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Impact of Self-Help Group Participation on Economic Empowerment: Mediating Roles of Social Capital, in Rural India

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ABSTRACT

The present study examines the effect of Self-Help Group (SHG) participation on **economic empowerment**, emphasising the mediating role of **social capital** among rural households in the Devipatan region of Uttar Pradesh, India. Grounded in **Social Capital Theory** and the **Conservation of Resources (COR) framework**, the research addresses a critical gap in rural development literature by examining how motivational drivers and institutional support translate into empowerment outcomes. In a survey of 389 members of the SHG, living in the Devipatan area and using **PLS-SEM modelling**, the findings reveal that economic motivation and economic security are the strongest predictors of SHG participation, followed by social motivation and institutional support. SHG participation significantly enhances social capital—measured through trust, reciprocity, networks, and information sharing—which in turn exerts a strong positive effect on economic empowerment. Notably, the direct relationship between SHG participation and economic empowerment is insignificant, while the indirect effect through social capital is significant, confirming **full mediation**. This highlights that SHGs function primarily as **social institutions** that convert relational resources into economic capability rather than as direct income-generating mechanisms. The study's novelty lies in integrating motivational constructs, institutional embeddedness, and mediation analysis within a unified structural model in a relatively underexplored North Indian context. Policy implications emphasise prioritising social capital formation alongside financial inclusion initiatives to achieve sustainable empowerment outcomes.

Keywords: Self-Help Groups, Economic Empowerment, Social Capital, Rural Development, PLS-SEM, Mediation Analysis, Institutional Support, Uttar Pradesh.

Introduction

Self-Help Group (SHG) in India has emerged as one of the most important institutional innovations of community-based promoting financial inclusion and socio-economic development of people in rural areas. SHGs are based on the values of collective savings, mutual trust, and participatory decision-making with the primary goals of improving access to microcredit, promoting income-generating activity, and empowering the socio-economic status of marginalised households and, specifically, women (Brody et al., 2017). SHGs have since become a massive poverty alleviation and women's empowerment movement in the rural areas of India since the initiation of the SHG-Bank Linkage Programme by the National Bank of Agriculture and Rural Development (NABARD) in the early 1990s, and subsequently the expansion of SHGs by the Deendayal Antyodaya Yojana-National Rural Livelihoods Mission (DAY-NRLM) (Ghatak and Roy, 2007; NRLM, 2022). SHGs have grown over the decades to become one of the largest women-led microfinance movements in the world, with more than 1.2-1.4 crore groups and almost 88-90 per cent women membership, and have been greatly encouraged under the National Rural Livelihoods Mission (NRLM) since 2011. According to recent reports, there has been a continuous improvement in the number of bank linkages, mobilisation of savings and disbursement of credit, which suggests profound financial inclusion and institutional consolidation (NABARD, 2023; Ministry of Rural Development, 2023). In addition to making credit accessible, Self-Help Groups (SHGs) increase the ability of community members to be economically empowered, diversify their livelihoods, become entrepreneurs, and gain social capital, with the help of digital resources like E-Shakti and Start-up Village Entrepreneurship Programme (SVEP). Financial access and asset ownership, savings, risk management, and decision-making capability are all components of economic empowerment (Kabeer, 1999; Banerjee et al., 2015).

Although Self-Help Groups (SHGs) are well recognised as effective instruments for financial inclusion and empowerment of women, there is a lack of literature addressing this. Past research tends to focus on tangible economic results, including increased income, building up savings and increasing assets, and studies the social processes that lead to these gains. While qualitative studies have shown that trust, solidarity, mutual support and social networks are important aspects of strengthening the performance of SHGs, quantitative studies of social capital as a mediating variable are scarce. Social capital can be a key channel through which the process of SHG participation and sustainable economic empowerment, collective agency and inclusive development in rural India are connected. Most prior studies have either focused on direct economic outcomes or on social empowerment indicators without modelling the underlying mechanisms. Therefore, there is a need to integrate social capital theory with empowerment and microfinance literature to provide a more nuanced and mechanism-based understanding of SHG impacts and raise the following research questions: (1) What are the motivations behind joining a Self-Help Group among rural households in India? (2) To what extent does SHG participation contribute to the development of social capital (bonding, bridging, and linking capital) among members? (3) Does social capital significantly influence economic empowerment outcomes in rural SHG members? and (4) Does social capital mediate the relationship between SHG participation and economic empowerment? Against this backdrop, the present study investigates the impact of SHG participation on economic empowerment in rural India, with particular emphasis on the mediating role of social capital. By examining both direct and indirect pathways, the study contributes to a deeper understanding of how collective action structures foster sustainable economic transformation among rural households.

Review Of Related Literature

Economic Motivation

Economic motivation, characterised by expected financial advantages such as increased income, better access to credit, mobilisation of savings, and diversified livelihood opportunities, serves as a primary impetus for participation in Self-Help Groups (SHGs). Empirical research consistently demonstrates that economic incentives profoundly influence both the decision to join Self-Help Groups (SHGs) and the level of active participation. Self-Help Groups (SHGs) have been found consistently to play a strong role in enhancing women's economic empowerment by enabling greater financial access, increased income generation opportunities and economic independence (Brody et al., 2015). Better socio-economic status, financial security and self-confidence are other reasons why members stay engaged (Pathade et al., 2017). It is further confirmed from the empirical evidence that women's empowerment is boosted by financial empowerment as a result of SHG participation (Nayak & Panigrahi, 2020). Likewise, SHGs build entrepreneurial skills and financial independence, paving the way for sustainable socio-economic transformation (Watagulu, 2025). These studies collectively validate the assertion that economic motivation serves as a significant predictor of Self-Help Group participation, thereby corroborating the hypothesis that economic motivation positively influences SHG participation.

Hypothesis No. 1: Economic motivation has a positive effect on Self-Help Group participation.

Social Motivation

Social motivation is a significant non-economic factor influencing the effectiveness of Self-Help Groups (SHGs). It emphasises that, along with money, social connections, a sense of belonging, shared identity, mutual trust, and peer recognition all have a large effect on performance and continued engagement. Unlike previous SHG studies that mostly concentrated on microcredit and financial inclusion, current research emphasises the psychosocial underpinnings of group cohesion and sustainability. Social cohesion is also significant for the effectiveness of the Self-Help Groups (SHGs), as it enhances both intra-group trust and interpersonal relationships which eventually leads to better governance, higher repayment ratio, membership retention and collective efficacy (Pal & Singh, 2021; Kala D and Chaubey DS 2026). The SHGs, based on the concept of the Mutual Help Theory, meet the needs of emotional support, learning and collective empowerment (Humphreys, 1997). Social recognition, companionship, leadership opportunities, belongingness, and altruistic commitment are also motivational factors for membership (Jelsy, 2015; Ramya, 2025; Cho et al., 2023). These intangible assets make things work better overall. Research shows that social motivation not only improves governance and financial discipline but also empowers people and makes institutions more resilient. This gives a more complete picture of SHG sustainability that goes beyond merely economic measures.

Hypothesis No. 2: Social motivation has a positive and significant influence on Self-Help Group effectiveness.

Institutional Support

Institutional support constitutes the formal and informal structural mechanisms that enable the formation, sustainability, and performance of Self-Help Groups (SHGs), including backing from government agencies,

financial institutions, non-governmental organisations (NGOs), and local governance bodies. Self-Help Groups (SHGs) are found to perform better in supportive institutional settings which encourage participation, cohesiveness and collective efficacy of the groups. Credit facility, skill development programme, mentoring, market linkage and policy support contribute to empowering members' socio-economic empowerment and improve the performance of the groups to a large extent (Tripathi et al., 2025; Survase & Gohil, 2024). Institutional Theory indicates that supportive socio-political and regulatory environments improve grassroots organisations' legitimacy and resource mobilisation (Archibald, 2008). External support enhances sustainability and effectiveness (Borkman et al., 2020), while formal institutional facilitation and financial inclusion promote SHG member participation and empowerment (Jelsy, 2015; Survase & Gohil, 2024). Together, the literature creates institutional support as one of the key enabling factors that lower operational constraints and increase legitimacy and continuity of engagement in SHGs. These arguments lead to the assumption of the following hypothesis:

Hypothesis No 3: Institutional support has a positive effect on Self-Help Group participation.

Economic Security

Economic security means that being a member of a Self-Help Group (SHG) helps people have stable financial situations, such as consistent income, more savings, more assets, and less risk of economic shocks. Research consistently demonstrates that participation in Self-Help Groups (SHGs) enhances economic security by enabling regular savings, access to collateral-free loans, and involvement in income-generating activities that mitigate financial instability (Gupta & Singh, 2012; Brody et al., 2015). The importance of women's economic empowerment through the positive role of Self-Help Groups (SHGs) has been repeatedly highlighted in the research. SHGs foster entrepreneurship, economic self-sufficiency, family wellness, economic security and less vulnerability (Sharma & Varma, 2008; Brody et al., 2015). They are also shown to have socio-economic benefits and continued engagement in rural Bihar and Kakamega County (Kumar, 2025; Wesonga et al., 2022). Recent studies show that SHG membership is related to increased financial literacy and socio-economic status in rural settings (Santhipriya and Vijayalakshmi, 2025). Generally, economic stability is not merely a huge aim of SHG participation, but a good stimulus to the members, which motivates them to continue attending, contributing, and engaging. This ultimately increases their self-assurance, empowerment, and home livelihood. These arguments lead to the assumption of the following hypothesis:

Hypothesis No 4: Economic security positively influences Self-Help Group participation.

Self-Help Group Participation, Social Capital and Economic Empowerment: Mediation Analysis

Self-Help Groups (SHGs) have emerged as a pivotal community-based institutional innovation for advancing women's economic empowerment, particularly in rural India, under the SHG-Bank Linkage Programme initiated by the National Bank for Agriculture and Rural Development (NABARD). Early scholarship conceptualised SHGs primarily as microfinance collectives facilitating savings mobilisation, collateral-free credit access, and livelihood promotion, thereby contributing to poverty alleviation and women's self-employment (Lahiri-Dutt & Samanta, 2006; Swain & Wallentin, 2009). Participation in Self-Help Groups (SHGs) has been associated with income growth, accumulation of assets, stabilisation of consumption and development of microenterprises, based on empowerment theory which assumes empowerment is a process of interaction between resources, agency and achievements and participatory development approaches that emphasise collective action and peer accountability (Mayoux, 2001; Swain & Wallentin, 2009). Recent evidence suggests that the empowerment outcomes of Self-Help Groups (SHGs) extend beyond financial intermediation, with social capital emerging as a critical mechanism linking SHG participation to sustainable economic empowerment. Social capital, reflected through trust, networks, shared norms, and reciprocity, enhances collective efficacy, decision-making capacity, and women's bargaining power within households and communities (Coleman, 1988; Putnam, 1993; Sanyal, 2009; Nichols, 2021). Empirical studies demonstrate that social capital mediates the relationship between SHG participation and economic, social, and psychological empowerment by fostering cooperation, institutional linkages, confidence, and access to opportunities (Nayak & Panigrahi, 2020; Brody et al., 2015; Natung et al., 2025). Furthermore, stronger group cohesion and longer membership duration reinforce these empowerment outcomes (Basak & Chowdhury, 2023). The mediating view is supported by cross-contextual research: empirical studies of the iddirs of women in Ethiopia indicate that voluntary associations based on trust create resilience and social benefits by strengthening the norms of solidarity and mutual responsibilities (Teshome et al., 2012), and larger financial inclusion studies have found that social capital increases the collective bargaining power, institutional trust and resource mobilization, thereby connecting economic activities to social and political empowerment (Bhatia and Dawar, 2024). Social capital formation by Self-Help Groups (SHGs) enhances community resilience, agricultural sustainability, regional development and keeps youth in the villages and creates a network of communities and gives their economic stability (Chen et al., 2025; Rakshit et al., 2025). Health and nutrition behaviour

changes are also linked to participation in SHG, as a diffusion process of information and social norms within community networks (Husain & Dutta, 2023). Social capital is shown to have a positive interaction between community involvement and economic welfare, which increases the level of empowerment (Sarjiyanto, 2022). In addition, SHGs improve the leadership skills, decision-making ability, power of women to negotiate, financial and welfare resources, which enhance overall well-being and life satisfaction (Kabeer, 1999; Sanyal, 2009; Grootaert & Van Bastelaer, 2002; Suvarna et al., 2025). The literature, as a whole, is oriented towards the effect that SHGs are not microfinance platforms but are in fact social infrastructures within which social capital itself is both an enabling resource and a developmental outcome. The result of accumulation and mobilisation of relational resources is thus economic empowerment that increases the access of women to both financial resources, entrepreneurial knowledge, market information, as well as institutional associations and decision-making power. Drawing upon social capital theory and multidimensional empowerment frameworks, contemporary scholarship therefore positions social capital as a central mediating construct explaining how SHG participation translates into sustainable economic empowerment in rural India. Therefore, drawing on social capital theory and empowerment frameworks, the present study proposes the following hypotheses:

Hypothesis 5: Self-Help Group participation positively influences economic empowerment.

Hypothesis 6: Self-Help Group participation positively influences social capital;

Hypothesis 7: Social capital positively influences economic empowerment, and

Hypothesis 8: Social capital mediates the relationship between Self-Help Group participation and economic empowerment.

Theoretical Framework of the Study

The theoretical foundation of the present research is based on the **Social Capital Theory**, which was first explained by Bourdieu (1986) and later modified by Putnam (1993). Bourdieu theorised social capital as the sum of the real or the possible assets associated with enduring networks of institutionalised relationships, and focused on its importance in reproducing or changing socio-economic advantage. Conversely, Putnam (1993) pointed out the collective aspects of trust, norms and civic commitment that strengthen coordinated action and community development, a factor that is critically reviewed by Siisainen (2003). In the framework of Self-Help Groups (SHGs), the social capital in question takes the form of bonding ties (solidarity and mutual support) and bridging ties (external linkages and access to broader opportunities), with these two bringing together, respectively, financial literacy, access to credit, entrepreneurial ability, and market access. This theoretical connection is supported by empirical evidence that has shown that SHGs develop trust, reciprocity, and participatory norms that reinforce economic empowerment and agency (Mitra and Kundu, 2012; Singh and Lee, 2020; Singh and Moody, 2022). The recent systematic and empirical studies further affirm that SHGs play an important role in the development and mobilisation of social capital aspects of the marginalised community (Natung et al., 2025; Mahato and Jha, 2025). In this regard, the proposed study defines social capital as a mediating process in which SHG participation helps to empower the economy to be sustainable.

Research Methodology

The present research work has taken a cross-sectional explanatory research design that is quantitative in nature to investigate the role that participation in Self-Help Group (SHG) plays in empowering the economies of rural India, including the social capital as an intervening factor in the Devipatan region of Uttar Pradesh. Data were gathered using a structured questionnaire, which was administered to 389 members of the SHG, living in the Devipatan area; the sampling process was conducted in a multi-stage sampling process where the district, village, and respondent were randomly chosen. Based on existing literature, the questionnaire was derived and it measured key antecedents, which led to SHG participation, which include: economic motivation, social motivation, institutional support, and economic security, SHG participation, social capital (trust, networks, reciprocity and information sharing), and economic empowerment (income enhancement, decision-making power, asset ownership and financial independence) in a five-point Likert scale. A pilot study involving 40 respondents helped to make the instruments clear and refine them, and reliability and validity were assessed based on Cronbach's alpha (>0.70) and composite reliability (>0.50), average variance extracted (>0.50) and discriminant validity through Fornell-Larker and HTMT values. The Common method bias was measured with the help of procedural remedies and the Harman single factor test, which showed there is no one factor that explained most of the variance and VIF checks. Descriptive statistical analysis involving SPSS, preliminary reliability analysis, bias analysis and Partial Least Squares Structural Equation Modelling using SmartPLS to assess the measurement and structural models and test the mediating effect of social capital using bootstrapping analyses. This methodological framework offers a strict ground on how motivational and institutional forces augment SHG participation and how participation leads to economic empowerment by establishing

social capital, which can be added to the overall rural development and empowerment literature (Cochran, 1977; Putnam, 1993; Hair et al., 2021; Kock, 2015; NABARD, 1992).

Results

The demographic profile reflects a predominantly middle-aged, moderately educated, and low-income sample with substantial experience in SHG participation. Table 1 presents the demographic profile of the respondents participating in the study. With respect to age distribution, the largest proportion of respondents (47.8%) falls within the 31–40 years category, followed by 25.2% in the 25–30 years group and 15.4% below 25 years, while only 8.5% are above 50 years and 3.1% are between 41–50 years, indicating that the majority of participants are in their economically active middle-adult stage. In terms of gender, males constitute 57.1% of the sample, whereas females represent 42.9%. Regarding marital status, more than half of the respondents (54.8%) are married, 39.8% are unmarried, and a smaller proportion (5.4%) is divorced or separated. Educational qualifications reveal a diverse background, with 28.8% having vocational or technical education, 24.2% being graduates, 20.6% educated up to matric level, 13.4% having no formal education, 8.5% holding postgraduate degrees, and 4.6% categorized under other qualifications. Monthly income distribution indicates that a substantial proportion (40.1%) earn less than Rs. 10,000, followed by 23.9% earning between Rs. 10,001–15,000 and 19.8% earning between Rs. 15,001–20,000, while relatively fewer respondents earn above Rs. 20,000. Concerning the period of association with the Self-Help Group (SHG), 26.0% have been members for 6–9 years, 24.7% for 1–3 years, and 20.8% for 3–6 years, whereas 14.1% have been associated for up to one year and only 4.9% for more than 12 years, suggesting that most respondents have moderate to long-term engagement with SHGs.

Table 1. Demographic Characteristics of Respondents.

Characteristics	Description	Frequency	Percent
Age	Up to 25 Years	60	15.4
	25-30 Years	98	25.2
	31-40 Years	186	47.8
	41-50 Years	12	3.1
	More than 50 Years	33	8.5
Gender	Male	222	57.1
	Female	167	42.9
Marital Status	Married	213	54.8
	Unmarried	155	39.8
	Divorce/ Separated	21	5.4
Education	No formal education	52	13.4
	Upto Matric	80	20.6
	Graduation	94	24.2
	Post-graduation	33	8.5
	Vocational/other technical courses	112	28.8
	Others	18	4.6
Monthly Income	Less than Rs10,000	156	40.1
	Rs10001- Rs15000	93	23.9
	Rs5001 to Rs20000	77	19.8
	Rs 20001 Rs 25000	24	6.2
	Rs125001 to Rs 30000	21	5.4
	Above Rs 30000	18	4.6
Period of Association with the Self-Help group	Up to 1 year	55	14.1
	from 1 to 3 years	96	24.7
	from 3 to 6 years	81	20.8
	from 6 to 9 years	101	26.0
	from 9 to 12 years	37	9.5
	More than 12 years	19	4.9

So, the academic rewrite (roughly 150 words) is as follows:

Descriptive statistics and factor loadings of the constructs related to the drivers of the participation of Self-Help Groups (SHG) and social capital and economic empowerment are presented in Table 2. The factor loadings of all the measurement items are within the acceptable range of 0.651 to 0.945, which indicates that each item has an acceptable level of indicator reliability and construct validity. The highest mean score ($M = 3.882$, $SD = 0.748$) and high item loadings (0.859–0.945) were observed for Social Motivation, which

suggests that relations and emotions are the most important drivers for participating in SHG. Economic Motivation also had a relatively high mean ($M = 3.201$, $SD = 1.071$) and high loadings (0.888–0.936), thus emphasising the significance of aspirational financial motives. The low mean scores for the following variables, although the loadings were high, indicated lower perceptions of external support and financial stability: Institutional Support ($M = 2.218$) and Economic Security ($M = 2.091$). Social Capital is the best-rated outcome construct ($M = 3.893$), followed by Economic Empowerment ($M = 3.656$), suggesting that participation in SHG is beneficial to trust, social networks, savings, income control and financial independence.

Table 2. Drivers of Self-Help Group Participation, Social Capital and Economic Empowerment: A Descriptive Statistics.

Construct and Associated Variables	Factor Loading	Mean	Std. Deviation	Variance
Economic Motivation		3.201	1.071	1.146
I joined the SHG to improve my household income.	0.888	3.249	1.143	1.306
Access to savings and credit motivated me to join the SHG.	0.917	3.190	1.173	1.376
I participate in SHG activities to achieve financial security.	0.936	3.087	1.202	1.446
The SHG provides opportunities to reduce financial dependency.	0.909	3.417	1.145	1.311
Income-generating opportunities encouraged my SHG participation.	0.930	3.059	1.179	1.391
Social Motivation		3.882	0.748	0.559
I joined the SHG to build relationships with other women in my village.	0.859	3.918	0.818	0.668
The SHG provides emotional and moral support.	0.929	3.913	0.826	0.683
I feel a sense of belonging through SHG membership.	0.927	3.892	0.843	0.710
Participation in SHG increases my social recognition.	0.871	3.830	0.839	0.703
Peer encouragement influenced my decision to join the SHG.	0.945	3.856	0.799	0.639
Institutional Support		2.218	0.719	0.517
Government schemes encouraged me to join the SHG.	0.879	2.345	0.799	0.639
NGOs and local institutions support SHG activities effectively.	0.769	2.208	0.847	0.717
Training programs provided by SHGs are useful.	0.922	2.067	0.822	0.676
SHG leaders guide members in financial and business matters.	0.910	2.082	0.808	0.653
External financial institutions (banks, MFIs) support SHGs.	0.927	2.386	0.797	0.634
Economic Security		2.091	0.767	0.588
I joined SHG to secure the future of my children financially.	0.882	2.203	0.857	0.734
SHG involvement assists me in saving up in case of an emergency.	0.822	2.028	0.854	0.729
I would consider SHG as a stability in the form of income in the long run.	0.918	1.923	0.840	0.705
I am encouraged to carry on with SHG to ensure long-term growth of income.	0.825	2.077	0.976	0.953
Membership of SHG can help improve the quality of living standards in my family in the long run.	0.877	2.221	0.904	0.817
Self-Help Group Participation		3.160	0.355	0.126
I am also a regular attendee of Self-Help Group (SHG) meetings.	0.743	3.190	0.431	0.185
I am involved in the SHG deliberations and decision-making.	0.908	3.226	0.466	0.217
My SHG gives the possibilities of skill development.	0.753	3.041	0.391	0.153

My SHG provides me with financial assistance (loans/savings services) that are timely.	0.723	3.131	0.438	0.192
SHG activities have led to my greater participation in community affairs.	0.893	3.211	0.473	0.223
Social Capital		3.893	0.748	0.560
I trust the members of my SHG.	0.899	4.072	0.939	0.881
The members support one another in times of money troubles.	0.770	3.825	0.882	0.779
I will have the support of SHG members when required.	0.812	4.054	0.870	0.757
The SHG meetings enhance my social network.	0.837	3.530	0.829	0.688
There is a sharing of information regarding business and employment opportunities within the SHG.	0.877	4.008	0.884	0.781
The SHG involvement has made me more influential in community decisions.	0.871	3.872	0.905	0.818
Economic Empowerment		3.656	0.698	0.487
My personal income has increased after joining the SHG.	0.736	3.735	0.938	0.881
I contribute financially to household expenses.	0.753	3.033	1.031	1.063
I participate in household financial decision-making.	0.671	3.640	1.040	1.081
I have control over the income I earn.	0.843	3.733	0.865	0.748
My savings have increased due to SHG participation.	0.720	3.542	1.127	1.269
I feel financially independent.	0.651	3.951	0.897	0.804
My overall economic condition has improved after joining the SHG.	0.665	3.954	0.878	0.771
Valid N (listwise)				

Drivers of Self-Help Group Participation, Social Capital and Economic Empowerment: PLS SEM Modelling

Measurement model

Partial Least Squares Structural Equation Modelling (PLS-SEM) concurs that the validity and reliability of constructs are first determined by assessing the measurement model, and then the structural relationships are tested. Cronbach's alpha, composite reliability (ρ_a and ρ_c), is used to test reliability, Average Variance Extracted (AVE) is used to test convergent validity, and lastly, Variance Inflation Factor (VIF) is used to test multicollinearity. The results of the assessment of the measurement model show that the measurement of the constructs of the economic empowerment, economic motivation, economic security, institutional support, participation in self-help groups, social capital and social motivation has satisfactory reliability and validity. Cronbach's alpha values are between 0.849 and 0.952, which are higher than the recommended value of 0.70, indicating good internal consistency reliability (Hair et al., 2022; Nunnally & Bernstein, 1994). The same applies to composite reliability values (ρ_a and ρ_c), which are above the 0.70 threshold, reflecting high construct reliability (Hair et al., 2022). Average Variance Extracted (AVE) ranges from 0.522 to 0.839, which is greater than the minimum criterion of 0.50, and it has convergent validity (Fornell & Larcker, 1981). In addition, VIF values between 1.000 and 1.116 are still below the critical level of 5.0, which means that there is no problem of multicollinearity (Hair et al., 2022). In general, the measurement model meets the necessary criteria and can be used for analysis of the subsequent model.

Table 3. Construct reliability and validity.

Construct	Cronbach's alpha	Composite reliability (ρ_a)	Composite reliability (ρ_c)	Average variance extracted (AVE)	VIF
Economic Empowerment	0.849	0.856	0.884	0.522	1.021
Economic Motivation	0.952	0.954	0.963	0.839	1.116
Economic Security	0.917	0.932	0.937	0.749	1.097
Institutional Support	0.929	0.945	0.947	0.781	1.028

Self-Help Group Participation	0.864	0.870	0.903	0.653	1.000
Social Capital	0.920	0.924	0.938	0.715	1.028
Social Motivation	0.946	0.951	0.959	0.823	1.021

The discriminant validity of the measurement model was evaluated by the Heterotrait–Monotrait (HTMT) ratio and the Fornell–Larcker criterion. Discriminant validity was proven since the square roots of Average Variance Extracted (AVE) for each construct ranged from .722 to .916, which were higher than the inter-construct correlations, thus meeting the Fornell-Larcker criterion (Fornell & Larcker, 1981). Besides, all the HTMT values were below the proposed threshold of 0.85, with the largest value being between Social Capital and Economic Empowerment (0.753), which indicates acceptable construct distinctiveness (Henseler et al., 2015). These findings support the conceptual and empirical uniqueness of each study construct.

Table 4. Discriminant Validity Assessment (HTMT, Fornell–Larcker Criterion, and $\sqrt{\text{AVE}}$).

Constructs	Economic Empowerment	Economic Motivation	Economic Security	Institutional Support	Self-Help Group Participation	Social Capital	Social Motivation
Economic Empowerment	0.722	0.246	0.094	0.069	0.151	0.753	0.209
Economic Motivation	0.230	0.916	0.110	0.035	0.428	0.360	0.118
Economic Security	-0.074	-0.099	0.866	0.328	0.438	0.052	0.112
Institutional Support	0.009	-0.015	0.297	0.883	0.436	0.040	0.032
Self-Help Group Participation	0.127	0.389	0.398	0.396	0.808	0.186	0.315
Social Capital	0.698	0.337	-0.009	-0.020	0.164	0.846	0.165
Social Motivation	0.187	0.113	-0.099	-0.018	0.286	0.155	0.907

Structural Model

In order to assess the explanatory power, the predictive relevance and model adequacy, the assessment of the model is presented in terms of the R^2 , adjusted R^2 , Q^2 predict, RMSE, MAE and the global model fit indices within the PLS-SEM framework (Table 5). The findings show that both Economic Empowerment ($R^2 = 0.487$; adjusted $R^2 = 0.484$) and Self-Help Group Participation ($R^2 = 0.503$; adjusted $R^2 = 0.498$) have moderate explanatory power, explaining 48.7% and 50.3% of the variance, respectively. By contrast, Social Capital has a low explanatory power ($R^2 = 0.027$; adjusted $R^2 = 0.024$). The results of the Q^2 predict suggest high predictive relevance for Economic Empowerment ($Q^2 = 0.490$) while the Self-Help Group Participation ($Q^2 = 0.039$) and Social Capital ($Q^2 = 0.020$) show weak predictive relevance. The higher the scores of RMSE and MAE, the more accurately the model predicts. The higher the RMSE and MAE values, the more accurate the prediction of the model is. Model fit indices suggest acceptable model fit (SRMR 0.060 and 0.086) and moderate model fit (NFI 0.711 and 0.708).

Table 5. R-square Q^2 predict and Model Fit Summary.

	R-square	R-square adjusted	Q^2 predict	RMSE	MAE
Economic Empowerment	0.487	0.484	0.490	0.719	0.574
Self-Help Group Participation	0.503	0.498	0.039	0.986	0.791
Social Capital	0.027	0.024	0.020	0.998	0.781
Model Fit Summary					
	Saturated model	Estimated model			
SRMR	0.060	0.086			

d_ULS	2.686	5.476			
d_G	2.452	2.481			
Chi-square	4368.361	4415.014			
NFI	0.711	0.708			

The information presented in Table 6 and Figure 1 indicates the path relationship and its statistical significance. Bootstrapping procedures were carried out to test the relevance of proposed relationships by testing path coefficients (b), standard deviation (STDEV), T-statistics and p-values to the structural model. The table 6 results reveal that Economic Motivation (H1) affects Self-Help Group (SHG) Participation (b = 0.399, t = 13.383, p < 0.001, f² = 0.314) positively and significantly, meaning that the effect size is significant (f² = 0.314). In a similar fashion, Social Motivation (H2) (b = 0.284, t = 8.601, p = 0.001, f² = 0.159), Institutional Support (H3) (b = 0.295, t = 8.223, p = 0.001, f² = 0.160) and Economic Security (H4) (b = 0.378, t = 10.080, p = 0.001, f² = 0.160).

Table 6. Structural Model and Hypothesis Testing (Mean, STDEV, T values, p values).

Construct relationship	f-square	Path Coefficient (β)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values	Remarks
Economic Motivation -> Self Help Group Participation(H1)	0.314	0.399	0.030	13.383	0.000	Significant
Social Motivation -> Self Help Group Participation(H2)	0.159	0.284	0.033	8.601	0.000	Significant
Institutional Support -> Self Help Group Participation(H3)	0.160	0.295	0.036	8.223	0.000	Significant
Economic Security -> Self Help Group Participation(H4)	0.160	0.378	0.038	10.080	0.000	Significant
Self Help Group Participation -> Economic Empowerment(H5)	0.000	0.013	0.033	0.404	0.686	Insignificant
Self Help Group Participation -> Social Capital(H6)	0.028	0.164	0.045	3.617	0.000	Significant
Social Capital -> Economic Empowerment(H7)	0.17	0.695	0.034	20.294	0.000	Significant
Self Help Group Participation -> Social Capital -> Economic Empowerment(H8)	NA	0.114	0.032	3.536	0.000	Significant

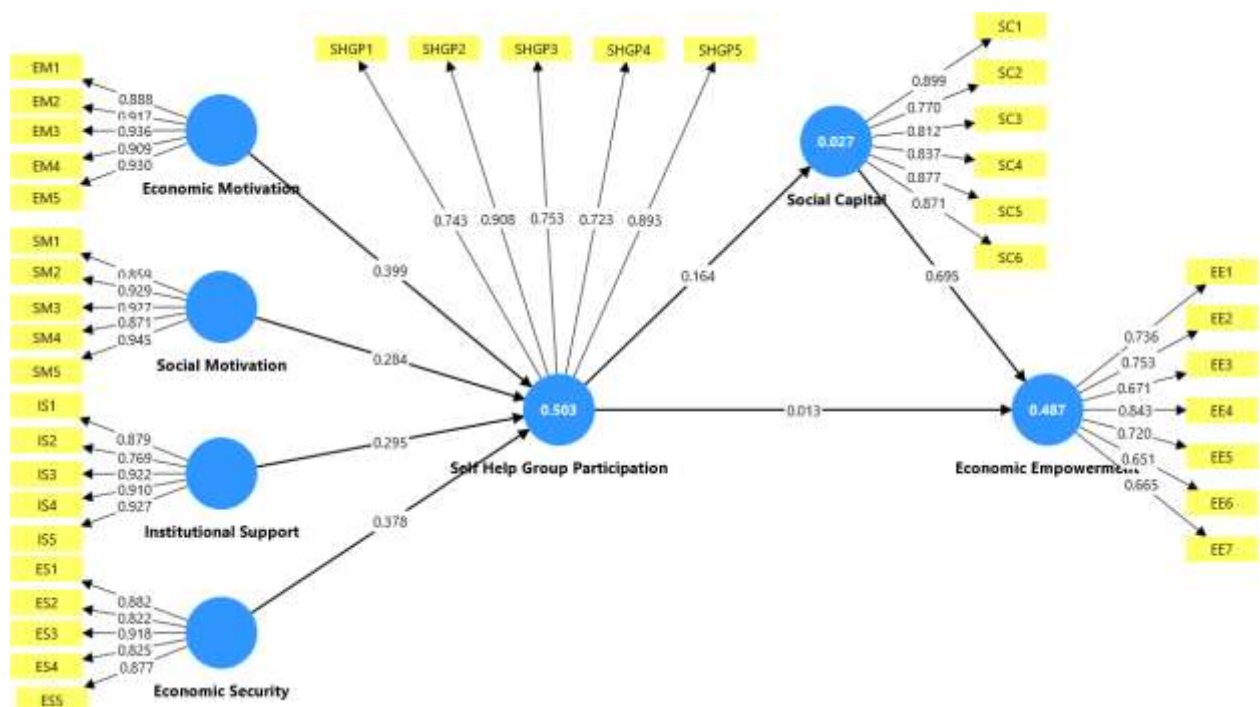


Figure 1. Structural model and statistical outcome.

Mediation Analysis

The structural model carried out in PLS-SEM was applied to mediate the direct and indirect relationships between Self-Help Group (SHG) Participation, Social Capital, and Economic Empowerment. Path coefficient (β), T-statistics ($|O/STDEV|$) and bootstrapped p-values were calculated to determine the statistical significance of hypotheses. The direct impact of SHG Participation on Economic Empowerment (H5) does not have any statistical significance ($\beta = 0.013$, $T = 0.404$, $p = 0.686$), which means that SHG participation in itself does not directly improve economic empowerment, rejecting H5. Nevertheless, SHG Participation positively and significantly influences Social Capital (H6) ($\beta = 0.164$, $T = 3.617$, $p = 0.000$), which proves H6. Moreover, Economic Empowerment (H7) has a great and most significant positive impact on Social Capital ($\beta = 0.695$, $T = 20.294$, $p = 0.000$), which further proves H7. Notably, the direct impact of SHG Participation and Economic Empowerment via Social Capital (H8) is also positive and significant ($\beta = 0.114$, $T = 3.536$, $p = 0.000$), which proves the mediating power of Social Capital. Because the direct effect (H5) is not important, whereas the indirect effect (H8) is strong, the outcomes suggest full mediation of relationships between SHG Participation and Economic Empowerment through development in Social Capital.

Discussion

The outcome of this study is valuable in understanding how SHGs affect the outcomes of empowerment and fill significant gaps in the literature on development in rural areas. This research finding shows that economic motivation, social motivation, institutional support and economic security are very influential to SHG participation. Among them, economic motivation and economic security have a more compelling influence, implying that rural households will first of all see SHGs as means of income stabilisation, credit access, savings mobilisation, and risk reduction. This observation is in line with previous evidence that SHGs are micro-financial platforms through which women in rural areas can generate incomes and smooth consumption (Brody et al., 2017). Equally, in a systematic review of economic empowerment interventions on women, Brody et al. (2017) identified that group-based financial interventions improve access to resources and power to make decisions.

The strong influence of social motivation is supported by the collectivist nature of the Indian rural communities, where mutual trust, solidarity and peer support are the key motivators of group participation. This can be related to the social intermediation view of SHGs that highlight that group-based platforms do not only offer financial services but also solidarity and collective identity (Sanyal, 2009). Institutional support also became a major predictor of SHG participation, which validated the role of policy support and facilitative arrangements like the SHG-Bank Linkage Programme launched by the National Bank of Agriculture and Rural Development (NABARD). Embeddedness by institutions boosts the credibility, access to formal finance, and the sustainability of SHGs, which supports the core of evidence discussed by Khanna et al. (2015), who claim that the state-backed collective action enhances financial inclusion at the grassroots.

The results indicate that membership in self-help groups (SHGs) has a positive impact on social capital, with SHG members reporting higher levels of trust, reciprocity, social networks and information sharing among members. This finding is similar to the conclusions of the Social Capital Theory, which suggests that civic involvement leads to and is related to norms of trust and cooperation that encourage collective action (Putnam, 1993). Empirical evidence from rural India also shows that SHGs help to develop both bonding and bridging social capital, thereby enhancing collective efficacy and social cohesion (Feigenberg, Field & Pande, 2013). Moreover, social capital can have a significant positive effect on economic empowerment through its impact on access to information, credit, markets, and collective bargaining opportunities. These results complement recent studies that identified social capital as an important factor for women's financial independence and livelihood diversification (Kumar et al., 2022) and further resonate with the Conservation of Resources theory that suggests social networks are valued resources to buffer against economic vulnerability.

A mediation analysis also indicates that women's involvement in Self-Help Groups (SHGs) has no direct impact on their economic empowerment, but rather all the effects of women's involvement in SHGs are mediated via social capital. The economic empowerment was not directly related to SHG participation, but was indirectly related to social capital with full mediation. This is a result that is not in line with studies indicating direct effects of SHGs on income generation and asset accumulation (Banerjee et al., 2015), but reflects views that put more emphasis on members' trust and social relationships, and group membership alone (Duflo, 2012). SHGs primarily serve as a platform for developing relational resources that eventually generate economic benefits. The study highlights collective agency and social connectedness as key factors for sustainable economic empowerment, aligning with Sanyal (2009). Using motivational, institutional, and social capital models from PLS-SEM analysis in Uttar Pradesh, the findings suggest that economic empowerment largely relies on social capital mediation, indicating that SHGs are transforming social institutions.

Theoretical Contribution

This study makes a significant theoretical contribution by integrating motivational drivers (economic motivation, social motivation, institutional support, and economic security), Social Capital Theory, and empowerment frameworks into a unified PLS-SEM mediation model to explain how Self-Help Group (SHG) participation fosters economic empowerment. By empirically establishing that social capital fully mediates the relationship between SHG participation and economic empowerment, the study challenges the conventional microfinance-centred assumption that access to credit alone directly generates empowerment outcomes. Instead, it advances a process-oriented perspective, demonstrating that empowerment emerges through relational mechanisms such as trust-building, reciprocity, shared norms, and collective action embedded within SHGs. Moreover, by conceptualising social capital as a strategic resource reservoir, the research highlights its buffering role in reducing vulnerability and enhancing resilience. Empirical evidence from the Devipatan region of Uttar Pradesh further enriches rural development scholarship by offering context-specific insights into how social embeddedness shapes financial inclusion and empowerment outcomes in North India.

Managerial Contribution

Managerially and policy-wise, the findings imply that development practitioners, financial institutions and policymakers, especially such agencies as the National Bank for Agriculture and Rural Development (NABARD), need to rethink SHGs not as the systems of microcredit delivery, but as the institutions of social capital building. The intervention programs should focus on trust-building initiatives, leadership training, peer mentoring, participatory decision making, and inter-group networking and financial services, as social capital is a complete mediator of the empowerment process. The credibility and sustainability could be increased through strengthening institutional ties during programs like the SHG-Bank Linkage Programme, which could translate into economic capability. The rural livelihood mission managers must thus develop SHG structures that can develop both relational and monetary literacy so that the result of empowerment can be sustainable and community-based and not credit-based.

Conclusion

To conclude, the present research has shown that the economic and social motive, institutional encouragement, and very perceptions of economic security are important factors towards SHG membership amongst rural households in the Devipatan area. SHG involvement, in its turn, contributes greatly to social capital, but does not result in economic empowerment directly. Rather, the mediating power of social capital is the main driver of empowerment, which supports the fact that the relational networks, trust, reciprocity, and shared norms are the underlying channels through which financial and livelihood benefits are achieved. Its results support the belief that empowerment is a socially instilled, slow process and not a financial event. SHGs in rural India can then be understood as social institutions that convert relational capital to economic power that will lead to sustainable, inclusive rural development.

Limitations and Future Research Directions

Despite its contributions, the study has certain limitations that offer avenues for future research. To begin with, the cross-sectional design of the research limits the possibility of causality; longitudinal research would possibly be more effective in reflecting the dynamic nature of social capital and empowerment as time progresses. Second, the research is limited to one geographic area; comparative studies across different states or socio-cultural contexts in India would enhance external validity. Third, the use of self-reported data can be associated with bias in responses; in future studies, it can also be included in objective economic indicators, such as an increase in income, an increase in performance, or the performance of the enterprises. Fourth, the measurement indicators of economic empowerment had marginally weak factor loadings, which showed possible problems with construct operationalisation. The items should be refined and validated in future studies so that they can depend on greater reliability and validity. The qualitative methodology may also help gain a better insight into the subtle social mechanisms of relational capital formation, thus contributing to the theoretical advancement and policy formulation of the rural empowerment studies.

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