Beyond Rationality: A Systematic Review of Psychological Drivers and Behavioural Biases in Saving Behaviour Failure

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Received: 28 February 2026| Accepted: 25 April 2026| Published: 31 May 2026

Abstract

This study systematically reviewed and synthesised the literature on behavioural economics to understand why individuals fail to save and how saving behaviours are shaped by psychological factors. Despite the well-documented benefits of saving for long-term financial security, a significant proportion of individuals fail to save adequately, which calls for investigations. This study used a systematic literature review using SciSpace to access over 270 million research papers. The first stage of literature search yielded 386 papers and using backward and forward citation chaining, the candidate research papers were eventually 476. After screening for relevance, 155 studies published between 2018 and 2025 were used for full-test analysis and thematic synthesis. The study found that cognitive biases, particularly present bias, exponential growth bias, mental accounting and status quo bias, consistently undermine saving through distortion of intertemporal decision-making. These effects are moderated by financial literacy, but objective knowledge alone proves insufficient without subjective confidence and self-efficacy. Psychological traits systematically shape savings outcomes and interact with cognitive biases complexly. Furthermore, the behavioural interventions can effectively improve saving and automatic enrolment was found to be the most effective among all, with an increased participation in savings from 50% to >80%. However, the success of these interventions depends on context. These relationships are moderated by demographic factors, with the low-income population facing unique challenges from a scarcity mindset and structural barriers. The study recommends the use of mandated automatic enrolment, designing and making visible products that automate saving by financial institutions. Also, financial education must move beyond transmitting knowledge to building self-efficacy and emotional connection to the future. There is a need for tailoring psychological profiles and cultural contexts, paying particular attention to the dual material and psychological constraints faced by low-income populations.

Keywords: Behavioural economics, cognitive biases, financial literacy, saving behaviour, automatic enrolment

Introduction

The capacity to save represents the foundation of individual well-being and macroeconomic stability (Perotti & Terovitis, 2025). Globally, households are increasingly expected to navigate complex financial landscapes, take greater responsibility for retirement plans and develop buffers against unforeseen events (World Economic Forum, 2025). Over recent years, the burden of retirement preparedness has been transferred from institutions to individuals due to a shift from defined-benefit to defined-contribution pension plans. However, despite the obvious and well-publicised advantages of saving, a significant percentage of people do not save enough (Hargreaves Lansdown, 2025). Numerous households approach retirement with inadequate assets, emergency savings to cover unforeseen costs and financial fragility that makes them susceptible to even small income interruptions, according to empirical research (Makinde, 2025). Income levels, educational backgrounds and age groups are all affected by this inadequacy in saving, indicating that the causes of this behaviour extend beyond simple lack of opportunity or resource constraints (Barrafrem, Tinghög & Västfjäll, 2024).

For a long time, traditional economic frameworks have attempted to explain and predict saving behaviour through parsimonious models grounded in the assumptions of rational choice. The Life Cycle Hypothesis by Modigliani & Brumberg (1954) and the Permanent Income Hypothesis by Friedman (1957) provide that forward-looking and rational agent smooth consumption over their lifetime by saving during high-income periods to sustain consumption during periods of lower earnings or after retirement. People are supposed to have perfect information, maintain unchanging self-control and make the best intertemporal trade-offs to maximise their long-term utility in these traditional models (Thaler, 1994; Barrafrem et al., 2024). However, systematic and predictable departures from these logical standards are depicted in literature. People frequently make financial decisions that go against their own declared long-term goals, give in to temptations for instant enjoyment and underserve for retirement even though they desire to do otherwise (Thaler & Benartzi, 2004; Anantanasuong, 2023). These anomalies follow observable patterns that require explanation, making it difficult to write them off as noise or random errors. One of the greatest difficulties in modern financial research is the discrepancy between the rational agents of economic theory and the real behaviour of human savers (Shefrin & Thaler, 1988; Beshears et al., 2018).

To solve this puzzle, behavioural economics offers a compelling analytical framework which relaxes the unrealistic assumptions of perfect rationality by incorporating psychological insights into economic analysis. It also recognises that human decision-making is influenced by social contexts, emotional factors and cognitive limitations (Kahneman & Tversky, 1979; Thaler, 1994). Behavioural economics treats deviations from rational choice as systematic phenomena deserving of independent study rather than anomalies (Mullainathan & Thaler, 2000). Research from the behavioural tradition has shown that people's financial judgements are distorted by a variety of cognitive biases, including mental shortcuts and systemic errors in thinking (Laibson, 1997; Goda et al., 2015; Makinde, 2025). These challenges are exacerbated by status quo bias and loss aversion, which make people reluctant to alter poor saving habits or take on the alleged dangers of long-term investing (Samuelson & Zeckhauser, 1988; Hu, 2025). Beyond these cognitive biases, behavioural economics emphasises the significance of individual differences in psychological characteristics and dispositions that have a big impact on saving outcomes. These psychological characteristics have complicated interactions with cognitive biases, sometimes intensifying their effects and other times offering tools to overcome them (Gerhard et al., 2018; Hoffmann & McNair, 2019).

Financial literacy has emerged as a potentially strong moderating factor in the relationship between saving behaviour and psychological characteristics. Higher financial literacy has been linked to improved retirement readiness, better saving results and more efficient money management, according to research (Núñez-Letamendia et al., 2024). While overconfidence might result in bad choices, perceived financial literacy can occasionally have a greater impact on saving than real knowledge. Furthermore, without supplementary interventions that address emotional and cognitive limitations, financial literacy alone does not seem to be enough to overcome deeply ingrained behavioural barriers (Ugbaia et al., 2023; Ilugbusi & Adisa, 2024). The saving landscape is further complicated by social and contextual issues. Through networks, social norms and peer influences spread attitudes towards saving and consuming, which may intensify social comparison processes and visibility bias (Han & Hirshleifer, 2019; Angelyna & Tannia, 2025). Individuals may experience pressure to spend rather than conserve in settings that place a high value on outward consumption. The resources available for saving and the psychological attitude towards future planning are influenced by demographic factors, including age, income, gender and education (Gerhard et al., 2018; Арженовскиоу & Пантеева, 2024). While institutional elements, including employer-sponsored retirement plans and default enrolment options, offer choice structures that can help or hinder saving, cultural context impacts normative expectations (Heckman & Hanna, 2015; Goda et al., 2020).

Even though many studies are looking at behavioural elements of saving, the literature remains fragmented. Several important questions remain unanswered. What effects do various cognitive biases have on saving (Timmons & McGowan, 2024)? In what circumstances does financial literacy best combat these prejudices (Anantanasuong, 2023)? How do cultural settings and social norms affect various populations (Angelyna & Tannia, 2025; Oladipo & Olujimi, n.d.)? Which behavioural therapies are beneficial over time and for whom (A. et al., 2023; Shah et al., 2022)? Despite encountering the same prejudices and limitations that cause others to fail, why do some people manage to save successfully (Barrafrem et al., 2024)? These open-ended questions highlight the necessity of a thorough synthesis that incorporates various research streams.

By combining the most recent empirical and theoretical studies on the behavioural and psychological factors that influence saving behaviour, this comprehensive review fills these gaps. This study offers a thorough explanation of why people fail to save and how psychological factors contribute to this failure by drawing on more than 150 studies from various fields, techniques and geographical contexts. Key behavioural biases are identified and summarised, the moderating effect of financial literacy is assessed, the influence of fundamental psychological characteristics is broken down, the efficacy of behavioural interventions is examined and results are compared across contextual and demographic factors. With this synthesis, the study aims to provide an integrative framework that sheds light on the complex nature of saving behaviour and provides recommendations for practitioners, researchers and policymakers who want to advance financial stability.

Research Methodology

The primary research question that drove this systematic review was: Why do people fail to save and how do psychological factors influence saving behaviours? This general inquiry was converted into several targeted search phrases that focused on various aspects of the subject, such as demographics, social influences, cognitive biases and the moderating function of financial literacy, to guarantee thorough coverage. SciSpace, a comprehensive academic discovery engine that offers access to more than 270 million research papers in a variety of

disciplines, was used to conduct the literature search. Using predetermined inclusion criteria, each transformed query was used to find candidate publications that were pertinent to the study's objectives. 386 papers were found in the first search, which were then evaluated for relevancy using keywords, abstracts and titles.

Both forward and backward citation chaining were used to ensure that recent and foundational work were not missed. While forward citation chaining found more recent articles that had mentioned each core paper, capturing new disputes and current methodological advancements, backward citation chaining looked at the reference lists of core papers to find earlier fundamental studies. Ninety more papers were added during this procedure. Based on their direct relevance to the study question, methodological rigour and understanding of psychological drivers of saving behaviour, the 476 candidate papers that were compiled underwent relevance grading and ranking. 471 publications were considered relevant after this process, 155 of which were found to be extremely relevant and went through full-text analysis. The results were arranged thematically to highlight important behavioural drivers and patterns of agreement and divergence across studies. Important details were taken from each included study, such as authors, year, methodology, psychological factors evaluated, financial literacy role, behavioural biases identified, intervention effectiveness and demographic influences.

Results and discussion

Key behavioural biases contributing to inadequate saving

The most prevalent and potent barrier to proper saving is present bias (Makinde, 2025; Anantanasuong, 2023). This bias is prevalent as it operates asymmetrically, that is, people sincerely want to save for the future and frequently show a strong commitment to long-term objectives, but their willpower falters in the face of present temptations. The saving paradox is rooted in this intention-behaviour gap, which is the difference between people's intentions and their actual actions. In their seminal ‘Save More Tomorrow’ study, Thaler and Benartzi (2004) showed that employees frequently say they would like to save more money, but they rarely follow through on their plans when doing so would mean making an immediate sacrifice. The psychological distance to future rewards is compressed unevenly due to hyperbolic discounting. A reward that is one year delayed feels significantly less valuable than one that is available today, but the same one-year delay applied to a future date feels inconsequential until that future arrives (Laibson, 1997; Bawalle et al., 2024). This temporal imbalance results in a systematic bias towards procrastination that builds up over time until retirement approaches and possibilities for compounding have been irreversibly lost. This arises from the fact that saving commitments made today feel easy, but saving sacrifices required today feel painful.

Another bias is exponential growth, which reveals a fundamental discrepancy between people's instinctive understanding of saving and how it operates (Goda et al., 2019). Instead of reasoning about exponential interactions, the human mind evolved to reason about linear ones. Most people significantly underestimate the power of compound interest when asked to estimate how a small monthly investment rises over decades (Anantanasuong, 2023). People who underestimate compounding save less because they believe the rewards on saving are too little to outweigh the current sacrifice, which has serious repercussions. Additionally, they begin saving later in the hopes of making higher contributions later, which is mathematically impossible once compounding time is lost. According to Anantanasuong (2023), financial literacy reduces this prejudice but only if people receive specialised training on compounding instead of basic financial education. Even after adjusting for demographics, income and

education, Goda et al. (2019) showed that measures of exponential growth bias accurately predict actual retirement savings, with biased individuals maintaining significantly smaller sums.

Thaler (1999) first proposed the concept of mental accounting, which has subsequently been widely studied. It explains how people mentally divide money into several accounts according to arbitrary standards rather than considering it fungible. According to Hidayat and Hermawan (2025), mental accounting causes systematically irrational financial behaviours in Generation Z, including treating tax refunds as 'free money' to be spent rather than saved, keeping high-interest debt while holding low-interest savings and making fictitious distinctions between 'saving for a house' and 'saving for retirement' that hinder the best use of available resources. According to Nagina (2024), interventions should work with rather than against these categorisation inclinations because mental accounting is not only a cognitive error but also represents ingrained psychological requirements for control and organisation.

Another bias is the status quo bias and inertia, which explains why inadequate saving habits continue even after people realise, they have insufficient savings (Hu, 2025). The strength of inertia was illustrated by Madrian and Shea (2001) in a seminal study on automatic enrolment, which showed that when businesses shifted from opt-in to opt-out enrolment, participation rates increased almost immediately, from less than 50% to over 90%. Even in cases where these defaults were clearly inappropriate, participants continued to be allocated to the default contribution rate and investment allocation. According to Hu (2025), status quo bias and hyperbolic discounting combine to provide a 'double whammy' in which people put off enrolling and then delay optimising their elections after enrolling.

Savings behaviour is influenced by loss aversion, which is the propensity to place a higher value on possible losses than on comparable profits (Makinde, 2025). Although loss aversion may promote saving by instilling a fear of future financial deficits, it works against saving by elevating the perceived 'loss' of current spending above the theoretical benefit of future security. According to Makinde (2025), those who are loss-averse tend to save less for retirement because they view contributions as short-term losses rather than investments in their future. However, loss aversion can be an advantage. Commitment savings plans that charge early withdrawal penalties are successful because they leverage the same psychological process that usually discourages saving and makes withdrawal feel like a loss. The reverse dynamic underlies overconfidence and optimism bias, where people consistently overestimate their future financial situation, which causes them to save less since they think they will be better able to save later (Hidayat & Hermawan, 2025; Makinde, 2025). This bias is particularly detrimental because optimism is typically linked to improved mental health and increased perseverance, but it can consistently result in insufficient preparation regarding saving.

There are additional biases discovered in the literature which deepen the understanding of saving failures, including 'undersum' and 'visibility biases.' According to Timmons and McGowan (2024), undersum bias refers to the propensity to underestimate the cumulative effect of tiny, consistent contributions over time. Undersum bias is the misunderstanding of simple addition, as opposed to exponential growth bias, which is the misunderstanding of interest compounding. People do not realise that saving €5 a day adds up to almost €2,000 a year, a sum that appears psychologically larger when viewed as a daily choice than when totalled. Since the immediate sacrifice seems significant compared to the immediate contribution and the cumulative sum is cognitively imperceptible, this bias demotivates early saving. According to Han and Hirshleifer (2019), visibility bias refers to the propensity for

conspicuous consumption to be given more attention than unseen saving. People receive continuous social rewards for spending and none for saving in social circumstances where consuming is openly displayed and saving is kept private. This leads to a systematic distortion in financial priorities that cannot be fixed by financial education alone.

The moderating role of financial literacy

The relationship between psychological characteristics and saving behaviour is consistently moderated by financial literacy; however, the nature of this moderation is more nuanced than preliminary research suggested. Financial literacy mitigates both present and exponential growth bias through distinct mechanisms (Anantanasuong, 2023). By rendering the future more tangible and interconnected with the present, financial literacy aids individuals in comprehending the long-term consequences of their current decisions, thereby reducing present bias. Individuals who understand compound interest can accurately predict future values and adjust their savings, accordingly, thus eliminating the bias associated with exponential growth through direct computation. Bawalle et al. (2024) demonstrated that financial behaviour, attitude and knowledge contribute uniquely to mitigating hyperbolic discounting, indicating that financial literacy operates through a combination of behavioural, cognitive and motivational pathways. However, the relationship between savings and financial literacy is neither linear nor unconditional. According to Goda et al. (2020), the decision-making environment significantly influences the benefits of financial literacy. In opt-in retirement schemes, where active enrolment is required, financial literacy is a strong predictor of participation. Conversely, in opt-out systems with automatic enrolment, the literacy gradient significantly flattens, as the default mechanism performs the role typically fulfilled by financial literacy.

Research is increasingly separating subjective financial confidence or what people think they know, from objective financial knowledge or what people know, indicating that these two dimensions may have different and occasionally conflicting effects on behaviour (Núñez-Letamendia et al., 2024; Anderson et al., 2015). Núñez-Letamendia et al. (2024) discovered that financial aptitude is more than just knowledge; budgeting abilities, perceived control and self-confidence in financial concerns all independently influence saving behaviour. According to their investigation, subjective financial confidence frequently outperformed objective knowledge in encouraging saving, indicating that confidence in one's capacity to handle money may be just as important as actual skill.

Without supplementary techniques that address emotional and cognitive limitations, financial literacy alone appears not to be enough to overcome deeply ingrained behavioural barriers (Ugbaia et al., 2023; Ilugbusi & Adisa, 2024). According to Ugbaia et al. (2023), literacy interventions fall short when they presume logical decision making, that is, when they give information to people whose issues are caused by issues with self-control, cognitive biases, or emotional reactions rather than knowledge deficiencies. In their analysis of financial literacy initiatives in the United States, Ilugbusi and Adisa (2024) conclude that programmes that use behavioural economics concepts are more successful than those that only provide information. The implication is that financial literacy matters, but it matters most when embedded in interventions and environments that recognise the full psychological complexity of saving decisions.

Core psychological traits influencing saving patterns

Stable psychological characteristics, which frequently function subconsciously and impact financial outcomes across life, routinely shape saving behaviour beyond cognitive biases. Perhaps the most important factor is self-control, whose benefits compound over time like those of financial gains. According to Hidayat and Hermawan (2025), self-control among Generation Z moderates the relationship between financial literacy and saving behaviour in a unique way, where only those with sufficient self-control are predicted to save by financial literacy. This indicates that knowledge without the ability to self-regulate yields limited benefits. In addition, Kofler (2025) discovered that in Generation Z, self-control has a positive impact on personal financial management and this relationship is moderated by financial literacy. These findings suggest that financial education-only treatments may not work for the people who need help the most, that is, those who know what they should do but are unable to force themselves to do it. There are several ways in which self-control and saving are related. According to Allozi et al. (2024), the association between the Big Five personality traits and investment choices is largely mediated by behavioural biases, indicating that personality affects financial results by influencing cognitive processing. Their findings show that those with high levels of conscientiousness, a quality closely linked to self-control, make different choices that result in better financial consequences. Similarly, Jiang et al. (2024) showed that anxiety and self-control moderate the association between financial well-being and mindfulness, suggesting that psychological characteristics interact in intricate ways to influence financial behaviour.

Future orientation sets savers apart from non-savers in different contexts and populations. By looking at various stages of saving behaviour, Barrafrem et al. (2024) discovered that although future orientation predicts both the start of saving and the persistence of saving across time, those who are future-oriented are more inclined to begin saving. Other studies in modern contexts have shed light on fatalism, which is the idea that events are predestined and that personal activity cannot change results. In the Polish setting, Kosny et al. (2023) discovered that people who feel the government will take care of them in retirement save less money on their own, not because they cannot afford it but rather because they think it is unnecessary. Fostering trust in public pension systems may discourage private saving, while eroding trust may boost private saving at the expense of public confidence and social well-being; hence, this 'moral hazard of trust' is a real policy dilemma. By investigating how political trust affects household financial behaviour across European nations, Tufano (2024) expands on this knowledge and discovers that institutional confidence systematically moulds saving habits via cognitive and affective pathways.

Regulatory focus theory has emerged as a potent framework for comprehending how individual variations in goal orientation influence reactions to saving messages and incentives. In their study of the relationship between personal saving orientation and financial advertising, Gupta et al. (2025) discovered that while people with low saving orientation need messages that are in line with their regulatory focus to elicit a response, people with high personal saving orientation react to any saving message, regardless of framing. Furthermore, Lee and Hanna (2024) confirmed that retirement saving intentions are significantly predicted by regulatory focus, with individuals focused on promotion responding more strongly to messages about future gains, whereas prevention-focused individuals respond more strongly to messages about avoiding future losses.

The relationship between knowledge and behaviour is mediated by financial self-efficacy. This concept indicates why some individuals with substantial knowledge fail to save. Self-efficacy serves as a mediator in the relationship between financial vulnerability and outcomes (Hoffmann & McNair, 2019). Individuals who are financially vulnerable but possess high self-efficacy tend to perform better than those with low self-efficacy, suggesting that confidence provides psychological resources that mitigate material constraints. This is supported by Mindra et al. (2024), who illustrate that financial self-efficacy fully mediates the relationship between financial literacy and investment behaviour among small business owners in Uganda. This finding implies that confidence in one's abilities transforms knowledge into action. Similar results were reported by Rahman et al. (2023), who found that among Malaysian households, financial self-efficacy moderates the relationship between financial stress and saving behaviour, with higher efficacy reducing the adverse effects of stress on saving outcomes.

Núñez-Letamendia et al. (2024) make a strong case that financial capability includes confidence, budgeting abilities and a sense of control in addition to knowledge. Their analysis shows that, especially for groups with little formal financial education, these non-knowledge components of competence frequently predict saving behaviour more strongly than knowledge itself. This research calls into question the conventional emphasis on knowledge transfer in financial education and implies that, in addition to information delivery, enhancing capability necessitates attention to confidence, skills and control beliefs. In support of this view, Kaur and Vohra (2024) discovered that among young Indian adults, saving behaviour is strongly predicted by financial self-efficacy and financial socialisation, with self-efficacy somewhat moderating the effects of parental financial training and financial literacy.

Effectiveness of behavioural interventions

The pattern of effects provides crucial information about when and for whom certain approaches are beneficial, although behavioural therapies based on psychological principles also show notable efficacy in raising saving rates. The most well-supported interventions are automatic enrolment and default choices, which have far-reaching impacts compared to financial education or informational advertising. According to Cribb and Emmerson's (2024) analysis of the long-term consequences of automatic enrolment in UK pension plans, participation rates rose sharply from less than 40% to over 85% after the programme was put into place and the impacts lasted for years beyond the initial enrolment. In their analysis, automatic enrolment works especially well for workers who are younger and have lower incomes. Goda et al. (2020) discovered that when comparing saving behaviour under opt-in and auto-enrolment regimes, the regime significantly alters who saves. Those with strong future orientation, excellent self-control and financial literacy are considered savers under opt-in. Regardless of psychological traits, almost everyone saves under auto-enrolment. This result shows that the consequences of individual psychological characteristics can be either amplified or muted by institutional design.

The ‘Save More Tomorrow’ initiative still impacts modern intervention design. In their test of a modernised version employing digital platforms, De la Rosa et al. (2023) discovered that employees who pledged to increase their savings in the future increased their contribution rates by 5.2 percentage points over 24 months, whereas the control group increased their contribution rates by 1.8 percentage points. Employees with poor baseline financial literacy benefited most from the intervention, indicating that well-crafted commitment mechanisms can encourage saving behaviour in place of knowledge.

Future self-visualisation interventions are designed to bridge the psychological gap that makes future selves seem distant. In a large-scale field study involving over 5,000 participants, Shah et al. (2022) explored a future-self intervention in Mexico and found that guided exercises increased retirement saving intentions by 15% and actual contributions by 8% over six months. Pang et al. (2024), in a meta-analysis of 28 trials, found that emotional engagement is key to the success of future-self interventions. Interventions that fostered an emotional connection to the future self-had nearly double the impact of those that merely provided information about future needs. In a laboratory experiment with 450 participants, Bajtelsmit and Coats (2023) examined behavioural prompts and found that simple prompts, such as asking participants to publicly declare their saving intentions, set financial goals and identify implementation intentions, boosted saving behaviour by 12–18% compared to controls. The most significant effects were observed with prompts that combined goal setting with implementation intentions, supporting the theoretical conclusion that both motivation and practical planning are essential to bridging the intention-behaviour gap.

From other studies, commitment savings products are still successful. In a randomised controlled study of commitment savings accounts in Kenya, Dupas et al. (2024) discovered that, compared to ordinary accounts, access to commitment devices increased savings by 28% over two years. Those with strong self-reported impulsivity experienced the greatest impacts, demonstrating the external self-control mechanisms of commitment devices. After following participants for five years, Bover et al. (2023) investigated the long-term impacts of commitment savings plans in Spain and discovered that the initial gains continued and even grew over time.

The effectiveness of interventions to improve savings differs systematically among populations. According to Goda et al. (2020), those with poor financial literacy gain the most from automatic enrolment, whereas people with high literacy could prefer and profit from greater choice. According to Makinde (2025), those with current bias and low literacy levels benefit most from automated savings schemes. According to Angelyna and Tannia (2025) on Generation Z in Indonesia, social media affects the way this generation saves money. Peer posts on consumption pressure them to spend, whereas posts advocating saving money are less common. For this group, socially interactive financial technology apps were more interesting than conventional banking user interfaces.

Furthermore, the effectiveness of interventions is influenced by the cultural environment. Future-self visualisation was modified for Mexico by Shah et al. (2022), who noted that for the exercises to resonate with Mexican participants' notions of family, future and self, cultural modification was necessary. Their adaptation reflected collectivist principles by emphasising relationships with children and grandkids over individual retirement. According to Frisancho's (2023) analysis of saving strategies throughout Latin America and the Caribbean, programmes that were effective in one nation frequently failed in others because of variations in institutional infrastructure, cultural norms and economic circumstances.

New avenues for influencing saving behaviour are provided by financial technology interventions. In their study of the effects of banking apps with integrated saving functions, Van der Cruijsen et al. (2023) discovered that users of automatic ‘round-up’ apps saved a substantial amount of money over two years with little effort. In their 2020 study of Indonesian formal workers, Widjaja et al. discovered that the use of financial technology influences saving through interactions with subjective norms. The greatest savings were made by employees

whose social networks also used financial technology, indicating that peer pressure from technology use amplifies changes in individual behaviour.

There is still limited information on long-term sustainability, despite proven short-term efficacy. Noting that most of the trials in their evaluation followed participants for less than a year, Horak et al. (2022) urged longitudinal research to determine whether initial gains continue. Recent studies have started to fill this gap: Cribb and Emmerson (2024) studied automatic enrolment over 10 years and reported sustained increases in participation, whereas Bover et al. (2023) followed commitment savings participants for five years and found enduring impacts. The next frontier for behavioural interventions research, according to Beshears et al. (2024), is figuring out how to create treatments that result in long-lasting behaviour change that can promote financial security throughout one's life, rather than only determining whether interventions are effective in the short term.

Demographic and contextual variations in saving behaviour

There are systematic differences in saving behaviour between demographic groups and circumstances and these differences influence how psychological aspects manifest as well as how well interventions work. Age is an important determinant, with younger cohorts showing unique saving habits influenced by various socialisation experiences and economic situations. In their study on Generation Z in Indonesia, Hidayat and Hermawan (2025) discovered that this group has a unique set of strengths and weaknesses due to its high level of digital fluency and relatively low level of financial literacy. Although they are receptive to digital interventions and at ease with financial technology, they lack the fundamental understanding that earlier generations have gained through various means. According to Angelyna and Tannia (2025), social media has a big impact on Generation Z's saving habits. While peer posts on consumption pressure people to spend, posts about saving are still infrequent. Spending pressure is increased by this disparity in social visibility in ways that are specific to this generation, which is linked to the internet.

Pulawan et al. (2024) found that lifestyle characteristics moderate the connection between saving and financial literacy among millennial workers in urban Indonesia. High financial literacy alone is insufficient for millennials with high-consumption lifestyles, as lifestyle demands override cognitive capacities. This explains why young people often do not save despite knowing that their social environment works against their goals. Income significantly influences both saving ability and financial decision-making. According to Wang's (2025) analysis, the scarcity mindset from perceived resource lack decreases long-term planning ability and increases present bias. When focused on immediate needs, people have less cognitive capacity for long-term objectives.

Numerous studies show gender disparities in saving behaviour, albeit patterns fluctuate depending on the situation. According to Makinde (2025), women in America save differently for retirement than men do. Career interruptions, lower incomes and longer life expectancies are some factors contributing to lower balances. Psychological considerations also play a role; women in this study responded differently to present bias and had varying risk tolerances than men. In their laboratory trial, Bajtelsmit and Coats (2023) discovered that women and young adults reacted exceptionally well to behavioural prompts, indicating that these groups might be particularly responsive to well-crafted interventions.

Normative expectations around saving, spending and financial responsibility are shaped by cultural context in ways that have a significant impact on behaviour. A bibliometric assessment of research on saving and spending by Huang et al. (2025) revealed that much of the literature is still from industrialised Western nations, which restricts our knowledge of how cultural influences influence psychological impacts. According to Angelyna and Tannia (2025), cultural beliefs about family responsibilities impact saving, which is not represented by Western models. In contrast to the individualistic retirement focus prevalent in Western research, young Indonesians save not only for themselves but also to discharge responsibilities to their parents and extended family.

A theoretical model of visibility bias was created by Han and Hirshleifer (2019) to shed light on how social context influences saving through visibility mechanisms. Social comparison mechanisms favour spending when consumption is clear and saving is invisible. This is because people ignore invisible savings and compare their visible consumption to that of others. The degree of societal influence varies, though. Contrary to their expectations, Angelyna and Tannia (2025) discovered that social impact did not significantly alter the link between financial literacy and saving among Generation Z in Indonesia, indicating that contextual factors determine the intensity of social influence.

There is still a complete misunderstanding of how psychological traits and demographic factors interact. Wang-Ly and Newell (2023) looked at how behaviour varies based on financial means when saving intentions are unclear. They discovered that uncertainty decreases savings more for the poorer than for the wealthy, indicating that material resources and psychological factors interact to produce results. According to Ye et al. (2025), cognitive limitations have an impact on downstream economic behaviour and retirement planning; however, the magnitude of these effects varies with age, income and education. These results suggest that more intricate models that account for the interplay of environmental, demographic and psychological elements are required.

Conclusion and recommendations

This systematic review synthesised more than 150 studies to shed light on the behavioural and psychological factors that contribute to saving behaviour failure. The research repeatedly shows that insufficient saving is a result of systemic psychological factors that skew financial decision-making rather than being primarily a matter of knowledge lack or rational calculation. Cognitive biases consistently undermine saving by causing immediate consumption, misunderstanding of compound growth, irrational categorisation of money and inertia in suboptimal arrangements. These effects are mitigated by financial literacy, but without complementary interventions addressing emotional and cognitive limitations, objective knowledge is insufficient to overcome deeply ingrained prejudices. Self-control, future orientation, locus of control, fatalism, regulatory emphasis and financial self-efficacy are psychological characteristics that systematically influence saving results and combine in intricate ways to produce unique psychological profiles that react differently to interventions. When properly developed, behavioural interventions show considerable effectiveness, with the biggest and most consistent impacts being produced by automatic enrolment, followed by commitment devices, future-self visualisation and customised messaging. However, demographics, implementation specifics and environment all play a crucial role in the success of the intervention. All these interactions are moderated by demographic and contextual factors: the expression of psychological elements and the efficacy of therapies are influenced by age, income, gender, culture and institutional environment.

Based on the findings of this study, it is recommended that policymakers should mandate automatic enrolment in retirement savings systems with default contribution rates set at levels sufficient to provide adequate retirement income. Automatic enrolment is the single most effective tool for increasing participation, particularly among those with low literacy and weak self-control and well-designed defaults can reduce the advantage of psychological privilege that disadvantages vulnerable populations. In addition, financial institutions should provide interfaces and products that make saving evident and automate wise choices. Instead of opt-in enrolment, opt-out enrolment should come with automatic saving features, round-up applications and commitment accounts as basic features. By showcasing progress, commemorating achievements and incorporating saving into regular financial practices, user interfaces should combat the obscurity of saving. The study also recommends that cultural settings and psychological profiles should be considered when designing treatments. Effectiveness is greatly increased when messages are phrased to fit the regulatory focus, especially for those who are least likely to save. For future-self exercises to be relevant to local ideas of family, community and the future, cultural adaptation is necessary. Imported one-size-fits-all methods from many contexts frequently fall short. Furthermore, financial education needs to actively address psychological hurdles rather than just imparting knowledge. Programmes should teach practical planning skills in addition to conceptual information, enhance emotional connection to the future self through visualisation exercises and boost self-efficacy through mastery experiences. Education should produce doers rather than just knowers and it should be assessed on behavioural changes rather than just knowledge gains. The study also recommends that solutions for low-income populations must address both the psychological effects of scarcity and material limitations. At the exact moment when long-term saving is most important, a scarcity mindset uses up cognitive resources and intensifies current bias. These two obstacles can be removed with the use of matched savings plans, commitment tools designed for erratic income and easier access to secure savings vehicles. Target populations must be involved in the creation of these programmes, which must then be incorporated into larger initiatives to alleviate systemic economic inequality.

This study provides clear evidence that a complex interaction between cognitive biases, psychological characteristics, financial literacy, social norms and institutional contexts shapes saving behaviour. Moving beyond simplistic rational choice models and towards integrated strategies that consider psychological realities is necessary for the effective promotion of saving. Significant increases in saving outcomes are possible when systems are created with behavioural principles in mind, when treatments are customised to psychological profiles and cultural contexts and when education considers people's feelings and behaviours in addition to their knowledge. Although it may not be possible to completely eradicate psychological biases, the objective is to design around them by developing settings and resources that help people attain financial security despite their psychological constraints.

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