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FINANCIAL LITERACY, WELL-BEING, AND THE MODERATING ROLE OF CASTE-BASED DISCRIMINATION ON MARGINALIZED WOMEN

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INTRODUCTION:

In Indian societies, caste has historically served as a primary basis for discrimination(Deshpande, 2011). The caste identity of an individual has consistently played a crucial role in shaping educational opportunities (Hoff & Pandey, 2014), the ability to access healthcare services (Luke & Munshi, 2007), the availability of public goods (Anderson, 2011), and choices in marriage (Kaivan Munshi & Rosenzweig, 2009). The Government of India has initiated the world's largest affirmative action program for eradicating caste-based discrimination and social exclusion. However, caste remains a significant factor in various aspects of Indian society, including among the seemingly progressive educated urban population (Banerjee et al., 2013). In the labour market, caste identity frequently impedes occupational mobility (Kaivan Munshi & Rosenzweig, 2009) and results in caste-based wage discrimination, in which marginalized workers receive systematically lower wages than their non-marginalized counterparts (Biswajit & Knight, 1985; Das & Dutta, 2007; Ito, 2009). The labour market's implication of caste is so profound that workers frequently decline higher wages to prevent employment opportunities that do not align with their caste identity (Oh, 2023).

Financial literacy is the ability to understand and use financial skills, including budgeting, saving, investing, and managing money. Recent findings indicate significant disparities in financial literacy and access to financial services among various caste groups. For instance, studies indicate that Scheduled Castes and Scheduled Tribes populations experience reduced access to financial services and possess a lower level of financial literacy compared to higher caste groups (Bhushan & Mohinder, 2023). Furthermore, the relationship between caste and financial inclusion is demonstrated through the banking sector, revealing that discrimination based on taste affects both the rates of loan applications and approvals among different caste groups. Kumar and Venkatachalam (2019) illustrate that marginalized castes face considerable obstacles during the approval process compared to others, even when accounting for unobservable factors like credit history. In 2024, Palem Komala

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explained that the backwardness faced by SC women significantly influences the relationship between their financial literacy and financial inclusion. The socio-economic disadvantages they encounter exacerbate the existing gaps in financial literacy, which subsequently impacts their financial inclusion. Financial literacy significantly impacts the financial well-being of marginalized women by enhancing their understanding of financial products and services, which in turn fosters economic empowerment (Afiqah et al., 2023). This relationship is crucial as it enables women to make informed financial decisions, ultimately leading to improved financial stability and independence (Chettri et al., 2024; Sakshi Kumari & Veena, 2023).

Based on the above background, this study's objective is to investigate the impact of financial literacy on financial well-being. Furthermore, it examines the moderating role of caste-based discrimination on the FL-FW relationship, recognizing that systemic social inequalities may impede the attainment of financial well-being among women belonging to scheduled caste communities.

METHODOLOGY

This study explores the impact of FL (financial literacy) on FW (Financial Well-being), with a focus on the moderating role of CBD(Caste-Based Discrimination) among Scheduled Caste (SC) women in Koppal District which is one of the underbanked districts of Karnataka as per RBI. A quantitative survey was conducted using stratified random sampling to collect financial literacy, well-being, and caste-based discrimination data from 404 Scheduled Caste Women. FL is measured using the NCFE (National Council for Financial Education in India) framework, while FW is assessed using the CFPB framework. The analysis uses Smart PLS to determine the relationships between FL and FW while considering the moderating effect of caste-based discrimination. This approach aims to understand how caste-based discrimination influences financial well-being and moderates the relationship between FL and FW of marginalized women.

The items depicted in Table 1 for measuring financial literacy, financial well-being, and caste-based discrimination have been adopted from multiple studies. All items were evaluated utilizing a 5-point Likert scale. Items for financial attitude, financial behavior, and financial knowledge were measured using NCFE's guidelines for measuring financial literacy in India(NCFE, 2019). Financial Well-Being elements were adopted from the CFPB Financial Well-Being Scale(CFPB, 2015). The items measuring caste-based discrimination were developed by the researcher in consultation with experts.

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Table 1: Indicators for Constructs

Indicator	Construct
	Financial Attitude (FA)
FA1	Spending money
FA2	Saving money
FA3	Planning for money management
	Financial Behaviour (FB)
FB1	Decision-making
FB2	Buying
FB3	Bill payment
FB4	Financial affairs
FB5	Long-term goal
FB6	Saving
FB7	Product choosing
FB8	Financial information gathering
FB9	Managing uncertainty
	Financial Knowledge (FK)
FK1	Basic arithmetic division
FK2	Time value of money
FK3	Interest on loan
FK4	Simple interest
FK5	Compound interest
FK6	Risk and return
FK7	Inflation
FK8	Diversification
	Financial Well-Being (FW)
FW1	I could handle a major unexpected expense.
FW2	I am securing my financial future.
FW3	I can enjoy life because of the way I'm managing my money.
FW4	I am financially stable in this situation.
FW5	I have money left over at the end of the month.
FW6	Giving a gift for any occasion would not strain my finances for the month.
FW7	Because of my financial situation, I will have what I want.
FW8	I am not always worried about my finances.
FW9	My finances will not control my life.
FW10	I am confident that the money I have or will save will last longer.
	Caste Based Discrimination (CBD)
CBD1	I have experienced discrimination based on my caste identity in financial interactions.
CBD2	My caste identity influences the way I make financial decisions.
CBD3	My caste identity influences access to and usage of financial services.

Model Proposed

Using Smart PLS, the model depicted in Figure 1 attempts to measure the impact of FL on FW and the moderating role of CBD in the FL-FW relationship. FL comprises FA, FB, and FK, measured by respective indicators. FW is assessed via ten indicators, and CBD through three components.

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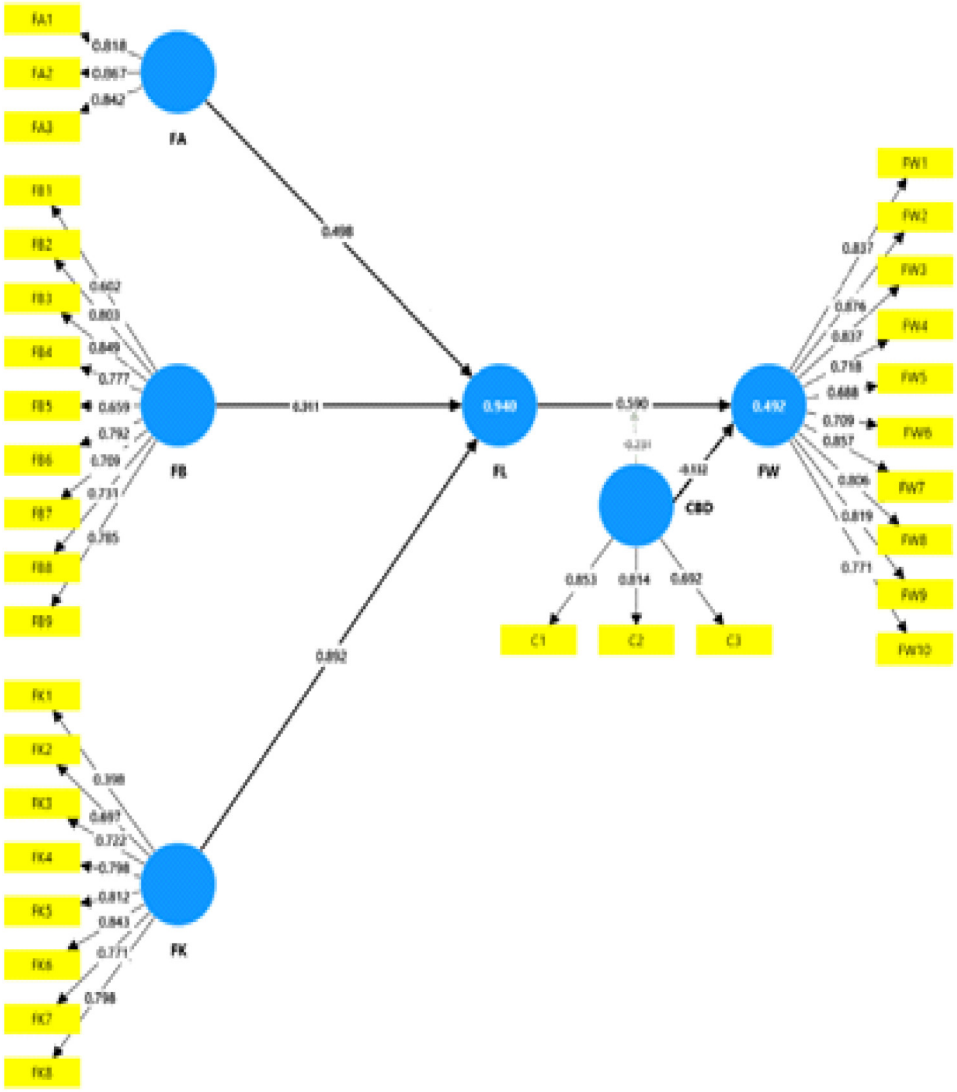
Figure:1 Model Proposed



Reliability and Validity of Constructs

To establish the reliability and validity of constructs, outer loadings should ideally be above 0.7, though values between 0.4 and 0.7 are acceptable if they improve overall construct validity. Cronbach's Alpha (α) must exceed 0.7 to ensure internal consistency, while Composite Reliability (CR) should also be greater than 0.7 for construct reliability. Additionally, the Average Variance Extracted (AVE) must exceed 0.5, indicating that the construct accounts for more than half of the variance of its indicators, thereby satisfying the criteria for convergent validity.

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Table 2: Reliability and Validity of Constructs

Construct	Item	Outer Loadings	α	CR (ρ_c)	AVE
FA	FA1	0.818	0.837	0.860	0.709
	FA2	0.867			
	FA3	0.842			
FB	FB1	0.602	0.724	0.808	0.561
	FB2	0.803			
	FB4	0.849			
	FB5	0.777			
	FB6	0.659			
	FB7	0.792			
	FB8	0.709			
	FB9	0.731			
FK	FK1	0.398	0.709	0.795	0.553
	FK2	0.697			
	FK3	0.722			
	FK4	0.798			
	FK5	0.812			
	FK6	0.843			
	FK7	0.771			
	FK8	0.798			
FW	FW1	0.835	0.816	0.832	0.631
	FW2	0.876			
	FW3	0.837			
	FW4	0.718			
	FW5	0.688			
	FW6	0.709			
	FW7	0.857			
	FW8	0.806			
	FW9	0.819			
	FW10	0.771			
CBD	C1	0.853	0.733	0.753	0.623
	C2	0.814			
	C3	0.692			

Table 2 depicts strong reliability and validity for most constructs. The outer loadings for the majority of items exceed the threshold of 0.7, with exceptions like FK1 (0.398) and FB1 (0.602), which remain acceptable given their contribution to overall validity. Cronbach's Alpha (α) values range from 0.709 (FK) to 0.837 (FA), demonstrating acceptable internal consistency. Similarly, Composite Reliability (CR) values for all constructs exceed 0.7, ensuring construct reliability. Lastly, all constructs achieve an AVE above 0.5, confirming adequate convergent validity, with FA showing the highest AVE at 0.709.

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Discriminant Validity

Discriminant validity refers to the degree to which a construct can be empirically differentiated from other constructs. The Fornell-Larcker criteria is a statistical measure employed in SEM to evaluate the discriminant validity of latent variables, which was recommended by David Fornell and Larcker.

Table 3: Fornell-Larcker Criterion

	FA	FB	FK	FW	CBD
FA	**0.843**				
FB	0.352	**0.749**			
FK	0.241	0.709	**0.742**		
FW	0.203	0.678	0.585	**0.794**	
CBD	0.160	0.319	0.378	0.377	**0.761**

Table 3 illustrates the discriminant validity of the constructs exhibiting square roots of the AVE values (Values in Bold) that exceed their correlations with other constructs, thereby confirming robust discriminant validity throughout the model. This demonstrates that each construct accounts for a greater amount of variance in its indicators than the other constructs, fulfilling the essential discriminant validity criterion.

Validation of HOC

Higher-order constructs are established for the primary reason to reduce the number of construct links in the model (Hair et al., 2016). FL is conceptualized as a higher-order construct formed by three lower-order constructs: FA, FB, and FK.

Table 4: Validating Higher Order Construct

HOC	LOC	Outer Loadings	Outer weights	VIF	T-Stat	p Value	Significance (p<0.05)?
FL	FA	0.498	0.179	1.141	12.863	0.000	Yes
	FB	0.911	0.549	1.780	17.107	0.000	Yes
	FK	0.872	0.471	1.704	7.318	0.000	Yes

Table 4 provides information regarding the relationship between the higher-order construct and its lower-order constructs. The strength of the relationship between each indicator and its respective lower-order construct is indicated by outer loadings, which range from 0.498 to 0.911. Outer weights indicate each indicator's relative significance in forming the construct. For example, the outer weight of FB is higher (0.549) than that of FA (0.179), suggesting that it makes a more significant contribution to the overall FL construct. In addition, the statistical significance of the relationships between the indicators and their constructs is supported by the p-values of 0.000 for all outer loadings.

Having established the reliability and validity of the measurement model, the next step involves assessing the structural model.

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RESULTS

The next stage of the structural model assessment process highlights examining the importance and relevance of the relationships within the structural model. After running the PLS-SEM algorithm, estimates for the structural model relationships, particularly the path coefficients, illustrate the relationships among the constructs. The strength of the relationship between two constructs is quantified through path coefficients.

Table 5: Significance Testing Results of the Structural Model

Path	Hypothesis	Path	t-Value	p-Value	St. Err
FL -> FW	H1	0.59	14.822	0.000	0.33
CBD -> FW	H2	-0.132	3.976	0.000	0.35
FL * CBD -> FW	H3	-0.231	4.128	0.000	0.28

Assessment of Model's Explanatory Power

In PLS-SEM, the model's explanatory power is evaluated based on the R^2 values of the endogenous constructs(Manley et al., 2021), and the predictive potential of the model using the PLS prediction procedure.

R2

To evaluate the explanatory power of a structural model, the coefficient of determination (R^2) value is used most frequently. Specifically, it is represented as the squared correlation between actual and predicted values of a particular endogenous construct. A model's explanatory power is more effectively demonstrated by a higher R^2 value from 0 to 1.

Table 6: R2

	R-square	R-square adjusted
FL	0.640	0.640
FW	0.492	0.488

The R-squared values of the endogenous latent variables are displayed in Table 6. The initial research model accounts for 94% of the total variation in financial literacy. This indicates that the three distinct sets of independent variables-FA, FB, and FB -collectively explain a notable portion of the variation in FL. The R^2 value of 0.940 is considered substantial, according to Lee & Che (2013) and Hait et al. (2014). Similarly, the R^2 value for FW is 0.492, indicating 49.2% of the total variance in FW, which includes FL and CBD as key predictors. This R^2 value is moderate, according to both Lee & Che (2013) and Hait et al. (2014).

Effect Size (f2)

Effect Size, particularly F-square (f^2), measures the degree to which independent variables impact the dependent variable in a statistical model. This metric takes into account

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the proportion of variance that remains unexplained, providing a more comprehensive understanding of the variable's true effect. In evaluating effect size through Cohen's f2, values near 0.02 indicate a weak effect of the independent variable, values close to 0.15 suggest a moderate impact, and values around 0.35 reflect a strong impact (Cohen, 1988).

Table 7: Effect Size of the Latent Exogenous Variables

Endogenous	Exogenous	R^2 (Inc)	R^2 (Ex)	f^2	Effect Size
FW	FL	0.492	0.409	0.083	Small
FW	CBD	0.492	0.449	0.043	Small
FW	FL × CBD	0.492	0.473	0.019	Small

Table 7 indicates that all exogenous variables have minimal impact on FW. Among these, the factor with the highest effect size ($f^2 = 0.083$) is FL. It indicates that FL plays a modest but significant role in promoting FW. A small yet notable influence of 0.043 (f2) is observed regarding Caste-Based Discrimination on financial well-being, indicating that discrimination has a moderate impact on this aspect. The effect size of the interaction term (CBD × FL) is small ($f^2 = 0.019$), suggesting a minimal moderating effect of discrimination on the relationship between FL and FW.

Predictive Relevance (Q2)

The Q^2 predict, or Stone-Geisser Q^2 value, serves as an essential metric in PLS-SEM for evaluating the predictive relevance of a model. This assesses the effectiveness of a model in forecasting actual values for a specific construct or latent variable. In contrast to conventional goodness-of-fit metrics that emphasize the explanation of current data, Q^2 predict prioritizes out-of-sample prediction, assessing the model's capacity to forecast new or previously unobserved data.

The PLS Predict results reveal strong predictive relevance for both endogenous constructs, with FL achieving a Q^2 predict value of 0.762 and FW achieving a Q^2 predict value of 0.654. The high Q^2 predict for FL demonstrates an exceptional ability to predict unseen data for Financial Literacy, supported by the strong relationships between its predictors. Similarly, the Q^2 predict for FW signifies a high level of predictive relevance, reflecting the model's ability to forecast Financial Well-Being effectively, based on FL, CBD, and their interaction. Both values exceed the threshold for large predictive relevance ($Q^2 > 0.35$), underscoring the robustness of the model in predicting the key constructs.

Testing Moderating Effect

The moderating effect of caste-based discrimination on the relationship between financial literacy and the financial well-being of scheduled caste women is determined and measured using a product indicator approach with PLS Structural Equation Modelling. The product term approach would benefit this study because the moderating variable is continuous.

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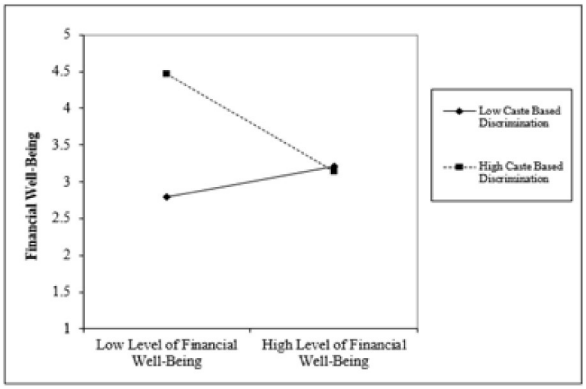
Table 5 provides statistical evidence that supports the hypothesis (H3) regarding the moderating effect of CDB on the relationship between FL and FW. The negative coefficient (-0.132) for the interaction term (CDB x FL) suggests that the positive relationship between FL and FW weakens as caste-based discrimination in formal or informal financial interactions increases. The observed effect is statistically significant (p = 0.000). The findings suggest that the advantages of financial literacy in enhancing financial well-being could be worsened in environments marked by significant caste-based discrimination, underscoring the necessity of addressing social inequalities when assessing the effects of financial literacy.

The relationship between financial literacy and financial well-being is moderated by caste-based discrimination, as illustrated in Figure 2. Notably, the relationship is negatively stronger. The moderating effect of CBD that resulted from the procedures proposed by Dawson and Richter (2002) and Aiken and West (1993) was plotted using data from the path coefficients in Figure 2. It is found that caste-based discrimination weakens the beneficial relationship between financial literacy and financial well-being for scheduled caste women in the Koppal district.

Figure 2: Moderation Effect

Figure 2 represents a simple slopes analysis, often used to visualize the moderating effect of a variable (CBD) on the relationship between FL and FW. The X-axis represents FL levels, likely categorized into low and high for illustrative purposes. The Y-axis representsFW. The lines represent different levels of the moderating variable, CBD, with two lines: low and high. Low CBD (solid line) shows a slightly positive slope, indicating that as financial literacy increases, financial well-being also increases moderately for individuals experiencing low levels of caste-based discrimination. High CBD (dashed line) has a negative slope, suggesting that higher financial literacy is associated with a decrease in financial well-being when caste-based discrimination is high.



This figure indicates a moderating influence of caste-based discrimination on the relationship between financial literacy and financial well-being. When caste-based discrimination is minimal, financial literacy seems to enhance financial well-being. When caste-based discrimination is prevalent, the relationship inverses; more financial literacy is

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associated with diminished financial well-being. This interaction suggests that caste-based discrimination impacts the relationship between financial literacy and financial well-being.

DISCUSSION

The study highlights a significant positive relationship between FL and FW among Scheduled Caste women. It is found that higher financial literacy experience improved financial well-being. Higher financial literacy improves financial security, stability, and control, empowering SC women to achieve their financial goals. This finding aligns with prior research (Agarwalla et al., 2013; Choudhary & Kamboj, 2017; Taft et al., 2013), which underscores the critical role of financial literacy in improving financial well-being, particularly among marginalized women.Taft et al. (2013) and Tamimi and Kalli (2009) demonstrated that financial literacy directly contributes to reduced financial concerns and improved well-being by enabling better financial decision-making. Prasety (2023)found an indirect relationship between FL and FW mediated by financial behaviour, this study's direct link underscores the transformative potential of financial literacy, particularly for marginalized groups. Ali and Jabeen (2024) reinforce the importance of comprehensive financial literacy, including knowledge, skills, attitudes, and behavior, as key drivers of well-informed decisions that enhance individual and community financial well-being.

Caste-based discrimination (CBD) was found to negatively impact FW, reducing financial security and decision-making power. This reflects systemic barriers faced by marginalized groups, consistent with studies highlighting the exclusion of marginalized castes from financial resources (Venkatachalam, 2019). The findings emphasize how caste-based inequities continue to hinder economic progress for these communities. The findings are also consistent with the existing literature by Venkatachalam (2019), Kadam et al., (2024), which has observed that caste hierarchies are associated with systemic exclusion and lack of inclusion of marginalized groups in access to credit and financial resources. It is evident that discrimination is still prevalent, and it is continuing to have a detrimental effect on financial well-being.

Finally, the moderation analysis reveals that CBD weakens the positive relationship between FL and FW. Higher levels of caste-based discrimination reduce the benefits of financial literacy in improving financial well-being. This supports previous research by Fontaine and Yamada, (2012)and Munshi (2019), which highlights the role of social inequalities in diminishing economic opportunities and outcomes. Fontaine and Yamada (2012) argue that economic disparities based on caste and intergroup comparisons intensify tensions and diminish overall well-being. This finding reinforces the notion that systemic discrimination diminishes the effectiveness of resources, such as financial literacy, in enhancing individuals' well-being. In the same way, Munshi (2019) highlights that caste networks facilitate resource

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pooling within marginalised groups, which can enhance mobility for such groups.

CONCLUSION

This study demonstrates that financial literacy significantly improves the financial well-being of Scheduled Caste women by enhancing their financial security, stability, and decision-making ability. However, caste-based discrimination negatively impacts financial well-being and weakens the positive effects of financial literacy. These findings highlight the need for targeted interventions, inclusive policies, and efforts to reduce caste-based discrimination to ensure marginalized communities can fully benefit from financial literacy initiatives and achieve greater financial empowerment. Addressing these systemic barriers is essential for fostering equality and economic inclusion.

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