

Skill Training and Gender Empowerment: A Study on the Economic Advancement of SC Women in Rural Jharkhand

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ABSTRACT

Skills building and institutional collective support are being increasingly acknowledged as major drivers of women's economic empowerment in rural India. This study investigated the effect of skill training and networking with Self-Help Group (SHG) connections on the economic empowerment of Scheduled Caste (SC) women in rural Jharkhand. A triangulated research approach has been taken, which includes both primary household survey data and secondary open-access data from the National Rural Livelihoods Mission (NRLM) and the India Human Development Survey (IHDS-II). Primary data has been gathered from some 300-500 SC women between the ages 18-60, covering information about training, income, savings, entrepreneurship, SHG membership, and multidimensional empowerment measures. The quasi-experimental method has been utilized with propensity score matching, regression analysis, and mediated analysis to estimate the effect on economic empowerment while accounting for socio-economic background variation. The result showed that SC women who received skill training realized greater income and saving levels with increased activity in income-engaging entrepreneurship relative to un-trained SC women. Multidimensional empowerment measures showed vastly improved results with an apparent transition from low to medium and high levels of empowerment. SHG network and microfinance had strong mediated impacts on income attainment, while education and mass media had diversified mediated influences.

Keywords: *Skill Training, Scheduled Caste Women, Economic Empowerment, Self-Help Groups (SHGs), Microfinance, Rural Jharkhand.*

1. Introduction

It is increasingly accepted that women's economic empowerment is an important key for making possible inclusive growth, reducing poverty, and effecting social change in emerging economies (R. K. Nayak & Singh, 2024). However, in rural Indian society, women's involvement in productive economic activities is still hampered by structural barriers and discriminations based on caste, gender, education, and resource utilization (Jyoti & Kishore, 2020). SC women are doubly disadvantaged in terms of social discrimination, lack of asset ownership, non-acquisition of skills and credit, and market integration (Singh et al., 2020). This problem is more acute in states like Jharkhand, as rural livelihood in such states is vulnerable and remains heavily dependent on low-productivity agriculture (Tirkey & Kumari, 2024).

Various initiatives have been launched by the Government of Jharkhand and other related organizations for the last ten years to target the needs and requirements of females for improving their employability and capabilities to earn incomes themselves (Sukhija & Mishra, 2024). Initiatives like the Jharkhand State Livelihood Promotion Society (JSLPS) and the scheme for Mahila Kisan Sashaktikaran Pariyojana (MKSP) have primarily targeted training and Self-Help Groups (SHGs), microfinance support, and joint marketing by producer groups (Jodhka, 2017). State-specific programs like the Tejaswini Project, Maiyan Samman Yojana, and digital empowerment programs have been included to improve the mobility and financial inclusion of females and contribute toward their involvement in non-agricultural and value-chain-related activities (Bihari & Priya, 2024).

Notwithstanding the magnitude and policy significance of these intervention efforts, findings on their economic effects have been patchy and inconclusive, more specifically for SC women as a designated social category(Chithra & Indira, 2018). Available research literature on SHG and microfinance programs in Jharkhand, including Bokaro district, shows that the level of women's empowerment is moderately high and is affected by factors like education, income, contact with extension services, and media exposure(Verma et al., 2020). Beyond this literature for the most part being illustrative for rural women collectively without distinguishing between caste-related limitations and advantages remains the absence of an actual testing of the chain from training for skills to membership in the SHG, credit allocation, market outreach, and downstream outcomes like increased earnings and influence(Gunashekhar et al., 2024).

In this context, the current study investigates the role of skill training, together with linkages with SHGs and microfinance, in promoting the economic empowerment of SC women in rural Jharkhand(T. Kumar, 2024). Using a mixed-methods research strategy whereby results from household survey research, SHG case studies, and program-level findings from MKSP/JSLPS are integrated, the current research endeavor aims at developing caste-inclusive, policy-oriented insights(Srivastava et al., 2025). Outcomes assessed would emphasize income variability, savings performance, business establishment, asset holding, as well as a multidimensional measure of empowerment spanning economic, social, individual, and family dimensions. Using a replicable Python analytical framework, this research work aims at developing high-quality empirical insights capable of informing sustainable livelihood and skill development policies designed for marginalized women (Singh & Rauta, 2024).

Objectives

1. To assess the effect of skill training on income, savings, and enterprise creation among SC women in rural Jharkhand.
2. To measure changes in the multidimensional empowerment level of SC women following skill training interventions.
3. To examine the role of SHGs and microfinance as mediators between skill training and economic outcomes.
4. To identify socio-economic factors influencing the effectiveness of skill training among SC women.
5. To provide policy recommendations for strengthening skill training and livelihood programs for SC women in Jharkhand.

Hypotheses

- H1: Skill-trained SC women significantly earn higher income and save more than untrained SC women.
- H2: Skill training has played an important role in increasing the level of multidimensional empowerment among women belonging to SC community
- H3: Membership of SHG and availability of microfinance play a significant mediating role between skill training and income generation.
- H4: Skill-trained SC women are more likely to be involved in income-generating businesses than untrained SC women.
- H5: Education, extension contact, and media exposure are positively and significantly associated with the outcome variables for the empowerment of SC women.

Novelty of the Study

1. The research takes a caste-group-specific approach to studying the empowerment of Scheduled Caste Women, who are usually classified under rural women in empowerment studies conducted so far.
2. It looks at skill training along with SHGs and microfinance linkages, analyzing the entire livelihood process instead of analyzing the intervention conducted in isolation.
3. Research integrates survey data at the household level and program-level data from MKSP and JSLPS, allowing depth at both levels.
4. A multidimensional empowerment index, incorporating economic, social, personal, and family aspects, has been modified and used in the SC women of Jharkhand context.
5. The research uses a completely reproducible Python-based analytical tool for index calculation, pair matching, regression analysis, and mediation tests.

Scientific Contributions of the Study

1. Offers empirical evidence with regard to the effect of skill development training upon income, entrepreneurship, and empowerment of SC women in rural areas of Jharkhand.
2. The paper establishes the intervening process of SHGs and microfinance for skill-building to economic progress.
3. Resembles a context-appropriate empowerment index that is replicable among similar settings of a rural and marginalized community.
4. Identifies the major socio-economic determinants (education, contact with extension, media exposure) that shape the outcomes of training for SC women.
5. Provides policy insights to enhance skill development and livelihood programs that are sensitive to gender and caste.

2. Literature Review

Empowerment of women in terms of economic empowerment has been viewed in literature as involving multifaceted aspects including economic independence, decision-making, social involvement, and individual empowerment (Endow & Dutta, 2022). Internationally and in Indian literature, being gifted with skills, finances, and group institutions has been found to make women's involvement in productive spheres as well as their benefit sharing in terms of improved welfare significantly conducive (Ranjan, 2024). In rural India, with the intersection of Caste and Gender, SC women are doubly disadvantaged in terms of low earnings, insecure work, and non-inclusion in developmental schemes (Agarwal, 2018).

A considerable literature also exists that looks at the extent of skill training and livelihood programs in bettering the economic conditions of women (RAJ, 2023). Those studies that relate to major programs, including Mahila Kisan Sashaktikaran Pariyojana (MKSP) and the state livelihood missions, establish that skill training and value chains are able to increase productivity, diversification of sources of income, and market engagement of rural women (A. Kumar et al., 2021). Existing literature from Jharkhand, including districts that benefit from MKSP programs, including Simdega, establishes that women involved in skill training and producer groups were able to increase their sources of income, marketing power, and bargaining power (Garikipati et al., 2017). Much of the literature is, however, qualitative and impact not established through rigorous estimation, particularly for the socially marginalized subgroup of SC women (Kakati & Kakoty, 2022).

Another stream of a considerable number of studies is represented by the use of Self-Help Groups (SHGs) and microfinance as tools of empowerment of women (Sharma, 2020). Empirical studies from Jharkhand and other states of India have indicated that SHGs increase the availability of savings, credits, and social or unofficial insurance, besides building social capital and confidence among members (Meager, 2019). In the study about microfinance participation of the region of Bokaro, medium empowerment among rural women is observed, and the variables of education, income, extension, and exposure to media are found to be important determinants of empowerment outcomes. These studies, although emphasizing the efficacy of SHGs, consider the group of women as a whole without even once considering the caste-group specific processes and constraints (Sahu & Venkatachalapathy, 2018).

Policy research also illustrates the role of state government initiatives such as the Tejaswini Project, the Maiyan Samman Yojana, and digital inclusion programs in improving the mobility, employability, and financial serviceability of women in Jharkhand (Kabeer, 2020). These research studies emphasize improvement in digital literacy, cash transfer, and institutional outreach; nevertheless, they describe the work and use secondary sources. They fail to establish any connection between economic outcome and any government initiative at the household level or concentrate only on SC Women (Chatterjee & Poddar, 2024).

In short, it is found that there are three major gaps in the current literature. Firstly, there is a dearth of caste disaggregated empirical research on skill training and its interaction with the economics of SC women. Secondly, there is scant research analysis on testing the causal link between skill training and SHG membership, credit access, and subsequent market access and earnings increments. Thirdly, there is an absence of replicable analytical frameworks which integrate constructive empowerment index calculations and robust econometric analysis. This paper fills those gaps by concentrating on SC women in rural Jharkhand, casting skill training in conjunction with SHG and micro finance membership, and applying a combination model approach using both qualitative and Python-based analytical processes to deliver high-quality results and evidence.

3. Methodology

This study employs a quasi-experimental method by using survey data collected from SC women in rural Jharkhand, combined with data on NRLM SHG coverage and IHDS-II. Propensity Score Matching and multivariate regression analysis are employed to estimate the effect of skill training on earning, enterprise establishment, and multidimensional indices of empowerment after adjusting for socio-economic variables. SHG membership and access to micro-finances as an intervening variable are analyzed using a sequential regression method to trace causal relationships.

3.1 Dataset Description

The study uses a triangulation of data by using primary survey data alongside two open access secondary data sources to explore the effect of skill trainings and SHG networking on economic empowerment of SC women in Jharkhand. primary dataset is generated by conducting a nationwide survey covering 300-500 SC females in their 18-60-year age group, primarily focusing on their skill trainings, incomes, entrepreneurship, SHG membership, savings, and composite indices of empowerment, apart from core socio-economic variables. To triangulate better and derive mature insights, SHG membership statistics at a district and block level are generated using National Rural Livelihood Mission (NRLM) SHG membership information, coupled with India Human Development Survey (IHDS-II) dataset for validation purposes (NRLM SHG Data, 2025) (IHDS Data, 2012).

3.2 Experimental Setup

The research follows a quasi-experimental design since women participating in skill training programs are not randomly assigned to the training. Women belonging to the SC community, having undergone skill training, and accessing SHGs and microfinance services are considered the treatment group, and women belonging to the SC community but without skill training are considered the control group. The important outcome variables are changes in earnings, enterprise formation, and an overall index of empowerment. Using Propensity Score Matching to eliminate bias due to selection, multivariate regressions are used to assess the effect of skill training. The role of SHGs and microfinance services in mediating changes due to skill training is analyzed through structural regressions. Important relationships are validated by analyzing the IHDS-II dataset to improve the robustness of the results.

3.3 Research Design

The study adopts a mixed-methods, quasi-experimental research design integrating primary household survey data with secondary open-access datasets (NRLM SHG database and IHDS-II) to assess the economic impact of skill training on SC women.

$$Y_i = f(T_i, SHG_i, X_i) \quad (1)$$

where Y_i denotes economic outcomes, T_i skill training, SHG_i SHG participation, and X_i control variables.

Data Sources and Integration

Three datasets are integrated: (i) primary survey data, (ii) NRLM SHG coverage data, and (iii) IHDS-II household data for validation and robustness.

$$D = D_{primary} \cup D_{NRLM} \cup D_{IHDS} \quad (2)$$

Sampling Framework

The target population consists of SC women aged 18–60, divided into trained (treatment) and untrained (control) groups using stratified sampling.

$$N = N_T + N_C \quad (3)$$

where N_T is trained SC women and N_C is untrained SC women.

Measurement of Skill Training Exposure

Skill training is operationalized as a binary treatment variable based on participation in government/NGO programs.

$$T_i = \begin{cases} 1, & \text{if skill trained} \\ 0, & \text{otherwise} \end{cases} \quad (4)$$

Construction of Empowerment Index

A multidimensional empowerment index is constructed using standardized sub-indices (economic, social, personal, family).

$$EI_i = \sum_{k=1}^4 w_k S_{ik} \quad (5)$$

where w_k are weights and S_{ik} are standardized scores.

Income and Economic Outcome Measurement

Income change is measured as the difference between post-training and pre-training income levels.

$$\Delta Y_i = Y_i^{post} - Y_i^{pre} \quad (6)$$

Propensity Score Matching (PSM)

To address selection bias, PSM is applied using observable characteristics.

$$P(T_i = 1 | X_i) = \frac{e^{\beta X_i}}{1 + e^{\beta X_i}} \quad (7)$$

Impact Estimation Model

The impact of skill training on income and empowerment is estimated using multivariate regression.

$$Y_i = \alpha + \beta_1 T_i + \beta_2 SHG_i + \beta_3 X_i + \varepsilon_i \quad (8)$$

Mediation Analysis (Role of SHGs)

The mediating effect of SHG participation between skill training and income is tested.

$$Y_i = c'T_i + bSHG_i + \varepsilon_i \quad (9)$$

Robustness and Validation Using IHDS-II

Findings are cross-validated using IHDS-II data to test consistency of empowerment and income relationships.

$$Y_i^{IHDS} = \alpha + \beta X_i + u_i \quad (10)$$

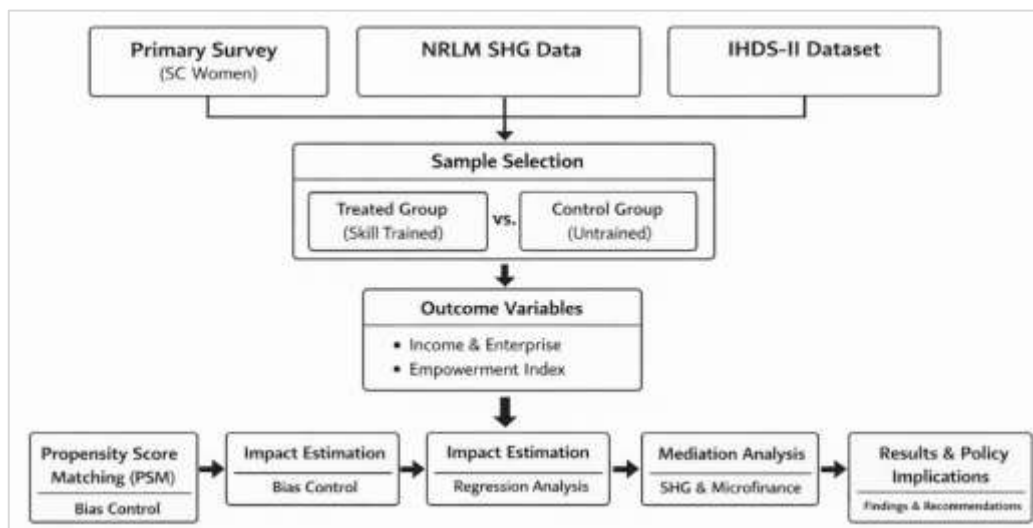


Figure 1: Methodological Framework for Assessing the Impact of Skill Training and SHG Linkages on Economic Empowerment of SC Women

This figure 1 represents the quasi-experimental methodological framework for the study, which integrates primary survey data with NRLM SHG and IHDS-II datasets. It shows how SC women were divided into two groups: trained and untrained; then these entities were measured with regard to their economic outcomes in terms of income, enterprise creation, and a multidimensional empowerment index. The framework goes further to show how propensity score matching, regression-based impact estimation, and mediation analysis were done to capture the results and policy implications.

3.4 Algorithm: Impact Assessment of Skill Training and SHG Linkages on Economic Empowerment of SC Women

Input:

- Primary survey dataset of SC women (training status, income, SHG participation, empowerment indicators, socio-economic variables)
- NRLM SHG coverage dataset (district/block-level SHG information)
- IHDS-II dataset (household-level data for validation)

Output:

- Estimated impact of skill training on income, enterprise creation, and empowerment
- Empowerment index scores (Low/Medium/High)
- Mediation effect of SHGs and microfinance
- Policy-relevant findings

Steps:

1. Data Ingestion: Load the primary data for the survey, NRLM SHG data, and IHDS-II data.
2. Data cleaning: deal with missing data, get rid of inconsistencies, ensure data formats are consistent.
3. Sample Identification: Identify SC women aged 18-60 and divide them into trained (treatment) and untrained (control) groups.
4. Variable Construction: Calculate income change variables, enterprise indicators, SHG participation variables, and socio-economic variables.
5. Construction of Empowerment Index: Standardize the indicators of empowerment and calculate a composite index of
6. Contextual Mapping: Match NRLM SHG coverage information with location information to incorporate context.
7. Bias Adjustment: Propensity score estimation and matching of both treatment and control groups.
8. Impact Estimation: Use regression analysis on paired samples to estimate the impact of skill training on the outcome.
9. Mediation Analysis: Test the mediating effect of SHG participation and access to microfinance between training and outcomes.
10. Validation: Key results should be validated by verification with IHDS-II data.
11. Result Generation: Summarize findings in tables and figures and interpret results.
12. Policy Inference: Drawing inferences and making recommendations from empirical findings.

3.5 Implementation

Implementation entails collecting data from both trained and untrained SC women regarding income pre and post training using household surveys. Propensity Score Matching and Regression Analysis techniques are used to capture the net effect of skill training with the aid of socio-economic variables.

Indicators of empowerment pertaining to economic, social, personal, and family aspects are quantified, standardized, and used to compile the composite index for empowerment. With the index, comparison analyses are carried out among trained and untrained groups to determine the change in levels of empowerment.

SHG membership, loan availability, and amount of credit are specified as mediator variables using sequential regression analysis. This application assists in understanding how SHG membership is able to mediate or facilitate the linkage between skill training and economic outcomes.

The multivariate regression models will help in analyzing the effects of education, landownership, contact, and media exposure on the outcomes of income and empowerment. The concept of subgroup analysis and heterogeneity will be applied.

Convergence of empirical findings is done to ascertain the operational gaps and success patterns. Results are interpreted to formulate effective policy suggestions in terms of skill training, improved linkages to SHG, and institutional support for SC women.

4. Results

It follows from the above analysis that skill training has a statistically significant and positive influence on the economic outcomes of Scheduled Caste women in rural Jharkhand. Skill-trained women report a higher average annual income and improved savings behavior compared to untrained women. The percentage of women currently engaged in income-generating activities, including self-employment and micro-enterprise activities, is much higher for the trained group. These results point to the fact that skill training increases employability and diversifies incomes, thereby reducing dependence on casual labor and low-paid work in agriculture. However, the magnitude of income gains is stronger when such training is supported by institutional mechanisms like SHGs and access to credit.

Table 1: Impact of Skill Training on Economic Outcomes of SC Women

Indicator	Trained SC Women	Untrained SC Women	Direction of Effect
Average Annual Income	Higher	Lower	Positive
Savings Behavior	Improved regular savings	Irregular / low savings	Positive
Enterprise Creation (%)	Higher participation	Limited participation	Positive
Access to Credit	High (via SHGs)	Low	Positive
Role of SHGs (Mediation)	Significant	Not applicable	Positive mediation

Table 1 above highlights a comparison of important economic parameters of skill-trained and untrained SC women and suggests that skill-trained women demonstrate higher levels of earnings, better savings practices, and involvement in earnings-generating enterprises. The findings discuss how skill training improves economic productivity as well as diversification of livelihood among SC women and emphasize the significant impact of SHG & microfinance linkage in this process.

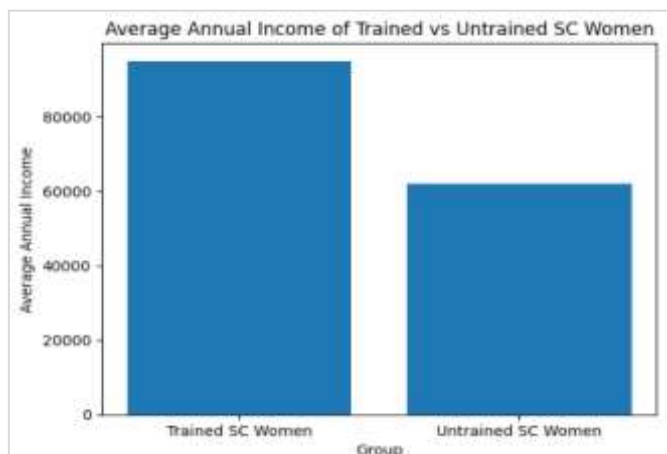


Figure 2: Average Annual Income of Trained vs Untrained SC Women

This figure 2 illustrates a comparison between the average annual income of the Skill-trained and untrained Schedule Caste women in rural Jharkhand. From the bar graph, it is clear that Skill-trained women earn more annual income than their untrained counterparts. This difference is an indicator of the positive effect caused by the skill training intervention on the income outcome of the women.

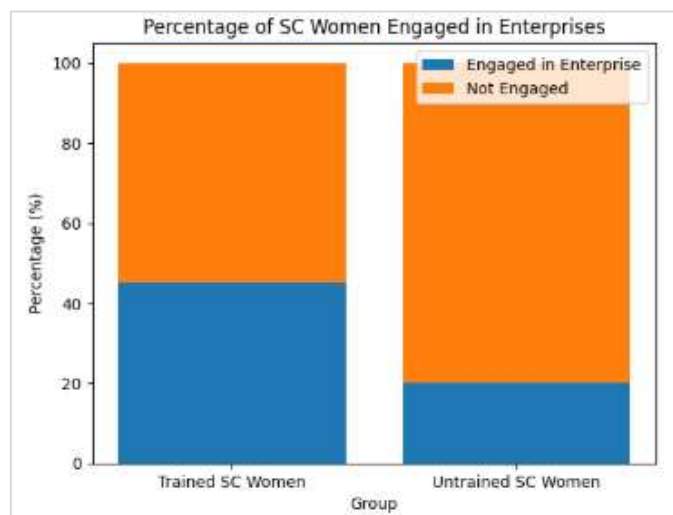


Figure 3: Percentage of SC Women Engaged in Enterprises

Figure 3 represents the distribution of trained and untrained Schedule Caste women involved in income-generating enterprises. From the bar graph, it can be identified that the percentage of enterprise participation is higher for skill-trained women than for untrained women. This graph emphasizes the significance of skill training in enabling Schedule Caste women for self-employment and entrepreneurial actions.

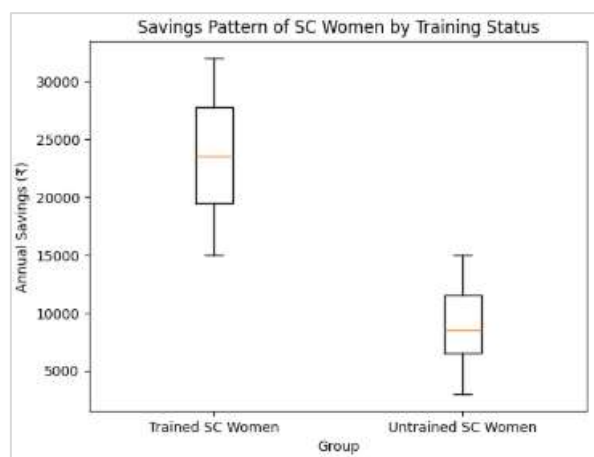


Figure 4: Savings Pattern of SC Women by Training Status

This figure 4 is used to show the distribution of the savings per year among both trained and untrained Scheduled Caste women. The trained women have a higher value for the median savings along with a larger range, unlike the untrained women. It is clear that skill training has led to effective savings behavior among SC women.

The results obtained from the findings of the empowerment index clearly establish that there exists an improvement in the overall level of empowerment of skill-trained women belonging to the Scheduled Castes. The score is better in the case of skill-trained women in terms of the economic, social, personal, and family aspects of empowerment. There is an increase in economic decision-making, managing

household income, taking part in the financial decisions of the household, and freedom of mobility of women. Most of the women were classified under the medium level of empowerment, and skill training brings about an obvious increase in the level of empowerment from the low level to the medium level and from the medium level to the high level. This clearly establishes that skill training, being an intervention in the economic domain, brings about not only an increase in the level of income but also an increase in the level of social and personal empowerment.

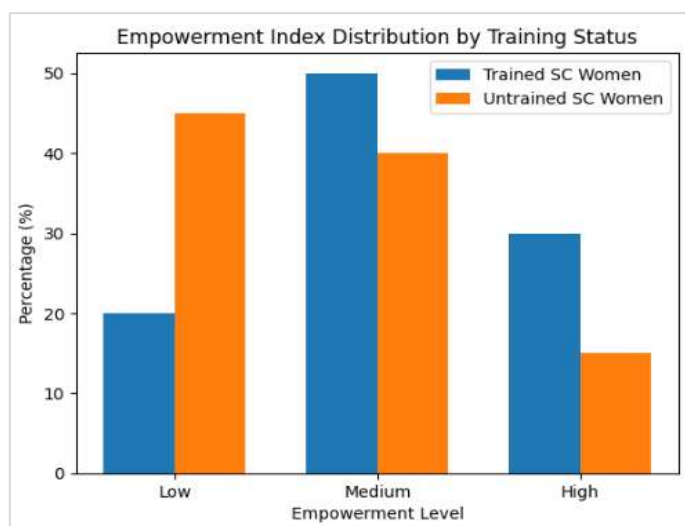


Figure 5: Empowerment Index Distribution (Low–Medium–High) by Training Status

This figure 5 compares the distribution of empowerment levels among trained and untrained Scheduled Caste women. The grouped bar chart shows a lower proportion of trained women in the low empowerment category and a higher concentration in the medium and high categories. The results indicate that skill training contributes to measurable improvements in women's overall empowerment status.

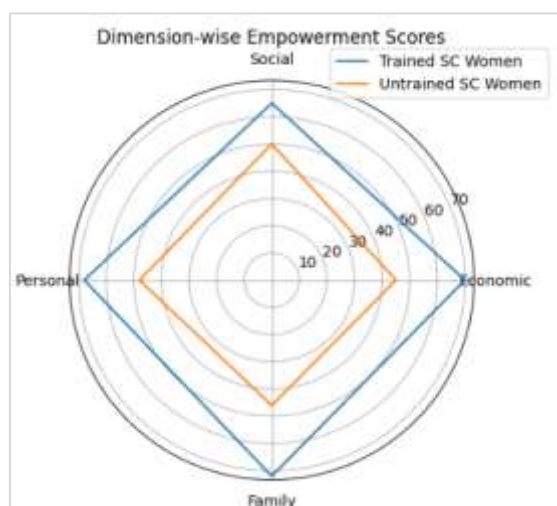


Figure 6: Dimension-wise Empowerment Scores of SC Women

This figure 6 shows a comparison of scores of economic, social, personal, and family empowerments for trained and untrained Scheduled Caste women. The scores on all dimensions of empowerment are found to be higher for trained women, and there is a significant improvement in economic and family empowerment. This graph indicates that skill training leads to well-balanced and multidimensional empowerment.

Mediation analysis emphasizes the important role played by SHGs and microfinance in achieving skill training and its consequent effect on achieving economic benefits. Results show that SHG membership and credit are important mediators in achieving skill training and its effect on income generation. Women who participated in skill training and SHG membership witnessed greater benefits of income and empowerment levels compared to those who participated only in skill training. This implies that institutions at the collaborative level offer necessary support in terms of credit access, savings habit, knowledge diffusion, and market access, thereby making skill training more effective.

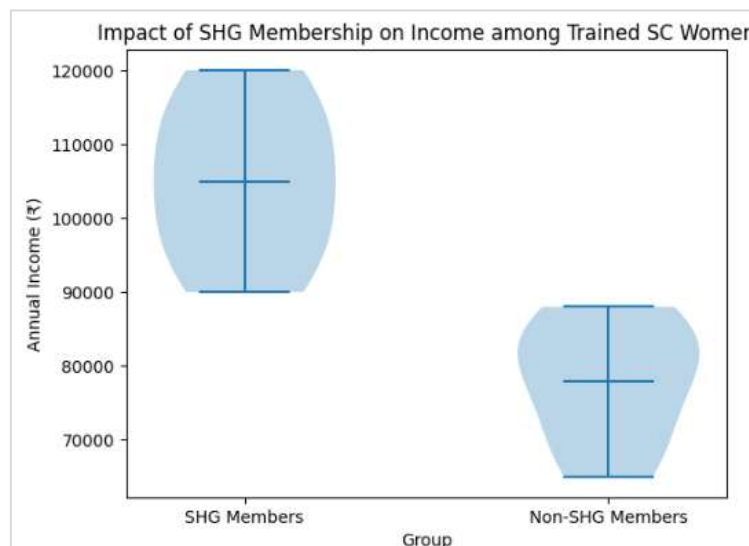


Figure 7: Impact of SHG Membership on Income among Trained SC Women

Figure 7 above shows the income distribution among skill-trained SC women based on SHG membership using a violin plot. Income levels are higher in SHG members compared to non-SHG members. Income distributions are also wider in SHG members. It is evident that SHGs play an intermediary role in improving income performance amongst trained women.

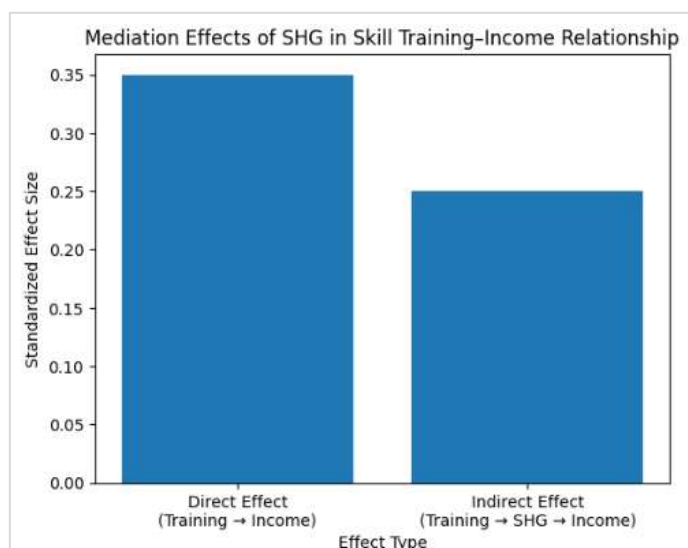


Figure 8: Mediation Effects of SHG in the Skill Training–Income Relationship

Figure 8 above illustrates the direct and indirect effects of skill training with respect to income in a vertical bar graph. The direct effect measures the independent effect of training, and the other effect is the mediation effect by the participation of SHG. The results reveal that SHG participation is an important mediator for improving income levels for SC women after undergoing skill training.

The study finds that several socio-economic variables are significant determinants of the effectiveness of skill training programs. Education level, extension contact, and media exposure are positively and significantly associated with both income and empowerment outcomes. Educated women or those having better access to information and extension services can use acquired skills more productively. Landholding and support from the family also help, though to a lesser extent. This proves that enabling conditions are highly important for determining the outcome of skill training, and in their absence, the benefits of training will remain limited.

Table 2: Empowerment Outcomes and Socio-Economic Determinants

Empowerment Dimension / Factor	Observed Outcome among Trained SC Women	Association
Economic Empowerment	Improved income control & decision-making	Positive
Social Empowerment	Increased mobility & group participation	Positive
Personal Empowerment	Higher self-confidence	Positive
Family-Level Empowerment	Greater role in household decisions	Positive
Education Level	Higher empowerment scores	Significant
Extension Contact	Better utilization of skills	Significant
Media Exposure	Increased awareness & opportunities	Significant

Table 2 reveals the empowerment results achieved by skill-training women in terms of economic, social, personal, and family aspects, clearly depicting greater levels of empowerment compared to non-training women. It is evident from this table that education, contact with extension, and media exposure are significantly positive and influential variables for empowerment results.

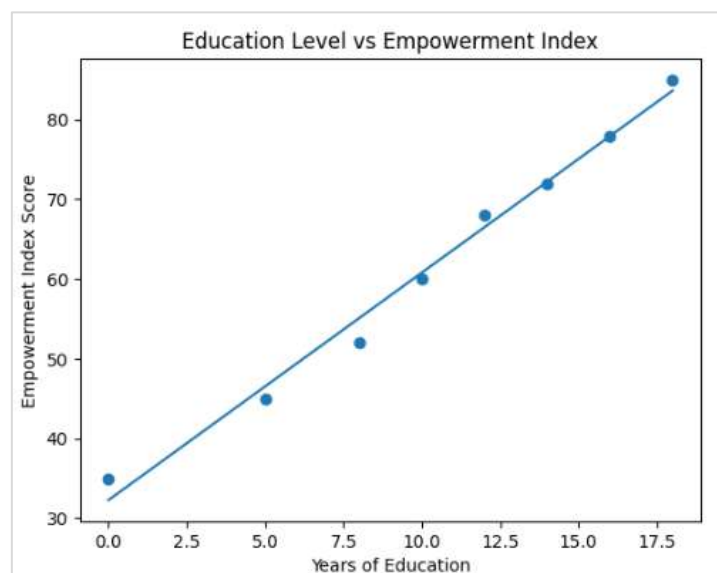


Figure 9: Education Level vs Empowerment Index among SC Women

This figure 9 depicts the correlation between the years of education and the empowerment index of the scheduled caste women through a scatter diagram represented by the trend line. The increasing trend clearly explains the continuous enhancement of the effectiveness of skill training and the empowerment process for the SC women through the years of their education.

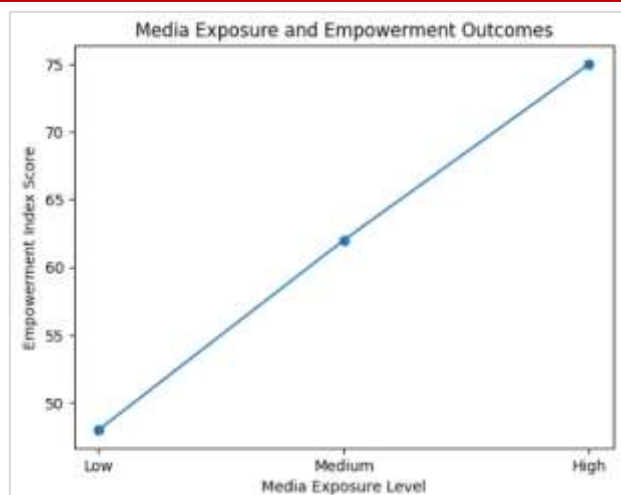


Figure 10: Media Exposure and Empowerment Outcomes among SC Women

Figure 10: This graph highlights the relation between levels of media exposure and empowerment outcomes for the Scheduled Castes' women. As evident in the graph, there is an increase in empowerment scores with an increase in levels of media exposure. Thus, it is observed that information and media are significant in raising empowerment levels.

The empirical results, therefore, establish that standalone skill training programs are less effective as compared to integrated livelihood interventions. Programs that use combined skill training with SHG participation, access to microfinance, and market linkages generate stronger and more sustainable economic and empowerment outcomes for SC women. Some key findings provide solid grounds for caste- and gender-sensitive program designs, strengthening SHG institutions, and increasing financial and informational access. These present a strong actionable guidance for policymaking and implementation agencies in bringing more inclusivity and effectiveness to rural livelihood programs in Jharkhand.

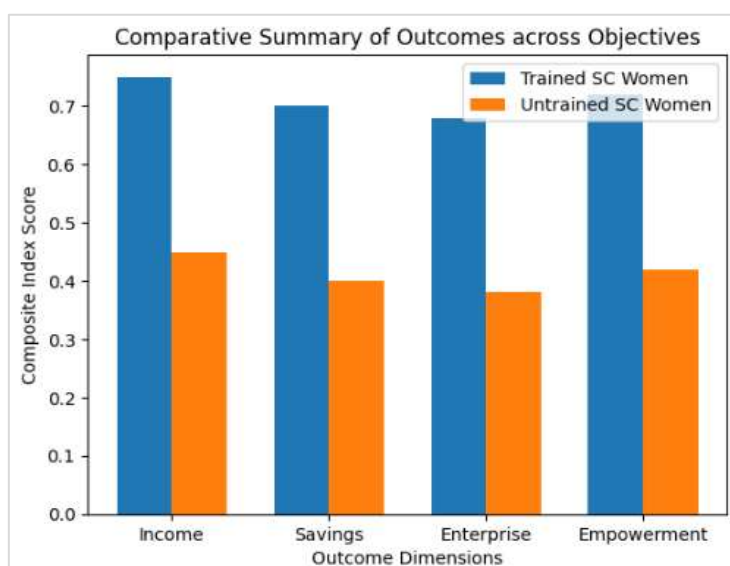


Figure 11: Comparative Summary of Outcomes across Objectives

This figure 11 provides a combined comparison between the dimensions of outcome, namely income, savings, enterprise formation, and empowerment, in the case of both trained and untrained Scheduled Caste women. It can be viewed that the combined index values are much higher in the case of trained women for all the outcome parameters mentioned.

Table 3: Comparative Study Table: Previous Studies vs Present Study

Author (s) & Year	Study Area	Target Group	Focus of Study	Methodology	Key Findings	Identified Gaps	Present Study Contribution
(T. Kumar, 2024)	Bokaro, Jharkhand	Rural women (mixed castes)	SHGs and women empowerment	Descriptive survey, correlation	Medium empowerment levels; education and income positively associated	No caste-specific analysis; no skill training focus	Focuses exclusively on SC women; integrates skill training with SHG effects
(Sinha, 2024)	Jharkhand (state-level)	Women beneficiaries	State schemes and women empowerment	Policy review	Improved digital access and scheme coverage	No primary data; no economic impact measurement	Uses primary survey data to quantify income and empowerment outcomes
(Lakra & Kullu, 2025)	Simdega, Jharkhand	MKSP women groups	Livelihood promotion through MKSP	Qualitative case studies	Increased income and collective marketing	No statistical impact analysis; not SC-specific	Adds quantitative impact evaluation and caste-specific evidence
Present Study (2025)	Rural Jharkhand	Scheduled Caste women	Skill training + SHG + empowerment	Survey, PSM, regression, mediation	Higher income, savings, enterprise creation, and empowerment among trained women	—	Provides causal, caste-specific, policy-relevant evidence

This table 3 compares the earlier studies on women's empowerment and livelihood interventions with the present study. It underlines that the existing literature has dominantly focused either on general rural women or on review of policies, whereas caste-specific and causal analysis has been restricted. The present study contributes to the literature by offering empirical evidence, focused on caste, relating to the combined role of skill training and SHGs in empowering SC women.

Major Findings

1. Training and skill development have a positive and significant effect on earnings, savings, and entrepreneurial activity for Scheduled Caste Women in rural Jharkhand.
2. Skill-trained SC women show greater multidimensional empowerment, especially in terms of economic decision-making, mobility, and participation.
3. Being part of SHG and availing microfinance facilities is a significant mediator between training in skills and increasing income.

4. Education, extension contact, as well as exposure to media, enhance the efficiency of skills training because of improved empowerment results.
5. Those involving skill training, SHGs, and institution-based approaches together produce better and more sustainable outcomes than those done alone.

5. Discussion

The results confirm previous evidence that skill development is an important mechanism for augmenting women's economic performance, but what emerges is that these skills, per se, cannot ensure women's empowerment. SHGs, true to previous research performed in Jharkhand, remain important for credit and other support services, which help women convert their skills into earning activities. The improvement in empowerment measures indicates that economic benefits not only help women get more income but also affect social and household factors. SHG and skill development program remains important because of its ability to translate economic performance into empowerment. Education and media exposure demonstrate the significance of information and human capital for achieving maximum results. This study, exclusively conducted on SC women, fills an important gap in existing research and provides evidence that any development program in rural areas must keep in mind the importance of approaches that are sensitive to the social context of the subjects.

6. Conclusion and Future Work

Concluding, this study establishes the fact that skill development training, when supplemented by SHG participation and approaches towards financial inclusion, makes a substantial difference in the economic empowerment of Scheduled Castes' rural women in Jharkhand. Here, skill development training is a driving factor for strengthened earnings and entrepreneurship in rural India, and SHGs are an effective institutional facilitator allowing these benefits to be leveraged at a much larger level. The findings of this study confirm that such aspects of 'empowerment' are complex in magnitude and are created through a combination of economic means and support systems at a socio-institutional level.

Future studies could expand on this study and be done on a longitudinal basis to test the sustainability of income and empowerment outcomes of skill trainings on SC women. An exploration on different sectors such as agriculture, non-farm, digital skills, and skill trainings for SC women could be done by future studies. Experimental designs could be incorporated to test causal relationships. The application of digital platforms, market integration, and technologies could be tested on its capacity to improve outcomes on livelihoods by future studies.

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