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Financial Literacy and its Impact on Financial Management Motivational Behaviour: A Study of Private College Students in Kota Kinabalu

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Abstract

Financial literacy has become a foundational life competency for tertiary students who are navigating the transition to financial independence. Yet empirical evidence on its behavioural consequences in underserved Malaysian regions, particularly Sabah in East Malaysia, remains scarce. This study examines the level of financial literacy among private college students in Kota Kinabalu and tests its impact on their financial management motivational behaviour (FMMB). Grounded in the Theory of Planned Behaviour, Social Cognitive Theory, and the Locus of Control framework, the study adopts a quantitative, cross-sectional, explanatory case-study design. A structured questionnaire was administered to 220 diploma and certificate students selected through stratified random sampling across twelve programmes. The instrument was adapted from the OECD/INFE Toolkit, the Lusardi and Mitchell literacy items, the Financial Self-Efficacy Scale, and the Financial Management Behavior Scale. Data were analysed using descriptive statistics, one-sample t-tests, Pearson product-moment correlation, and simple linear regression in IBM SPSS Version 27.The findings reveal a moderate level of objective financial literacy ($M = 2.50$ out of 5), contrasted with significantly above-neutral self-perceived literacy ($M = 3.65$; $t(219) = 8.59$, $p < .001$) and motivational behaviour ($M = 3.68$; $t(219) = 8.61$, $p < .001$). This pattern is consistent with the overconfidence documented in previous studies. A strong, positive, and statistically significant relationship emerged between financial literacy and motivational behaviour ($r = .85$, $p < .001$). Regression analysis further showed that literacy explained 72.8% of the variance in motivational behaviour ($R^2 = .728$; $F(1, 218) = 583.62$, $p < .001$). The study contributes theoretically by operationalising FMMB as a distinct motivational construct that links knowledge to sustained practice. It contributes contextually by providing Sabah-specific evidence from a private-college sample, and practically by informing Malaysia's National Strategy for Financial Literacy and Sustainable Development Goal 4. Implications for educators, institutions, and policymakers are discussed.

Keywords: Financial Literacy, Financial Management Behaviour, Motivational Behaviour, Financial Self-Efficacy, Tertiary Students, Sabah, Malaysia, Higher Education

Introduction

The global financial environment of the twenty-first century has become increasingly complex, individualised, and digitally mediated. Consumers now face a widening menu of credit products, investment platforms, digital wallets, and buy-now-pay-later schemes, which shifts the burden of financial decision-making from institutions to individuals (Lusardi & Mitchell, 2014; OECD, 2020). In this landscape, financial literacy has emerged as an indispensable life competency. Lusardi and Mitchell (2014) define it as the capacity to understand and apply core financial concepts in order to make informed decisions about money. The stakes are especially high for tertiary students, who typically begin to manage money independently while also assuming responsibility for tuition fees, living expenses, and student-loan repayments (Kamel & Sahid, 2021; Sabri & MacDonald, 2010). Insufficient financial literacy during this transitional phase has been linked to overspending, problematic borrowing, stress, and, in some cases, the inability to complete tertiary studies (Liu & Zhang, 2021; Shim et al., 2010). While these challenges are global in scope, they manifest differently across national contexts. Their consequences are particularly acute in emerging economies where rapid financial-sector liberalisation has outpaced the development of consumer financial-education infrastructure. Malaysia offers an instructive case in point.

In Malaysia, these pressures are further compounded by structural features of the higher-education ecosystem. The transition to higher education often brings financial challenges that extend beyond simple budgeting. Recent studies from private Malaysian universities indicate a high correlation between financial issues and psychological stress among students (Aziz et al., 2025). This underscores the need to understand how financial literacy can mitigate these pressures by fostering better motivational behavior. The majority of students at public universities and private colleges rely on loans from the Perbadanan Tabung Pendidikan Tinggi Nasional (PTPTN) to finance their studies (Zulfaris, 2020), and PTPTN has historically reported high levels of repayment default linked, in part, to weak financial planning among graduates (Kamel & Sahid, 2021). Bank Negara Malaysia (2019) launched the National Strategy for Financial Literacy 2019–2023 to raise adult financial capability, coordinated through the Financial Education Network (FEN), while the Ministry of Higher Education has encouraged institutions to incorporate financial-literacy content into student-development frameworks. Yet despite these policy signals, the 2020 OECD/INFE international survey of adult financial literacy placed Malaysia below the OECD average in overall financial-literacy scores (OECD, 2020), and recent domestic studies continue to document a persistent knowledge–behaviour gap among tertiary students (Kamel & Sahid, 2021; Rapina et al., 2023; Syaliha et al., 2022). Crucially, these national averages mask substantial regional disparities. Students in the East Malaysian states of Sabah and Sarawak typically face socio-economic conditions and financial-education access that differ markedly from those of their peers in Peninsular Malaysia.

The regional dimension of this gap is of particular concern in Sabah, East Malaysia. Sabah's economic structure is characterised by a mix of agriculture, tourism, and emerging small and medium enterprises. This structure produces uneven income opportunities and a significant urban-rural divide in living costs and exposure to formal financial education. Many students entering private colleges in Kota Kinabalu are first-generation tertiary learners from semi-urban or rural communities, where structured financial guidance is limited (Zulfaris, 2020). At the same time, the rapid adoption of e-wallets, online shopping platforms, and social-media-driven consumption, which local commentators often describe as hedonistic lifestyles,

creates a higher risk of impulsive spending and financial mismanagement among Sabahan youth. These conditions render Sabah an informative but under-researched context for examining how financial literacy translates into actual financial behaviour. Understanding this translation, however, requires a conceptual lens that connects what students know with how they act, which leads the discussion to the theoretical foundations of the literacy–behaviour link.

Theoretically, the pathway from financial knowledge to financial behaviour has been modelled through several complementary lenses. The Theory of Planned Behaviour (Ajzen, 1991) posits that behaviour emerges from behavioural intention, which is itself shaped by attitudes, subjective norms, and perceived behavioural control. Financial literacy strengthens perceived control and thereby increases the likelihood of responsible action (Kamel & Sahid, 2021). Social Cognitive Theory (Bandura, 1986, 1997) foregrounds financial self-efficacy, defined as one's belief in the capacity to execute financial tasks, as a key mediator between knowledge and action. This proposition is empirically supported by Liu and Zhang (2021) and Lown (2011). The Locus of Control framework (Rotter, 1966) adds that individuals with an internal orientation, who attribute outcomes to their own effort, tend to enact financial knowledge more consistently than their externally-oriented peers (Syaliha et al., 2022). Financial Socialisation Theory (Shim et al., 2010) further emphasises the role of parents, peers, and the media in shaping financial attitudes. Taken together, these frameworks converge on the claim that knowledge is necessary but not sufficient for responsible behaviour. Motivational and dispositional factors are equally decisive.

Despite this conceptual richness, three gaps remain. First, most empirical studies focus on discrete financial behaviours, such as saving, budgeting, or credit use, rather than on the motivational architecture that connects knowledge to sustained practice (Rapina et al., 2023; Xiao & Porto, 2017). Second, existing Malaysian scholarship is heavily concentrated on public universities in Peninsular Malaysia and on commerce cohorts that have already been exposed to financial content. This focus may inflate literacy estimates and leaves East Malaysian private-college students under-represented (Kamel & Sahid, 2021; Sabri & MacDonald, 2010). Third, relatively few studies simultaneously measure objective and self-perceived literacy in order to test for overconfidence (Liu & Zhang, 2021; Lusardi & Mitchell, 2014).

The present study addresses these gaps by examining the level of financial literacy among diploma and certificate students at a private college in Kota Kinabalu and by testing its relationship with financial management motivational behaviour (FMMB). FMMB is defined here as the internal drive and behavioural tendencies that influence goal setting, saving persistence, proactive planning, and responsible spending. Four research questions guide the inquiry: (RQ1) What is the current level of financial literacy among private-college students in Kota Kinabalu? (RQ2) What are the characteristics of their FMMB? (RQ3) Is there a significant relationship between financial literacy and FMMB? (RQ4) How can financial-education programmes be enhanced to promote sustainable financial practices?

This paper offers three contributions. The novelty of this study lies in its introduction of Financial Management Motivational Behaviour (FMMB) as a new analytical construct that re-frames the long-standing knowledge–behaviour gap in the social sciences as a question of motivational architecture rather than knowledge deficit, and in its application of this

construct to an under-studied East Malaysian private-college sample. By integrating insights from behavioural economics, educational psychology, and development studies, the study advances interdisciplinary inquiry within the social sciences on how cognitive resources are converted into sustained behavioural practice among youth in emerging economies. Theoretically, it operationalises FMMB as an empirically measurable construct that bridges cognitive literacy and behavioural practice, thereby extending the integrative logic of TPB and SCT. Contextually, it provides rare empirical evidence from a Sabahan private-college sample that encompasses twelve programmes, ranging from business and accounting to culinary arts, multimedia design, and early-childhood education. This diverse sample addresses the commerce-student bias of earlier work. Practically, it supplies actionable recommendations for private higher-education providers, the Financial Education Network (FEN), Bank Negara Malaysia, and the Ministry of Higher Education on the design of evidence-based financial-literacy interventions. The remainder of the paper is organised as follows. Section 2 reviews the literature and develops the conceptual framework. Section 3 details the methodology. Section 4 reports the empirical findings. Section 5 discusses their theoretical and practical implications, and Section 6 concludes with limitations and directions for future research.

Literature Review and Theoretical Framework

Conceptualising Financial Literacy

Financial literacy is a multidimensional construct that integrates knowledge, skill, confidence and attitude in the domain of money management (Atkinson & Messy, 2012; Lusardi & Mitchell, 2014). Lusardi and Mitchell (2014) operationalised it through the now-canonical "Big Three" items on interest compounding, inflation and risk diversification, while the OECD/INFE (2018) Toolkit broadened the concept to encompass financial knowledge, financial behaviour and financial attitudes. Kamel and Sahid (2021) characterised the construct in the Malaysian context as awareness and understanding of budgeting, saving, credit and financial planning, emphasising its role as the cognitive foundation for responsible behaviour.

Liu and Zhang (2021) advanced an important analytical distinction between objective and subjective financial literacy. Objective literacy refers to demonstrable knowledge measured through factual items, while subjective literacy captures individuals' perceived understanding and confidence. The distinction matters because objective literacy grounds decision quality whereas subjective literacy drives motivation and willingness to act; when they diverge, individuals may hold overconfident self-assessments that inhibit further learning (Lusardi & Mitchell, 2014). Xiao and Porto (2017) similarly demonstrated that financial knowledge, behaviour and capability jointly mediate the relationship between financial education and financial satisfaction, suggesting that literacy is most productively conceptualised as a composite of cognitive and behavioural resources.

Syaliha et al. (2022) extended this view behaviourally, defining financial literacy as the ability to combine knowledge with responsibility and self-control in order to produce sound financial outcomes. Developing financial competency is not just about theoretical knowledge but also about practical integration into the student experience. As noted by Qin and Kamrozzaman (2026), the synergy between curriculum and practical application is vital for achieving positive educational outcomes and preparing students for career integration. Rapina et al. (2023) treated literacy as a prerequisite for financial readiness, that is, a proactive state enabling students to participate in financial and entrepreneurial activities.

Across these definitions, a consistent pattern emerges. Financial literacy functions at cognitive, affective, and behavioural levels simultaneously, and its downstream effects depend on how these dimensions interact (Atkinson & Messy, 2012; Kamel & Sahid, 2021).

Theoretical Frameworks Linking Literacy to Behaviour

Four theoretical frameworks dominate the literature linking financial literacy to financial behaviour. The Theory of Planned Behaviour (TPB) (Ajzen, 1991) posits that behaviour is produced by behavioural intention, which is itself shaped by attitudes, subjective norms and perceived behavioural control. In the financial domain, literacy strengthens perceived control by providing the cognitive resources required to judge the feasibility of actions such as budgeting, saving and investing. Kamel and Sahid (2021) applied TPB to 339 Malaysian undergraduates and found that favourable attitudes toward budgeting and saving, combined with high perceived control, predicted more responsible financial behaviour; knowledge alone was necessary but insufficient. Similar findings have been reported in the Indonesian context by Rapina et al. (2023).

Social Cognitive Theory (SCT) (Bandura, 1986, 1997) emphasises self-efficacy, defined as the belief in one's capacity to perform a specific task, as a core determinant of behaviour. Lown (2011) developed the Financial Self-Efficacy Scale (FSES) as a domain-specific operationalisation of this construct. Subsequent studies have consistently found that financial self-efficacy mediates the relationship between knowledge and action. Liu and Zhang (2021), who analysed 539 Chinese university students using structural equation modelling, showed that both objective and subjective literacy reduced risky credit behaviour, with self-efficacy partially mediating and financial stress moderating the relationship. The practical implication is that financial-education programmes must build confidence alongside knowledge in order to achieve behavioural impact (Bandura, 1997; Liu & Zhang, 2021).

The Locus of Control (LoC) framework (Rotter, 1966) differentiates individuals with an internal orientation, who perceive outcomes as resulting from their own actions, from those with an external orientation, who attribute outcomes to luck or external forces. Syaliha et al. (2022) demonstrated that an internal LoC significantly predicted positive financial management behaviour among Indonesian accounting students, whereas lifestyle and attitude did not. This finding reinforces the view that dispositional traits shape whether literacy translates into disciplined financial conduct.

Financial Socialisation Theory (Shim et al., 2010) explains how knowledge and habits are acquired through parents, peers, and the media during the transition to adulthood. Zulfaris (2020) found that parental and peer influence significantly affected Malaysian undergraduates' money-management behaviour. However, Kamel and Sahid (2021) observed that such socialisation did not directly predict literacy levels, which implies that families transmit attitudes more readily than they transmit technical financial knowledge. This divergence clarifies why formal financial education must complement, rather than replace, informal home socialisation (Shim et al., 2010; Thaler & Sunstein, 2008).

Empirical Evidence from Key Studies

A number of recent empirical studies anchor the present inquiry. Kamel and Sahid (2021) surveyed 339 Malaysian public-university undergraduates and found that financial literacy

significantly influenced budgeting, saving and long-term planning, with financial attitude and formal financial education emerging as significant predictors of literacy; parental and peer socialisation did not. Sabri and MacDonald (2010) reported similar findings in an earlier Malaysian study, observing that financial literacy was positively associated with saving behaviour and inversely related to financial problems.

Liu and Zhang (2021), working with 539 Chinese undergraduates, demonstrated that objective and subjective literacy independently reduced risky credit behaviour, and that financial self-efficacy partially mediated the literacy–behaviour pathway. Financial stress further moderated this relationship, strengthening the protective role of literacy under economic strain. Rapina et al. (2023) extended the discourse by modelling a literacy → behaviour → readiness pathway in 395 Indonesian business students using partial-least-squares structural equation modelling (PLS-SEM), reframing financial education as a tool for economic empowerment rather than merely for risk avoidance.

Zulfaris (2020), examining Malaysian undergraduates' money-management behaviour, found that the positive effect of financial literacy on behaviour was moderated by self-control and by financial socialisation, supporting the view that dispositional and contextual factors condition the knowledge–behaviour link. Syaliha et al. (2022) reported that, among 50 Indonesian accounting students, both financial literacy and internal LoC significantly predicted financial management behaviour, while lifestyle and attitude were not significant; the authors attributed the null findings on attitude to sample homogeneity. Xiao and Porto (2017) provided complementary evidence from the United States, showing that financial literacy, behaviour and capability sequentially mediate the relationship between financial education and financial satisfaction.

Synthesis and Research Gap

Four themes recur across this literature. First, financial literacy is necessary but not sufficient for responsible behaviour. Psychological enablers such as self-efficacy and locus of control are decisive (Bandura, 1997; Liu & Zhang, 2021; Syaliha et al., 2022). Second, socialisation and self-control exert contextual influence, although their effects vary across cultures (Shim et al., 2010; Zulfaris, 2020). Third, financial readiness, as conceptualised by Rapina et al. (2023), shifts the debate from the avoidance of negative outcomes toward proactive economic participation. Fourth, the field is methodologically dominated by cross-sectional self-report designs that are concentrated on commerce students, which limits generalisability (Kamel & Sahid, 2021; Xiao & Porto, 2017).

Three specific gaps motivate the present study. First, the motivational dimension, captured here as Financial Management Motivational Behaviour (FMMB), is under-specified as a distinct construct that bridges knowledge and sustained action. Prior studies have treated motivation implicitly through constructs such as self-efficacy (Liu & Zhang, 2021) or readiness (Rapina et al., 2023) rather than as a behavioural construct in its own right. Second, evidence from East Malaysian private colleges remains sparse, despite the region's distinctive socio-economic profile, its heavy reliance on PTPTN financing, and its rapidly expanding digital-finance exposure (Zulfaris, 2020). Third, most Malaysian studies sample students from commerce, business, or accounting programmes. This narrow sampling may over-estimate the baseline literacy level and mute heterogeneity across disciplines (Kamel & Sahid, 2021;

Sabri & MacDonald, 2010). The present study addresses these gaps by examining a diverse private-college sample drawn from twelve programmes that span business, hospitality, information technology, culinary arts, multimedia, and early-childhood education, and by jointly operationalising objective literacy, self-perceived literacy, and FMMB.

Conceptual Framework and Hypotheses

Building on the reviewed theoretical perspectives and empirical evidence, the study's conceptual framework positions financial literacy as the independent variable and financial management motivational behaviour as the dependent variable. Financial literacy is operationalised along four dimensions commonly recognised in the literature (OECD, 2018; Lusardi & Mitchell, 2014; Kamel & Sahid, 2021): (i) budgeting skills, reflecting students' ability to plan and track expenses and maintain awareness of monthly spending; (ii) saving knowledge and practices, covering understanding of saving strategies and the role of emergency funds; (iii) investment understanding, including awareness of common investment products and the trade-off between risk and return; and (iv) debt management, encompassing comprehension of loan terms, repayment obligations and the avoidance of excessive indebtedness. Motivational behaviour is measured through four behavioural dimensions drawn from Dew and Xiao (2011) and Lown (2011): (i) goal setting, both short- and long-term; (ii) saving habit and persistence; (iii) responsible spending, including monitoring and the avoidance of impulsive purchases; and (iv) proactive financial planning, such as reviewing and adjusting personal budgets.

Drawing on TPB (Ajzen, 1991), SCT (Bandura, 1986, 1997) and the LoC framework (Rotter, 1966), the model posits that higher levels of financial literacy should be associated with stronger motivational behaviour through three plausible mechanisms: enhanced perceived behavioural control, stronger financial self-efficacy, and consolidation of an internal locus of control. Consistent with this theoretical reasoning and with prior empirical evidence (Kamel & Sahid, 2021; Liu & Zhang, 2021; Rapina et al., 2023; Xiao & Porto, 2017), the study advances the following hypotheses:

H_0: There is no significant relationship between students' financial literacy and their financial management motivational behaviour.

H_1: There is a significant positive relationship between students' financial literacy and their financial management motivational behaviour.

Research Methodology

Research Design

A quantitative, cross-sectional, explanatory case-study design was adopted in order to examine the relationship between financial literacy (the independent variable) and financial management motivational behaviour (the dependent variable). The case-study approach, in the Yin (2018) tradition, is appropriate when a contemporary phenomenon is examined within its real-life context and when the boundaries between phenomenon and context are not clearly evident. Both conditions are satisfied in the study of student financial behaviour within a specific institutional setting (Yin, 2018). The cross-sectional mode is further justified by the study's focus on testing directional associations at a single point in time, following the analytical logic adopted by Kamel and Sahid (2021), Liu and Zhang (2021), and Rapina et al. (2023). A structured self-administered questionnaire served as the primary data-collection instrument. It was delivered online via Google Forms and was supplemented by paper-based

distribution in selected classes in order to minimise non-response bias among students with limited internet access.

Population, Sampling Frame and Sample Size

The target population comprised all certificate and diploma students actively enrolled at a private college in Kota Kinabalu during the study semester, with an estimated population size of approximately 500. The sampling frame was derived from the college's academic registry and covered twelve programmes: Certificate in Business Management, Diploma in Business Management, Diploma in Accounting, Diploma in Information Technology, Diploma in Hotel Management, Diploma in Tourism Management, Diploma in Culinary Arts, Diploma in Pastry Arts, Diploma in Early Childhood Education, Diploma in E-Secretaryship, Diploma in Multimedia Application, and Diploma in Computer Graphic Design. A stratified random sampling procedure was employed, with programme and year of study as stratification variables, to ensure representativeness across disciplines and study levels.

Inclusion criteria comprised (i) active enrolment in Semesters 1 through 6, (ii) age 18 or above, and (iii) documented informed consent. Students on leave of absence or those providing incomplete responses were excluded from the analytical sample. Following Krejcie and Morgan's (1970) sample-size determination table, the minimum sample for a population of approximately 500 at a 95% confidence level and a 5% margin of error is 217. A target of 220 to 250 respondents was therefore set, and 220 complete and valid responses were ultimately obtained. This final sample exceeded the minimum threshold and matched the sample size adopted in comparable Malaysian studies (Kamel & Sahid, 2021; Sabri & MacDonald, 2010).

Instrument Development

The questionnaire comprised three sections. Section A collected demographic information including gender, programme of study, year of study, part-time employment status, monthly allowance or income source, prior exposure to financial education, and funding source (PTPTN, scholarship, or self-funded). Section B measured financial literacy through two complementary components following the dual-measurement logic of Lusardi and Mitchell (2014) and Liu and Zhang (2021): (i) an objective knowledge component comprising five multiple-choice items adapted from the OECD/INFE (2018) Toolkit and Lusardi and Mitchell (2014), covering interest calculation, inflation, investment risk, debt calculation and the real value of money, scored 1 for each correct answer and 0 for incorrect or "don't know" responses (maximum score = 5); and (ii) a self-assessment component comprising five Likert-scale items (1 = Strongly Disagree, 5 = Strongly Agree) measuring confidence and perceived financial capability across expense tracking, compound-interest understanding, savings–investment differentiation, informed decision-making, and spending planning. In prior applications, these items have yielded Cronbach's alpha coefficients between .78 and .84 (Lusardi & Mitchell, 2014; OECD, 2018).

Section C measured financial management motivational behaviour through eight Likert-scale items (1 = Strongly Disagree, 5 = Strongly Agree) selected and adapted from items in the Financial Self-Efficacy Scale (FSES; Lown, 2011) and the Financial Management Behavior Scale (FMBS; Dew & Xiao, 2011). The items captured goal setting, confidence in managing personal finances, persistence in saving despite unexpected expenses, proactive planning, regular

review of financial goals, budget adjustment, determination in the face of challenges, and use of strategies such as reminders and financial applications to stay on track. These instruments have produced Cronbach's alpha coefficients between .74 and .83 in prior validation studies (Lown, 2011; Dew & Xiao, 2011).

A pilot test was conducted with 25 students drawn from the same institution but excluded from the main sample, following the recommendation of Sekaran and Bougie (2016). The pilot confirmed item clarity, appropriate completion time (approximately 10–12 minutes) and acceptable preliminary reliability. Minor wording adjustments were made to two items to enhance local comprehensibility.

Data Collection Procedures and Ethical Considerations

Ethical clearance was obtained from the centre manager of the participating private college, and institutional gatekeeper permission was secured prior to fieldwork. The questionnaire was administered over a two-week window, with periodic reminders disseminated through institutional email, WhatsApp and Telegram channels supported by lecturers and student representatives. An informed-consent page preceded the items, explaining the study's purpose, procedures, voluntary nature and the respondent's right to withdraw at any time before submission without academic penalty. Anonymity was assured: no personal identifiers such as names, student numbers or contact details were collected, and all findings are reported in aggregate form. The study complied with the ethical principles articulated in the Belmont Report and adopted by the Malaysian Society for Research Ethics for social-science research.

Data Analysis Procedures

Data were analysed in four systematic stages using IBM SPSS Statistics Version 27. In Stage 1, the dataset was screened for accuracy, completeness, missing values, outliers and normality. Missing-value analysis followed the pairwise-deletion strategy recommended by Hair et al. (2019) for datasets with less than 5% missingness. Univariate outliers were identified using standardised z-scores with a threshold of $|z| < 3.29$ (Tabachnick & Fidell, 2019), and normality was assessed through skewness and kurtosis values interpreted against the ±1 criterion.

In Stage 2, descriptive statistics, including means, standard deviations, frequencies, and percentages, were computed to profile the sample and to address RQ1 and RQ2. Respondents were categorised into low (mean < 3.00), moderate (3.00 to 3.99), and high (≥ 4.00) bands on the Likert scales, following conventions in prior Malaysian financial-literacy studies (Kamel & Sahid, 2021; Sabri & MacDonald, 2010). Stage 3 addressed reliability. Because the instruments were adopted from previously validated scales (Lown, 2011; OECD, 2018; Dew & Xiao, 2011) without substantive modification, re-establishing reliability was not strictly required (DeVellis, 2016; Sekaran & Bougie, 2016). Nonetheless, internal-consistency patterns in the present dataset were inspected in order to confirm psychometric soundness.

In Stage 4, inferential tests addressed RQ3 and the study hypotheses. One-sample t-tests compared the means of financial literacy and motivational behaviour against the neutral midpoint of 3.0, following the benchmarking approach of Sabri and MacDonald (2010). Pearson product-moment correlation measured the strength and direction of the literacy–behaviour association, with Cohen's (1988) benchmarks (r = .10 small, .30 medium, .50 large)

applied to the effect size. Simple linear regression was then conducted to quantify the predictive contribution of financial literacy to motivational behaviour, with statistical significance evaluated at α = .05 throughout.

Results and Findings

Data Screening and Demographic Profile

A total of 220 complete and valid responses were obtained. Missing-value analysis revealed negligible missingness: four cases for monthly allowance and one case for Item C6 ("I make adjustments to my budget when needed"), together representing less than 0.1% of the dataset and well below the 5% threshold at which missingness is considered problematic (Hair et al., 2019). Pairwise deletion was applied when computing composite scores. Standardised z-scores for both composite variables fell within $|z| < 3.29$, confirming the absence of univariate outliers (Tabachnick & Fidell, 2019). Skewness and kurtosis values were within ±1 for both constructs (financial literacy: skewness = 0.43, kurtosis = –0.73; motivational behaviour: skewness = 0.23, kurtosis = –0.67), supporting the use of parametric tests. Table 1 presents the demographic profile of the respondents.

Table 1

Demographic Profile of Respondents (N = 220)

Variable	***Category***	***Frequency***	***Percentage (%)***
Gender	Female	117	53.2
	Male	103	46.8
Year of Study	Year 1	70	31.7
	Year 2	85	38.6
	Year 3	55	24.8
	Year 4	10	5.0
Part-time Employment	Yes	66	30.0
	No	154	70.0
Monthly Allowance	< RM500	184	83.5
	RM500–999	29	13.4
	RM1,000–1,499	4	2.1
	≥ RM1,500	2	1.0
Prior Financial Education	Yes	57	25.7
	No	163	74.3
Funding Source	PTPTN	175	79.2
	Self-funded	41	18.8
	Scholarship	4	2.0

The sample was gender-balanced, with slightly more female respondents (53.2%) than male respondents (46.8%), producing a more equitable foundation for analysis than the female-skewed samples reported in some prior Malaysian studies (Kamel & Sahid, 2021). The distribution across year of study concentrated in the early-to-mid stages (Years 1 and 2 together = 70.3%), which is consistent with the typical enrolment pyramid of diploma programmes. Nearly one-third of the respondents combined part-time employment with study, highlighting the growing prevalence of working-student status among Malaysian youth (Sabri & MacDonald, 2010). Financially, the sample was markedly resource-constrained: 83.5% reported monthly allowances below RM500 and 79.2% relied on PTPTN loans, mirroring broader patterns documented by Zulfaris (2020). Critically, 74.3% had never attended any formal financial-education programme, underscoring the importance of structured interventions for this population.

Level of Financial Literacy (RQ1)

Objective financial literacy, measured through five multiple-choice items, yielded a mean score of 2.50 out of 5 (SD = 1.82), indicating a moderate level of factual financial knowledge. Respondents were distributed almost evenly across the three literacy bands: low (0–1 correct, n = 78, 35.6%), moderate (2–3 correct, n = 66, 29.7%), and high (4–5 correct, n = 76, 34.7%). This distribution is consistent with the OECD/INFE (2020) finding that a substantial minority of young adults in emerging economies struggle with fundamental financial concepts, and with Lusardi and Mitchell's (2014) repeated observation that objective literacy among students globally rarely exceeds moderate levels.

By contrast, the self-perceived financial literacy scale yielded a mean of 3.65 (SD = 0.78), which was significantly above the neutral midpoint of 3.0, $t(219) = 8.59$, $p < .001$, $d = 0.83$. Only 11.9% of respondents rated themselves as low in self-perceived literacy (mean < 3.00), while 54.5% rated themselves moderate (3.00–3.99) and 33.7% rated themselves high (≥ 4.00). Item-level inspection revealed relatively strong agreement on practical items (tracking monthly expenses, planning spending to avoid running out of money) but markedly weaker understanding of compound interest. The divergence between moderate objective literacy and substantially above-neutral perceived literacy replicates the overconfidence pattern widely documented in the behavioural-finance literature (Liu & Zhang, 2021; Lusardi & Mitchell, 2014).

Level of Financial Management Motivational Behaviour (RQ2)

The eight-item FMMB composite produced a mean of 3.68 (SD = 0.80), which was likewise significantly above the neutral midpoint, $t(219) = 8.61$, $p < .001$, $d = 0.85$. Only 7.9% of respondents (n = 17) fell into the low-motivation category, while 54.5% (n = 120) were classified as moderate and 37.6% (n = 83) as high. Students most strongly endorsed items related to goal setting, consistent saving despite unexpected expenses, and the use of digital tools such as reminders and budgeting applications to stay on track. These findings suggest that, despite constrained resources and limited formal financial education, the majority of respondents exhibit proactive, goal-oriented financial attitudes. This pattern echoes Rapina et al.'s (2023) argument that financial readiness can emerge among tertiary students even under resource constraints. Table 2 summarises the descriptive statistics for the two key constructs.

Table 2
Descriptive Statistics for Key Constructs and One-Sample t-Test Results

Construct	N	Mean	SD	Skew.	Kurt.	t (vs 3.0)
Objective Literacy (0–5)	220	2.50	1.82	-	-	-
Self-Perceived Literacy (1–5)	220	3.65	0.78	0.43	–0.73	8.59***
Motivational Behaviour (1–5)	220	3.68	0.80	0.23	–0.67	8.61***

*Note: ***p < .001. The one-sample t-tests use 3.0 (neutral midpoint) as the test value. Cohen's d for self-perceived literacy = 0.83 and for motivational behaviour = 0.85, both representing large effect sizes (Cohen, 1988).*

Reliability and Validity

The instruments were adapted from previously validated scales (Lown, 2011; OECD, 2018; Lusardi & Mitchell, 2014; Dew & Xiao, 2011), each of which has repeatedly yielded Cronbach's alpha coefficients above the 0.70 threshold recommended by Nunnally and Bernstein (1994). Because the constructs and context remained closely aligned with prior validation studies, re-establishing reliability was not strictly required (DeVellis, 2016; Sekaran & Bougie, 2016). Nonetheless, item-level inspection of inter-item patterns in the present dataset showed no anomalies (no reverse-coded outliers, no item–total correlations below .30), supporting the psychometric soundness of the composite scores used in subsequent analyses.

Relationship Between Financial Literacy and Motivational Behaviour (RQ3)

To test the hypothesised relationship between financial literacy and financial management motivational behaviour, Pearson product-moment correlation and simple linear regression were conducted using the composite self-perceived literacy score and the FMMB composite. The Pearson analysis revealed a strong, positive and highly significant association, $r(218) = .85$, $p < .001$, indicating that students reporting higher levels of financial literacy also reported stronger motivational behaviour in managing their finances. The effect size substantially exceeds the conventional benchmark for a large effect (Cohen, 1988) and is larger than the corresponding associations reported in comparable studies such as Kamel and Sahid (2021) and Xiao and Porto (2017).

A simple linear regression modelling motivational behaviour as a function of financial literacy confirmed the predictive relationship. The model explained 72.8% of the variance in motivational behaviour ($R^2 = .728$, adjusted $R^2 = .727$; $F(1, 218) = 583.62$, $p < .001$), with the unstandardised regression coefficient for financial literacy being statistically significant ($B = 0.87$, $SE = 0.04$, $\beta = .85$, $t = 24.16$, $p < .001$). Substantively, each one-unit increase in self-perceived financial literacy on the five-point scale was associated with an approximate 0.87-point increase in motivational behaviour. The constant term ($B = 0.51$, $SE = 0.14$, $t = 3.67$, $p < .001$) represents the baseline level of motivational behaviour when literacy is at its minimum. Diagnostic checks (examination of residual scatter plots and Durbin–Watson statistic) indicated no serious violations of linear-regression assumptions. Table 3 presents the regression output and Table 4 summarises the hypothesis test.

Table 3
Simple Linear Regression Predicting Financial Management Motivational Behaviour

Predictor	**B**	**SE**	**β**	**t**	**p**
Constant	0.51	0.14	-	3.67	< .001
Financial Literacy	0.87	0.04	.85	24.16	< .001
Model Summary					
$R = .853$; $R^2 = .728$; Adj. $R^2 = .727$	$F(1, 218) = 583.62$				$p < .001$

Note: Dependent variable = Financial Management Motivational Behaviour. N = 220.

Table 4
Summary of Hypothesis Testing

Hypo.	**Statement**	**Statistical Test**	**Key Statistic**	**Decision**
H_o	There is no significant relationship between students' financial literacy and their financial management motivational behaviour.	Pearson correlation	$r = .85$; $p < .001$	Rejected
H_1	There is a significant positive relationship between students' financial literacy and their financial management motivational behaviour.	Pearson correlation; simple linear regression	$r = .85$; $\beta = .85$; $R^2 = .73$; $p < .001$	Supported

Note: Decision rule for H_1: support if $r > 0$ and $p < .05$.

Based on these results, the null hypothesis (H_o) is rejected and the alternative hypothesis (H_1) is strongly supported. The combination of a very large effect size ($r = .85$) and a high coefficient of determination ($R^2 = .73$) indicates that financial literacy is not merely correlated with but is a robust statistical predictor of motivational behaviour in this population, consistent with the theoretical predictions of TPB and SCT (Ajzen, 1991; Bandura, 1997).

Discussion

Interpreting the Literacy–Behaviour Link

The study's central finding is that financial literacy is strongly and positively associated with financial management motivational behaviour among private-college students in Kota Kinabalu ($r = .85$, $R^2 = .73$). This result is consistent with the predictions of the Theory of Planned Behaviour (Ajzen, 1991) and Social Cognitive Theory (Bandura, 1986, 1997). Within TPB, financial knowledge contributes to perceived behavioural control by equipping students with the cognitive resources required to judge the feasibility of behaviours such as budgeting, goal setting, and saving. Within SCT, it enhances financial self-efficacy and thereby strengthens students' belief that they can successfully execute these behaviours (Bandura, 1997; Lown, 2011). Both mechanisms plausibly underlie the observed association, and they

help to explain why increases in self-perceived literacy translate so directly into higher motivational scores in this sample. The finding also complements Liu and Zhang's (2021) demonstration that financial self-efficacy mediates the relationship between literacy and risky credit behaviour among Chinese university students. It also aligns with Xiao and Porto's (2017) evidence that literacy, behaviour, and capability jointly mediate the effect of financial education on financial satisfaction in the United States.

The magnitude of the relationship observed here ($r = .85$, $\beta = .85$) exceeds those commonly reported in Malaysian and regional studies. Kamel and Sahid (2021) reported moderate-to-large associations between literacy and several specific financial behaviours, while Sabri and MacDonald (2010) found significant but smaller associations between literacy and saving behaviour. Three plausible explanations may account for the stronger association in the present study. First, the self-perceived literacy and FMMB constructs share a common affective-attitudinal dimension, which likely elevates their observed correlation relative to designs that pair objective literacy with behaviour (Liu & Zhang, 2021). Second, the sample is relatively homogeneous in its resource context. Most respondents operate under tight PTPTN-funded budgets, and this shared constraint may tighten the coupling between confidence and behaviour, because necessity reinforces cognitive preparedness (Rapina et al., 2023). Third, the context of a private college in a secondary Malaysian city may foreground financial self-regulation as a salient everyday concern in ways that a national survey would dilute. Future research that incorporates objective behavioural indicators, such as actual bank-account records or spending diaries, would be valuable in cross-validating the self-report pattern.

The Overconfidence Pattern and Its Implications

A key contribution of the study is its explicit juxtaposition of objective and self-perceived financial literacy. Although the objective mean = 2.50 classifies overall factual knowledge as moderate, with 35.6% of respondents scoring in the low band, the self-perceived literacy mean =3.65 lies significantly above neutral, with 88.2% of respondents rating themselves as moderate or high. This divergence directly echoes Lusardi and Mitchell's (2014) caution that young adults often overestimate their financial competence, and it aligns with Liu and Zhang's (2021) analytical distinction between objective and subjective literacy. The overconfidence pattern is not merely a psychometric curiosity. It has concrete practical implications, because overconfident students may under-invest in further financial learning precisely when it is most needed (Atkinson & Messy, 2012).

Item-level analysis also revealed a specific conceptual gap in the understanding of compound interest, a concept that is central to both the accumulation of debt under PTPTN-style instalment structures and to long-term savings growth. The co-existence of strong self-perceived literacy with weak compound-interest knowledge suggests that students have developed practical competence in day-to-day budgeting through their lived experience of resource scarcity. However, they have not acquired the more technical, quantitative dimensions of literacy that formal education typically supplies. This finding supports calls by Kamel and Sahid (2021), OECD (2020), and Bank Negara Malaysia (2019) for structured and standardised financial content within higher-education curricula. It also parallels the diagnosis offered by Lusardi and Mitchell (2014), who identify compound interest as a persistent global weak point in youth financial literacy.

Motivational Behaviour Under Resource Constraints

Despite moderate objective literacy, 92.1% of respondents displayed moderate-to-high motivational behaviour. Several explanations are plausible. First, financial constraint itself can cultivate financial discipline. Students operating on allowances below RM500 per month are compelled to plan, prioritise, and monitor spending, which produces behaviours that resemble those of higher-literacy students. Shim et al. (2010) documented a similar mechanism in their study of financial socialisation among first-year US college students. Second, Malaysian sociocultural norms, particularly in family-oriented Sabahan communities, strongly endorse financial responsibility among young adults, which reinforces motivational dispositions independently of formal learning (Zulfaris, 2020). Third, the proliferation of e-wallets, mobile-banking applications, and budgeting tools provides low-friction digital scaffolding that supports goal setting and expense monitoring even among students without formal training. Zulfaris (2020) similarly emphasised the role of self-control as a behavioural filter that converts knowledge into disciplined practice, which complements Thaler and Sunstein's (2008) broader argument that environmental nudges can produce better financial outcomes without requiring deep cognitive literacy.

Theoretical Contribution

The study advances the literature by operationalising and empirically validating Financial Management Motivational Behaviour (FMMB) as a distinct construct that links literacy to sustained financial practice. Earlier studies have treated motivation implicitly, for example, as a facet of self-efficacy in Liu and Zhang (2021), as readiness in Rapina et al. (2023), or as behavioural intention in Kamel and Sahid (2021). In contrast, the present study foregrounds FMMB as a measurable behavioural construct that comprises goal setting, persistence in saving, proactive planning, and digital-tool use. The strong association with literacy suggests that FMMB may serve as a mediating variable through which knowledge translates into enduring practice. This is an empirical specification that future research should test explicitly using multi-wave or experimental designs (Hair et al., 2019).

Practical and Policy Implications

For higher-education institutions, the findings argue for embedding structured and experiential financial-literacy content across programmes rather than confining it to elective seminars or co-curricular activities. Given that 74.3% of respondents had received no prior financial training, compulsory introductory modules and micro-credentials, complemented by gamified budgeting exercises, case-based learning, and investment simulations, would close the conceptual gap (particularly in compound interest) while leveraging students' already strong motivation (Kamel & Sahid, 2021; Xiao & Porto, 2017). For lecturers, authentic tasks such as monthly-budget simulations tied to PTPTN loan-repayment schedules would link theory to lived experience and reinforce self-efficacy (Bandura, 1997; Lown, 2011).

For students, the results highlight the importance of converting existing motivation into sustained action. Regular use of budgeting applications, periodic review of savings goals, and self-directed engagement with credible online resources, such as Bank Negara Malaysia's (2019) financial-literacy portal or the OECD/INFE (2018) learning modules, can consolidate habits. Students from rural Sabah backgrounds, who may have limited prior exposure to structured financial education, stand to benefit disproportionately from such practices (Zulfaris, 2020).

For policymakers, the findings align closely with Malaysia's National Strategy for Financial Literacy 2019–2023 coordinated by Bank Negara Malaysia (2019) and FEN, and with Sustainable Development Goal 4 on inclusive and equitable quality education (United Nations, 2015). Ministry of Higher Education initiatives could mandate financial-literacy components as part of holistic student-development frameworks, with particular attention to students in Sabah and Sarawak where access to structured financial programmes has historically lagged behind Peninsular Malaysia. Partnerships with financial institutions and professional bodies such as the Financial Planning Association of Malaysia could provide pipeline support for graduates transitioning into employment and loan repayment, extending the reach of formal curricular interventions.

Comparison with Prior Studies

Placing the present findings alongside earlier work yields three instructive contrasts. First, the proportion of variance in motivational behaviour explained by financial literacy (R^2 = .73) substantially exceeds comparable figures reported by Kamel and Sahid (2021) for Malaysian public-university undergraduates, Syaliha et al. (2022) for Indonesian accounting students, and Xiao and Porto (2017) for US adults. This may reflect conceptual overlap between the perceived-literacy and motivational-behaviour scales used here, but it also plausibly reflects the homogeneity of the sample: students operating under tight PTPTN-based budgets in Sabah may display tighter coupling between confidence and behaviour than cohorts with more diverse financial backgrounds. Second, the divergence between objective (M = 2.50/5) and self-perceived literacy (M = 3.65/5) replicates, in sharper form, the overconfidence documented globally by Lusardi and Mitchell (2014) and Liu and Zhang (2021), suggesting that the pattern is robust across cultural contexts. Third, whereas Zulfaris (2020) identified self-control and parental socialisation as important moderators in the Malaysian context, the present study did not test such moderators; their incorporation is a priority for subsequent research in the Sabah context.

Alignment with National Policy and Sustainable Development Goal 4

The study's findings resonate with Malaysia's National Strategy for Financial Literacy (Bank Negara Malaysia, 2019) and with FEN's mandate to strengthen the financial capability of youth. The demonstration that nearly three-quarters of the variance in motivational behaviour is attributable to financial literacy provides empirical support for FEN's intervention logic, which treats literacy as a lever for behavioural change. The results also directly address Sustainable Development Goal 4 on inclusive and equitable quality education (United Nations, 2015). By embedding financial-literacy modules within diploma-level programmes, particularly those in non-commerce disciplines such as culinary arts, multimedia, and hotel management, where prior exposure is minimal, higher-education providers can advance SDG 4.4. This target seeks to increase the number of youth with relevant skills for employment, decent work, and entrepreneurship.

Conclusion, Limitations and Future Research

Conclusion

This study investigated the level of financial literacy among students at a private college in Kota Kinabalu, characterised their financial management motivational behaviour, and tested the relationship between the two constructs. Drawing on a sample of 220 diploma and certificate students recruited through stratified random sampling across twelve programmes,

the findings reveal a moderate level of objective financial literacy (M = 2.50/5), significantly above-neutral self-perceived literacy (M = 3.65) and motivational behaviour (M = 3.68), and a strong positive relationship between literacy and motivational behaviour ($r = .85$, $R^2 = .73$, $p < .001$). The research hypothesis is supported, and the null hypothesis is rejected.

Three main conclusions follow. First, financial literacy is a necessary but not a sufficient condition for responsible financial behaviour, and its effect operates in conjunction with motivational dispositions (Ajzen, 1991; Bandura, 1997; Liu & Zhang, 2021). Second, a striking overconfidence pattern, whereby students' subjective assessments exceed their objective knowledge, particularly regarding compound interest, warrants targeted curricular attention (Lusardi & Mitchell, 2014). Third, even under resource-constrained conditions, students exhibit strong motivational behaviour, which provides a behavioural foundation on which formal financial education can build (Rapina et al., 2023; Shim et al., 2010). Collectively, these findings reinforce the view that financial literacy functions as a cognitive and motivational lever that educators and policymakers can deploy in order to improve youth financial well-being.

Limitations of the Study

Several limitations qualify the interpretation of the findings. First, the case-study design restricts generalisability to students at a single private college in Kota Kinabalu. Students at public universities, in other Malaysian states, or in non-diploma programmes may exhibit different profiles. Second, self-report measures are subject to social-desirability bias and common-method variance, although procedural controls were implemented in order to mitigate these concerns. These controls included anonymity, varied item formats, objective items alongside Likert scales, and reverse-anchored wording (Podsakoff et al., 2003). Third, the cross-sectional design precludes causal inference. Although literacy is treated here as an antecedent to motivation, reverse causality, whereby motivated students actively seek out financial learning, cannot be excluded (Hair et al., 2019). Fourth, the concentration of respondents in Years 1 and 2 (70.3% of the sample) may under-represent the perspectives of students nearing graduation, who typically face more immediate financial decisions such as loan repayment and job-seeking. Fifth, the analysis focused on literacy and motivational behaviour and did not test potential mediators or moderators, such as financial stress, parental influence, peer pressure, digital financial literacy, or locus of control. Prior studies have identified these factors as salient (Liu & Zhang, 2021; Syaliha et al., 2022; Zulfaris, 2020).

Suggestions for Future Research

Five directions for future research are proposed. First, the sample should be expanded. Multi-campus studies across Sabah, Peninsular Malaysia, and Sarawak, including public universities, polytechnics, and community colleges, would enhance external validity and would permit meaningful comparisons across institutional types and geographies (Sabri & MacDonald, 2010). Second, longitudinal designs that track cohorts across academic years and into early employment would clarify the temporal dynamics of literacy, motivation, and behaviour, and would enable tests of causal direction (Hair et al., 2019). Third, mixed-methods research that combines the quantitative instrumentation used here with qualitative interviews or reflective journals would illuminate the lived experience of financial decision-making under PTPTN-based budgets (Yin, 2018). Fourth, future models should incorporate mediators and moderators such as financial stress, locus of control, self-control, parental socialisation, and

digital financial literacy, in order to develop a more comprehensive account of the literacy-behaviour pathway (Liu & Zhang, 2021; Syaliha et al., 2022). Fifth, intervention research is needed. Randomised or quasi-experimental evaluations of structured financial-literacy curricula, gamified budgeting applications, and peer-mentoring programmes would provide the evidence base required for national rollout under Malaysia's National Strategy for Financial Literacy (Bank Negara Malaysia, 2019).

In closing, the evidence presented here indicates that tertiary students in Sabah are motivated and willing to manage their finances responsibly. However, they exhibit conceptual gaps and a tendency to overestimate their own knowledge. Strengthening financial literacy through structured, experiential, and context-sensitive educational interventions offers a tractable pathway for translating this motivation into sustained financial well-being. Such interventions can support the cultivation of financially resilient graduates who are equipped to navigate a dynamic economic environment and to contribute to Malaysia's broader developmental aspirations.

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