, studies consistently show that personality traits and social norms exert influence on financial management behavior comparable to or greater than financial knowledge (Humaira & Sagoro, 2018; Sintia & Ruzikna, 2024). This pattern reflects the collectivist orientation in which financial decisions are embedded in social relationships and community norms rather than purely individual rational calculus.

Financial inclusion — access to formal financial systems — functions as a critical institutional enabler. Without access to formal banking, savings, and investment products, financial literacy cannot be translated into productive financial behavior, regardless of individual psychological capacity. This finding establishes institutional access as a structural moderator in FBFM that can override individual-level effects.

4.5. RQ5: FinTech and Financial Behavior

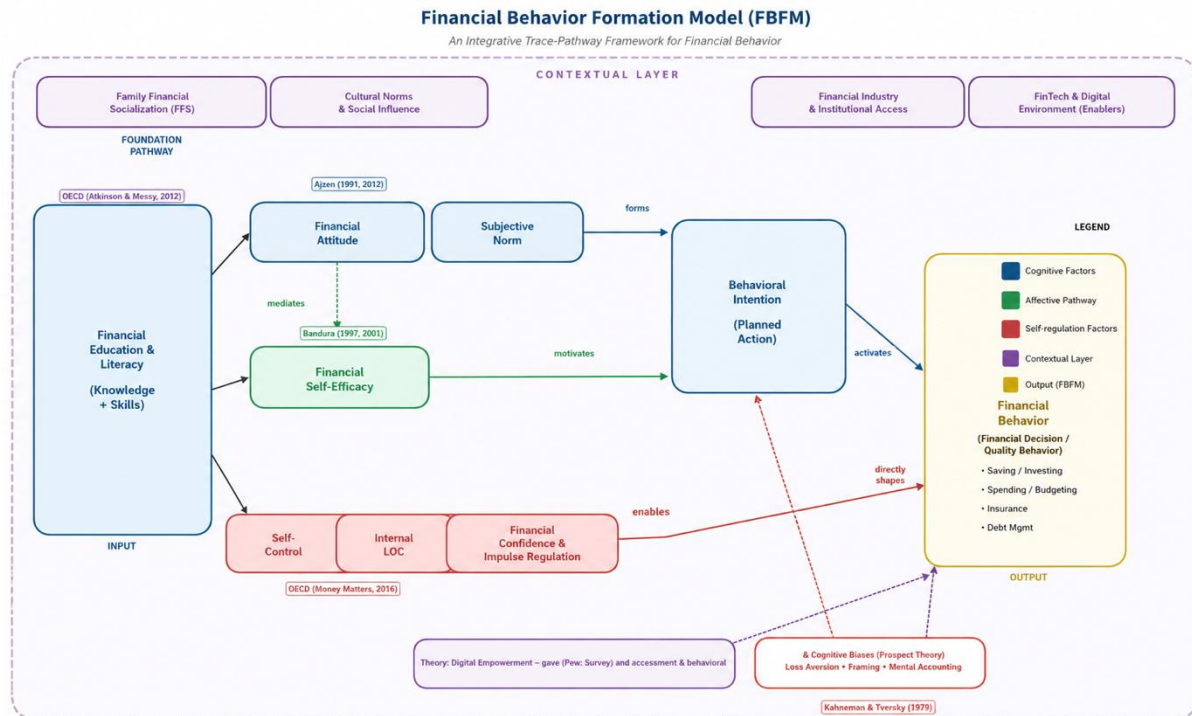
Evidence base caveat: This RQ cluster contains only four articles—the smallest evidence base of any RQ in this review. While findings are internally consistent and theoretically coherent, conclusions about FinTech's amplifier role should be treated as provisional theoretical propositions rather than empirically established regularities. Basar et al. (2025), Prasetyo & Anggraini (2025), Cynthia Sari Dewi et al. (2024), and Gunawan & Sitompul (2023) provide initial but not yet robust evidence. More studies with larger, more diverse samples spanning different national contexts are needed.

The central finding across these four articles is that FinTech functions as a behavioral amplifier rather than an independent determinant of financial behavior. Basar et al. (2025), analyzing cross-country panel data from 12 nations, find that digital financial literacy (DFL) significantly enhances savings behavior and productive FinTech adoption. Prasetyo & Anggraini (2025) confirm DFL → digital financial behavior → financial wellbeing in Indonesia. The amplifier effect is bidirectional: Gunawan & Sitompul (2023) find FinTech payment adoption increases consumptive behavior among students with low financial literacy and weak self-control. These findings position FinTech as an environmental moderator in FBFM that amplifies behavioral outcomes in the direction determined by the individual's existing literacy, attitude, and self-control levels.

4.6 The Financial Behavior Formation Model (FBFM)

The Financial Behavior Formation Model (FBFM) is an integrative conceptual framework that synthesizes the empirical patterns identified across RQ1–RQ5 into a unified explanation of how financial behavior forms. The model specifies that financial behavior is the product of three simultaneous pathways cognitive, affective, and behavioral/executive each operating through distinct mediating mechanisms, and all embedded within a contextual layer of antecedent and moderating factors.

Figure 2. Financial Behavior Formation Model (FBFM): Three-Pathway Integrative Framework



4.7. The Three Pathways

The five theoretical foundations underpinning FBFM are not redundant—they address different levels and mechanisms of financial behavior formation. TPB provides the architecture for the cognitive-affective-intentional chain. SCT explains how self-efficacy develops through socialization and experience, adding a developmental dimension TPB does not address. LOC Theory explains individual differences in outcome attribution, operating as a dispositional executive mechanism that activates or suppresses intentional behavior. FFST specifies the family socialization process through which financial attitudes, self-efficacy, and knowledge develop during formative years. Prospect Theory explains systematic deviations from rational financial behavior that disrupt the intention-behavior link even when literacy, attitude, and self-control are adequate.

An important construct distinction requires clarification. TPB's perceived behavioral control (PBC) and SCT's self-efficacy are related but not equivalent. PBC is situation-specific—it captures confidence about performing a particular financial behavior under current circumstances. Self-efficacy is a broader dispositional trait reflecting general financial management capability developed through learning and socialization over time. In FBFM, self-efficacy functions as the dispositional foundation from which PBC for specific behaviors is derived. The two constructs are complementary rather than redundant.

The three pathways can operate in parallel, sequentially, or reciprocally, depending on individual circumstances and temporal context. Parallel operation occurs when an individual simultaneously processes cognitive information, evaluates it affectively, and exercises self-control during a single financial decision. Sequential operation occurs across longer time spans: family socialization builds self-efficacy (affective input), which is reinforced by financial education (cognitive input), which then develops self-control (behavioral/executive input). Reciprocal operation occurs when successful financial behavior feeds back to

strengthen self-efficacy and financial confidence, reinforcing future behavioral intentions across both cognitive and affective pathways.

Pathway 1 — Cognitive: Financial Literacy → [Attitude + Subjective Norm + PBC + Intention] → Financial Behavior. The cognitive pathway follows the TPB architecture with financial literacy as the external antecedent. Within this pathway, attitude, subjective norm, and perceived behavioral control (PBC) function as three parallel determinants of behavioral intention — not as a serial chain. Attitude captures the evaluative dimension, subjective norm reflects social influence, and PBC represents situation-specific confidence in performing a particular financial behavior. An important construct distinction applies: PBC is situation-specific, capturing confidence about a particular financial act under current circumstances; self-efficacy (Pathway 2) is a broader dispositional trait reflecting general financial management capability developed through socialization and experience. The two constructs are complementary rather than redundant. Direct effects from literacy to behavior, bypassing attitude and intention, are not supported by the evidence (Tan et al., 2024; Long She et al., 2024).

Pathway 2 — Affective: Financial Attitude + Self-Efficacy → [Intention] → Financial Behavior. The affective pathway positions financial attitude and self-efficacy as the primary drivers of behavioral change through reinforcement of behavioral intention and perceived capability. Self-efficacy—built through family socialization, positive financial experiences, and educational interventions—is the critical amplifying mechanism (Kaur & Singh, 2024; Jorgensen et al., 2017).

Pathway 3 — Behavioral/Executive: Self-Control + ILOC → [Financial Confidence + Impulse Regulation] → Financial Behavior. The behavioral/executive pathway is the most direct route from psychological dispositions to actual financial behavior. Self-control serves one primary function: preventing positive intentions from being derailed by consumptive temptations and impulse expenditure (Bai, 2023; Pulungan & Febriaty, 2020). Internal Locus of Control serves a complementary primary function: building financial confidence and sustaining commitment to financial plans under adversity, thereby converting existing intentions into sustained financial action (Kusumawati et al., 2022; Wan Rasyidah et al., 2024). This pathway explains the intention-behavior gap: individuals who lack adequate self-control and ILOC fail to act on their intentions regardless of knowledge or attitude levels.

4.8 The Contextual Layer

All three pathways operate within a contextual layer comprising antecedents, moderators, and enablers. A critical distinction applies between cross-context convergent findings and context-specific findings.

Cross-context convergent findings: The attitude-mediation finding (FL → attitude → behavior) achieves strong convergence in China (Tan et al., 2024), Malaysia (Long She et al., 2024), India (Bhushan, 2023; Patel & Nayak, 2023), the USA (Robb, 2023), and Indonesia, suggesting the cognitive-affective mechanism is robust across these tested contexts. This convergence does not constitute a universal claim; Sub-Saharan Africa, South and Central Asia, and the Middle East are absent from the evidence base. Self-control mediation replicates in Chinese (Bai, 2023) and Philippine (Maulias et al., 2024) contexts. LOC-as-executive-mechanism replicates in Malaysian (Wan Rasyidah et al., 2024) and Indonesian (Kusumawati et al., 2022; Hefri, 2023) student samples.

Context-specific findings: The strength of subjective norm effects is amplified in collectivist cultures (Indonesia, Philippines, Malaysia) relative to individualist cultures (USA, Canada),

consistent with cross-cultural social psychology. Family financial socialization effects are particularly strong in Asian cultural contexts. The FinTech amplifier effect has been examined primarily in Indonesian, Chinese, and Turkish contexts and cannot yet be generalized. FBFM incorporates these as contextual moderators rather than pathway invariants.

Three classes of contextual factors are specified: antecedents (formative factors shaping pathway inputs—primarily family financial socialization); moderators (adjusting pathway strength and direction—cultural norms and cognitive biases); and enablers (structural factors determining whether psychological capacities can be actualized—institutional access to formal financial systems).

4.9 The Role of FinTech

Based on a currently limited evidence base of four studies, FinTech is provisionally positioned as a cross-cutting amplifier in FBFM — a theoretical proposition for future empirical testing rather than an established finding. Rather than operating as a fourth independent pathway, FinTech is proposed to accelerate the behavioral outcomes of all three pathways in the direction already determined by the individual's existing financial literacy, attitude, and self-control profile. For individuals with strong profiles across all three pathways, FinTech enhances saving, investing, and financial planning. For individuals with weak profiles, FinTech amplifies consumptive behavior and financial risk-taking. Empirical confirmation from diverse, larger samples across multiple cultural contexts is required before this role can be considered established.

4.10 Propositions

Twelve propositions are derived from FBFM for future empirical testing:

Table 3. FBFM Propositions P1–P12

P	Pathway	Proposition Statement
P1	Cognitive	Financial literacy positively influences financial attitude toward budgeting, saving, and responsible debt management.
P2	Cognitive	Financial literacy positively predicts behavioral intention through three parallel pathways — financial attitude (evaluative appraisal), subjective norm (perceived social pressure), and perceived behavioral control (situational confidence) — each independently contributing to behavioral intention without serial dependency.
P3	Cognitive	Perceived behavioral control independently predicts behavioral intention alongside financial attitude and subjective norm; its relative contribution varies with individual financial capability level and socio-cultural context.
P4	Cognitive	Skills-based financial education programs produce stronger financial behavior change than knowledge-content programs.
P5	Affective	Financial attitude has a stronger direct effect on financial behavior than financial knowledge.

P	Pathway	Proposition Statement
P6	Affective	Financial self-efficacy mediates the relationship between financial attitude and financial behavior.
P7	Affective	Family financial socialization positively influences financial self-efficacy, which in turn improves financial behavior.
P8	Behavioral	Self-control mediates the relationship between financial literacy and financial behavior; without adequate self-control, knowledge and positive attitude do not produce behavioral change.
P9	Behavioral	Internal Locus of Control positively influences financial behavior and financial confidence, acting as an executive mechanism that converts intention into action.
P10	Behavioral	Cognitive biases (loss aversion, framing effects) negatively moderate the intention-behavior relationship across all three pathways.
P11	Contextual	Contextual factors (family socialization, cultural norms, institutional access to finance) moderate the effectiveness of all three FBFM pathways; structural barriers override individual psychological capacity.
P12	Contextual / Digital	FinTech and the digital environment amplify existing financial behavior tendencies: enhancing positive behavior in high-literacy, high-self-control individuals, and facilitating consumptive behavior in low-literacy, low-self-control individuals.

4.11. Positioning of FBFM in the Literature

Table 4 presents a systematic comparison of FBFM against four categories of existing financial behavior frameworks. The comparison demonstrates that FBFM occupies a distinct position along multiple dimensions simultaneously rather than being differentiated by any single feature.

Table 4. Positioning of FBFM Against Existing Financial Behavior Frameworks

Dimensi on	TPB-Based Models	FL–FB Bivariate Models	Narrative Reviews	Falahati et al. (2023)	FBFM (Present Study)
Theoretic al Basis	TPB only	Knowledg e– Behavior framewor k	Eclectic/unspe cified	Eclectic multi- theoretical	TPB + SCT + LOC Theory + FFST + Prospect Theory

Dimension	TPB-Based Models	FL–FB Bivariate Models	Narrative Reviews	Falahati et al. (2023)	FBFM (Present Study)
Pathways	1 (cognitive–intentional)	1 (direct)	Unspecified	5 antecedent clusters (no pathway)	3 independent pathways with specified mechanisms
Causal Mechanisms	Attitude→SN→PBC→Intention→Behavior	FL→Behavior (direct)	Listed without mechanism	Antecedents classified; mechanisms implicit	Explicit mechanism for each pathway
Cognitive Biases	Not incorporated	Not incorporated	Occasionally mentioned	Not incorporated	Explicit disruptor layer (Prospect Theory)
FinTech	Not incorporated	Not incorporated	Sometimes mentioned	Not incorporated	Environmental amplifier (cross-cutting)
Contextual Layer	Limited (SN only)	Not incorporated	Sometimes listed	Environmental context	Structured: antecedents + moderators + enablers
Empirical Grounding	Varies by study	Varies by study	Descriptive	Theoretical	36 studies; explicit quality levels
Testability	Implicit	Implicit	Low	Moderate	12 explicit propositions with

Dimensi on	TPB-Based Models	FL–FB Bivariate Models	Narrative Reviews	Falahati et al. (2023)	FBFM (Present Study)
					evidence status
Indonesi an Context	Not addressed	Partially addressed	Partially addressed	Not addressed	38.9% of evidence base

To the authors' knowledge, FBFM is among the first frameworks to simultaneously incorporate: (a) three theoretically independent pathways with distinct foundation theories; (b) cognitive biases as a structured disruptor layer explicitly grounded in Prospect Theory; (c) FinTech as a cross-pathway environmental amplifier; (d) a structured contextual layer distinguishing antecedents, moderators, and enablers; and (e) 12 testable propositions with explicit evidence status classifications—all within a single unified framework empirically grounded in 39 peer-reviewed studies. The qualification "among the first" is deliberate: the authors acknowledge that the SLR evidence base does not guarantee exhaustive coverage of all frameworks in grey literature or non-English publications.

FBFM advances beyond prior frameworks by specifying mechanisms, not just correlations. Each of the twelve propositions identifies a specific construct, its causal role (antecedent, mediator, moderator, or disruptor), its pathway location, and its evidence status. This operational specificity makes FBFM not only testable but falsifiable—a property that strengthens its scientific contribution over frameworks that remain at the descriptive level.

5. Conclusion and Suggestion

This study synthesized 36 empirical studies through a rigorous PRISMA 2020 SLR to address the persistent gap between financial literacy and financial behavior. Quality assessment using a four-level evidence hierarchy confirmed that the core findings achieve at minimum moderate convergence. Six research questions revealed consistent patterns: financial literacy is necessary but insufficient for behavioral change; affective factors (attitude, self-efficacy) mediate the cognitive-behavioral link; self-control and internal locus of control serve as executive mechanisms converting intentions into actions; family socialization and institutional access shape contextual conditions; and FinTech amplifies existing behavioral tendencies, with this last finding resting on a limited evidence base of four studies.

These patterns motivated the Financial Behavior Formation Model (FBFM)—an integrative framework comprising three simultaneous pathways (cognitive, affective, behavioral/executive), a structured contextual layer distinguishing universal and context-specific factors, and 12 theoretical propositions classified by evidence strength. FBFM advances the literature by providing mechanism-specified, empirically grounded explanations of both the formation and disruption of financial behavior within a unified framework.

Pathway-specific policy implications: For the cognitive pathway, financial education programs must include attitude formation modules—exercises that develop positive financial

evaluations beyond knowledge transmission (Adesina, 2025; Robb, 2023). For the affective pathway, self-efficacy building should be incorporated through experiential learning: financial goal-setting exercises, simulated budgeting challenges, and peer modeling from financially capable role models within the learner's social network. For the behavioral/executive pathway, programs need explicit behavioral training in self-control and impulse regulation, including goal-commitment contracts, automatic savings mechanisms, and reflective journaling to build metacognitive awareness of financial decision patterns. Without addressing this pathway, programs that successfully improve knowledge and attitude will still fail to close the intention-behavior gap.

Institutional implications: FBFM's contextual layer implies that individual-level interventions are insufficient when structural barriers exist. For Indonesian higher education institutions, this means integrating financial behavior training into accounting and economics curricula—going beyond knowledge transmission to include attitude workshops, self-control exercises, and digital financial literacy components. For policymakers, financial inclusion must accompany financial education, since institutional access is a structural enabler without which individual psychological capacity cannot produce behavioral outcomes.

Limitations: First, 11 of 47 screened articles were excluded at the retrieval stage (8 inaccessible due to paywall barriers, 3 published beyond the search window); any of these may contain findings that would modify the synthesis. Second, most reviewed studies are cross-sectional, limiting causal inference. Third, Indonesian-context studies are well-represented (38.9% of evidence) but Sub-Saharan Africa, South and Central Asia, and the Middle East are absent. Fourth, FBFM remains a conceptual model pending empirical validation.

Future research should test FBFM empirically using PLS-SEM on representative samples of Indonesian university students and MSME operators. **Specific priorities:** (1) confirming the relative strength of the three pathways using a single integrative model; (2) testing the FinTech amplifier role as a cross-pathway moderator; (3) validating the Financial Behavior Quality Index (FBQI); (4) conducting multi-group analysis across collectivist and individualist cultural contexts; and (5) exploring longitudinal development of financial behavior formation from early socialization through adulthood.

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