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Original Article

A Systematic Literature Review: Present Bias versus Financial Literacy as Determinants of Savings Behavior Among Entrepreneurs

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Abstract. This systematic review synthesizes evidence from 20 peer-reviewed studies (2020–2025) to compare the influence of financial literacy and present bias on entrepreneurial savings behavior. The primary objective was to determine which factor—knowledge or behavioral bias—more strongly predicts savings outcomes among entrepreneurs. The methodology followed PRISMA 2020 guidelines, with searches conducted in Google Scholar, Scopus, and Web of Science using Boolean keywords; inclusion criteria required peer-reviewed articles in English with a Journal Impact Factor ≥1.5, focused on entrepreneurs or entrepreneurial populations. Three key findings emerged: (1) financial literacy's impact is conditional and often negligible without self-control; (2) present bias consistently leads to impulsive spending and reduced savings; and (3) behavioral factors frequently override financial knowledge. The review concludes that integrated interventions combining financial education with behavioral design are essential to promote entrepreneurial savings effectively.

Keywords: *Present bias; Financial literacy; Savings behavior; Cognitive biases; Entrepreneurial finance; Behavioral economics; Systematic review.*

Financial literacy has long been regarded as essential for entrepreneurial success, with policymakers and support organizations emphasizing training in concepts such as savings, loans, and investments under the assumption that knowledge leads to sound financial decisions (Molina-García et al., 2022; Frimpong et al., 2022). Studies have indeed shown that financial literacy can promote saving and strengthen business performance (Alshebami & Al Marri, 2022; Rapina et al., 2023). However, a persistent and puzzling problem remains: knowing what to do does not guarantee action. Many entrepreneurs who understand financial principles still struggle to save, revealing a significant gap between knowledge and behavior that highlights the role of cognitive and emotional factors.

Recent research in behavioral economics suggests that financial decisions are often influenced more by psychological biases than by rational knowledge. For instance, present bias—the tendency to prioritize immediate rewards over future benefits—can lead to impulsive spending and undermine long-term savings, even among financially literate individuals (Loewenstein & Carbone, 2024). This bias reflects a broader challenge of self-control, which is better understood as a struggle against emotional states rather than a simple trade-off between "now" and "later" (Loewenstein & Carbone, 2024). Such behavioral tendencies can lead to dissatisfaction, reduced investment, and ultimately harm entrepreneurial ventures (McKenzie et al., 2022).

While a growing body of literature examines either financial literacy or behavioral biases in isolation, few studies systematically compare their relative impact on entrepreneurial savings. This leaves a significant gap in understanding which knowledge-based interventions or behaviorally informed strategies are more effective in promoting financial resilience among entrepreneurs. This systematic review, therefore, aims to compare the influence of financial literacy and present bias on entrepreneurial savings behavior. By synthesizing empirical evidence from the past five years (2020–2025), this review seeks to clarify which factor more strongly predicts savings outcomes. The findings are intended to inform policymakers, educators, and support organizations in designing more effective interventions that integrate financial education with behavioral insights to bridge the gap between knowledge and action.

Despite widespread policy emphasis on financial literacy, entrepreneurs frequently fail to save, even when they are financially knowledgeable. This gap between knowledge and action suggests that behavioral barriers—such as present bias—may be more influential than knowledge alone. However, prior reviews have not systematically compared the relative predictive power of financial literacy and present bias on entrepreneurial savings, leaving a critical evidence gap for policymakers and educators. This review systematically compares the roles of financial literacy and present bias as determinants of savings behavior among entrepreneurs to identify which factor exerts a more substantial influence.

This review is guided by a dual-pathway theoretical framework that contrasts two distinct mechanisms shaping savings behavior among entrepreneurs: the Financial Literacy Pathway and the Behavioral Bias Pathway. The Financial Literacy Pathway posits that improved financial knowledge enhances financial confidence, which in turn promotes positive savings behavior. This conventional view assumes that literacy directly translates into action, emphasizing cognitive understanding as the primary driver of financial outcomes.

In contrast, the Behavioral Bias Pathway centers on the role of present bias—the tendency to overvalue immediate emotional rewards—which can lead to low self-control during emotional arousal, resulting in impulsive spending and ultimately reduced savings. This perspective, informed by the work of Loewenstein and Carbone (2024), reframes self-control not as a simple cognitive trade-off between "now" and "later," but as a struggle against powerful emotional states. The framework visually contrasts these two pathways, highlighting how behavioral factors may moderate or override the influence of financial knowledge. This conceptual approach enables a structured comparison of the relative predictive power of literacy and bias in shaping entrepreneurial savings.

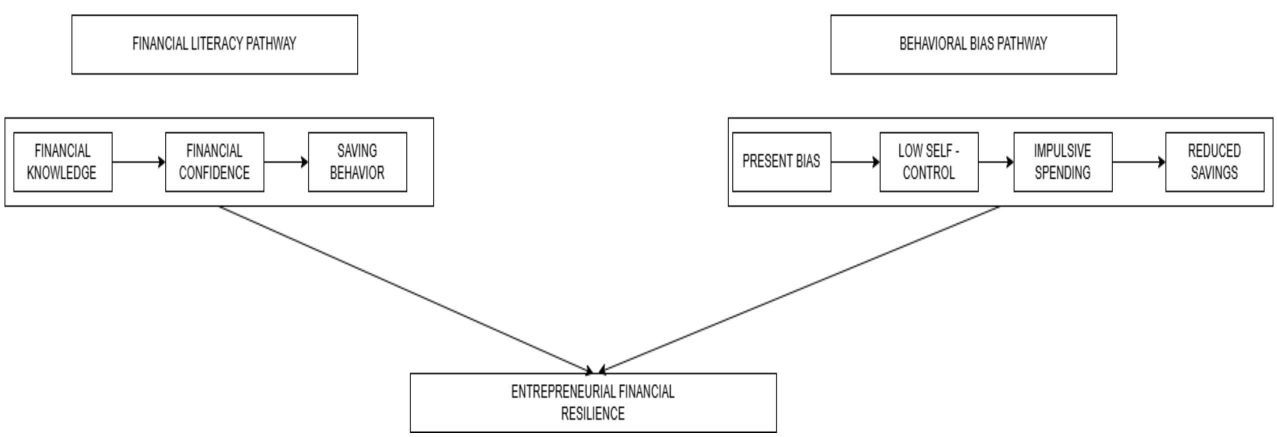

Figure 1. *Theoretical Framework Contrasting Pathways Influencing Entrepreneurial Savings Behavior*

Methodology

Research Design

This systematic review adhered to the PRISMA 2020 guidelines to ensure transparency and reproducibility. The primary aim was to synthesize empirical evidence comparing the effects of financial literacy and present bias on entrepreneurial savings behavior.

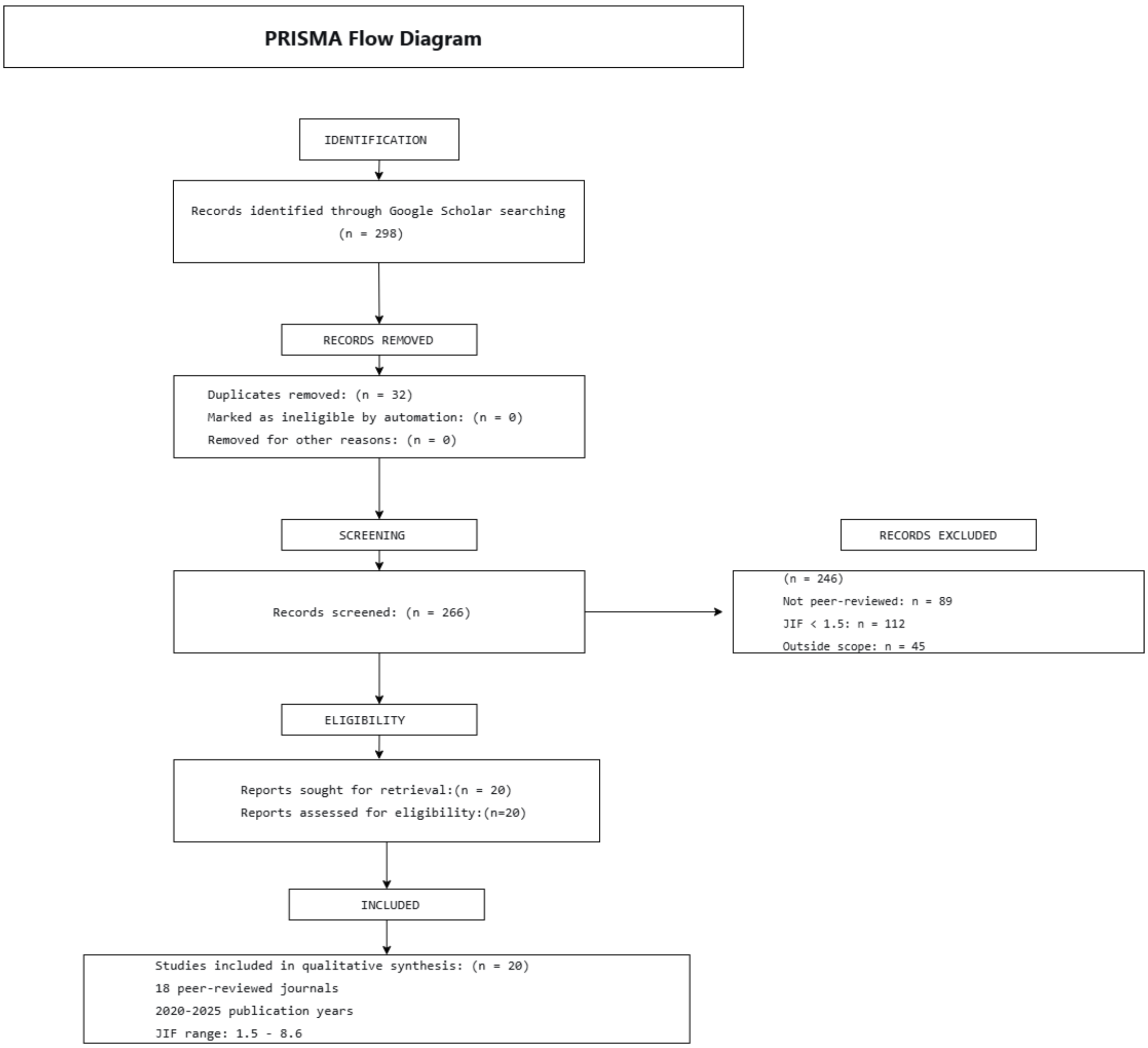

Figure 2. *PRISMA Flow Diagram*

Search Strategy

A systematic search was conducted across three electronic databases: Google Scholar, Scopus, and Web of Science. Boolean operators were used to combine the following keywords: ("Financial Literacy" or "Financial Knowledge") and ("Present Bias" or "Time Inconsistency" or "Cognitive Bias") and ("Savings Behavior" or "Saving") and ("Entrepreneur" or "SME Owner*" or "Self-Employed").

Inclusion and Exclusion Criteria

Studies Included

- Peer-Reviewed Journal Articles
- Published in English between 2020 and 2025

- Had a Journal Impact Factor (JIF) of 1.5 or Higher
- Focused on Entrepreneurs, SME Owners, Self-Employed Individuals, or Student Populations with Entrepreneurial Intentions
- Presented Original Empirical Findings (quantitative, qualitative, or mixed methods) or Theoretical Models Linking Financial Literacy, Present Bias, and Savings Behavior

Studies Excluded

- Conceptual without Empirical Data
- Focused on Non-entrepreneurial Populations without Explicit Entrepreneurial Linkage
- Conference Papers, Books, or Dissertations

Study Selection Process

Two independent reviewers screened titles and abstracts against the inclusion criteria. Full texts of potentially eligible studies were retrieved and assessed. Disagreements were resolved through discussion. Methodological quality was appraised using the Joanna Briggs Institute (JBI) and Critical Appraisal Skills Programme (CASP) checklists. Twenty studies met all criteria and were included in the final synthesis (see PRISMA Flow Diagram, Figure 2).

Data Extraction and Synthesis

Key variables extracted included financial literacy measures, present-bias indicators, savings-behavior outcomes, sample characteristics, and methodological approaches. Findings were synthesized thematically to compare the predictive strength of financial literacy with that of present bias.

Results and Discussion

The analysis of the 20 included studies revealed three key thematic findings: 1. The conditional effectiveness of financial literacy, which often requires self-control to translate into savings, 2. The consistent and substantial impact of present bias in driving impulsive spending and lowering savings, and 3. The moderating role of self-control in the relationship between financial literacy and savings behavior.

Table 1 shows the impact factors of the peer-reviewed publications that provided the chosen studies for this systematic review. Reputable journals in business, economics, psychology, and finance published the final selection of articles. The Review of Managerial Science (7.8), Entrepreneurship Theory and Practice (7.8), and European Research on Management and Business Economics (7.1) are the journals with the highest impact factors in this selection, providing a solid basis for high-impact research for this review.

Table 1. *Journal Impact Factor of Source Journals*

Journal Title	Impact Factor
Review of Managerial Science	7.8
Entrepreneurship Theory and Practice	7.8
European Research on Management and Business Economics	7.1
Journal of Consumer Research	5.7
National Bureau of Economic Research Working Paper	5.1
Current Opinion in Psychology	6.3
Journal of Asian Economics	2.9
Journal of Financial Services Marketing	2.9
Frontiers in Psychology	2.6
Vision: The Journal of Business Perspective	3.1
Current Psychology	2.5
Cogent Business & Management	3.0
Acta Psychologica	2.1
Cogent Economics & Finance	2.0
Review of Behavioral Finance	1.9
Frontiers in Education	1.9
Cogent Education	1.5
International Journal of Consumer Studies	8.6

The most concentrated corpus of empirical research began to emerge in 2020, and the explicit study of behavioral biases, such as present bias in entrepreneurial finance, is a relatively new field. Over the course of six years (2020–

2025), eighteen (18) periodicals were considered in this review. Twenty (20) relevant studies and works of literature make up the article. The specifics of the research topic and the adoption of a minimum Journal Impact Factor of 1.5 to ensure quality limited the selection, excluding some works. The most relevant literature for the review was found by combining the main search terms "present bias," "financial literacy," "savings behavior," "cognitive biases," and "entrepreneurs."

Table 2 presents the 20 final reviewed articles, arranged by publication year from 2020 to 2025. Requiring sources from peer-reviewed academic journals with a quantifiable Journal Impact Factor. Across five pertinent papers, the distribution peaks in 2022, indicating a notable increase in scholarly interest in this field. With two articles apiece, the journals Frontiers in Psychology and Cogent Education were the most often used sources. Given that most basic empirical studies were published only recently, beginning in 2020, this table demonstrates that the systematic study of the psychological aspects of entrepreneurial finance versus financial literacy is a relatively recent, rapidly developing area.

Table 2. *Sampled Articles*

Journal Title	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**
Review of Managerial Science			1			
Entrepreneurship Theory and Practice	1					
European Research on Management and Business Economics						1
Journal of Consumer Research		1				
National Bureau of Economic Research Working Paper			1			
Current Opinion in Psychology					1	
Journal of Asian Economics	1					
Journal of Financial Services Marketing				1		
Frontiers in Psychology			2			
Vision: The Journal of Business Perspective				1		
Current Psychology		1				
Cogent Business & Management				1		
Acta Psychologica						1
Cogent Economics & Finance			1			
Review of Behavioral Finance	1					1
Frontiers in Education					1	
Cogent Education	1			1		
Total (20 Reviewed Articles)	**4**	**2**	**5**	**4**	**2**	**3**

Table 3 describes the types of data used by the researchers. Fourteen (14) studies, or 78% of the sample, used primary data, according to analyses of the sampled studies by Mpaata, Koske, & Saina (2021), Cuadra et al. (2025), and Alshebami & Al Marri (2022). It suggests that most researchers in this area actively gather first-hand data on financial literacy and behavioral biases relevant to their study objectives. This approach enables assessment of psychological concepts related to conflict, such as present bias and self-control, using current datasets. This research contributes to understanding the human factors that influence financial decisions. Four (4) studies, or 22% of the total, used secondary data, primarily for systematic literature reviews (Molina-García et al., 2022) and large-scale, cross-country analyses (Miroshnychenko et al., 2020). Secondary data is valuable because it can establish the broader context and evolutionary trajectory of the research field by validating long-term patterns and offering a macro-level perspective.

The data used are directly related to the study. Modified survey questions, Rapina et al. (2023), Frimpong and Agyapong (2022), and consistent interviews, Cuadra et al. (2025) were the most popular forms of vital data. Randomized controlled trials (RCTs) provided empirical data (McKenzie et al., 2022), whereas detailed presence interviews provided data for research (Cuadra et al., 2025). The main advantage of these primary sources is their capacity to record complex, individual-level psychological and behavioral data, which is the fundamental contribution of this study stream and goes beyond simple financial knowledge to action. The secondary data encompassed diverse international corporate databases (Miroshnychenko et al., 2020) and scientific indexing databases such as Scopus and Web of Science (Molina-García et al., 2022). The data from these studies provide strong external validation for a set of solutions applicable across academic settings and entrepreneurial outcomes.

The studies' temporal scope is almost entirely current. Most primary studies are cross-sectional; they are conducted during a specific period (e.g., 2020-2025) when the data are collected (e.g., Dimaunahan et al., 2025; Ananda, Kumar, & Dalwai, 2024). This recent concentration provides a current, comprehensive overview of the most critical financial practices for understanding current and future entrepreneurial issues. On the contrary, secondary data research spans more extended periods: a bibliometric study of articles from 1992 to 2020 (Molina-García et al., 2022) and a decade-wide analysis (Miroshnychenko et al., 2020). The insights provided are of great value because they are longitudinal, enabling the tracing of the evolution and impact of research interests and company structures over time.

Table 3. *Sources of Data*

Title	Author/Year	Type of Data	Source of Data	Sample Sizes	Observation
Financial literacy and sustainable planning assessment among Filipino millennials.	Dimaunahan, D. S., Santiago, A. F., Eusebio, M. C., Loteriña, S. M., Ong, A. K., & Chavez, J. X. (2025).	Primary	Survey data from Filipino millennials.	Not Explicitly Stated	Cross-Sectional
Experiencing investment scams in the Philippines: An interpretative phenomenological analysis of victims' financial decision-making.	Cuadra, J., Mandras, Y., Raya, M. R., Belardo, H. A., Lopez, R., & Rodriguez, J. G. (2025).	Primary	In-depth interviews with scam victims in the Philippines.	Not Explicitly Stated	Phenomenological Analysis
Navigating the digital financial landscape: Unraveling the impact of financial behavior traits on women-owned enterprises in the new normal perspective.	Peter, S., Geetha, E., & Gupta, A. (2025).	Primary	Survey data from women entrepreneurs.	Not Explicitly Stated	Cross-Sectional
Perceptions of formal and informal financing sources as a predictor of female university students' entrepreneurial intentions.	Campos-Sanchez, A., Flores-Rodriguez, C. R., & Zapari-Romero, G. Y. (2025).	Primary	Survey data from female university students in Mexico.	473	Cross-Sectional
Self-control ≠ temporal discounting.	Loewenstein, G., & Carbone, E. (2024).	Secondary (Theoretical)	Synthesis of theoretical and empirical literature.	N/A	Conceptual Analysis
Impact of financial literacy on savings behavior: The moderation role of risk aversion and financial confidence.	Ananda, S., Kumar, R. P., & Dalwai, T. (2024).	Primary	Survey data from investors.	Not Explicitly Stated	Cross-Sectional
Fostering financially savvy generations: The intersection of financial education, digital financial misconception, and parental wellbeing.	Senduk, F. F., Djatmika, E. T., Wahyono, H., Churiyah, M., Mahasneh, O., & Arjanto, P. (2024).	Primary	Survey data from Generation Z students in Indonesia.	Not Explicitly Stated	Cross-Sectional
Effect of behavioural biases on the financial decisions of rural women micro-entrepreneurs: A scale development approach.	Panja, S. (2023).	Primary	Survey data from rural women micro-entrepreneurs.	Not Explicitly Stated	Scale Development
The impact of financial literacy and financial behavior in entrepreneurial motivation – Evidence from Indonesia.	Rapina, R., Meythi, M., Rahmatika, D., &Mardiana, M. (2023).	Primary	Survey data from entrepreneurs in Indonesia.	Not Explicitly Stated	Cross-Sectional
Aspirations and financial decisions: Experimental evidence from the Philippines.	McKenzie, D., Mohpal, A., & Yang, D. (2022).	Primary	Randomized controlled trial with poor Filipino entrepreneurs.	Not Explicitly Stated	Pre-intervention and Post-intervention
The impact of financial literacy on entrepreneurial intention: The mediating role of saving behavior.	Alshebami, A. S., & Al Marri, S. (2022).	Primary	Survey data from potential entrepreneurs in Saudi Arabia.	270	Cross-Sectional
Financial literacy, access to digital finance, and performance of SMEs:	Frimpong, S., Agyapong, G., & Agyapong, D. (2022).	Primary	Survey data from SME owners in Ghana.	Not Explicitly Stated	Cross-Sectional

Evidence from central region of Ghana.					
An empirical assessment of financial literacy and behavioral biases on investment decision: Fresh evidence from small investor perception.	Weixiang, S., Qamruzzaman, M., Rui, W., & Kler, R. (2022).	Primary	Survey data from small investors.	Not Explicitly Stated	Cross-Sectional
Financial literacy in SMEs: A bibliometric analysis and a systematic literature review of an emerging research field.	Molina-García, A., Dieguez-Soto, J., Galache-Laza, M. T., & Campos-Valenzuela, M. (2022).	Secondary	Scopus and Web of Science databases.	257 Documents	1992-2020
Spending and happiness: The role of perceived financial constraints.	Dias, R., Sharma, E., & Fitzsimons, G. (2021).	Primary	Seven experimental studies.	Not Explicitly Stated	Experimental Settings
Does self-control moderate financial literacy and savings behavior relationship? A case of micro and small enterprise owners.	Mpaata, E., Koske, N., & Saina, E. (2021).	Primary	Survey data from micro and small enterprise owners.	Not Explicitly Stated	Cross-Sectional
Family business growth around the world.	Miroshnychenko, I., De Massis, A., Miller, D., & Barontini, R. (2020).	Secondary	Large sample of firms across 43 countries.	Not Explicitly Stated	10-Year Period
Financial literacy, financial inclusion, and savings behavior in Laos.	Morgan, P., & Long, T. (2020).	Primary	Survey data from households in Laos.	Not Explicitly Stated	Cross-Sectional
Herd behavior and firm-specific information.	Padungsaksawasdi, C., Seetharam, Y. (2020).	Primary	Survey data from the delisted companies in Asia.	January 1989 – December 2019 849 Delisted Stock Companies	Cross-Sectional
Overconfidence and financial decision-making: A meta-analysis.	Grezo, M. (2020).	Primary	Survey data from international.	3,594 Students	Cross-Sectional

The different research styles applied have contributed to the varied large sample sizes. Quantitative surveys that typically report their precise sample sizes include Alshebami and Al Marri (2022), who polled 270 future entrepreneurs, and Campos-Sanchez et al. (2025), which included 473 students. Large sample sizes are a significant advantage of quantitative research because they increase statistical power, thereby strengthening the evidence. On the contrary, in-depth qualitative research, which is time-consuming, and some qualitative studies, such as Cuadra et al. (2025), did not report their sample sizes because they employed qualitative methodologies, such as interpretative phenomenological analysis. This method provides a deeper understanding and richer detail, rather than focusing on the size of the statistical impact, which is crucial for studying complex human experiences such as those in investment scams.

The main conclusion that can be drawn from the data is the researchers' firm, empirical, and people-oriented approach. The extensive use of primary data collection methods, primarily through wide-ranging surveys, detailed experiments, and interviews, indicates that the researchers agree that direct engagement with decision-makers is essential to understanding the association between cognitive biases and financial behaviors. Such a methodological diversity brings along a thorough and diverse understanding of the topic. Secondary data, on the one hand, provides the breadth, context, and historical background, while primary data, on the other hand, provides causal and experiential insights. By connecting psychological aspects of decision-making to broader economic outcomes, this approach has a considerable impact on the research.

This geographic mapping is essential because it shows that behavioral biases are widespread, particularly in developing economies where financial institutions are evolving rather than being confined to a single cultural or economic setting. In Asia, eleven (11) studies had a 56% contribution, including the location-based classification procedure that aids in finding regional trends and gaps in the literature. Because it is based on the precise methodological descriptions of the sampled studies, which ensure that the geographical analysis is rooted in the real environments in which the primary data were gathered or the secondary data were generated, this finding is highly reliable.

Table 4 outlines the analytical and statistical techniques used in the selected articles. Regression analysis is the most common method, utilized in 9 studies (37%) to test hypotheses and ascertain the predictive power of variables like financial literacy on the results like savings behavior, reflecting the quantitative and positivist nature of most research in this field (Ananda et al., 2024; Morgan & Long, 2020). These three studies (17%) employed structural equation modeling (SEM) to examine complex models with mediating factors, such as the relationships among financial literacy, entrepreneurial ambition, and saving behavior (Alshebami & Al Marri, 2022; Rapina et al., 2023). Financial behaviors and sample demographics were frequently discussed using descriptive analysis (17%). One of the research aims is to develop basic knowledge and trusted methods for measuring behavioral biases. The qualitative analysis (11%), Cuadra et al. (2025), and scale development (Panja, 2023) are the primary sources that can be considered evidence for this.

The diversity of print configurations and research methodologies provided validation of the conclusion of an experimental study. Regression dominance is undoubtedly the strongest and statistically significant reason for causal and mediating linkages, which then serves as the basis for developing a prediction model and policy guidance. Data collection for these analyses relied heavily on established surveys and psychometric measures to ensure reliability and quantifiability. Qualitative methods are well-suited to capturing complex, subjective experiences, such as being a victim of a scam, because in-depth interviews yield rich contextual information that cannot be obtained from numerical data alone. The use of transparent, repeatable, peer-reviewed analytical methods reinforces the conclusions about the influence of financial literacy and cognitive biases.

Table 4. *Statistical Treatment of Sampled Articles*

Statistical Treatment	No. of Studies	Percentage
Regression Analysis	9	37%
Descriptive Analysis	3	17%
Structural Equation Modeling (SEM)	3	17%
Qualitative / Phenomenological Analysis	2	11%
Sexperimental Methods	1	6%
Correlational	1	6%
Scale Development	1	6%
Total	**20**	**100%**

Conclusion

The results challenge the traditional emphasis on financial literacy as the primary driver of sound financial behavior. While literacy is undoubtedly essential—as shown in studies linking it to entrepreneurial intention and motivation (Alshebami & Al Marri, 2022; Rapina et al., 2023)—its effect on savings is frequently mediated or overridden by behavioral factors. For example, Dimaunahan et al. (2025) found that psychological factors, such as goal commitment, were stronger predictors of financial planning than financial literacy alone. Similarly, Mpaata et al. (2021) demonstrated that financial literacy only improved savings among entrepreneurs with high self-control, underscoring the conditional nature of literacy's impact.

In contrast, present bias emerged as a robust and direct predictor of poor savings outcomes. Even financially literate entrepreneurs were found to engage in impulsive spending when present bias was strong (Cuadra et al., 2025). This aligns with Loewenstein and Carbone's (2024) theoretical refinement of self-control as a conflict between emotional states and long-term planning, rather than a simple cognitive trade-off. Such biases can lead to emotional spending, reduced investment, and ultimately hinder business sustainability (McKenzie et al., 2022).

The methodological tendencies observed in the reviewed studies—particularly the predominance of cross-sectional surveys in Asian contexts—offer both insights and limitations. While these studies provide valuable context-specific evidence, they also highlight the need for more diverse geographical sampling and longitudinal designs to establish causality and improve generalizability. Furthermore, few studies have directly modeled the comparative predictive strength of financial literacy and present bias within a single analytical framework, thereby representing a significant gap for future research.

In summary, the evidence strongly supports the Behavioral Bias Pathway in our conceptual framework, in which present bias consistently undermines savings. The Financial Literacy Pathway, while relevant, appears secondary and contingent on self-regulatory capacity. These findings suggest that interventions focusing solely on knowledge dissemination are insufficient; instead, integrated approaches that combine financial education with behavioral tools—such as commitment devices, automated savings, and framed reminders—are likely to be more effective in promoting entrepreneurial financial resilience.

This review finds that present bias—not financial literacy—is the stronger predictor of poor savings among entrepreneurs. Financial literacy matters, but mainly when combined with high self-control. Without it, knowledge often fails to translate into action. Present bias directly drives impulsive spending, even among the financially literate. This aligns with recent views of self-control as an emotional struggle, not merely a rational choice between present and future. Methodologically, most studies are cross-sectional and focused on Asia, limiting causal claims and generalizability. Future research should test both factors together in longitudinal and experimental designs. To improve entrepreneurial savings, combine financial education with behavioral tools like automatic savings and commitment devices. Knowledge alone is not enough.

This systematic review demonstrates that entrepreneurial savings behavior is more strongly influenced by present bias than by financial literacy alone. While financial knowledge provides a necessary foundation, it is frequently overridden by the tendency to prioritize immediate gratification, leading to impulsive spending and reduced savings. The primary implication is that policies and programs aimed at improving entrepreneurial savings should move beyond financial education and integrate behavioral interventions—such as automated savings defaults, commitment devices, and salient goal-framing—to help entrepreneurs overcome present bias. Future research should test such integrated models through longitudinal and experimental designs to further validate this dual-pathway approach.

Contributions of Authors

Author 1: Efren James S. Aquino was responsible for writing the methodology and the study's results.
Authors 2 & 3: Ruth S. Sealmoy and Oliver S. Mandap collaborated on the abstract, introduction, literature review, and conclusions.
All three authors contributed to formulating the study's primary objective.

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Conflict of Interests

There are no reported conflicts of interest.

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