



EXPLORING THE MEDIATING ROLE OF FINANCIAL LITERACY IN THE LINK BETWEEN MICROFINANCE AND WOMEN'S FINANCIAL WELL-BEING

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ABSTRACT

This study investigates how microfinance participation influences the financial well-being of rural women in Haryana, India, with a focus on the mediating role of financial literacy. Microfinance initiatives, through access to collateral-free loans and savings, have expanded financial inclusion and socio-economic opportunities for women, yet variations in regional impact point to the importance of financial literacy as a critical enabler. Employing Partial Least Squares Structural Equation Modelling (PLS-SEM) on primary data from 403 rural women, the research confirms that microfinance significantly improves financial literacy, which in turn positively affects women's financial well-being. The model exhibits excellent fit and explanatory power with strong direct and indirect pathways, validating financial literacy as a partial mediator in this relationship. Findings highlight that microfinance, when combined with financial literacy, empowers women economically, socially, and psychologically—enhancing income generation, decision-making power, confidence, and community participation. The study underscores the need to integrate comprehensive financial education within microfinance programs to optimize empowerment outcomes in rural India. These insights contribute to policy discussions on sustainable development goals targeting gender equality, poverty reduction, and inclusive economic growth.

Keywords: Financial Literacy, Financial Wellbeing, Micro-Finance, Women Financial Wellbeing

INTRODUCTION

The well-being of women has long been recognized as a cornerstone of inclusive and sustainable development. Empowered and financially secure women contribute not only to household prosperity but also to community resilience and national growth (World Bank, 2023; UN Women, 2022). In India, especially in rural areas, women's economic and social well-being continues to face numerous barriers, including limited access to education, restricted mobility, and exclusion from the formal financial system (Kodamarty & Srinivasan, 2016; Williams et al., 2025). To address these structural challenges, microfinance has emerged as a powerful mechanism for promoting financial inclusion and socio-economic upliftment (Harikrishnan & Karuppasamy, 2017; Jinaga, 2024). By providing small, collateral-free loans, savings facilities, and credit-linked services to low-income women, microfinance institutions (MFIs) and self-help groups (SHGs) seek to enhance women's capacity to participate in

productive activities, generate income, and improve household living standards (Hashemi et al., 2017; Bhatt & Shastri, 2018).

However, while access to microfinance has expanded rapidly across India, its impact on women's well-being has shown considerable variation across regions (Kodamarty & Srinivasan, 2016; Gupta, 2025). In states like Haryana, where rural women constitute a significant proportion of the workforce but often remain financially dependent and socially constrained, the outcomes of microfinance participation depend not only on credit access but also on how effectively women can utilize these financial resources (Periodic Labour Force Survey, 2023; Ram et al., 2025). This has brought attention to the critical role of financial literacy—the knowledge, skills, and behaviour required to make informed and responsible financial decisions—as a determinant of well-being (Lusardi & Mitchell, 2014; Potrich et al., 2021).

Financial literacy equips individuals with the cognitive and behavioural capabilities to manage finances, budget income, save effectively, and make rational borrowing and investment decisions. According to the OECD (2020), financial literacy combines awareness, knowledge, skill, attitude, and behaviour necessary to make sound financial decisions and achieve financial well-being. In the rural Indian context, especially in states like Haryana, financial literacy remains relatively low among women due to limited educational opportunities, low exposure to banking services, and socio-cultural constraints (Ajibola et al., 2020; Sundarasan et al., 2023). As a result, even when microfinance services are available, many women face challenges in understanding loan terms, managing repayments, or using funds for productive purposes. Consequently, microfinance alone is not sufficient; financial literacy acts as a vital enabler that transforms financial access into tangible well-being outcomes (OECD-INFE, 2020; Atahau et al., 2023).

Women's financial well-being in this study is conceptualized as a multidimensional construct encompassing economic, social, and psychological aspects. Financial well-being reflects a woman's ability to generate income, manage financial resources, and achieve household stability. Social well-being refers to participation in community networks, improved social status, and reduction in dependency, while psychological well-being captures confidence, self-efficacy, and perceived control over life decisions (Mahmud, 2003; Duflo, 2012). Together, these dimensions reflect not only material progress but also emotional and social security—core elements of sustainable development (World Bank, 2023; UN Women, 2022).

The state of Haryana presents a unique context for examining this relationship. Despite being one of India's more industrialized states, Haryana's rural areas are characterized by deeply rooted patriarchal norms and gender disparities. The Periodic Labour Force Survey (2023) shows that women's labour force participation in Haryana's rural regions remains below the national average, and access to formal financial services continues to be limited. Over the past decade, the government and NGOs have implemented several microfinance and SHG-linked programs—such as the National Rural Livelihood Mission (NRLM) and Haryana State Rural Livelihood Mission (HSRLM)—aimed at improving the financial condition of rural women (Gupta, 2025; Ram et al., 2025). Yet, studies show that the benefits of these initiatives vary significantly depending on women's educational background and their level of financial understanding (Jinaga, 2024; Kodamarty & Srinivasan, 2016).

While existing research establishes that microfinance positively influences women's income generation and self-employment (Sinha et al., 2006; Jinaga, 2024), relatively fewer studies have explored how financial literacy mediates the relationship between microfinance and women's financial well-being. Most prior studies have either examined the direct effects of microfinance on empowerment or treated financial literacy as a background variable (Hashemi et al., 2017; Potrich et al., 2021). However, the emerging view—supported by scholars such as Lusardi and Mitchell (2014) and Potrich et al. (2021)—suggests that financial literacy is not merely a complementary factor but a core mediating mechanism that determines whether financial inclusion translates into improved financial well-being. Women who possess higher levels of financial knowledge and positive financial attitudes are better positioned to make informed decisions regarding the use of microcredit, savings, and investments. Conversely, limited financial awareness may lead to debt mismanagement, over-borrowing, and financial stress, ultimately undermining financial well-being (Lusardi & Mitchell, 2014; Potrich et al., 2021).

Against this background, the present study focuses on rural women in Haryana, aiming to investigate how financial literacy influences the microfinance and financial well-being nexus. The study proposes that financial literacy—comprising financial knowledge, financial attitude, and financial behaviour—serves as a mediator between microfinance participation and women's financial well-being. Using Partial Least Squares Structural Equation Modelling (PLS-SEM), the research empirically examines both the direct and indirect effects of microfinance on financial well-being among a sample of rural women (Hair et al., 2021).

LITERATURE REVIEW

Microfinance and Women's Economic Empowerment

Microfinance has increasingly been recognized as a powerful tool for empowering rural women economically. Several studies highlight that microfinance institutions (MFIs) and Self-Help Groups (SHGs) enhance women's participation in productive activities by providing access to collateral-free credit, savings, and financial services (Hashemi, Schuler, & Riley, 2017; Bhatt & Shastri, 2018). This access fosters entrepreneurship and income generation, contributing to women's economic independence and greater decision-making power within households and communities (Jinaga, 2024; Sinha, Mukherjee, & Karmakar, 2006). In rural India, microfinance has significantly contributed to financial inclusion despite barriers like limited education and social restrictions (Kodamarty & Srinivasan, 2016; Gupta, 2025).

THE ROLE OF FINANCIAL LITERACY

Financial literacy is a vital mediator that maximizes the benefits of microfinance. Studies show that women with higher financial literacy effectively manage loans, savings, and investments, leading to sustainable empowerment outcomes (Lusardi & Mitchell, 2014; Potrich, Vieira, & Kirch, 2021). OECD (2020) outlines that financial literacy encompasses knowledge, skills, and behaviors essential for sound financial decisions. However, literacy levels remain low in rural areas due to socio-cultural constraints and limited outreach, emphasizing the need for integrated financial education within microfinance programs (Ajibola et al., 2020; Sundarasan et al., 2023).

SOCIAL AND PSYCHOLOGICAL EMPOWERMENT

Beyond economic improvements, microfinance combined with financial literacy contributes to social empowerment. Women involved in these programs report increased confidence,

leadership skills, and active community participation (Ram, Singh, & Kumar, 2025; Sinha et al., 2006). These changes translate into greater influence in family and community decision-making, fostering collective governance and social cohesion.

BROADER SOCIO-ECONOMIC IMPACT

Empowered women reinvest in family welfare, improving education, nutrition, and health outcomes, thereby benefiting future generations. This intergenerational effect supports poverty alleviation and gender equality (Duflo, 2012; World Bank, 2023). Such systemic improvements underpin the sustainable development goals, aligning microfinance with broader policy objectives.

OBJECTIVES OF THE STUDY

1. To examine the impact of Microfinance on Women's Financial Well-being among rural women in Haryana and to assess the mediating role of Financial Literacy in this relationship.
2. To analyse how the dimensions of Financial Literacy—Financial Knowledge, Financial Attitude, and Financial Behaviour—enhance the effectiveness of Microfinance in improving the financial well-being of women in rural Haryana.

HYPOTHESES

H₀₁: There is no significant relationship between Microfinance and Women's Financial Well-being among rural women in Haryana.

H₀₂: There is no significant relationship between Microfinance and Financial Literacy among rural women in Haryana.

H₀₃: There is no significant relationship between Financial Literacy and Women's Financial Well-being among rural women in Haryana.

H₀₄: Financial Literacy does not mediate the relationship between Microfinance and Women's Financial Well-being among rural women in Haryana.

RESEARCH METHODOLOGY

Research Design

The present study adopts a quantitative and explanatory research design to examine the relationship between microfinance, financial literacy, and women's financial well-being among rural women in Haryana. The research seeks to identify not only the direct effect of microfinance on women's financial well-being but also the mediating role of financial literacy in this relationship. A cross-sectional survey was employed to collect primary data from women beneficiaries of various microfinance and self-help group (SHG) programs operating in rural districts of Haryana. The study follows a causal framework, suitable for testing hypothesized relationships among latent variables using statistical modeling techniques.

Population and Sampling

The target population comprises rural women beneficiaries of microfinance programs implemented through Self-Help Groups (SHGs), Microfinance Institutions (MFIs), and cooperative banks in Haryana. To ensure representativeness, the study covered five major districts—Rohtak, Hisar, Jhajjar, Karnal, and Bhiwani—selected on the basis of active microfinance participation and the presence of government-supported rural livelihood missions.

A multi-stage purposive sampling technique was adopted. In the first stage, districts with high rural female participation in SHGs were selected. In the second stage, villages were chosen

randomly from these districts. In the third stage, respondents were selected from active SHGs or microfinance groups within these villages.

A total of 403 usable responses were collected, which is considered statistically adequate for Partial Least Squares Structural Equation Modelling (PLS-SEM) analysis, as per the “10-times rule” recommended by Hair et al. (2021). The sample size ensures sufficient statistical power for examining complex relationships and mediation effects.

Data Collection Instrument

Primary data were collected using a **structured questionnaire** comprising **45 items**, designed based on validated scales adopted from previous studies and adapted to the Indian rural context. The questionnaire was divided into four main sections:

1. **Section A: Demographic and Socio-economic Profile** — included questions on age, education, marital status, income, occupation, household size, and years of association with microfinance programs.
2. **Section B: Microfinance Participation (MF)** — measured women’s exposure to and utilization of microfinance services such as loans, savings, training, and financial assistance (10 items).
3. **Section C: Financial Literacy (FL)** — assessed through three sub-dimensions:

Financial Knowledge (awareness of interest rates, credit terms, savings, and budgeting)

Financial Attitude (confidence in handling financial decisions, future planning)

Financial Behaviour (savings habits, debt management, investment practices) (16 items in total, adapted from OECD-INFE, 2020, and Lusardi & Mitchell, 2014)

4. **Section D: Women’s Financial Well-being (WFB)** — 19 items

Financial well-being: income generation, financial stability, decision-making authority.

All items were rated on a five-point Likert scale ranging from 1 = *Strongly Disagree* to 5 = *Strongly Agree* to capture the degree of agreement with each statement.

Validity and Reliability of the Instrument

To ensure the content validity, the initial questionnaire was reviewed by academic experts and microfinance practitioners. A pilot study with 30 respondents was conducted to verify item clarity and consistency. Based on feedback, minor linguistic and contextual modifications were made.

For **construct reliability and validity**, the following tests were conducted using SmartPLS 4.0:

- **Cronbach’s Alpha and Composite Reliability (CR)** to ensure internal consistency (threshold > 0.70).
- **Average Variance Extracted (AVE)** to assess convergent validity (threshold > 0.50).
- **Fornell–Larcker Criterion and HTMT Ratio** to establish discriminant validity.
- **Variance Inflation Factor (VIF)** values were checked to confirm the absence of multicollinearity (VIF < 5).

All constructs in the final model met the reliability and validity thresholds, confirming that the instrument was robust for further analysis.

Data Collection Procedure

The data were collected between June and September 2025 through field surveys conducted with the assistance of local SHG coordinators and NGO facilitators. The respondents were

briefed about the purpose of the study, and informed consent was obtained before participation. Questionnaires were administered in Hindi to ensure comprehension, and responses were later translated into English for analysis. Ethical considerations such as confidentiality, voluntary participation, and anonymity were strictly maintained throughout the process.

Structural Equation Modelling Results

Model Specification

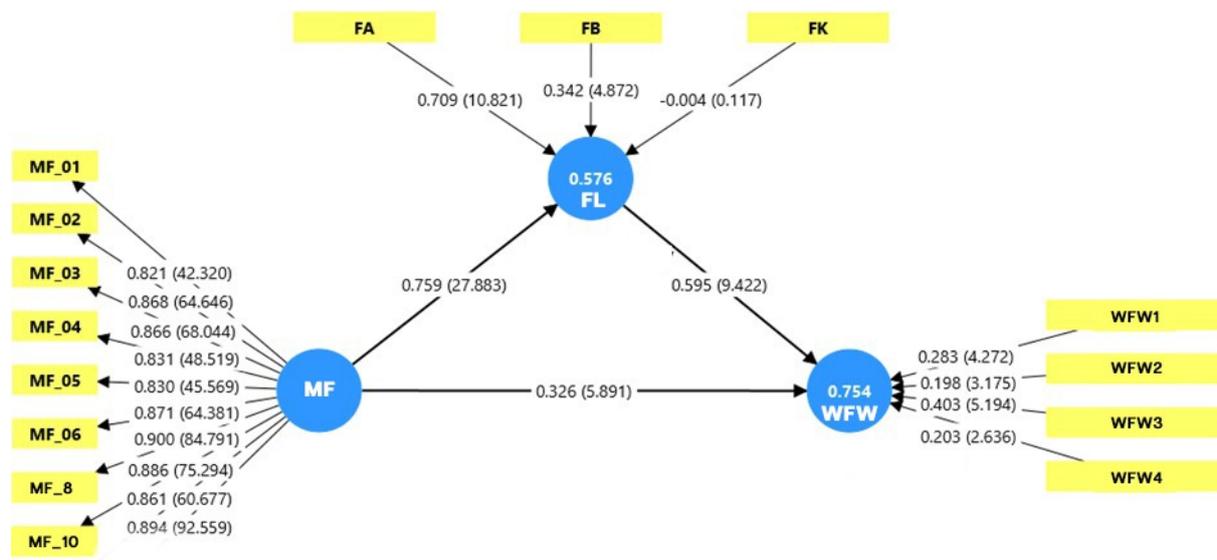
The conceptual model tested draws on established theory, proposing that microfinance has both a direct effect on women’s financial well-being and an indirect effect mediated through financial literacy. Financial literacy enhances women’s financial capabilities, thereby strengthening the impact of microfinance on financial well-being.

Measurement Model Assessment

All constructs demonstrated excellent reliability, as indicated by Cronbach’s alpha coefficients well above the 0.90 threshold (e.g., Microfinance: 0.962; Financial Literacy: 0.948; Women financial well-being: 0.966). Composite reliabilities (ranging from 0.911 to 0.955) similarly support the internal consistency of each scale. Convergent validity was established, with all constructs exceeding the recommended AVE value of 0.50. Discriminant validity was confirmed via the HTMT ratio and cross-loading analysis, supporting the distinctiveness of each variable in the model.

Structural Model Results

The overall model fit was excellent, as evidenced by the SRMR statistic being substantially below conservative cutoffs. The model’s explanatory power was high, with R² values of 0.576 for financial literacy and 0.754 for women’s financial well-being, indicating that the predictor variables explain large proportions of variance in these constructs.



Path analysis revealed:

- A significant and strong path from microfinance to financial literacy (path coefficient = 0.759, $t = 27.883$, $p < 0.001$), indicating that microfinance participation substantially enhances financial literacy among rural women.

- A significant direct effect from financial literacy to women’s financial well-being (coefficient = 0.595, $t = 9.422$, $p < 0.001$).
- A moderate but significant direct effect from microfinance to women’s financial well-being (coefficient = 0.326, $t = 5.891$, $p < 0.001$).
- A significant specific indirect effect from microfinance to women’s financial well-being via financial literacy (coefficient = 0.451, $t = 8.357$, $p < 0.001$), confirming partial mediation.

Hypothesis Testing

All four null hypotheses were rejected:

H₀₁: There is a positive, significant relationship between microfinance and women’s financial well-being (reject H₀₁).

- **H₀₂:** There is a positive, significant relationship between microfinance and financial literacy (reject H₀₂).
- **H₀₃:** There is a significant positive effect of financial literacy on women’s financial well-being (reject H₀₃).
- **H₀₄:** Financial literacy significantly mediates the effect of microfinance on women’s financial well-being (reject H₀₄; partial mediation confirmed).

Table: SEM Path Coefficients and Significance

Hypothesis	Path	Coefficient	t-value	p-value	Decision
H ₀₁ : MF → Women’s Financial Well-being	Direct	0.326	5.891	<0.001	Rejected
H ₀₂ : Microfinance → Financial Literacy	Direct	0.759	27.883	<0.001	Rejected
H ₀₃ : Financial Literacy → Women’s Financial Well-being	Direct	0.595	9.422	<0.001	Rejected
H ₀₄ : Microfinance → Financial Literacy → Women’s Financial Well-being	Microfinance → FL → Well-being	0.451	8.357	<0.001	Rejected

Interpretation and Implications

The results of this study highlight the pivotal role microfinance plays in empowering rural women by providing them access to financial resources and, importantly, enhancing their financial literacy. This dual pathway—direct economic participation through credit and indirect empowerment through improved financial capabilities—creates a stronger foundation for sustainable empowerment (Singel, 2018; Lusardi & Mitchell, 2014). Economic independence and decision-making power emerge as key outcomes: access to microfinance allows women in rural Haryana to start or expand small-scale entrepreneurial activities, generating regular income and reducing dependence on male family members. This financial autonomy translates into greater influence over household decisions, including education, healthcare, and investments, helping to shift traditional power dynamics in families and communities (Jinaga, 2024; Hashemi et al., 2017).

Enhanced financial literacy acts as a catalyst for empowerment, underscoring its importance beyond mere knowledge. By improving financial attitudes and behaviors, literacy enables women to prudently manage resources, plan for the future, and confidently engage with formal financial systems. This effect amplifies the benefits of microfinance, particularly in loan utilization and repayment discipline, further building creditworthiness and inclusion (OECD, 2020; Potrich et al., 2021). Social empowerment and confidence also increase as women participating in microfinance and literacy programs develop leadership skills and negotiation abilities. These skills elevate their social status and encourage active participation in community organizations like Self-Help Groups and local governance, promoting collective decision-making and social cohesion (Sinha et al., 2006; Ram et al., 2025).

Broader socio-economic impacts are evident, with empowered women investing more in their families' well-being, resulting in improved nutrition, health, and education outcomes, especially for children and girls. This creates positive intergenerational effects that contribute to breaking poverty cycles and advancing gender equality in patriarchal societies (Duflo, 2012; World Bank, 2023). The findings suggest that microfinance interventions should integrate comprehensive financial literacy training tailored to the demographic characteristics and needs of rural women. Incorporating capacity-building workshops, mentoring, and ongoing support enhances the effectiveness and sustainability of empowerment programs (Gupta, 2025; Sundarasan et al., 2023).

Nonetheless, challenges such as low financial literacy, restrictive social norms, and documentation barriers can limit women's participation in microfinance. Addressing these structural factors through awareness campaigns and flexible policies is essential to maximize impact (Ajibola et al., 2020; Kodamarty & Srinivasan, 2016). Finally, microfinance combined with financial literacy directly supports the United Nations Sustainable Development Goals (SDGs), particularly poverty reduction (SDG 1), gender equality (SDG 5), and inclusive economic growth (SDG 8) (UN Women, 2022; World Bank, 2023).

FUTURE RESEARCH

Future research can expand the geographical coverage beyond rural areas of Haryana and Rajasthan to include other regions of India and developing countries, enabling cross-cultural comparisons of microfinance's impact on women's empowerment. Longitudinal studies are essential to assess how the effects of microfinance and financial literacy evolve over time, ensuring an understanding of long-term sustainability and broader economic implications. As digital inclusion advances, examining digital financial literacy—through mobile banking, digital payments, and fintech tools—can reveal new dimensions of empowerment. Further, future studies should broaden empowerment metrics to capture social, political, and psychological dimensions, offering a more holistic view of women's progress. Evaluating non-financial support mechanisms like mentorship, entrepreneurial training, and market access will help identify complementary interventions that enhance outcomes. Addressing barriers such as social norms, limited accessibility, and digital divides remains vital for inclusive participation. Finally, analyzing the influence of policy frameworks and employing advanced analytical methods can refine strategies for scaling up effective programs sustainably and equitably.

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