

Research Article

# Impact of Self-Help Groups on Women's Empowerment in Rural Bihar, India: Evidence from a Mixed Methods Study

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**Abstract:** Women's empowerment is a key driver of inclusive rural development, particularly in regions characterized by persistent poverty and gender inequality. In India, Self-Help Groups (SHGs) have emerged as important rural institutions aimed at enhancing women's economic participation, social inclusion, and agency. Bihar, one of the country's socio-economically lagging states, has implemented SHGs at scale through the State Rural Livelihoods Mission, popularly known as Jeevika. Despite its extensive outreach, empirical evidence on the multidimensional empowerment outcomes of SHG participation remains limited. This study employs a sequential explanatory mixed-methods design to investigate the impact of SHG participation on women's empowerment in rural Bihar. Quantitative data were collected from 300 SHG members and analysed using Structural Equation Modelling (SEM) and regression analysis. This was followed by qualitative interviews to contextualize and explain the quantitative findings. The results indicate that SHG participation has a statistically significant and positive impact on economic, social, and psychological empowerment, with psychological empowerment emerging as the strongest dimension. Qualitative findings reveal that SHGs function not only as financial platforms but also as spaces for building confidence, fostering collective identity, and promoting social participation. The study contributes to rural development and empowerment literature and offers policy-relevant insights for strengthening SHG-based livelihood interventions. The study advances rural empowerment literature by empirically demonstrating the Explicit theory paragraph of psychological empowerment within SHG-based livelihood interventions.

**Keywords:** Rural women, Self-Help Groups, Women's empowerment, Mixed methods, Rural livelihoods, Bihar.

## INTRODUCTION

Women's empowerment has gained increasing prominence in rural development discourse, as persistent gender inequality continues to pose a significant barrier to inclusive and sustainable growth in developing economies (Bulletin & 2020, 2020a). In rural India, women frequently encounter structural disadvantages, including limited access to financial resources, restricted physical mobility, low participation in household and community decision-making, and deeply entrenched patriarchal norms (Suman & Jahanara, 2021). These constraints are particularly pronounced in Bihar, a state characterized by high poverty incidence, low female workforce participation, and longstanding socio-cultural barriers to women's agency (Jeevika Bihar LR Paper - Google Scholar, n.d.).

In response to these challenges, Self-Help Groups (SHGs) have emerged as important grassroots rural institutions aimed at addressing structural gender inequalities (Pradhan et al., n.d.). By organizing women into collective groups, SHGs facilitate access to credit, promote savings behaviour, enhance livelihood opportunities, and strengthen social capital (Husain et al., 2023). In Bihar, the large-scale implementation of SHGs through Jeevika represents one of the most extensive state-led rural livelihood initiatives in India (V. Singh et al., 2022). Beyond improving household income, the program

explicitly seeks to foster social awareness, leadership development, and collective agency among rural women (Bulletin & 2020, 2020a).

Despite a growing body of research documenting the positive economic outcomes of SHG participation, empowerment cannot be understood solely in economic terms (H. Singh, 2020). Women's empowerment also encompasses enhanced social participation, psychological confidence, and autonomy in decision-making processes (AJESH, 2018). However, much of the existing literature remains constrained by a narrow focus on economic indicators or by reliance on a single methodological approach, limiting insights into the deeper and more sustainable dimensions of empowerment (Pandey et al., 2023). Addressing these limitations, the present study adopts a mixed-methods framework to examine the multidimensional empowerment outcomes of SHG participation in rural Bihar, integrating quantitative analysis with qualitative insights to capture both measurable impacts and lived experiences (M. Kumar & Patnaik, n.d.). By conceptualizing SHGs as rural institutions embedded within local power relations, this study responds directly to calls within rural studies scholarship for institutionally grounded analyses of development interventions.

## LITERATURE REVIEW

### 3.1 Conceptualizing Women's Empowerment

Women's empowerment is commonly conceptualized as a dynamic and multidimensional process through which women gain access to material and non-material resources, develop the ability to exercise agency, and achieve outcomes they value (Raj et al., 2024). Rather than a static condition, empowerment is understood as an ongoing process shaped by social structures, cultural norms, and institutional contexts (Sharma et al., 2025). Development scholars emphasize that empowerment involves not only economic advancement but also enhanced decision-making power, social recognition, and psychological self-confidence. The multidimensional nature of empowerment has been widely acknowledged in the literature (Suman et al., 2021). Economic empowerment refers to women's control over income, assets, and productive resources, while social empowerment encompasses mobility, participation in household and community decision-making, and leadership roles. Psychological empowerment relates to internal transformations such as self-confidence, aspirations, autonomy, and perceived self-worth. Scholars caution that measuring empowerment solely through economic indicators—such as income or employment—provides an incomplete and potentially misleading picture, as women may earn income without exercising control over its use or experiencing changes in social status (Bulletin & 2020, 2020b). In rural contexts, empowerment is further mediated by gender norms, kinship structures, and power relations within households and communities. As a result, empowerment outcomes may vary significantly across regions, even under similar development interventions. This underscores the need for context-sensitive and multidimensional approaches to studying women's empowerment, particularly in socially conservative rural settings. This study draws conceptually on agency-based empowerment perspectives, which view empowerment as the expansion of women's ability to make strategic life choices in contexts where this ability was previously constrained.

### 3.2 Self-Help Groups and Economic Empowerment

A substantial body of empirical research highlights the role of Self-Help Groups (SHGs) in promoting women's economic empowerment (Pankaj, 2020). SHGs are widely credited with improving access to formal and semi-formal credit, encouraging savings behaviour, and facilitating income-generating activities among rural women. Participation in SHGs has also been associated with enhanced financial literacy, reduced reliance on informal moneylenders, and improved capacity to manage household expenditures (N. Kumar & Kumar, n.d.).

However, the literature also reveals important limitations in equating economic participation with empowerment. Several studies note that increased income does not automatically translate into greater control over resources or decision-making authority within households. In

patriarchal rural contexts, women's earnings are often appropriated by male family members, limiting the transformative potential of income generation alone (Reena Singh, 2023). Consequently, scholars argue that economic empowerment must be assessed not only in terms of income levels but also in relation to women's control over financial resources and their ability to influence economic decisions. Moreover, existing studies tend to focus disproportionately on short-term economic outcomes, paying limited attention to the sustainability of these gains or their interaction with social and psychological dimensions of empowerment. This highlights the need for integrative analytical frameworks that examine how economic improvements interact with broader empowerment processes.

### 3.3 Social and Psychological Empowerment through SHGs

Beyond economic outcomes, SHGs are increasingly recognized as important platforms for social and psychological empowerment. Participation in SHGs has been shown to enhance women's mobility, expand their social networks, and increase their participation in household and community-level decision-making. Regular group meetings provide spaces for collective discussion, mutual support, and leadership development, enabling women to articulate concerns and engage with local institutions.

Psychological empowerment, although less frequently examined, is a critical dimension of empowerment outcomes. It encompasses internal changes such as increased self-confidence, aspirations, autonomy, and the courage to challenge restrictive gender norms. Studies that incorporate qualitative approaches often reveal that women value these internal transformations as much as, if not more than, economic gains. Psychological empowerment also plays a mediating role, enabling women to convert economic resources into sustained agency and social participation.

Despite its importance, psychological empowerment remains under-theorized and under-measured in much of the SHG literature. Quantitative studies often lack indicators capturing internal changes, while qualitative studies, though rich in insight, are frequently limited in scale and generalizability. This methodological imbalance restricts a comprehensive understanding of how SHGs contribute to deeper and more sustainable empowerment outcomes.

### 3.4 Research Gap

The literature reveals limited mixed-methods research integrating economic, social, and psychological dimensions of empowerment, particularly in the context of Bihar. This study responds to this gap by combining SEM-based quantitative analysis with qualitative insights.

## 4. Conceptual Framework and Hypotheses

### 4.1 Conceptual Framework

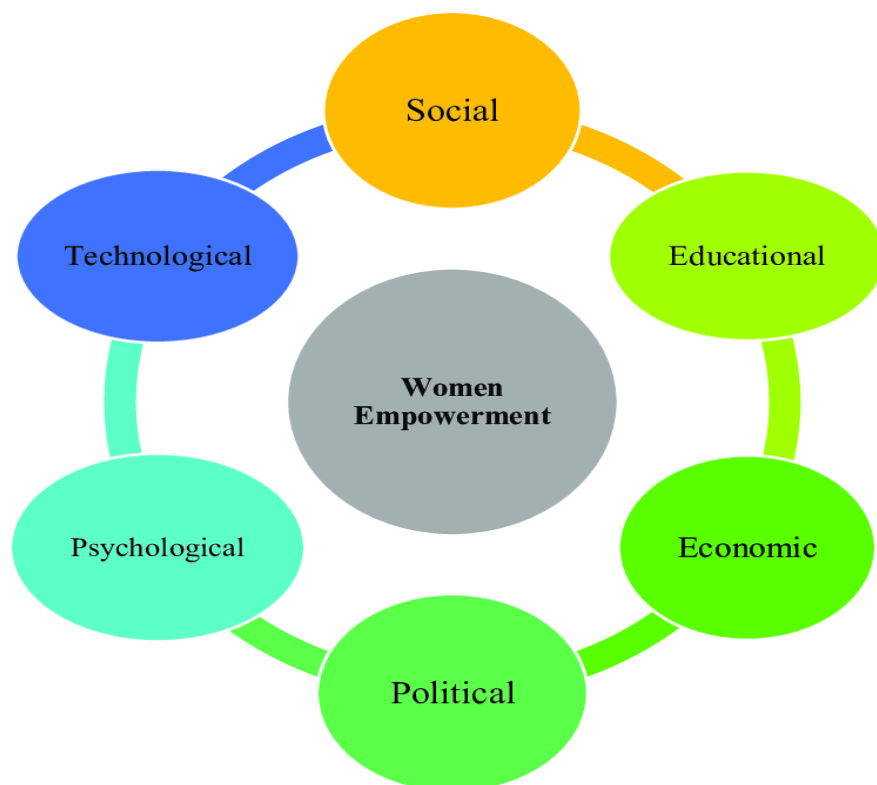


Figure 1 presents the conceptual framework of the study, grounded in empowerment theory and the rural livelihoods literature. The framework identifies Self-Help Group (SHG) participation as the primary explanatory variable influencing women’s empowerment in rural Bihar (Pandey & Kumari, 2023). Women’s empowerment is conceptualized as a multidimensional construct comprising economic, social, and psychological empowerment.

Economic empowerment refers to women’s access to and control over financial resources such as income, savings, and credit. Social empowerment captures mobility, participation in household and community decision-making, and leadership roles. Psychological empowerment reflects internal changes, including self-confidence, autonomy, aspirations, and perceived self-worth. The framework assumes that SHG participation enhances these dimensions through collective action, access to institutional finance, skill development, and peer support.

The model also accounts for heterogeneity among SHG members by incorporating socio-demographic characteristics—such as age, education, marital status, and household income—as control variables. By integrating multiple empowerment dimensions within a single framework, the model reflects the context-specific nature of empowerment in rural settings and provides a clear basis for empirical testing using Structural Equation Modelling (SEM).

#### 4.2 Research Questions

RQ1: Does SHG participation significantly influence women’s economic empowerment in rural Bihar?

RQ2: What is the impact of SHG participation on social and psychological empowerment?

RQ3: How do women perceive empowerment changes through SHG participation?

#### 4.3 Hypotheses

H1: SHG participation positively influences women’s economic empowerment.

H2: SHG participation positively influences women’s social empowerment.

H3: SHG participation has a stronger positive effect on psychological empowerment than on economic and social empowerment.

## RESEARCH METHODOLOGY

### 5. .1 Research Design

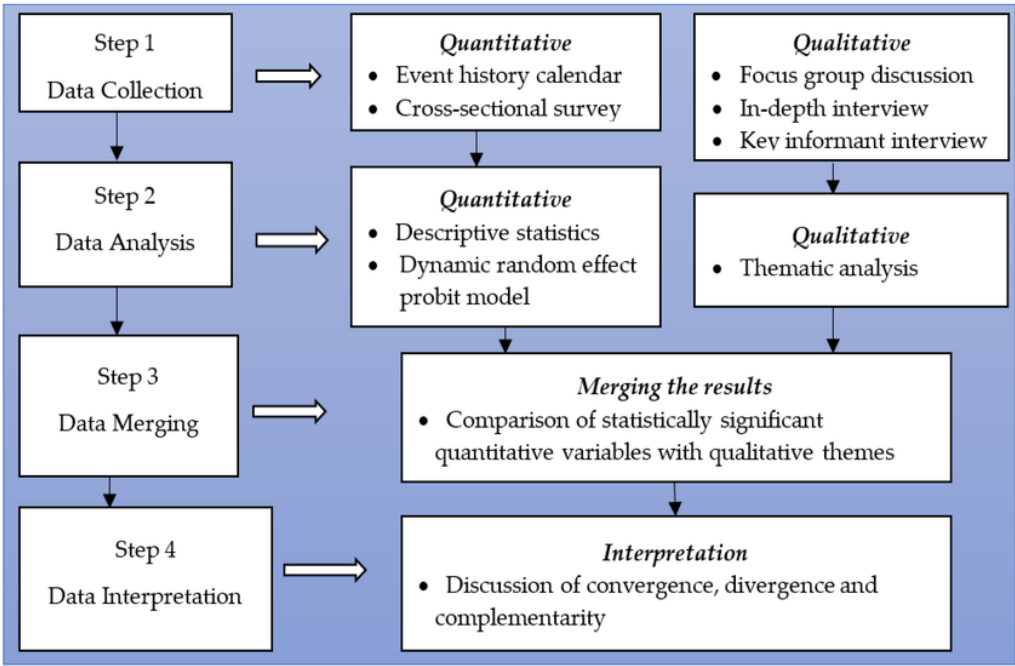
The study adopts a sequential explanatory mixed-methods design, in which quantitative analysis is conducted in the first phase and followed by qualitative inquiry to explain and contextualize the statistical findings. This design enables the integration of numerical evidence with participants lived experiences, thereby enhancing the explanatory depth of the analysis. Mixed methods are particularly appropriate for rural empowerment research, as empowerment outcomes are shaped not only by measurable economic changes but also by social norms, power relations, and contextual factors. Measurement of empowerment dimensions was based on items adapted from prior SHG and empowerment studies, suitably modified for the rural Bihar context.

**5.2 Sample and Data Collection**

Quantitative data were collected through a structured survey administered to 300 Self-Help Group (SHG) members from selected rural districts of Bihar, using a multistage random sampling technique. The survey captured information on SHG participation and multiple dimensions of women’s empowerment. To complement the quantitative findings, qualitative data were gathered through in-depth interviews with 30 SHG members, selected purposively to reflect diversity in age, education, and duration of SHG membership.

**5.3 Analytical Techniques**

Structural Equation Modelling (SEM) was employed to examine latent empowerment constructs and to estimate the relationships between SHG participation and economic, social, and psychological empowerment. Multiple regression analysis was conducted as a robustness check to validate the SEM results after controlling for socio-demographic variables. Qualitative data were analysed using thematic analysis, allowing for the identification of recurring patterns and narratives that explain the mechanisms underlying empowerment outcomes.



**Quantitative Results**

**6.1 Descriptive Profile of Respondents**

Table 1 presents the socio-economic profile of the respondents. The majority of participants belonged to low-income rural households and had limited formal education, reflecting the socio-economic vulnerability of the study population. This profile underscores the relevance of self-help groups as institutional mechanisms for reaching marginalized rural women and addressing structural barriers to empowerment.

**6.2 Measurement Model Results**

The measurement model was assessed to establish the reliability and validity of the latent constructs. Table 2 reports Cronbach’s alpha, Composite Reliability (CR), and Average Variance Extracted (AVE) for all constructs. All values exceed the recommended thresholds, indicating strong internal consistency and adequate convergent validity. These results confirm that the measurement indicators reliably capture the underlying dimensions of women’s empowerment and SHG participation.

**6.3 Structural Model (SEM) Results**

The structural relationships among the latent constructs were examined using structural equation modelling. Figure

2 presents the estimated SEM path diagram, while Table 3 reports the standardized path coefficients and significance levels. The results indicate that SHG participation has a statistically significant and positive effect on all three dimensions of women’s empowerment.

Among the empowerment dimensions, the strongest effect is observed for psychological empowerment ( $\beta \approx 0.48$ ), followed by economic empowerment ( $\beta \approx 0.41$ ) and social empowerment ( $\beta \approx 0.36$ ). The model demonstrated acceptable fit ( $CFI > 0.90$ ,  $RMSEA < 0.08$ ), indicating adequacy of the proposed structure. These findings suggest that SHGs play a particularly important role in fostering internal transformations such as self-confidence and autonomy, alongside economic and social gains.

Model fit indices fall within acceptable ranges, indicating a good overall model fit and suggesting that the hypothesized structural relationships adequately represent the observed data.

**6.4 Regression Results**

To assess the robustness of the SEM findings, multiple regression analyses were conducted with socio-demographic variables included as controls. Figure 3

visualizes the standardized regression coefficients. The results confirm that SHG participation remains a significant predictor of economic, social, and psychological empowerment even after accounting for individual and household characteristics. This consistency across analytical techniques strengthens confidence in the validity of the empirical findings.

## 7. Qualitative Findings

The qualitative phase of the study was conducted to contextualize and explain the quantitative results by capturing women lived experiences of Self-Help Group participation. Interviews were conducted until thematic saturation was achieved. Thematic analysis of in-depth interviews revealed three dominant themes corresponding to the economic, social, and psychological dimensions of empowerment.

### 7.1 Economic Agency and Financial Autonomy

Most respondents reported that participation in SHGs enhanced their financial agency by improving access to credit, encouraging regular savings, and enabling small-scale livelihood activities. Women emphasized that SHG-linked loans reduced their dependence on informal moneylenders and provided greater flexibility in managing household expenses. Several participants noted that their contribution to household income increased their voice in financial decisions.

“Earlier, I had to ask my husband for money even for small needs. Now, after joining the SHG, I save regularly and can take loans when required.”

#### (SHG member, rural Bihar)

These narratives help explain the positive relationship observed between SHG participation and economic empowerment in the quantitative analysis.

### 7.2 Social Participation and Collective Identity

A recurring theme across interviews was the role of SHGs in expanding women's social participation. Respondents reported increased mobility, greater participation in community meetings, and enhanced interaction with local institutions. Regular SHG meetings provided a platform for collective discussion, mutual support, and leadership development. Some women reported taking on leadership roles within SHGs or participating in village-level decision-making forums.

“Because of the group meetings, we now speak openly and go to meetings together. People in the village listen to us more than before.”

#### (SHG member, rural Bihar)

These findings align with the quantitative results showing a significant positive effect of SHG participation on social empowerment, although the magnitude was comparatively lower than in the economic and psychological dimensions.

### 7.3 Psychological Transformation and Self-Confidence

Psychological empowerment emerged as the most prominent qualitative theme. Many women described

increased self-confidence, improved communication skills, and a greater sense of self-worth as a result of SHG participation. Respondents frequently highlighted internal changes, such as the courage to express opinions, negotiate within households, and aspire for better livelihoods for themselves and their children.

“Earlier, I felt afraid to speak. Now I can talk confidently in meetings and even in front of officials.”

#### (SHG member, rural Bihar)

These internal transformations provide qualitative support for the SEM findings, where psychological empowerment exhibited the strongest relationship with SHG participation. The narratives suggest that psychological empowerment acts as a critical mechanism through which economic and social gains translate into sustained agency.

### 7.4 Persistent Constraints and Uneven Empowerment

Despite positive changes, respondents also reported persistent challenges. Patriarchal norms, household responsibilities, and resistance from family members continued to constrain the extent of empowerment for some women. These constraints indicate that empowerment outcomes are uneven and shaped by broader social and cultural contexts.

“The group helps, but at home some decisions are still taken by others.”

#### (SHG member, rural Bihar)

This finding highlights the importance of situating SHG outcomes within the wider rural institutional and gendered power structures.

### 7.5 Integration with Quantitative Findings

Overall, the qualitative findings complement and deepen the quantitative results by explaining the mechanisms through which SHG participation influences women's empowerment. While economic benefits provide an entry point, psychological empowerment emerges as a crucial driver enabling women to convert resources into sustained social participation and agency.

## DISCUSSION

The findings demonstrate that self-help groups function as important rural institutions facilitating multidimensional women's empowerment in rural Bihar. Consistent with the quantitative results, SHG participation is positively associated with economic, social, and psychological empowerment, indicating that empowerment outcomes extend beyond income generation alone. While economic benefits such as access to credit and savings are significant, psychological empowerment emerges as a critical pathway through which economic and social gains translate into sustained agency. The stronger association between SHG participation and psychological empowerment highlights the importance of internal transformations—such as self-confidence, autonomy, and aspirations—in enabling women to participate more actively in household and community decision-making. These findings align with empowerment theories emphasizing the interdependence of



material and non-material dimensions and underscore the role of collective spaces created by SHGs in challenging gendered power relations in rural contexts. At the same time, the persistence of socio-cultural constraints suggests that empowerment outcomes remain uneven and context-specific. Overall, the results highlight the need to view SHGs not merely as financial mechanisms but as rural institutions with broader transformative potential. Unlike studies that emphasize primarily economic outcomes of SHGs, the present findings suggest that psychological empowerment constitutes the core mechanism enabling sustained agency.

## 9. Policy Implications for Rural Livelihood Programs

The findings highlight the importance of strengthening the design of rural livelihood programs by moving beyond a narrow focus on financial inclusion. Leadership development and gender sensitization components within self-help groups should be reinforced to enhance women's confidence, agency, and participation in decision-making. In addition, improving market linkages and skill development opportunities can help translate economic gains into sustainable livelihood outcomes. Policymakers should recognize SHGs not merely as microfinance mechanisms but as rural institutions that facilitate social and psychological transformation. Integrating community-level interventions aimed at addressing gender norms and household power relations can further enhance the long-term empowerment potential of SHG-based programs. These implications are particularly relevant for state-led livelihood missions in socially conservative rural contexts such as Bihar.

## CONCLUSION

This study provides robust mixed-methods evidence on the role of self-help groups in promoting women's empowerment in rural Bihar. By integrating quantitative rigor with qualitative depth, the research demonstrates that SHG participation contributes to improvements in economic security, social participation, and psychological agency. The mixed-methods approach enables a nuanced understanding of empowerment by capturing both measurable outcomes and women's lived experiences. The findings underscore the importance of SHGs as transformative rural institutions rather than merely microfinance mechanisms. In particular, psychological empowerment emerges as a key pathway through which economic and social gains translate into sustained agency and participation. However, the persistence of socio-cultural constraints highlights that empowerment remains a gradual and context-specific process. Overall, the study contributes to the rural development and gender empowerment literature by offering empirical insights that can inform the design of more holistic and gender-responsive rural livelihood programs.

## 11. Limitations and Future Research

This study has certain limitations that should be acknowledged. First, the use of cross-sectional data restricts the ability to make strong causal inferences regarding the relationship between SHG participation and women's empowerment outcomes. While the mixed-

methods approach strengthens explanatory depth, longitudinal data would allow for a more precise examination of empowerment trajectories over time. Future research may address these limitations by adopting longitudinal or panel study designs to capture changes in empowerment outcomes as women's duration of SHG participation increases. Comparative studies across different states or rural contexts could also provide insights into how institutional, cultural, and policy variations shape empowerment processes. Additionally, future studies may incorporate dimensions such as digital empowerment or entrepreneurial outcomes to further enrich the understanding of SHG-based empowerment in rural India.

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