



IMPACT OF DIGITAL PAYMENT USAGE ON STUDENT'S SPENDING PATTERNS: THE ROLE OF FINANCIAL SELF-CONTROL AND FINANCIAL LITERACY

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ABSTRACT This study investigates the impact of digital payment usage on student's spending patterns, with a particular focus on the moderating roles of financial self-control and financial literacy. Using a structured questionnaire administered to 105 students across postgraduate programs, this research examines how the increasing adoption of digital payment methods (such as UPI, mobile wallets and net banking) influences consumption behaviour, impulse purchasing and awareness of expenditure. The study employs a five-point Likert scale instrument measuring three core constructs: Digital Payment Usage(DPU), Financial Self-Control (FSC) and Financial Literacy (FL) along with a derived spending impact score. Descriptive statistics reveal that 75.2% of respondents were aged 21-23 years, 53.3% were female, and a majority were enrolled in MBA programs. The mean Digital Payment Usage score was 3.70 (SD = 0.64), suggesting moderate to high digital payment engagement. Pearson correlation analysis reveals a strong positive relationship between digital payment usage and spending impact ($r = 0.904, p < 0.001$), while Financial Self-Control showed a statistically significant negative correlation with spending impact ($r = -0.238, p = 0.014$). Financial literacy did not show a statistically significant direct correlation with spending ($r = -0.077, p = 0.432$). Multiple regression analysis (RZ = 0.829) confirms that digital payment usage is the dominant predictor of spending impact ($\beta = 1.085, p < 0.001$). The findings support the hypothesis that higher digital payment usage leads to higher spending impact and the financial self-control acts as a significant buffer. Recommendations for Universities include integrating financial literacy modules and offering digital spending awareness programs. The study contributes to the growing body of research on research on behavioural finance in the context of digitization.

KEYWORDS : Digital payments, UPI, Spending patterns, Financial Self-Control, Financial literacy, Impulsive spending, Behavioural finance.

INTRODUCTION

1.1 Background and context

The rapid digitization* of financial service has transformed how individuals particularly students manage their daily expenditures. India's digital payment ecosystem has experienced exponential growth, with the Unified Payments Interface (UPI) recording over 228 transactions worth Rs. 300 trillion as of 2025. Mobile wallets such as PhonePe, Google Pay, and Paytm have become ubiquitous, particularly among younger demographics who are the primary adopters of these technologies. This shift from cash based to digital payment mechanisms has profound implications for spending behaviour, given that the psychological distance from money is increased when physical currency is not directly handled.

Students represent a particularly vulnerable and important segment to study. They are early adopters of technology, yet are often financial inexperienced, dependent on limited income sources (scholarships, family support or part-time employment) and frequently face peer influenced consumption pressures. The removal of the tangible friction associated with cash payments the act of physically counting and handing over money has been shown in behavioural economics literature to reduce spending inhibition and increase the likelihood of impulse purchases.

Financial self-control refers to an individual's capacity to regulate their financial behaviour in alignment with their long term goals, resisting short term temptations to overspend. Financial literacy, on the other hand encompasses the knowledge, skills and confidence to make informed financial decisions. Together, these constructs are hypothesized to buffer the potential negative effects of increased digital payment usage on students' financial well-being. This study aims to empirically test these relationship using primary survey data collected from 105 students.

While digital payments offer significant convenience and efficiency, their behavioural consequences on spending remain underexplored in the Indian student context. Specifically, there is limited empirical evidence on:

- whether digital payment usage leads to higher unplanned and unaware spending among students;
- whether financial self-control effectively moderates this relationship;
- whether financial literacy provides additional protection against excessive spending facilitated by digital payment convenience.

1.3 Objective of the study

- To analyze the pattern and extent of digital payment usage among students.
- To assess levels of financial self-control and financial literacy among the surveyed students.
- To examine the relationship between digital payment usage and spending impact.
- To investigate whether financial self-control moderates the digital payment spending relationship.
- To explore the direct effect of financial literacy on students' spending patterns.

1.4 Significance of the study

This study contributes to academic literature on behavioural finance, consumer behaviour and financial inclusion in India. It provides actionable insights for university administrators, policymakers and parents regarding the financial vulnerabilities associated with digital payment adoption. By identifying the protective roles (or limitations) of financial self-control and financial literacy, the study informs the design of targeted financial education interventions for the students population.

1.5 Scope and limitations

The study is limited to 105 students primarily enrolled in management

1.2 Statement of the problem

programs at a single institution, which restricts the generalizability of findings. The cross-sectional design captures a single point in time and cannot establish causal direction. The spending impact is measured through self-reported perception rather than actual transaction data, which introduces social desirability bias. Future research should include larger, multi-institutional samples and longitudinal designs.

2. LITERATURE REVIEW AND HYPOTHESES

2.1 Digital payment usage and spending behaviour

The relationship between payment method and spending behaviour has been extensively studied in consumer psychology and behavioural economics. Prelec and Simester (2001) introduced the concept of 'coupling' – the psychological link between consumption and payment – and demonstrated that credit card usage reduces the pain of paying, thereby increasing willingness to spend. Soman (2001) extended this concept, finding that individuals who pay by credit card recall less detail about their purchases compared to cash payers, suggesting reduced payment awareness.

More recently, researchers have examined digital payment platforms specifically. Raghubir and Srivastava (2008) found that the more credit-like a form of payment, the less 'real' money feels, resulting in higher spending. In the Indian Context, Bapat (2017) found that UPI users reported significantly higher spending on discretionary items compared to cash-only users. Arora et al. (2020) found that college students using mobile wallets reported 23% higher average monthly expenditure than non-users. The convenience and speed of digital transactions reduce the cognitive effort involved in evaluating whether a purchase is necessary, a phenomenon termed 'friction-free spending' by Soman and Cheema (2011).

H1: Digital payment usage is positively associated with higher spending impact (unplanned and unaware spending) among students.

2.2 Financial Self-Control and Its Moderating Role

Financial self-control is a domain-specific application of the broader construct of self-control, defined as the ability to override impulses in pursuit of long-term goals (Baumeister et al., 1994). Muraven and Baumeister (2001) proposed the ego depletion model, suggesting that self-control is a limited cognitive resource that can be depleted by prior exertion. In the context of digital payments, the low cognitive load of tapping a phone screen for payment leaves little friction to trigger self-regulatory mechanisms.

Faber and Vohs (2004) demonstrated that financial self-control directly predicts compulsive buying tendencies. Hirsch and Costello (2019) found that students with higher financial self-control were less susceptible to impulse purchases facilitated by mobile payment platforms. Similarly, Liu et al. (2021) reported that financial self-control moderated the relationship between digital wallet usage and discretionary spending among Chinese University students, with high self-control students showing significantly lower spending increases compared to low self-control peers.

H2: Financial self-control is negatively associated with spending impact; students with higher self-control exhibit lower spending impact from digital payments.

H3: Financial self-control moderated the relationship between digital payment usage and spending impact such that the positive effect of digital payment usage on spending is weaker for students with high financial self-control.

2.3 Financial Literacy and Its Influence on Spending

Financial literacy has been defined as the ability to understand and apply financial concepts to decision-making (Lusardi & Mitchell, 2014). The financial literacy literature consistently finds that higher financial literacy is associated with better financial outcomes, including lower debt, higher savings, and more prudent investment behaviour (Huston, 2010). In the context of digital payments, financially literate individuals are theoretically better equipped to understand risks (fraud, unauthorized charges), track expenditure, and evaluate the true cost of transactions.

However, empirical evidence on the direct relationship between financial literacy and digital spending is mixed. Mandell and Klein (2009) found only a modest correlation between financial literacy scores and spending behaviour changes. Agarwal et al. (2015) noted that financial literacy may be more protective against high-interest

debt accumulation than against everyday discretionary overspending. In the Indian student context, Srivastava and Dey (2020) found that financially literate students used digital payments more cautiously did not necessarily spend less overall.

H4: Financial literacy is negatively associated with spending impact; more financially literate students exhibit lower spending impact from digital payments.

The theoretical framework integrating these constructs is illustrated conceptually: Digital Payment Usage serve as the primary independent variable influencing Spending Impact (dependent variable), while Financial Self-Control and Financial Literacy serve as moderating/mediating constructs. The analytical model tested in this study is expressed as:

$$\text{Spending Impact} = \beta_1 (\text{Digital payment usage}) + \beta_2 (\text{Financial literacy}) + \beta_3 (\text{Financial self-control}) + \epsilon$$

3. RESEARCH METHODOLOGY

3.1 Research Design

This study adopts a quantitative, descriptive-correlational research design. Primary data were collected through a structured questionnaire using Google Forms, distributed to students via digital channels including email and WhatsApp during March 2026. The study follows a cross-sectional survey approach.

3.2 Population and Sampling

The target population comprised students enrolled in undergraduate and postgraduate programs at management and arts institutions. A convenience sampling technique was employed, yielding a final sample of 105 complete and valid responses. While convenience sampling limits statistical generalizability, it is widely employed in student-focused behavioural finance research (Lusardi & Mitchell, 2014) and is appropriate given the exploratory nature of the study.

3.3 Instrument and Scales

The questionnaire consisted of three sections: (i) demographic information (age, gender, course), (ii) ten Likert – scale items measuring the three core constructs, and (iii) no open-ended items. All scale items were adapted from validated instruments in prior research and rated on a 5-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree).

Table 1: Survey Instrument and Construct Mapping

Q#	Item Statement (Abbreviated)	Construct	Scale
Q1	I use digital payment methods as my primary way of spending money	Digital Payment Usage	1-5
Q2	Cashback offers and discounts encourage me to spend more through digital payments	Digital Payment Usage	1-5
Q3	I tend to make unplanned purchases when paying digitally	DPU / Spending Impact	1-5
Q4	I feel less aware of my total spending when using digital payments compared to cash	DPU / Spending Impact	1-5
Q5	Small digital transactions often accumulate into larger expenses without my notice	DPU / Spending Impact	1-5
Q6	I set limits for my monthly spending and try to follow them	Financial Self-Control	1-5
Q7	I think carefully before making non-essential digital payments	Financial Self-Control	1-5
Q8	I regularly check my account balance or transaction history to control my spending	Financial Self-Control	1-5
Q9	I understand the risks associated with digital payment fraud and security issues	Financial Literacy	1-5
Q10	My financial knowledge helps me manage my spending even when using digital payments	Financial Literacy	1-5

3.4 Composite Variable Construction

Three composite scores were derived from the survey items:

- Digital Payment Usage (DPU): Mean of Q1-Q5 (α reflects multi-item scale; Cronbach's α estimated ≈ 0.71)
- Financial Self-Control (FSC): Mean of Q6-Q8
- Financial Literacy (FL): Mean of Q9-Q10
- Spending Impact (SI): Mean of Q3-Q5 (unplanned purchase, unawareness, and accumulation of expenses – the behavioural outcome variable)

3.4 Data Analysis Plan

The following analytical techniques were employed: (1) Descriptive

statistics (frequencies, means, standard deviations) for all variables; (2) Pearson product-moment correlation analysis to examine bivariate associations; (3) Independent samples t-tests to compare spending impact across high/low self-control and financial literacy groups; (4) Ordinary Least Squares (OLS) multiple regression with Spending Impact as the dependent variable and DPU, FSC, and FL as predictors; (5) Grouped bar charts and pie charts for visual representation of key findings.

4. DATA ANALYSIS AND RESULTS

4.1 Demographic Profile of Respondents

A total of 105 valid responses were analysed. The demographic composition is presented below and visualized in Figures 1 and 2.

Table 2: Demographic Profile of respondents (N=105)

Characteristic	Category	Frequency	Percentage (%)
Age	18-20 years	18	17.1%
	21-23 years	75	71.4%
	Above 23 years	12	11.4%
Gender	Female	56	53.3%
	Male	48	45.7%
	Prefer not to say	1	1.0%
Program	MBA / MBA Specialization	~68	~57.1%
	MCA / Other PG	~15	~14.3%
	B.Com / UG Programs	~30	~28.6%

The majority of respondents (71.4%) were aged between 21-23 years, reflecting the typical postgraduate student age range. Females constituted 53.5% of the sample. MBA students dominated the sample, consistent with the institutional context. These demographics suggest a population with moderate financial responsibility but limited independent income, making them a relevant cohort for studying digital payment behavioural effects.

4.2 Descriptive Statistics

Table 3 presents the descriptive statistics for all ten survey items and four composite variables. Scores range from 1 to 5, with a midpoint of 3 indicating neutrality.

Table3: Descriptive Statistics – Survey Items and Composite Variables (N=105)

Variable / Item	Mean	SD	Min	Max
Q1: Digital Primary Usage	4.09	0.94	1	5
Q2: Cashback Encourages Spend	3.06	1.14	1	5
Q3: Unplanned Purchases	3.56	1.02	1	5
Q4: Unaware of Total Spending	3.74	1.14	1	5
Q5: Small Transactions Accumulate	4.04	0.88	2	5
Q6: Set Spending Limits	3.07	1.08	1	5
Q7: Think Carefully Before Spending	3.57	0.96	1	5
Q8: Check Balance / Transaction History	3.87	0.98	1	5
Q9: Fraud Awareness (Financial Literacy)	4.05	0.78	2	5
Q10: Financial Knowledge Helps Manage Spend	3.86	0.88	1	5
COMPOSITE: Digital Payment Usage (Q1-Q5)	3.70	0.64	2.40	5.00
COMPOSITE: Financial Self-Control (Q6-Q8)	3.50	0.77	1.33	5.00
COMPOSITE: Financial Literacy (Q9-Q10)	3.95	0.66	2.50	5.00
COMPOSITE: Spending Impact (Q1-Q5)	3.78	0.77	1.67	5.00

Key observations from descriptive statistics: Q1(M=4.09) confirms that digital payments have become the primary mode of spending for most students. Q5 (M=4.04) indicated that a majority agree that small digital transactions accumulate unnoticed into larger expenses. Q6 (M=3.07) reveals that setting spending limits is the weakest self-control behaviour among students, hovering near the neutral point. Financial literacy items (Q9, Q10) show the highest mean values (4.05

and 3.86 respectively), suggesting students are generally aware of fraud risks but may not always translate this awareness into spending control. The composite Spending Impact score of 3.78 indicated moderate-to-high perceived spending impact due to digital payments.

4.3 Financial Literacy and Self-Control Group Distribution

To facilitate group comparison analyses, respondents were categorized into Low, Medium, and High groups based on their composite Financial Literacy and Financial Self-Control scores. The cut points used were: Low (≤ 3.0), Medium (3.01-4.0), and High (≥ 4.0).

4.4 Correlation Analysis

Pearson product-moment correlations were computed between all four composite variables. Tables 4a and 4b presents the correlation matrix.

Variable	1. DPU	2. FSC	3. FL	4. SI
1. Digital Payment Usage (DPU)	1.000	-0.178	0.029	0.904**
2. Financial Self-Control (FSC)	-0.178	1.000	0.466**	-0.238*
3. Financial Literacy (FL)	0.029	0.466**	1.000	-0.077
4. Spending Impact (SI)	0.904**	-0.238*	-0.077	1.000

Correlations					
		V4	V1	V2	V3
Pearson Correlation	V4	1.000	.904	-.238	-.077
	V1	.904	1.000	-.178	.029
	V2	-.238	-.178	1.000	.466
	V3	-.077	.029	.466	1.000
Sig. (1-tailed)	V4		.000	.007	.216
	V1	.000		.034	.383
	V2	.007	.034		.000
	V3	.216	.383	.000	
N	V4	105	105	105	105
	V1	105	105	105	105
	V2	105	105	105	105
	V3	105	105	105	105

The correlation results provide compelling evidence for several key relationships:

- DPU and SI ($r = 0.904$, $p < 0.001$):** An exceptionally strong positive correlation exists between digital payment usage and spending impact. This is the strongest relationship in the model, indicating that students who use digital payments more frequently and extensively report significantly higher levels of unplanned and unaware spending. This strongly supports H1.
- FSC and SI ($r = -0.238$, $p = 0.014$):** A statistically significant negative correlation was found between financial self-control and spending impact. Students with stronger self-regulatory financial habits (setting limits, thinking carefully, checking balances) exhibit lower spending impact. This supports H2.
- FL and SI ($r = -0.077$, $p = 0.432$):** Financial literacy does not show a statistically significant direct correlation with spending impact. While the direction is negative (as hypothesized in H4), the weak and non-significant result suggests that knowing about financial risks does not automatically translate into reduced spending. H4 is not supported.
- FSC and FL ($r = 0.466$, $p < 0.001$):** A moderate positive correlation between self-control and financial literacy indicated that these two constructs are related but distinct, with more financially literate students tending to exhibit somewhat stronger self-control behaviour.

4.5 Multiple Regression Analysis

An OLS multiple regression model was estimated with Spending Impact as the dependent variable and Digital Payment Usage, Financial Literacy and Financial Self-Control as predictors. Table 5 summarized the regression results.

Table 5: Multiple Regression Results — Predictors of Spending Impact (N = 105)

Predictor Variable	Coefficient (β)	Direction	Interpretation
Constant (β0)	0.304	—	Baseline spending impact when all predictors = 0

Digital Payment Usage (β_1)	1.085	Positive +	Each 1-unit increase in DPU → 1.085 increase in SI
Financial Literacy (β_2)	-0.102	Negative -	Marginal protective effect, non-significant
Financial Self-Control (β_3)	-0.038	Negative -	Protective buffer, reduced impact with higher SC
$R^2 = 0.829$	Adjusted $R^2 = 0.824$	F-statistic: significant	Model explains 82.9% of variance in SI

The regression model is highly significant overall, with an R^2 of 0.829, indicating that the three predictors collectively explain 82.9% of the variance in Spending Impact. This is a strong explanatory model for behavioural survey data. The dominant predictor is Digital Payment Usage ($\beta_1 = 1.085$), confirming H1 in a regression framework. For every one-unit increase in the DPU composite score, the Spending Impact score increases by approximately 1.09 units, holding all other variables constant. This reinforces the notion that digital payment adoption is not behaviourally neutral – it amplifies spending across all measured dimensions.

Financial Self-Control ($\beta_3 = -0.038$) has a negative coefficient, aligned with H2 and H3, though the magnitude of the effect within the regression is small relative to DPU. This is partly attributable to the dominance of DPU in the model variance. Financial Literacy ($\beta_2 = -0.102$) also carries a negative coefficient but contributed marginally to the model. This is consistent with the literature suggesting that financial literacy is more a distal factor – affecting financial decisions through enhanced self-efficacy and attitude formation- rather than a direct behavioural constraint.

4.6 Group Comparison: Spending Impact by Self-Control and Financial Literacy Level

Table 6: Mean Spending Impact Scores by Group (Independent Samples T-Test)

Variable	Group	N	Mean SI	SD	t-statistic	p-value
Financial Self-Control	Low	25	4.29	0.71	2.971	0.004**
	High	32	3.64	0.72		
Financial Literacy	Low	18	3.78	0.84	0.693	0.492 (n.s.)
	High	52	3.60	0.73		

The t-test results validate the pattern observed in the correlation analysis. Students with Low Financial Self-Control report a mean Spending Impact score of 4.29, compared to 3.64 for High Self-Control students-a statistically significant difference ($t = 2.971$, $p = 0.004$). This difference of 0.65 points on a 5-point scale represents a practically meaningful effect, suggesting that self-control buffers approximately 15% of the potential spending impact on the composite scale. By contrast, the difference in Spending Impact between Low and High Financial Literacy groups is negligible (3.78 vs. 3.60) and statistically non-significant ($t = 0.693$, $p = 0.492$), further failing to support H4.

4.7 Summary of Hypothesis Testing

Table 7: Summary of Hypothesis Testing Results

Hypot. thesis	Statement	Test Used	Key Statistic	Result
H1	Digital payment usage → higher spending impact	Correlation + Regression	$r = 0.904^{**}$; $\beta = 1.085$	SUPPORTED
H2	Financial self-control → lower spending impact	Correlation + T-test	$r = -0.238^{*}$; $t = 2.971^{**}$	SUPPORTED
H3	Self-control moderates DPU-Spending relationship	Group scatter analysis	Visual + Group means	PARTIALLY SUPPORTED
H4	Financial literacy → lower spending impact	Correlation + T-test	$r = -0.077$; $t = 0.693$ n.s.	NOT SUPPORTED

5. DISCUSSION

5.1 The dominant role digital payment usage

The most striking finding of this study is the remarkably strong positive correlation ($r = 0.904$) and regression coefficient ($\beta = 1.085$) linking digital payment usage to spending impact. This relationship, accounting for over 80% of variance in the model, is substantially stronger than typically reported in similar cross-sectional surveys. It validates the 'pain of paying' theory (Prelec & Simester, 2001) --- digital payments fundamentally reduce the psychological friction that ordinarily governs spending decisions.

When students tap a screen to pay, several cognitive processes that ordinarily moderate spending are bypassed: the physical act of counting currency, the visible depletion of a wallet, and the immediate awareness of account balance. The high Q1 mean (4.09) confirms that digital payments have become the primary payment mode, while the high Q5 mean (4.04) indicates widespread recognition that small transactions invisibly compound into significant expenditure. This death by a thousand digital purchases phenomenon is particularly problematic for students on fixed budgets.

The regression models's strong R^2 (829) also suggests that within this population, the digital payment ecosystem creates a relatively consistent and predictable impact on spending patterns. This could reflect the homogeneity of the student sample (similar income, technology exposure, and lifestyle patterns), which actually strengthens the external validity of the DPU-spending relationship for similar student populations.

5.2 Financial self-control as a behavioural buffer

The statistically significant negative correlation between financial self-control and spending impact ($r = -0.238$, $p = 0.014$) and the t-test showing meaningfully lower spending impact in high self-control students (mean SI = 3.64 vs. 4.29 in low SC group, $p = 0.004$) confirm that financial self-control provides meaningful behavioural protections against digital payment-facilitated overspending.

Examining the individual self-control items provides further insight: Q7 (thinking carefully before non-essential purchases; $M = 3.57$) and Q8 (checking balance regularly; $M = 3.87$) are relatively higher, suggesting that the more prominent self-control behaviours-deliberation and monitoring-are reasonably practiced. However, Q6 (setting spending limits; $M = 3.07$) is notably the weakest, near the neutral midpoint. This suggests a gap between the desire to monitor spending and the discipline to proactively set budgetary constraints. Interventions targeting pre-commitment spending limits (automatic budget alerts, spending category caps within payment apps) could be particularly effective for this population.

5.3 The financial literacy paradox

The non-significant relationship between financial literacy and spending impact ($r = -0.07$, $p = 0.432$) presents what might be called the 'financial literacy paradox'-students scoring high on financial literacy measures (understanding fraud risks, believing their financial knowledge helps manage spending) do not actually exhibit significantly lower spending impact from digital payments.

This finding is consistent with the 'knowledge-attitude-behaviour gap' literature in health and financial psychology. Knowing that small digital transactions accumulate (a concept financial education typically covers) does not automatically prevent the behaviour, especially in a low-friction payment environment where the act of payment is nearly frictionless. Financial literacy appears to be a distal protective factor-it may influence financial outcomes over longer time horizons (debt management, investment behaviour, retirement planning) but may be insufficient to override the immediate behavioural nudges of a convenient digital payment interface.

Interestingly, the moderate correlation between financial literacy and self-control ($r = 0.466$, $p \leq 0.001$) suggests that financial literacy may influence spending indirectly by fostering the development of financial self-control habits. This indicates that financial education is best designed not merely to impart knowledge but to build self-regulatory skills and spending habits-a shift from declarative to procedural financial competence.

6. CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

This study set out to empirically examine the impact of digital payment usage on students' spending patterns, with financial self-control and financial literacy as key moderating constructs. Based on data from

105 students analysed through descriptive statistics, Pearson correlation, t-tests, and multiple regression, the following conclusions can be drawn:

1. Digital payment usage strongly predicts spending impact ($r = 0.904$, $\beta = 1.085$, $R = 0.829$). The convenience and frictionlessness of digital payments are associated with significantly higher unplanned, unaware, and accumulating expenditure among students. H1 is strongly supported.
2. Financial self-control is a significant protective buffer ($r = -0.238$, $t = 2.971$, $p = 0.004$). Students with stronger self-regulatory habits—particularly around monitoring expenditure and deliberating before non-essential purchases—exhibit meaningfully lower spending impact. H2 is supported.
3. Financial literacy does not directly reduce spending impact ($r = -0.077$, $p = 0.432$). While financially literate students exhibit marginally lower spending impact, the effect is not statistically significant, suggesting that knowledge-based financial education alone is insufficient to counter digital payment-facilitated overspending. H4 is not supported.
4. Financial literacy and self-control are positively correlated ($r = 0.466$), suggesting that they work in tandem—financial literacy may enhance self-control over the long term, but behavioural financial self-control is the more immediate and proximate protective mechanism against digital overspending.

These findings carry significant implications: as India and other emerging economies transition to cashless economies, the behavioural consequences for financially inexperienced populations like students require proactive attention from institutions, policymakers, and technology developers.

6.2 Recommendations for students

1. Activate spending alerts and limits: Use the built-in budgeting features of UPI apps (e.g., spending limits on PhonePe, transaction notifications) to create digital friction that mimics the awareness of cash spending.
2. Practice the 24-hour rule for non-essential purchases: Impose a self-cooling period before completing digital purchases above a set threshold (e.g., 500).
3. Weekly transaction review habit: set a recurring weekly reminder to review all digital transactions, categorize them, and compare against a budget. This converts financial literacy (awareness) into financial self-control (behaviour).
4. Separate discretionary and essential payment accounts: Maintain a dedicated low-balance wallet for discretionary spending, creating a natural spending cap.

6.3 Recommendations for Universities

1. Integrate behavioural financial literacy into curricula: Move beyond traditional financial literacy content (interest rates, banking) to include behavioural finance modules that teach impulse purchase recognition, digital payment psychology and self-control strategies.
2. Launch digital spending awareness campaigns: Annual or semester-based campaigns highlighting the accumulation effect of small digital purchases, with visual tools showing students their typical monthly digital expenditure trajectory.
3. Offer personalized financial counselling: Provide access to trained peer financial counsellors or online financial wellness tools that help students set and monitor spending budgets aligned with their income sources.
4. Partner with fintech platforms: Collaborate with digital payment platforms to provide student-specific dashboards showing spending categories, monthly trends and comparisons against peer averages, leveraging social norms to encourage moderate spending.

6.4 Recommendations for policymakers and fintech companies

1. Mandatory spending summaries: Regulators could require digital payment apps to provide mandatory monthly spending category summaries to users, increasing post-purchase awareness.
2. Student-specific financial guardrails: Age-verified student unts could come with optional spending guardrails (category limits, daily caps) that are easier to activate than on standard accounts.

6.5 Future research directions

Longitudinal studies tracking spending behaviour before and after major digital payment adaption events (e.g., new UPI feature releases)

Multi-institutional studies across different regions and disciplines to improve generalizability.

Integration of actual transaction data from consenting participants alongside self-reported survey measures to overcome social desirability bias.

Examination of specific digital payment features (cashback, UPI Lite, BNPL) on spending across different student income segments.

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