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## The Inclusion Paradox: How BNPL Convenience and Low Financial Literacy Shape Financial Well-being

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ABSTRACT	INFO ARTIKEL
<p>This study examines the gap between Indonesia's Financial Inclusion Index and Financial Literacy Index in the context of the rapid expansion of Buy Now Pay Later (BNPL) services and assesses the Financial Well-being of BNPL users. Data were collected from users in Probolinggo City and Regency, a semi-urban area, and analyzed using Structural Equation Modeling with the Partial Least Squares (SEM-PLS) approach. The findings reveal a notable discrepancy between perceived and actual financial knowledge, indicating that users tend to overestimate their financial abilities. Financial literacy positively influences Financial Well-being and reduces impulsive and Compulsive Buying, while Digital Financial Literacy does not improve well-being and instead increases both behaviors. Conscientiousness enhances Financial Well-being and decreases Compulsive Buying but shows no significant effect on Impulsive Buying. The study's novelty lies in its focus on small-town BNPL users rather than national or student samples, underscoring the need to strengthen financial literacy, digital competencies, and psychological awareness to foster responsible financial behavior.</p>	<p><b>Article History:</b> <i>Submitted/Received 20 Oct 2025</i> <i>First Revised 10 Nov 2025</i> <i>Accepted 17 Nov 2025</i> <i>First Available online 28 Nov 2025</i> <i>Publication Date 13 Dec 2025</i></p> <hr/> <p><b>Keywords:</b> <i>Buy Now Pay Later (BNPL), Conscientiousness, Digital Financial Literacy, Financial Literacy, Financial Well-being.</i></p>
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## 1. INTRODUCTION

Buy Now, Pay Later (BNPL) is characterized as a credit arrangement that permits consumers to acquire and immediately receive goods or services while postponing payment through mutually agreed installments. (Gerrans, P., Baur, D. G., & Lavagna-Slater, 2021). The rapid growth of BNPL services in Indonesia has greatly advanced financial inclusion. Financial inclusion pertains to the availability and responsible utilization of affordable financial products and services that cater to the needs of individuals and enterprises, thereby promoting financial resilience and supporting long-term Financial Well-being (World Bank, n.d.; OJK, 2024; Demirgüç-Kunt et al., 2020).

However, expanding access to financial services without a proportional improvement in financial literacy presents serious risks. BNPL users with limited financial knowledge are more vulnerable to over-indebtedness, difficulties in tracking their spending, and poor cash flow management, which may ultimately harm their Financial Well-being (Das, 2024). The 2024 National Financial Survey reveals a persistent gap in Indonesia: while financial inclusion exceeds 80%, financial literacy remains at approximately 66% (OJK dan Badan Pusat Statistik, 2024). This suggests that many individuals actively engage with financial products without fully understanding their implications—a phenomenon observed even in countries with mature financial markets (Lusardi & Messy, 2023). Financial literacy is essential in enabling individuals to make informed financial decisions and, in turn, to achieve better Financial Well-being (Lusardi & Messy, 2023).

In the digital era, the ability to navigate financial decisions increasingly depends on digital financial literacy. This competence encompasses understanding digital financial products, recognizing associated risks, and managing digital financial security. It also includes awareness of consumer rights and available redress procedures (Morgan et al., 2019). Prior studies have shown that Digital Financial Literacy significantly influences Financial Well-being (Abdurrahman & Nugroho, 2024; Respati et al., 2023).

Existing research indicates that BNPL usage tends to increase consumer spending (Ang & Maesen, 2024; Kumar et al., 2024) which can lower Financial Well-being (Das, 2024) while simultaneously boosting purchase conversion rates (Wang, 2025). However, these effects may vary across individuals depending on their financial capability and personal characteristics. In this regard, financial literacy and Digital Financial Literacy play crucial roles in helping users make informed financial decisions and manage digital payment systems effectively. At the same time, personality traits such as Conscientiousness, which reflect self-discipline and responsibility, may strengthen financial self-control, reducing tendencies toward Impulsive Buying and Compulsive Buying behaviors that are often triggered by the convenience and immediacy of BNPL transactions. Understanding how these factors interact is therefore essential to explain variations in consumers' Financial Well-being in the BNPL ecosystem.

However, empirical evidence integrating these behavioral and financial factors within the BNPL context remains limited. Most prior studies have focused on nationwide samples or student populations, overlooking the diversity of users in smaller, semi-urban settings. In these contexts, consumers often display more heterogeneous socio-economic backgrounds, varying levels of financial capability, and unequal access to digital financial services, all of which may shape how they manage spending, repayment, and overall Financial Well-being.

Therefore, this study seeks to fill this gap by examining how financial literacy, digital financial literacy, Conscientiousness, Impulsive Buying, and Compulsive Buying jointly influence Financial Well-being among BNPL users at Probolinggo, a small city in East Java, a semi-urban Indonesian context. This approach offers a novel contribution by extending the discussion of BNPL use beyond urban or student populations and highlighting the behavioral and financial mechanisms that affect Financial Well-being in more diverse socio-economic environments.

## Literature Review and Hypotheses Development

Financial Well-being (FWB) can thus be defined as the extent to which BNPL users experience positive economic outcomes that enable them to meet their financial obligations, exercise autonomy in making life-enriching choices, maintain control over their finances, and feel secure both now and in the future even under adverse circumstances (CFPB, 2017; Comerton-Forde et al., 2018; Muir K, 2017).

Financial literacy (FL) is defined as the combination of knowledge, skills, attitudes, and behaviors required to make informed financial decisions. (OECD (2020), 2020). It includes understanding interest rates, inflation, investment risks, and basic numeracy skills (Lusardi & Messy, 2023). Numerous studies have confirmed its positive impact on Financial Well-being (CFPB, 2017; Fachrudin & Silalahi, 2022). However, its influence on consumer behavior remains mixed. Some studies report a negative relationship between financial literacy and Impulsive Buying behavior (Anisa et al., 2020) while others find a positive association with online food purchasing among young consumers (Oktaviana & Irawan, 2024). Low financial literacy has also been linked to Compulsive Buying tendencies, particularly in high-risk credit usage among students (Ananda et al., 2024; Liu liu, 2021). Based on this literature, the following hypotheses are proposed:

H1: Financial literacy has a significant and positive effect on Financial Well-being.

H2: Financial literacy has a significant and negative effect on Impulsive Buying.

H3: Financial literacy has a significant and negative effect on Compulsive Buying.

Digital Financial Literacy (DFL) refers to the combination of digital skills and financial knowledge. Morgan (2019) describes DFL as consisting of four dimensions: understanding digital financial products, recognizing digital risks, managing those risks, and knowing consumer rights and complaint procedures. DFL is essential for navigating digital financial services (DFS), such as e-money, mobile banking, and online financial tools. Recent studies indicate that DFL positively impacts Financial Well-being. Although its direct connection to impulsive or Compulsive Buying is less studied, DFL has been shown to encourage digital spending and saving behavior (Juita et al., 2023; Maman Setiawan, 2020). The following hypotheses are proposed:

H4: Digital Financial Literacy has a significant and positive effect on Impulsive Buying.

H5: Digital Financial Literacy has a significant and positive effect on Financial Well-being.

H6: Digital Financial Literacy has a significant and positive effect on Compulsive Buying.

Conscientiousness (C), one of the Big Five personality traits, describes individuals who are disciplined, organized, reliable, and goal-oriented. These individuals tend to rely on credible information and are more deliberate in their decision-making (Fachrudin & Silalahi, 2022). Research shows that Conscientiousness supports better Financial Well-being and is also linked

to a lower tendency toward impulsive or compulsive consumption (Arora & Dutt, 2025; Hamamci H Nayman &, 2020). While most studies confirm a negative link with Impulsive Buying (Purwaningtyas et al., 2025) some report non-significant results (Azizah, 2024). The following hypotheses are proposed:

H7: Conscientiousness has a significant and negative effect on Impulsive Buying.

H8: Conscientiousness has a significant and positive effect on Financial Well-being.

H9: Conscientiousness has a significant and negative effect Compulsive Buying.

Impulsive Buying (IB) is characterized by spontaneous, emotion-driven purchases made with little deliberation. (Rook & Fisher, 1995) While not inherently negative, frequent Impulsive Buying may escalate into Compulsive Buying (CB), which involves excessive, repetitive purchasing behaviors that lead to regret, debt, and psychological distress (Leite et al., 2013; Mrad & Cui, 2020) (Powell et al., 2023) demonstrate that reduced impulsivity leads to less Compulsive Buying, which in turn improves Financial Well-being. Based on these insights, the following hypotheses are developed:

H10: Impulsive Buying has a significant and positive effect on Compulsive Buying.

H11: Impulsive Buying has a significant and negative effect on Financial Well-being.

H12: Compulsive Buying has a significant and negative effect on Financial Well-being.

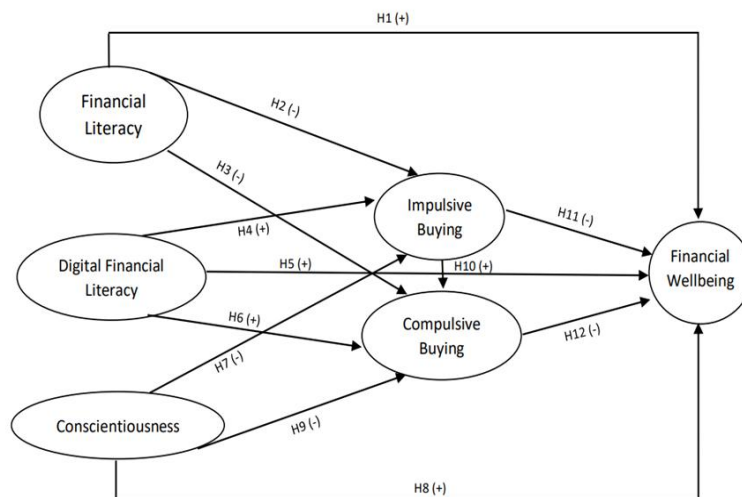


Figure 1. Research Model

## 2. METHODOLOGY

### Context, Population and Sample

This study investigates the Financial Well-being of BNPL users in Probolinggo. A purposive sampling technique will be employed to select individuals who best represent the characteristics of the broader population engaged in these financial activities. The selection criteria include: respondent must be between the ages of 18 and 79 years old, must be domiciled in Probolinggo city and residence and has been using BNPL at least 6 months

Data collection occurred between June 16 and July 12, 2025. From 171 submissions, 128 responses met the criteria. The sample size exceeds the minimum requirement of 122 participants for five independent variables. This is the minimum sample size required with five independent variables, a significance level of 5%,  $R^2$  of 0.25, and a statistical power of 80% (Hair et al., 2017). Data analysis will be conducted using

Structural Equation Modeling (SEM) with a Partial Least Squares (PLS) approach, facilitated by the Smart PLS 4.0 software. This method is suitable for complex models and small sample sizes, typical of behavioral studies in specific populations.

**Table 1. Respondents Descriptions**

Criteria	Descriptive	Frequency	Percentage	Cumulative Percentage
Gender	Male	60	46,88	46,88
	Female	68	53,12	100,00
Age (year)	< 18	2	1,56	1,56
	< 18, married	0	0	1,56
	18 - 25	39	30,47	32,03
	26 - 39	65	50,78	83,81
	40 - 59	22	17,19	100,00
	60 - 79	0		
Domicile	Probolinggo Regency	87	67,97	67,97
	Probolinggo City	41	31,03	100,00
Highest Level of Education completed	Elementary School	1	0,78	0,78
	Junior High School	2	1,56	2,34
	Senior High School	64	50,00	52,34
	Diploma	10	7,81	60,15
	Bachelor's degree	51	39,85	100,00
	Master's degree	0		
Marital Status	Single	39	30,47	30,47
	Married	86	67,19	97,66
	Widowed (Female)	2	1,56	99,22
	Widowed (Male)	1	0,78	100,00
Occupation	Student	8	6,25	6,25
	Civil Servant	18	14,06	20,31
	Private Sector Employee	60	46,88	67,19
	Entrepreneur	23	17,97	85,16
	Housewife	10	7,81	92,97
	Others	9	7,03	100,00
Average Monthly Spending (Rp)	<2 million	26	20,31	20,31
	2 – 3 million	62	48,44	68,75
	>3 - 5 million	31	24,22	92,97
	>5 - 10 million	8	6,25	99,22
	>10 million	1	0,78	100,00
Duration of BNPL Usage (months)	>12	101	78,91	78,91
	6 - 12	27	21,09	100,00

**Measurement**

A valid measurement tool is essential in research (Sugiyono, 2016). The instrument was developed based on an extensive literature review related to Financial Well-being, financial literacy, digital financial literacy, Conscientiousness, Impulsive Buying, and Compulsive Buying. Initial questionnaire items were adopted from prior studies and developed via Google Forms. Expert consultation and a pilot test with 30 participants followed. After identifying unreliable or invalid items, revisions were made and retested for reliability and validity before final distribution.

All constructs were measured using established instruments from prior studies: Financial Well-being (Iramani & Lutfi, 2021; Powell et al., 2023), Financial Literacy—subjective and objective (OECD/INFE, 2022; Lusardi & Mitchell, 2023), Digital Financial Literacy (Morgan et al., 2019), Conscientiousness (Hamamci & Nayman, 2020), Impulsive Buying (Rook & Fisher, 1995; Powell et al., 2023), and Compulsive Buying (Ikram & Siddiqui, 2021; Ronald J. Faber, 1992), Except for objective financial literacy (nominal scale with correct/incorrect answers), all items used a 7-point Likert scale from strongly disagree (1) to strongly agree (7), with higher scores reflecting stronger construct levels. Complete measurement items and loadings are detailed in Table 2.

**Table 2. Variable Measurements**

Code	Construct/Questionnaire Item	Mean	Standard Deviation	Loading Factor
<b>FWB2</b>	I could handle a major unexpected expense	5,211	1,350	0,850***
<b>FWB3</b>	I feel on top of my day-to-day finances	5,680	1,172	0.847***
<b>FWB4</b>	I am comfortable with my current level of spending relative to the funds I have coming in	5,000	1,452	0,811***
<b>FWB5</b>	I am on track to have enough money to provide for my financial needs in the future	4,633	1,494	0,816***
<b>IB1</b>	I often buy things spontaneously using buy now pay-later.	3,609	1,888	0,817***
<b>IB2</b>	Just do it, describes the way I buy things	3,336	1,804	0,846***
<b>IB3</b>	I often buy things without thinking.	2,586	1,822	0,877***
<b>IB4</b>	I see it, I buy it describes me	3,242	2,011	0,748***
<b>IB5</b>	Buy now, think about it later, describes me	2,727	1,771	0,838***
<b>CB1</b>	I bought things even though I could not afford them	2,438	1,708	0,813***
<b>CB2</b>	I felt others would be horrified if they knew of my spending habit	2,805	1,846	0,798***
<b>CB3</b>	I bought something when I knew I did not have enough money in the bank cover it	2,281	1,639	0,911***

<b>CB4</b>	If I have any money left at the end of the pay period, I just have to spend it	2,711	1,746	0,782***
<b>Code</b>	<b>Construct/Questionnaire Item</b>	<b>Mean</b>	<b>Standard Deviation</b>	<b>Loading Factor</b>
C1	Does a thorough job	5,680	1,256	0,783***
C2	Can be careful	6,008	1,019	0,915***
C3	Is a reliable and hardworking	5,672	1,324	0,764***
C4	Perseveres until the task is finished	6,125	1,053	0,897***
C5	Does things efficiently	5,969	1,053	0,873***
DFL1	Having a good understanding of digital payment products such as E-debit, E-credit, E-Money, Mobile /Internet banking, E-wallet	6,117	1,208	0,453**
DFL2	Having a good understanding of digital alternatives such as Kredivo, Akulaku, Kreditku, etc.	5,438	1,58	0,667***
DFL3	Having experience in using the product and service of fintech for digital payment such as OVO, Gopay, LinkAja	5,500	1,358	0,620***
DFL4	Experience in using the product and service of fintech for financing (loan) and investment such as, Modalku	4,203	1,93	0,751***
DFL5	Awareness about the potential of financial risk in using digital financial provider or fintech, such as the legality of the fintech provider, interest rate and transaction fee	5,102	1,862	0,560***
DFL6	Having a good capability in managing financial activities through a digital platform such as managing the cost of using digital financial transactions	4,781	1,392	0,613***
DFL7	Having a good understanding of customer rights and protection as well as the procedure to complain about the service from digital financial providers	4,555	1,793	0,796***
FL1	Keep money for bills separate from day-to-day spending money (QF2-3)	5,781	1,346	0,858***
FL2	Do You have some financial goals, such as paying university fees, buying a car or becoming debt free	5,798	1,488	0,867***
FL3	Paying money into a saving account (QF3-2)	5,297	1,627	0,740***
FL5	Make a plan to manage your income and expenses (QF2-1)	5,375	1,649	0,766***

\*\* = p < 0,01 \*\*\* = p < 0,001

Source: primary data processed by the author, Output from SmartPLS 4.0 (2025)

Objective Financial Lireacy	Code	Questionnaire Item	Correct Answer	Wrong Answer
<b>KQ5* (Simple interest)</b>	FL6	Imagine that someone puts IDR 1.000.000 into a saving account with a guaranteed interest rate of 2% per year. They don't make any further payments into this account and they don't withdraw any money. How much would be in the account at the end of the first year, once the interest payment is made? a. IDR 1.020.000 b. IDR 1.000.000 c. Less than IDR1.000.000 d. Don't know	98	30
<b>KQ6* (Compound Interest)</b>	FL7	And how much would be in the account at the end of five years (remembering there are no fees or tax deductions)? It would be: a. More than IDR 1.100.000 b. Exactly IDR 1.100.000 c. Less than IDR 1.000.000 d. Don't know	37	91
<b>KQ3* (Wait for a year with x percent inflation)</b>	FL8	Mr. Rachman will receive compensation for project land worth IDR 700 million. The money will only be received next year, while Indonesia's inflation rate remains at 3%. If Mr. Rachman buys goods with that money next year, then: a. He will get more goods than he could get if he bought them today. b. He will get the same amount of goods. c. He will get fewer goods than he could get today. d. Cannot be determined.	58	70

\* OECD/INFE (2022)

### 3. RESULT AND DISCUSSION

#### Descriptive Data

A survey of BNPL users in Probolinggo City and Regency revealed key demographic insights based on pivot table analysis. Of 128 respondents, 68,75% reported monthly expenses below IDR 3 million, 26 individuals spent under IDR 2 million, and 62 between IDR 2–3 million figures close to or below the 2025 local minimum wage (IDR 2,99 million and IDR 2,87 million). This is noteworthy given OJK's minimum income recommendation of IDR 3 million for BNPL users starting January 2027. Education was dominated by high school graduates (50%), followed by bachelor's degree holders (39,85%), with the latter generally reporting higher expenditures. Most respondents were private employees (46,88%), followed by entrepreneurs (17,97%) and civil servants (14,06%). Age distribution was concentrated in the 26–39 range (50,78%), consistent with national BNPL usage trends.

### Measurement Model (Outer Loading)

To ensure that the data used in the analysis are accountable, this study examined the measurement quality through validity and reliability tests. Validity testing was conducted using convergent validity and discriminant validity. Convergent validity aims to confirm that the items within a construct statistically converge, with the criteria of factor loading  $> 0.7$  ( $p < 0.05$ ) and Average Variance Extracted (AVE)  $> 0.5$  (Joseph F. Hair et al., 2017). Table 3 presents the results of this test. Discriminant validity indicates the extent to which items within a construct differ from those in other constructs. The statistical test used to assess discriminant validity involves comparing the square root of the AVE with the correlations among constructs, where the square root of AVE should be greater than the correlations with other constructs in the model (Joseph F. Hair et al., 2017). Table 3 presents the square root of AVE (diagonal scores) and the correlations among constructs, demonstrating that the items meet the required criteria and effectively distinguish between constructs within the model. Reliability tests showed all constructs met CR and Cronbach's Alpha thresholds ( $>0.7$  and  $>0.6$ ), confirming internal consistency.

**Table 3. Validity and Reliability**

Construct	Code	C	CB	DFL	FL	FWB	IB
1 Conscientiousness	C	<b>0,849</b>					
2 Compulsive Buying	CB	-0,467	<b>0,827</b>				
3 Digital Financial Literacy	DFL	-0,126	0,409	<b>0,622</b>			
4 Financial Literacy	FL	0,693	-0,453	0,031	<b>0,810</b>		
5 Financial Well-being	FWB	0,509	-0,252	0,104	0,560	<b>0,831</b>	
6 Impulsive Buying	IB	-0,299	0,783	0,312	-0,336	-0,167	<b>0,826</b>
7 Objective Financial Literacy	OFL						
Composite Reliability	CR	0,928	0,896	0,810	0,883	0,899	0,915
Cronbach's Alpha	$\alpha$	0,902	0,845	0,741	0,824	0,852	0,884
Average Variance Extracted	AVE	0,720	0,685	0,387	0,655	0,690	0,682
Number of Item		5	4	7	4	4	5

Source: primary data processed by the author, Output from SmartPLS 4.0 (2025)

### Structural Model (Inner Model)

The measurement model in Partial Least Squares (PLS) was evaluated to assess construct validity through an examination of convergent and discriminant validity. During the initial assessment, several indicators exhibited outer loading values below the recommended threshold of 0,70, specifically items FWB1 and FL4. Loadings below this threshold indicate that these items did not adequately represent their respective constructs and may reflect issues related to item clarity or inconsistent interpretation among respondents. Consequently, these indicators were removed to enhance the reliability and validity of the measurement model, after which the model was re-estimated for further evaluation.

**Table 4. R<sup>2</sup> and Q<sup>2</sup>**

Dependent Variable	R <sup>2</sup>	R <sup>2</sup> Adjusted	Q <sup>2</sup>
IB	0,217	0,199	0,131
CB	0,655	0,644	0,430
FWB	0,357	0,331	0,217

Note: R<sup>2</sup> = Coefficient of Determination; Q<sup>2</sup> = Predictive Relevant

The model explains 21,7% of the variability in IB, 65,5% in CB, and 35,7% in FWB, which indicate weak to moderate explanatory power (Hair et al., 2021). The adjusted R<sup>2</sup> values (IB =

0,199; CB = 0,644; FWB = 0,331) show only slight decreases, indicating that the model’s explanatory ability remains stable after adjustment.

The predictive relevance of the model was evaluated using the Q<sup>2</sup> values obtained through the blindfolding procedure. The Q<sup>2</sup> values of 0,131 for IB, 0,430 for CB, and 0,217 for FWB indicate small, large, and medium predictive relevance, respectively, following the guidelines of Hair et al. (2021).

The results of the structural model evaluation indicate that several hypothesized relationships are statistically supported. Financial Literacy (FL) has a significant positive effect on Financial Well-being (FWB) (H1:  $\beta = 0,365$ ,  $p = 0,001$ ), and a significant negative effect on Impulsive Buying (IB) (H2:  $\beta = -0,319$ ,  $p = 0,001$ ) and Compulsive Buying (CB) (H3:  $\beta = -0,158$ ,  $p = 0,036$ ). Although the effect sizes ( $f^2$ ) for H1, H2 and H3 fall within the small range (0,095; 0,066; 0,034).

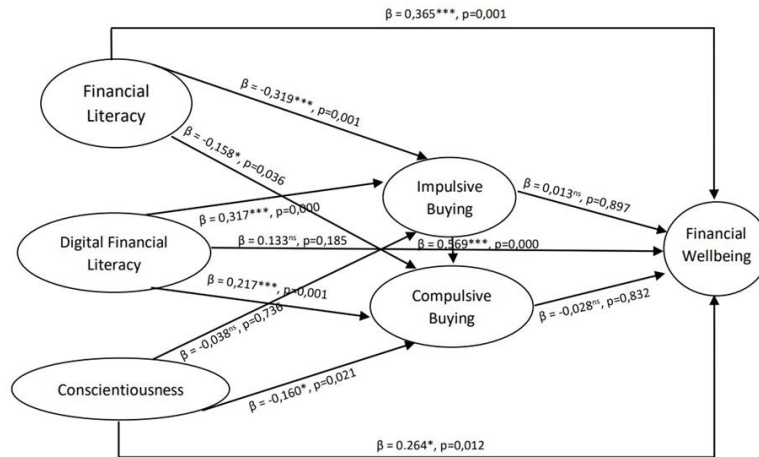


Figure 2. Path Diagram

Digital Financial Literacy (DFL) demonstrates a significant positive effect on IB (H4:  $\beta = 0,317$ ,  $p = 0,000$ ) and CB (H6:  $\beta = 0,217$ ,  $p = 0,001$ ), with small to moderate effect sizes ( $f^2 = 0,123$  and  $0,116$ ). However, the effect of DFL on FWB is not significant, with small effect size (H5:  $\beta = 0,133$ ,  $p = 0,185$ ,  $f^2 = 0,021$ ).

Conscientiousness (C) shows no significant effect on IB (H7:  $\beta = -0,038$ ,  $p = 0,736$ ), but it has a significant positive effect on FWB (H8:  $\beta = 0,264$ ,  $p = 0,012$ ) and a significant negative effect on CB (H9:  $\beta = -0,160$ ,  $p = 0,021$ ), although with small effect sizes ( $f^2 = 0,052$ ;  $0,037$ ).

IB has a significant positive effect on CB (H10:  $\beta = 0,569$ ,  $p = 0,000$ ), However, IB does not significantly affect FWB (H11:  $\beta = 0,013$ ,  $p = 0,897$ ). Similarly, CB does not significantly influence FWB (H12:  $\beta = -0,028$ ,  $p = 0,832$ ).

Table 5. Hypotheses Testing Summary

H	Hypotheses and Relation	f <sup>2</sup>	VIF	β	p-Value	Result
H1	FL → FWB	0,095	2,181	0,365	0,001	Supported
H2	FL → IB	0,066	1,978	-0,319	0,001	Supported
H3	FL → CB	0,034	2,108	-0,158	0,036	Supported
H4	DFL → IB	0,123	1,045	0,317	0,000	Supported
H5	DFL → FWB	0,021	1,309	0,133	0,185	Not Supported
H6	DFL → CB	0,116	1,173	0,217	0,001	Supported
H7	C → IB	0,001	2,008	-0,038	0,736	Not Supported
H8	C → FWB	0,052	2,084	0,264	0,012	Supported
H9	C → CB	0,037	2,010	-0,160	0,021	Supported

<b>H10</b>	IB → CB	0,735	1,278	0,569	0,000	Supported
<b>H11</b>	IB → FWB	0,000	2,217	0,013	0,897	Not Supported
<b>H12</b>	CB → FWB	0,000	2,898	-0,028	0,832	Not Supported

Source: primary data processed by the author, Output from SmartPLS 4.0 (2025)

Note: H= Hypothesis;  $f^2$ = Effect Size VIF= Variance Inflation Factors;  $\beta$ = Path coefficient

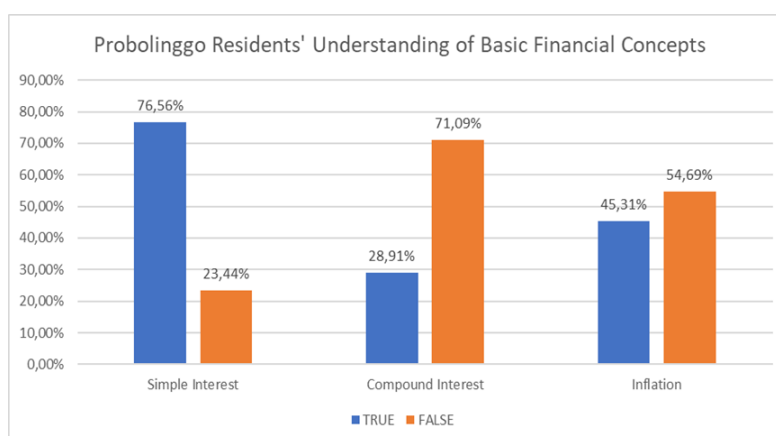


Figure 3. Summary of the Responses Provided by 128 Respondents to the Three Objective Financial Literacy Items

Figure 3 shows that most respondents understood the concept of simple interest, with 76,56% answering correctly. However, understanding of compound interest was notably low, as only 28,91% responded correctly. Knowledge of inflation was more mixed, with correct and incorrect responses relatively balanced (45,31% and 54,69%, respectively). These results indicate that while basic financial concepts are partially understood within the Probolinggo community, more complex concepts such as compound interest require further strengthening in ongoing financial literacy efforts.

### Financial Literacy on Financial Well-being

The main finding of this study is that Financial Literacy, demonstrating a positive effect on Financial Well-being (H1). The higher the level of Financial Literacy, the better an individual's Financial Well-being. Financial literacy enhances Financial Well-being by improving individuals' knowledge, skills, and understanding of financial concepts and risks. It also strengthens confidence and motivation to apply such knowledge and understanding in making smart and effective decisions across various financial contexts (OECD, 2014). Moreover, financial literacy promotes financial inclusion, which in turn improves individuals' Financial Well-being by providing access to tools, services, and mechanisms that enable more effective financial management, protection against risks, and the accumulation of assets for the future (Lusardi & Mitchell, 2023). These findings are consistent with previous studies, reinforcing the evidence that Financial Literacy (FL) has a direct and significant effect on individuals' Financial Well-being (Bai, 2023). Individuals with higher levels of Financial Literacy tend to experience greater Financial Well-being (Bai, 2023). Financial Literacy influences Financial Well-being both directly and indirectly (Sajid, Muhammad, et al., 2024)

### Financial Literacy on Impulsive Buying and Compulsive Buying

The negative relationship between financial literacy and Impulsive Buying (H2) is confirmed, indicating that higher financial literacy reduces impulsive purchasing tendencies. This finding aligns with prior studies on online Impulsive Buying among young consumers (Anisa et al., 2020; Oktaviana & Irawan, 2024). Impulsive Buying, characterized by spontaneous and emotion-driven decisions (Rook & Fisher, 1995; Verplanken & Herabadi, 2001), appears relatively low among BNPL

users in Probolinggo (M = 3,110). Nonetheless, 27,34% of respondents showed moderate to high impulsiveness, indicating a vulnerable subgroup that warrants targeted financial literacy interventions.

The negative association between financial literacy and Compulsive Buying (H3) is supported, indicating that greater financial literacy reduces compulsive purchasing tendencies. This result is consistent with evidence from Generation Y samples in Jabodetabek (Ananda et al., 2024) and reflects the role of financial literacy in promoting rational decision making (Lusardi & Mitchell, 2023). Among BNPL users in Probolinggo, Compulsive Buying levels were generally low (M = 2,720), though 21,25% of respondents exhibited moderate to high tendencies. This subgroup represents a vulnerable segment that would benefit from targeted financial education interventions.

These results indicate that FL contributes meaningfully to reducing impulsive and compulsive consumption and improving Financial Well-being

A notable finding is the discrepancy between BNPL users' perceived and actual financial knowledge in Probolinggo. While self-reported financial literacy was high (5,56 on a 1–7 scale), actual knowledge of basic financial concepts was low (1,51 on a 1–3 scale), indicating an evident overconfidence gap.

Another finding is a substantial gap between financial inclusion and financial literacy in Probolinggo City and Regency. Respondents' financial literacy level was only 28,13 percent, far below the national index of 65,43 percent, whereas financial inclusion was assumed to be 100 percent, as all respondents used BNPL services.

Respondents' Financial Well-being (FWB) was relatively adequate (M = 5,130). Most reported monthly expenditures of Rp 2–3 million. The regression results indicated that average monthly expenditure had a positive and significant effect on FWB ( $\beta = 0,192$ ,  $p = 0,006$ ), although its explanatory power was modest ( $r^2 = 0.058$ ). Overall, FWB is influenced by various other factors beyond expenditure. The fact that respondents' spending levels are close to the 2025 Probolinggo minimum wage suggests that their income is only sufficient to meet basic needs.

### **Digital Financial Literacy on Impulsive Buying and Compulsive Buying**

Digital Financial Literacy (DFL) demonstrates a positive and significant relationship with both Impulsive Buying (H4) and Compulsive Buying (H6). These findings align with prior studies on Pay-Later users in Indonesia, indicating that higher DFL may increase susceptibility to emotionally driven and uncontrolled purchases (Juita et al., 2023). Impulsive and Compulsive Buying are often triggered by visual stimuli, promotional cues, and affective states that bypass rational evaluation (Rook & Fisher, 1995). Digital environments intensify these triggers, while BNPL services and e-wallets enable rapid, seamless transactions. Although DFL enhances users' technical ability to navigate digital financial tools (Maman Setiawan, 2020; Rahayu et al., 2022), such competencies do not necessarily foster prudent financial behavior. Without adequate self-control and foundational financial understanding, higher DFL may instead promote overconfidence and greater exposure to consumption temptations, thereby reinforcing impulsive and Compulsive Buying tendencies.

### **Digital Financial Literacy on Financial Well-being**

The relationship between Digital Financial Literacy (DFL) and Financial Well-being (H5) is not supported. Similar non-significant results were reported among management students in Sidoarjo, East Java (Ivanka et al., 2025), although most prior studies, such as those on populations in Jabodetabek (Abdurrahman & Nugroho, 2024) and national samples of Indonesian university students, found a positive association. Several factors may account for the unsupported hypothesis. First, DFL often reflects technical proficiency rather than substantive financial

management; thus, the ability to use digital tools does not necessarily enhance well-being without prudent financial behavior. Second, broad digital access without sufficient risk awareness can encourage misuse, particularly through pay-later features and instant credit, potentially negating the benefits of DFL. Third, prior literature indicates that the influence of DFL on Financial Well-being is frequently indirect, operating through financial behavior or self-control (Ivanka et al., 2025; Muat & Sari, n.d.) Fourth, a persistent gap between digital access and critical digital literacy limits individuals' capacity to evaluate financial products. Descriptive results from 128 BNPL users illustrate this disparity, with DFL scores ranging from 4,20 to 6,11. While understanding of e-debit and e-wallet systems is relatively high (>6), knowledge of fintech investment, legal risks, consumer rights, and complaint mechanisms is lower (mean = 4,2–5,1), and coefficients of variation (0,29–0,45) indicate substantial heterogeneity. Comparable patterns have been observed among rural communities in Sarawak, Malaysia (Liew et al., 2020).

### **Conscientiousness on Impulsive Buying.**

The non-significant relationship between Conscientiousness and Impulsive Buying can be understood within the context of digital consumption. Although individuals high in Conscientiousness are theoretically more disciplined and self-controlled, Impulsive Buying in digital environments is more strongly driven by situational factors such as flash promotions, the convenience of Buy Now Pay Later (BNPL) services, and intensive digital advertising. Drawing on Regulatory Focus Theory (Higgins), Impulsive Buying may arise from both promotion-focused motivations, seeking pleasure or gratification and prevention-focused motivations aimed at reducing negative emotions. (Verplanken & Sato, 2015). In the Probolinggo context, this pattern is further shaped by cultural norms, particularly the *Kauleman* tradition, a socially expected practice of making monetary contributions during community celebrations. This cultural obligation positions spending not merely as personal consumption but as adherence to collective norms, which may prompt impulsive decisions even among highly conscientious individuals. Consequently, Conscientiousness does not exhibit a significant influence on Impulsive Buying in this setting.

### **Conscientiousness on Financial Well-being.**

H8 is supported, indicating that higher levels of Conscientiousness are associated with better Financial Well-being. (Fachrudin & Silalahi, 2022; Ikram & Siddiqui, 2021) Individuals high in Conscientiousness tend to be more disciplined, organized, and cautious in making financial decisions. These traits strengthen their ability to regulate financial behavior, including limiting purchases to essential needs and managing expenditures across “everyday finances,” “rainy day finances,” and “one day finances” (CBA, 2018). Consequently, they attain higher levels of Financial Well-being because their financial decisions are more rational and conducive to long-term financial stability. In contrast, individuals with lower Conscientiousness are more prone to unhealthy financial behaviors, such as Impulsive Buying, which ultimately undermines their Financial Well-being.

### **Conscientiousness on Compulsive Buying.**

H9 is supported, indicating that higher Conscientiousness is associated with lower Compulsive Buying (Arora & Dutt, 2025; Tania, 2020). Individuals with high Conscientiousness tend to be disciplined, orderly, and focused on long-term goals, which helps them resist excessive or repeated purchases of unnecessary items. Conversely, those with lower Conscientiousness exhibit weaker impulse control and limited planning, increasing the likelihood of Compulsive Buying, a pattern consistent with prior findings (Verplanken and Herabadi, 2001) In this study, respondents reported low levels of Compulsive Buying (M = 2,72). Overall, the mean score for

Conscientiousness falls within the “agree” category ( $M = 5,98$ ), indicating that respondents generally perceive themselves as cautious and disciplined in managing their finances. The distribution of responses shows a moderate level of variability.

### **Impulsive Buying on Compulsive Buying**

The findings indicate that Impulsive Buying (IB) is the strongest predictor of Compulsive Buying (CB), as reflected in its highest path coefficient ( $\beta = 0,569$ ;  $T = 9,470$ ;  $p < 0,001$ ). Compared with other predictors, Conscientiousness ( $\beta = -0,160$ ;  $T = 2,309$ ;  $p = 0,021$ ); Financial Literacy ( $\beta = -0,158$ ;  $T = 2,092$ ;  $p = 0,036$ ), and Digital Financial Literacy ( $\beta = 0,217$ ;  $T = 3,182$ ;  $p = 0,001$ )—the influence of IB is substantially more dominant. This result aligns with previous studies (Powell et al., 2023) and is further supported by evidence on credit card misuse in Malaysia. (Omar et al., 2014) Within the BNPL context, Impulsive Buying serves as a primary antecedent of Compulsive Buying, driven by weak self-control and the predominance of emotional factors in purchase decision-making.

### **Impulsive Buying on Financial Well-being**

H11, which proposes that higher Impulsive Buying reduces Financial Well-being, is not supported. Although prior studies in BNPL and consumer credit contexts have found a negative association between Impulsive Buying and Financial Well-being (Xiao et al., 2011; Prasad et al., 2022), this relationship does not appear in the present study for several reasons. First, many impulsive purchases may be small, such as minor online leisure items or spontaneous gifts, which do not substantially disrupt financial stability. Descriptive results show that only 27,34% of respondents reported moderate to high Impulsive Buying, while the majority (72,66%;  $M = 3,11$ ) indicated low levels. Second, respondents may possess mitigating financial resources or capabilities, such as emergency savings, budgeting practices, strong self-control, or family support (Muir, 2017), that buffer the impact of Impulsive Buying on their Financial Well-being. Third, Financial Well-being is partly subjective; feelings of security and calm regarding one’s financial situation may remain intact despite occasional impulsive purchases.

### **Compulsive Buying on Financial Well-being**

The findings indicate that Compulsive Buying is negatively but not significantly associated with Financial Well-being. The low level of Compulsive Buying in the sample, reflected in a mean score of 2,72, with 78,75% of respondents reporting disagreement, suggests that such behavior is infrequent and tends to occur only under specific conditions, such as emotional distress or time-limited promotions. The low frequency and intensity of this behavior appear insufficient to diminish respondents’ Financial Well-being, as indicated by the mean Financial Well-being score of 5,13 (“somewhat agree”). Consequently, prior evidence reporting a significant negative relationship between Compulsive Buying and Financial Well-being (Powell et al., 2023) is not supported in this study.

### **Managerial Implications**

Managerially, regulators should address the gap between perceived and actual financial knowledge. Literacy programs must go beyond confidence-building to ensure factual comprehension, particularly in emerging digital markets of smaller cities. BNPL Providers should implement responsible design features, including prudential credit limits, payment reminders, and in-app financial education, coupled with transparent terms. Efforts should also discourage aggressive marketing to financially vulnerable consumers. Public education should integrate self-control training, emphasizing budgeting, goal-setting, and prudent consumption, to mitigate impulsive and compulsive spending behaviors that undermine Financial Well-being

#### 4. CONCLUSIONS

First, the findings indicate that Financial Literacy (FL) plays a substantial role in enhancing Financial Well-being (FWB), demonstrating a positive and significant effect of nearly moderate magnitude, while also reducing Impulsive Buying (IB) and Compulsive Buying (CB), albeit with small effects. In contrast, Digital Financial Literacy (DFL) does not directly influence FWB but shows a positive and significant moderate effect on both IB and CB, suggesting that higher digital literacy may increase tendencies toward impulsive and compulsive purchasing. Conscientiousness (C) significantly improves FWB and negatively predicts CB though weakly but does not affect IB. IB does not significantly influence FWB but strongly predicts CB with a large effect size, while CB shows no direct effect on FWB. Overall, Financial Well-being is more strongly driven by prudent decision-making, particularly FL and Conscientiousness. Although general impulsive and Compulsive Buying tendencies among respondents in Probolinggo are low, 27,34% exhibit high Impulsive Buying and 21,25% exhibit high Compulsive Buying, identifying them as vulnerable groups requiring targeted financial literacy interventions. Second, the study reveals a wide disparity between financial inclusion and financial literacy in Probolinggo, with an estimated literacy level of 28,13%, far below the national rate of 65,43%, while financial inclusion reaches 100% due to universal BNPL usage. Third, respondents exhibit a substantial gap between perceived and actual financial knowledge, with confidence in financial literacy ( $M = 5,56$ ; 1-7) far exceeding their actual understanding of basic concepts ( $M = 1,51$ ; 1-3), which may shape their BNPL decisions. Fourth, Financial Well-being aligns with monthly expenditure patterns: 68,75% of respondents report spending at or below basic living needs ( $\leq$  Rp 3,000,000), consistent with the regional minimum wage. Fifth, most respondents have used BNPL for over a year (78,91%), indicating strong adoption. Despite concerns about long-term dependence, their low impulsive and Compulsive Buying tendencies and high Conscientiousness suggest relatively controlled BNPL usage.

#### Limitations of the Study

This study is subject to several limitations. First, the use of non-probability purposive sampling reduces the generalizability of the findings. Second, the sample proportions were not aligned with the actual population distribution of the City and Regency of Probolinggo due to the need to maintain an adequate sample size. Third, several DFL items did not meet the validity threshold ( $<0,70$ ), and some valid items displayed factor loadings below 0,60; however, DFL was retained in the model because it represents a key construct in this research, and prior studies have accepted loadings as low as  $<0,40$ . Fourth, the Objective FL construct did not include all financial literacy items—particularly those assessing investment risk and diversification—because these concepts were relatively difficult for respondents to understand and to maintain response consistency given the total of 47 items. Finally, the study was not originally designed to calculate a financial literacy index as used in the 2024 National Financial Literacy and Inclusion Survey. (OJK dan Badan Pusat Statistik, 2024) Consequently, the conversion of interval data into nominal categories, including the determination of interval cut-offs, relied on assumptions considered able to approximate nominal classifications.

#### Recommendations

Future research on the relationship between Financial Literacy and Financial Well-being may further explore indicators related to how individuals achieve their financial goals, their ability to cope with unexpected expenses (financial shocks), their strategies for securing funds when monthly income is insufficient (making ends meet), and the length of time they can sustain essential expenditures in the event of income loss (OECD/INFE, 2022).

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