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Hedonic Spending and Financial Stress in BNPL Users: Evidence from Guwahati

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Abstract

Deferred-payment services have widened access to credit among digitally active young consumers. Buy Now Pay Later (BNPL) raises purchasing convenience and perceived affordability, but it may also shape consumption motives, financial discipline and financial stress. Using a cross-sectional survey of 300 BNPL users aged 18–40 in Guwahati, India, this study examines how BNPL usage is associated with hedonic consumption motives, financial behaviour and perceived financial stress, and whether financial literacy moderates the usage–stress relationship. The data were analysed with Partial Least Squares Structural Equation Modelling (PLS-SEM). Higher BNPL usage was associated with stronger hedonic consumption motives (β = 0.456), weaker financial behaviour (β = −0.387) and higher perceived financial stress (β = 0.310). Hedonic consumption was positively, and disciplined financial behaviour negatively, associated with stress (β = 0.226 and β = −0.193). Both hedonic consumption and weaker financial behaviour carried part of the association between BNPL usage and stress (specific indirect effects of 0.103 and 0.075). Financial literacy was itself negatively associated with stress (β = −0.123) and weakened the BNPL–stress association (interaction β = −0.234, f^2 = 0.078). Descriptively, Generation Z respondents reported higher BNPL usage and higher stress than Millennials, but the structural model was estimated on pooled data and the cohort comparison is descriptive only. Because the design is cross-sectional and the sample is non-probabilistic, the findings describe associations, not causal effects. The study offers an integrated behavioural–financial stress framework for an under-researched Northeast Indian setting and points to financial-awareness interventions for responsible use of digital credit.

Keywords: Buy Now Pay Later; Financial Behaviour; Financial Stress; Financial Literacy; Hedonic Consumption; Generation Z; Millennials; Fintech Adoption

1. INTRODUCTION

India's consumption landscape is being reshaped by two generational cohorts, Millennials (born 1981–1996) and Generation Z (born 1997–2012) (3). Both are expected to account for a large share of consumer expenditure by 2030, and both are heavy users of digital financial services.

Deferred payment has become normal very quickly. E-commerce platforms, UPI integrations and split-billing features have weakened the psychological barrier that once separated immediate purchasing power from future financial obligations. BNPL lets consumers bridge the gap between desire and affordability, and it has improved market affordability and sales potential, especially for high-ticket products (5, 6).

The same features that make BNPL attractive may carry costs. Seamless checkout integration, interest-free positioning and the fragmentation of large purchases into small instalments lower payment salience (12, 13). The "pain of paying", which normally acts as a brake on impulsive spending, is reduced when payment is deferred. A tool designed to add flexibility may therefore weaken spending control and encourage consumption that outpaces financial capacity. India's shift from a cash-based economy to a technology-driven financial system (2) has made such credit instruments widely available, and evidence from emerging markets suggests that repeated BNPL use can build up obligations that are hard to track (6, 8).

Guwahati, the largest urban centre in Northeast India, is a useful setting. The city is changing quickly through infrastructure development and educational expansion, and its young residents are exposed to metropolitan lifestyles through social media. Northeast India is also under-represented in fintech and consumer-finance research.

This study makes three contributions. First, it tests an integrated model that links BNPL usage, hedonic consumption motives, financial behaviour and perceived financial stress, which the literature has mostly studied separately. Second, it provides early evidence on BNPL-related behaviour in Northeast India. Third, it tests whether financial literacy moderates the association between BNPL usage and financial stress.

Research questions

1. How is BNPL usage associated with hedonic consumption motives and financial behaviour among young consumers in Guwahati?
2. Is BNPL usage associated with perceived financial stress, directly and through hedonic consumption and financial behaviour?
3. Does financial literacy moderate the association between BNPL usage and financial stress?

Research objectives

1. To examine the association of BNPL usage with hedonic consumption motives and financial behaviour among Millennials and Generation Z in Guwahati.
2. To assess the association between BNPL usage and perceived financial stress, including the role of hedonic consumption and financial behaviour as parallel pathways and of financial literacy as a moderator.

2. LITERATURE REVIEW

2.1 BNPL in consumer finance

BNPL offers instant approval at the point of sale, integrated into the online shopping experience, without the formal application and credit checks of traditional credit. This frictionless access appeals to younger consumers who prioritise convenience and are often under-served by conventional institutions. The segment has grown rapidly in many markets, including India (2, 4). For Millennials and Generation Z, who came of age amid economic uncertainty (1, 3), the "interest-free" and "transparent" positioning is an appealing alternative to credit cards. This positioning hides some complexity. Many providers charge no interest on time, but late fees and penalties can raise the effective cost substantially, and payments spread across several platforms make obligations harder to track and can lead to unintended delinquency (4, 5). Trust, perceived risk and digital literacy are key determinants of adoption in digital payment systems (7).

2.2 Hedonic consumption and payment decoupling

Utilitarian purchases are driven by functional need, whereas hedonic consumption is driven by pleasure and emotional gratification. Prelec and Loewenstein (12) introduced the idea of "coupling", the extent to which payment is mentally linked to consumption. When payment and consumption coincide, as with cash, the pain of paying is greatest. Deferred payment decouples the two and reduces that discomfort. Soman (13) similarly showed that less transparent payment mechanisms are associated with higher spending, and BNPL, by fragmenting payments into instalments, reduces transparency further. Studies of young BNPL users report that this effect is stronger for hedonic purchases, where emotional gratification already plays a large role (8). For Generation Z, whose consumption identities are often built through social media, this matters particularly.

Materialistic tendencies and weak money-management skills have been linked to BNPL overuse among Generation Z users, who tend to pay little attention to terms and conditions, plan purchases less and show higher compulsive buying than Millennials (8). Income and financial literacy are also associated with consumptive behaviour among Gen Z users of paylater services (16).

2.3 BNPL and financial stress

BNPL is marketed as stress-reducing, but the evidence is mixed and often points the other way. Small debts, even when individually modest, are associated with psychological distress (15). Managing several repayment schedules and growing awareness of accumulated obligations can erode mental well-being. Younger users, particularly those under 25, face a greater risk of reduced financial well-being where financial behaviour is less responsible (18).

2.4 Financial literacy as a protective factor

Financial literacy is widely regarded as a protective factor in financial decision-making (9, 10, 11, 28). Roughly half of adults cannot answer basic questions on interest compounding and inflation (9, 10, 11). People who cannot calculate interest rates correctly tend to borrow more and accumulate less wealth (14). Financial awareness is positively associated with financial behaviour among Indonesian Millennials (17).

2.5 Research gaps

Three gaps follow. First, most BNPL research comes from developed economies, and evidence from emerging digital-consumption regions within India, particularly Northeast India, is scarce (2, 4, 5). Second, existing work generally treats impulsive buying, credit use and financial well-being separately, and few studies place hedonic motives, financial behaviour and financial stress in one framework. Third, although financial literacy is recognised as protective (9, 10, 11, 17), its moderating role in BNPL contexts in emerging markets has been little examined, even though such evidence matters for designing targeted education and consumer-protection measures.

3. THEORETICAL BACKGROUND AND HYPOTHESES

The framework draws on two strands of behavioural finance. The first is mental accounting and the pain of paying (12, 13): deferring and fragmenting payment weakens the link between a purchase and the money leaving the account, which should favour pleasure-driven purchases and weaken budgeting discipline. The second is the view that debt obligations and weak financial

control produce psychological strain (15, 18), and that financial knowledge and confidence help people manage that strain (9, 10, 11, 17). Together these suggest that BNPL usage is associated with stress both directly and through two parallel behavioural pathways, with financial literacy buffering the direct association. The hypotheses are stated as associations, consistent with the cross-sectional design.

H1: BNPL usage is positively associated with hedonic consumption motives.

H2: BNPL usage is negatively associated with financial behaviour.

H3: BNPL usage is positively associated with perceived financial stress.

H4: Hedonic consumption motives are positively associated with perceived financial stress.

H5: Financial behaviour is negatively associated with perceived financial stress.

H6: Financial literacy moderates the association between BNPL usage and perceived financial stress, such that the association is weaker at higher levels of financial literacy.

Given H1–H5, the model also implies two specific indirect associations from BNPL usage to stress, through hedonic consumption (H1 × H4) and through financial behaviour (H2 × H5). These are examined as supplementary mediation tests in Section 5.

4. RESEARCH METHODOLOGY

4.1 Design, population and sampling

The study uses a quantitative, cross-sectional survey design and a positivist stance. The target population is BNPL users in Guwahati belonging to two cohorts. Millennials are defined by birth year as 1981–1996 and Generation Z as 1997–2012 (3). In the survey, cohorts were operationalised by age band, with Generation Z as respondents aged 18–24 and Millennials as respondents aged 25–40. This is an approximation of the birth-year definitions: a respondent aged 25–28 born in 1997 or later would be classified as a Millennial here, although born in the Generation Z range. Cohort comparisons therefore reflect age bands as much as strict cohort membership.

No sampling frame was available, so purposive sampling was used to reach respondents with relevant BNPL experience. Respondents had to have used a BNPL service at least once in the previous 12 months. The questionnaire was distributed mainly through online platforms, social-media communities, e-mail lists and messaging applications, and, as stated in the Data Availability Statement, also administered offline. It was pilot-tested with 30 BNPL users to check clarity. Data were collected between August 2025 and January 2026. Because the sample is non-probabilistic and restricted to BNPL users, the results cannot be generalised to the wider population or used to compare users with non-users.

4.2 Measures

All perception items were rated on a five-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree). Five reflective constructs were measured. BNPL Usage Behaviour (4 items) captures the frequency of use and comfort with instalment-based credit. Hedonic Consumption Motives (5 items) reflect emotional and pleasure-driven shopping tendencies. Financial Behaviour (5 items) covers budgeting, repayment discipline and spending control, with higher scores indicating better behaviour. Perceived Financial Stress (5 items) captures anxiety and pressure arising from financial commitments, and refers to the respondent's general financial situation. Financial Literacy (4 items) captures self-assessed financial knowledge and confidence. Item codes are listed in Appendix A.

4.3 Analytical procedure

Data screening and descriptive statistics were produced in SPSS, and the PLS-SEM analysis was run in SmartPLS 4. PLS-SEM was chosen because the model is relatively complex, includes an interaction term and is oriented toward explaining the outcome construct, not because the data were non-normal (they were approximately normal, Table 1). A two-step approach (19) was followed. The measurement model was assessed for indicator reliability, internal consistency, and convergent and discriminant validity. The structural model was then assessed through path coefficients, R^2 and f^2 (27). The paths from BNPL usage to hedonic consumption and financial behaviour, and the bootstrapped (5,000 resamples) standard errors for those paths, come from the SmartPLS run. The equation for perceived financial stress, with BNPL usage, hedonic consumption, financial behaviour and financial literacy as predictors, was re-computed as a standardised regression on the construct correlation matrix in Table 5 (n = 300), so that its coefficients, R^2 and f^2 are fully reproducible from the reported correlations; standard errors for that equation are analytic. The interaction between BNPL usage and financial literacy (21) comes from the PLS interaction-term model, and its size was judged by its f^2 effect size. Predictive relevance (Q^2) and global fit indices are not reported.

5. ANALYSIS AND RESULTS

5.1 Data screening

The initial dataset comprised 318 responses. Missing data were below 2% of values on every variable, under the 5% level commonly regarded as

unproblematic (20), and Little's test was non-significant (χ^2 = 24.317, p = 0.182), consistent with data missing completely at random. Listwise deletion of incomplete submissions, together with removal of straight-lined responses, removed 18 cases and left a final sample of 300 usable responses.

Normality

Skewness and kurtosis were examined for all items against the guidelines of Kline (22), under which absolute skewness below 3.0 and absolute kurtosis below 10.0 are acceptable. Skewness ranged from −0.716 to 0.456 and kurtosis from −0.312 to 0.623 (Table 1), so the data are approximately normal. PLS-SEM is also robust to moderate departures from normality.

Table 1: Normality Assessment (Skewness and Kurtosis)

Item	Construct	Skewness	Kurtosis
BNPL1	BNPL Usage	−0.412	0.216
BNPL2	BNPL Usage	−0.387	0.184
BNPL3	BNPL Usage	−0.298	0.094
BNPL4	BNPL Usage	−0.356	0.142
HED1	Hedonic Consumption	−0.516	0.347
HED2	Hedonic Consumption	−0.487	0.298
HED3	Hedonic Consumption	−0.624	0.456
HED4	Hedonic Consumption	−0.582	0.412
HED5	Hedonic Consumption	−0.547	0.378
FB1	Financial Behaviour	−0.716	0.623
FB2	Financial Behaviour	−0.684	0.587
FB3	Financial Behaviour	−0.628	0.512
FB4	Financial Behaviour	−0.692	0.598
FB5	Financial Behaviour	−0.657	0.543
PFS1	Perceived Financial Stress	0.412	−0.284
PFS2	Perceived Financial Stress	0.387	−0.256
PFS3	Perceived Financial Stress	0.456	−0.312
PFS4	Perceived Financial Stress	0.398	−0.268
PFS5	Perceived Financial Stress	0.423	−0.298
FL1	Financial Literacy	−0.284	0.142
FL2	Financial Literacy	−0.312	0.168
FL3	Financial Literacy	−0.256	0.124
FL4	Financial Literacy	−0.298	0.156

Note: all values lie within the accepted range (|skewness| < 3.0; |kurtosis| < 10.0).

Common method bias

Because all variables came from a single self-report source, common method bias was checked with Harman's single-factor test and full-collinearity VIFs. The first factor explained 28.47% of the variance, below the 50% guideline (23), and VIFs ranged from 1.214 to 2.367, below 3.3 (24). Common method bias is therefore unlikely to distort the findings seriously, although self-report data can never rule it out completely.

5.2 Descriptive statistics

Table 2 shows the descriptive statistics and correlations. BNPL usage was moderate to high (M = 3.42, SD = 0.87), hedonic consumption motives were relatively strong (M = 3.68, SD = 0.79), financial behaviour was somewhat weak (M = 2.94, SD = 0.91), perceived financial stress was moderate (M = 3.21, SD = 0.84) and financial literacy was moderate (M = 3.15, SD = 0.88). BNPL usage correlated positively with hedonic consumption (r = 0.456, p < 0.01) and with perceived stress (r = 0.512, p < 0.01).

Table 2: Descriptive Statistics and Correlation Matrix

Variable	Mean	SD	1	2	3	4
1. BNPL	3.42	0.87	1.000			
2. HED	3.68	0.79	0.456**	1.000		
3. FB	2.94	0.91	−0.387**	−0.423**	1.000	
4. PFS	3.21	0.84	0.512**	0.478**	−0.456**	1.000
5. FL	3.15	0.88	−0.198*	−0.234**	0.387**	−0.312**

*Note: BNPL = BNPL Usage Behaviour; HED = Hedonic Consumption Motives; FB = Financial Behaviour; PFS = Perceived Financial Stress; FL = Financial Literacy. ** p < 0.01; * p < 0.05.*

5.3 Measurement model

The measurement model was evaluated before the structural model, following the two-step approach (19). All 22 standardised loadings exceeded 0.708 (27) and ranged from 0.756 to 0.891, so each indicator shares at least half of its variance with its construct. All loadings were significant at $p < 0.001$ (Table 3, Figure 1).

Table 3: Factor Loadings (Outer Model)

Construct	Item	Loading	t-value	p-value
BNPL Usage Behaviour	BNPL1	0.812	28.456	<0.001
	BNPL2	0.845	32.184	<0.001
	BNPL3	0.798	26.743	<0.001
	BNPL4	0.834	30.567	<0.001
Hedonic Consumption	HED1	0.856	34.218	<0.001
	HED2	0.872	36.845	<0.001
	HED3	0.834	30.412	<0.001
	HED4	0.891	41.267	<0.001
	HED5	0.867	35.923	<0.001
Financial Behaviour	FB1	0.824	29.876	<0.001
	FB2	0.856	34.567	<0.001
	FB3	0.789	25.934	<0.001
	FB4	0.845	32.198	<0.001
	FB5	0.812	28.345	<0.001
Perceived Financial Stress	PFS1	0.867	35.912	<0.001
	PFS2	0.891	41.345	<0.001
	PFS3	0.856	34.278	<0.001
	PFS4	0.834	30.567	<0.001
	PFS5	0.845	32.456	<0.001
Financial Literacy	FL1	0.789	25.876	<0.001
	FL2	0.812	28.456	<0.001
	FL3	0.834	30.734	<0.001
	FL4	0.756	22.456	<0.001

Note: bootstrapping with 5,000 resamples.

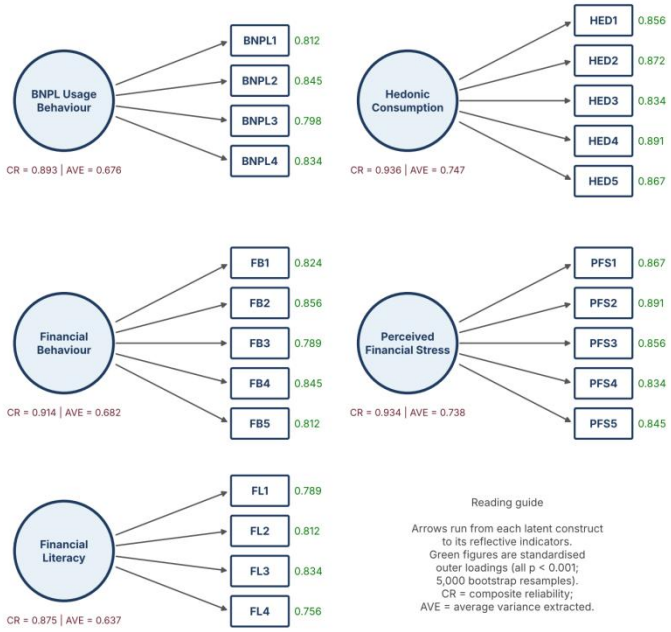

Figure 1: Measurement Model with Standardised Outer Loadings

Reliability and convergent validity

Cronbach's alpha ranged from 0.834 to 0.891, composite reliability from 0.875 to 0.936 and AVE from 0.637 to 0.747, all above the accepted thresholds (0.70, 0.70 and 0.50). Composite reliability and AVE were computed from the standardised loadings in Table 3 (Table 4).

Table 4: Reliability and Convergent Validity

Construct	Cronbach's Alpha	Composite Reliability	AVE
BNPL Usage Behaviour	0.856	0.893	0.676
Hedonic Consumption Motives	0.891	0.936	0.747
Financial Behaviour	0.867	0.914	0.682
Perceived Financial Stress	0.889	0.934	0.738
Financial Literacy	0.834	0.875	0.637

Note: thresholds: alpha > 0.70; CR > 0.70; AVE > 0.50.

Discriminant validity

Discriminant validity was supported by both the Fornell–Larcker criterion (Table 5), where the square root of each construct's AVE exceeds its correlations with other constructs, and the HTMT ratio (Table 6), where all values (0.234–0.587) were below the conservative 0.90 threshold (25).

Table 5: Discriminant Validity – Fornell–Larcker Criterion

Construct	1	2	3	4	5
1. BNPL	0.822				
2. HED	0.456	0.864			
3. FB	−0.387	−0.423	0.826		
4. PFS	0.512	0.478	−0.456	0.859	
5. FL	−0.198	−0.234	0.387	−0.312	0.798

Note: diagonal entries are the square roots of AVE (Table 4); off-diagonal entries are inter-construct correlations.

Table 6: Discriminant Validity – HTMT Ratios

Construct	1	2	3	4	5
1. BNPL	–				
2. HED	0.512	–			
3. FB	0.456	0.498	–		
4. PFS	0.587	0.545	0.523	–	
5. FL	0.234	0.278	0.456	0.367	–

Note: threshold HTMT < 0.90 (conservative) or < 0.85 (liberal).

5.4 Structural model

Path coefficients and hypothesis tests

Table 7 and Figure 2 present the standardised paths. BNPL usage was positively associated with hedonic consumption (β = 0.456, p < 0.001; H1 supported) and negatively with financial behaviour (β = −0.387, p < 0.001; H2). In the equation for perceived financial stress, BNPL usage had a positive association (β = 0.310, p < 0.001; H3), hedonic consumption a positive association (β = 0.226, p < 0.001; H4) and financial behaviour a negative association (β = −0.193, p < 0.001; H5). Financial literacy was also negatively associated with stress (β = −0.123, p = 0.013). The interaction between financial literacy and BNPL usage was negative and significant (β = −0.234, p = 0.004; H6): the positive association between BNPL usage and stress was weaker at higher levels of financial literacy.

Table 7: Path Coefficients and Hypothesis Summary

Hypothesis	Path	Beta	SE	t-value	p-value	Decision
H1	BNPL → Hedonic Consumption	0.456	0.078	5.846	<0.001	Supported
H2	BNPL → Financial Behaviour	−0.387	0.082	4.720	<0.001	Supported
H3	BNPL → Perceived Financial Stress	0.310	0.053	5.90	<0.001	Supported
H4	Hedonic Consumption →	0.226	0.054	4.23	<0.001	Supported

	PFS					
H5	Financial Behaviour → PFS	−0.193	0.054	−3.55	<0.001	Supported
–	Financial Literacy → PFS (main effect)	−0.123	0.049	−2.49	0.013	–
H6	FL × BNPL → PFS	−0.234	0.081	2.889	0.004	Supported

Note: H1, H2 and H6: SmartPLS estimates with bootstrapped (5,000 resamples) standard errors. Other paths: standardised regression on the construct correlation matrix (n = 300) with analytic standard errors, df = 295. Support means a statistically significant association in the hypothesised direction.

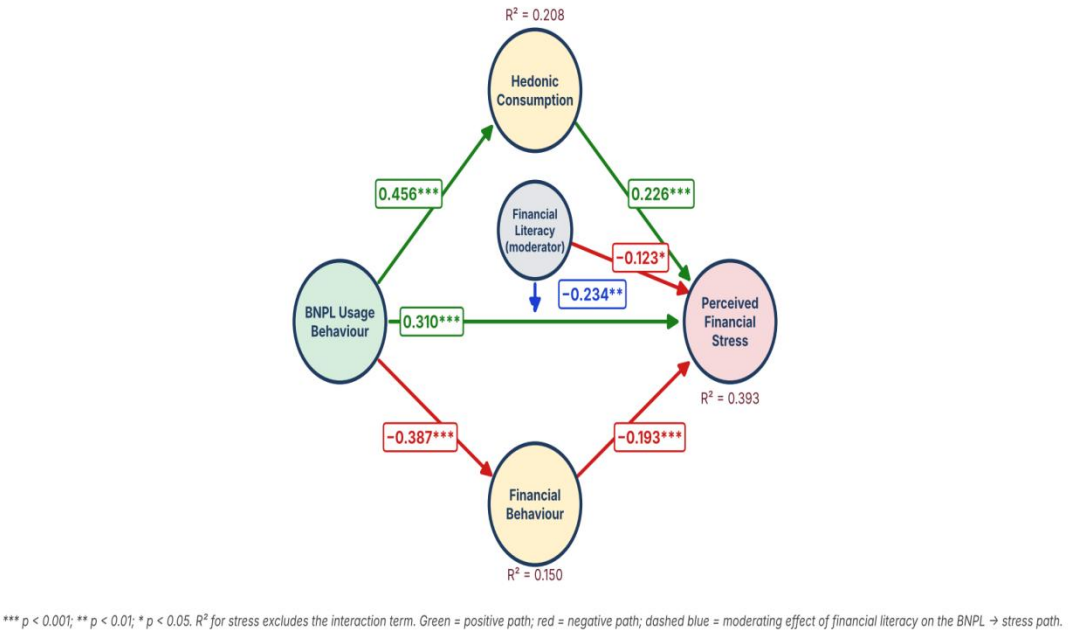

Figure 2: Structural Model with Standardised Path Coefficients

Supplementary mediation analysis

The two specific indirect associations from BNPL usage to stress are the products of the relevant paths (Table 8). The indirect association through hedonic consumption is 0.456 × 0.226 = 0.103. The indirect association through financial behaviour is (−0.387) × (−0.193) = **+0.075**: BNPL usage is linked to weaker financial behaviour, and weaker financial behaviour is linked to more stress, so this pathway adds to stress. Both indirect effects have the same sign as the direct effect (0.310), consistent with complementary (partial) mediation. Approximate 95% confidence intervals, obtained with the delta method from the path coefficients and standard errors in Table 7 (using the bootstrapped standard errors of H1 and H2), are [0.044, 0.162] for the hedonic pathway and [0.023, 0.126] for the financial-behaviour pathway; neither includes zero.

Table 8: Specific Indirect Associations of BNPL Usage with Stress

Pathway	Estimate	95% CI	Direction
BNPL → Hedonic Consumption → PFS	0.103	[0.044, 0.162]	Increases stress
BNPL → Financial Behaviour → PFS	0.075	[0.023, 0.126]	Increases stress
Direct: BNPL → PFS	0.310	–	Increases stress

Note: indirect estimates are products of the standardised path coefficients in Table 7; confidence intervals are delta-method approximations (SE of a×b = $\sqrt{(a^2 \cdot SE_b^2 + b^2 \cdot SE_a^2)}$, z = 1.96).

Explanatory power, effect size and predictive relevance

Using the common 0.25/0.50/0.75 guideline for weak/moderate/substantial R^2 (27), the R^2 values for hedonic consumption (0.208) and financial behaviour (0.150) are weak, and the value for perceived financial stress (0.393, adjusted 0.385, excluding the interaction term) is weak-to-moderate (Table 9): the predictors account for about 39% of the variance in stress. By Cohen's thresholds (26), f^2 was medium for BNPL → hedonic consumption (0.262) and BNPL → financial behaviour (0.176), and small for every path into stress: BNPL (0.118), hedonic consumption (0.061), financial behaviour (0.043), financial literacy (0.021) and the interaction (0.078)

(Table 10). BNPL usage is therefore the largest single contributor to stress, but each contribution is modest.

Table 9: Coefficient of Determination (R^2)

Endogenous construct	R^2	Adjusted R^2	Interpretation
Hedonic Consumption	0.208	0.205	Weak
Financial Behaviour	0.150	0.147	Weak
Perceived Financial Stress	0.393	0.385	Weak to moderate

Note: guideline: 0.25 = weak; 0.50 = moderate; 0.75 = substantial (27). R^2 for stress is from the equation with BNPL, hedonic consumption, financial behaviour and financial literacy as predictors.

Table 10: Effect Sizes (f^2)

Path	f^2	Interpretation
BNPL → Hedonic Consumption	0.262	Medium
BNPL → Financial Behaviour	0.176	Medium
BNPL → Perceived Financial Stress	0.118	Small
Hedonic Consumption → PFS	0.061	Small
Financial Behaviour → PFS	0.043	Small
Financial Literacy → PFS	0.021	Small
FL × BNPL → PFS	0.078	Small

Note: f^2: 0.02 = small; 0.15 = medium; 0.35 = large (26).

5.5 Descriptive comparison of Generation Z and Millennials

The structural model was estimated on the pooled sample (n = 300). As a supplementary descriptive comparison, Generation Z respondents (n = 168) reported higher BNPL usage (M = 3.67, SD = 0.82) than Millennials (n = 132; M = 3.14, SD = 0.88; t = 5.34, p < 0.001, Cohen's d ≈ 0.63) and higher perceived financial stress (M = 3.42, SD = 0.79 vs M = 2.94, SD = 0.84; t = 5.04, p < 0.001, d ≈ 0.59). These are simple mean comparisons with no controls for income, employment or other differences between age groups. No cohort-specific or multi-group structural analysis was run, so no conclusion can be drawn about whether the structural relationships, or the buffering effect of financial literacy, differ between cohorts.

Table 11: Descriptive Comparison by Cohort

Variable	Gen Z (n = 168) M (SD)	Millennials (n = 132) M (SD)	t	d
BNPL Usage Behaviour	3.67 (0.82)	3.14 (0.88)	5.34***	0.63
Perceived Financial Stress	3.42 (0.79)	2.94 (0.84)	5.04***	0.59

*Note: Welch t-tests computed from the reported means, SDs and sample sizes; *** p < 0.001.*

6. DISCUSSION

This study examined how BNPL usage is associated with hedonic consumption motives, financial behaviour and perceived financial stress among young consumers in Guwahati. The results show a consistent pattern in which heavier BNPL use goes together with stronger pleasure-driven consumption motives, weaker financial discipline and higher stress. Because the data are cross-sectional and self-reported, these are associations, and the direction of influence cannot be established.

6.1 BNPL, hedonic consumption and financial behaviour

The positive association between BNPL usage and hedonic consumption (β = 0.456) is consistent with the view that deferred payment reduces the pain of paying and so favours pleasure-driven purchases (12, 13), and with studies of young BNPL users (6, 8). The reverse direction is also plausible: consumers with strong hedonic motives may be more likely to adopt and rely on BNPL. Likewise, the negative association with financial behaviour (β = −0.387) fits concerns that fragmented payments across platforms obscure total obligations, as the BNPL literature suggests (4, 5, 18). It may also reflect that people with weaker financial habits choose BNPL more heavily. Longitudinal data would be needed to separate these explanations.

6.2 Pathways to financial stress

BNPL usage was positively associated with perceived financial stress (β = 0.310) even after taking the two behavioural pathways into account. Two indirect associations were also positive: one through hedonic consumption (0.103) and one through weaker financial behaviour (0.075). The

second is positive because weaker financial behaviour is associated with more stress. The coexistence of a direct association and two indirect associations in the same direction is consistent with complementary partial mediation, with intervals that exclude zero (Table 8). These results are in line with evidence that debt obligations are associated with psychological distress (15) and that responsible financial behaviour is associated with financial well-being among BNPL users (18). The stress measure refers to general financial stress, so the data do not show that the stress arises from BNPL repayments specifically. Other sources, such as income, family obligations or other loans, were not controlled.

6.3 Financial literacy as a buffer

Financial literacy was directly associated with lower stress ($\beta = -0.123$), and the negative interaction ($\beta = -0.234$, $f^2 = 0.078$) indicates that the positive association between BNPL usage and stress was weaker at higher levels of financial literacy. This accords with the broader literature on financial knowledge and confidence as protective factors (9, 10, 11, 17, 18). The effect size is small, so financial literacy appears to be a partial buffer only; it is unlikely to remove the stress associated with BNPL on its own. Since financial literacy here is self-assessed, the buffer may also partly reflect confidence rather than knowledge.

6.4 Generational differences

Generation Z respondents reported higher BNPL usage and higher perceived stress than Millennials. This fits broader trends of higher adoption of digital finance among younger consumers and the earlier findings that younger BNPL users are at greater risk of lower financial well-being (8, 18). However, these are unadjusted mean differences in age bands, and they may reflect differences in income, employment status or credit history rather than anything specific to a generation. Because no multi-group analysis was run, the study does not show whether the strength of the structural relationships, or of the financial-literacy buffer, differs by cohort.

6.5 The Guwahati setting

Guwahati is a fast-changing urban centre in a region that has been little studied in the fintech literature, and this study offers early evidence from it. The study has no comparison group from other cities, however, so it cannot say whether Guwahati consumers are more or less vulnerable than those elsewhere. Gogoi and Baruah (5) report on BNPL awareness and acceptance among young consumers in Assam; the present results add evidence on behavioural and stress correlates in the same broad region.

7. IMPLICATIONS

7.1 Theoretical contributions

First, the study integrates mental-accounting and pain-of-paying arguments with a financial-stress perspective in a single model and finds associations consistent with two parallel behavioural pathways, hedonic motives and weaker financial discipline. Second, it adds evidence on the moderating role of financial literacy for a newer digital credit product in an emerging-market setting. Third, it extends BNPL research to Northeast India, a region that has been little studied.

7.2 Practical and policy implications

Policymakers. The associations found support attention to transparency requirements, responsible-lending practices and safeguards for young users of BNPL. Regulators may wish to consider whether provisions designed for conventional digital lending sufficiently address features specific to BNPL, such as interest-free positioning and seamless checkout integration. Since the evidence is associational and local, these are points for consideration, not firm prescriptions.

Financial educators. College-level programmes could include modules on digital credit that stress repayment planning, budget integration and keeping track of accumulated obligations across platforms. The small size of the literacy buffer suggests that such programmes should be combined with other safeguards.

BNPL providers. Features such as consolidated repayment views, reminders and clear communication of late-fee consequences could help users keep track of obligations and may reduce stress.

8. CONCLUSION

Among 300 BNPL users aged 18–40 in Guwahati, heavier BNPL usage was associated with stronger hedonic consumption motives, weaker financial behaviour and higher perceived financial stress. Hedonic motives and weaker financial behaviour accounted for part of the usage–stress association, and financial literacy weakened it modestly. Generation Z respondents reported higher usage and stress than Millennials in descriptive comparisons, but the model was not estimated by cohort. The findings suggest that convenience and vulnerability coexist in BNPL use, and that neither uncritical promotion nor blanket restriction is supported by these data. Because of the cross-sectional design, they should be read as associations that merit longitudinal testing.

9. LIMITATIONS AND FUTURE RESEARCH

Several limitations should be noted. (1) The cross-sectional design prevents causal inference; reverse causality and reciprocal effects are plausible, and

longitudinal or panel designs are needed. (2) Purposive, mainly online sampling in a single city limits generalisability, and only BNPL users were surveyed, so comparison with non-users is not possible. (3) The model includes no control variables such as income, age, employment or student status, other credit use, number of BNPL providers, outstanding balances or missed payments, and perceived financial stress is a general rather than BNPL-specific measure. Omitted-variable bias is therefore possible. (4) All constructs are self-reported, and financial literacy reflects self-assessed knowledge and confidence; behavioural or test-based measures, objective financial indicators (credit scores, debt-to-income ratios, repayment defaults) and BNPL-specific usage measures would strengthen future work. (5) Generational groups were operationalised by age band and the structural model was estimated on pooled data; multi-group SEM with measurement-invariance testing is needed to test cohort differences. (6) Other moderators, such as parental financial socialisation, peer influence, impulsivity and self-control, were not examined. (7) The stress equation was computed from the construct correlation matrix and the interaction term from a separate PLS interaction model; joint re-estimation of all paths, with bootstrapped confidence intervals, predictive relevance (Q^2) and PLSpredict, on the item-level data would give a fully integrated set of estimates.

ABBREVIATIONS

BNPL: Buy Now Pay Later; PLS-SEM: Partial Least Squares Structural Equation Modelling; SPSS: Statistical Package for the Social Sciences; VIF: Variance Inflation Factor; AVE: Average Variance Extracted; CR: Composite Reliability; HTMT: Heterotrait–Monotrait Ratio; R^2: Coefficient of Determination; f^2: Effect Size; FL: Financial Literacy; HED: Hedonic Consumption; FB: Financial Behaviour; PFS: Perceived Financial Stress.

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AUTHOR CONTRIBUTIONS

Dr. Pankaj Kumar Sharma: conceptualisation, study design, data analysis, data preparation, writing of the original draft, formatting and critical revision. Ms. Anuradha Bhuyan: data collection, field coordination, validation of responses, proofreading, plagiarism checking and manuscript review. Both authors approved the final version, are accountable for all aspects of the work and share responsibility for its accuracy and integrity.

DECLARATION OF AI ASSISTANCE

AI-assisted tools were used for grammatical editing and language refinement under the supervision of the authors. All intellectual content, data and analytical interpretations were developed and verified by the authors.

ETHICS APPROVAL

The study followed accepted ethical standards for research with human participants. Participation was voluntary and informed consent was obtained before data collection. Participants were told the purpose of the study and that their responses would be kept confidential and used only for academic purposes. No personally identifiable information was collected. Formal approval from an Institutional Ethics Committee was not required under institutional research guidelines.

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CONFLICT OF INTEREST

The authors declare no conflict of interest.

DATA AVAILABILITY STATEMENT

Data were collected through a structured questionnaire administered online and offline between August 2025 and January 2026. The dataset is not publicly available because of confidentiality considerations but is available from the corresponding author on reasonable request for academic purposes.

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