

Exploring the multidimensional aspects of women's disempowerment in India: a socio-economic perspective

Shama Firdaush

Department of Economics, Jogamaya Devi College, Kolkata, India, and

Pinaki Das

Department of Economics, Vidyasagar University, Midnapore, India

Abstract

Purpose – This study assesses the status of women's empowerment in India through a multidimensional lens, analysing trends from 2005–2006 to 2019–2021 using data from the National Family Health Survey. It constructs a Multidimensional Women's Disempowerment Index (MWDI) covering three core dimensions (decision-making, physical mobility and awareness) and investigates the influence of socio-demographic and economic factors on women's empowerment.

Design/methodology/approach – Employing Alkire–Foster methodology, the MWDI is developed using direct indicators of disempowerment. A quantitative analytical approach with Heckman Two-Step Estimation identifies determinants of multidimensional disempowerment among married women aged 15–49 years, emphasizing subgroups such as Scheduled Tribes (STs), Other Backward Castes (OBCs), Muslims, and rural women.

Findings – Despite notable progress, 53.3% of married women in India remain multidimensionally disempowered, with restricted physical mobility being the predominant factor. Rural women, along with those belonging to STs, OBCs and the Muslim community, exhibit greater vulnerability. Education, employment, financial inclusion and mass media exposure enhance empowerment, whereas low self-esteem and spousal dominance hinder it.

Social implications – The findings underscore the urgency of designing intersectional and group-specific empowerment initiatives. Policies must integrate social awareness campaigns, improve access to education and financial services and address patriarchal norms through behavioural interventions – ensuring that empowerment strategies are holistic, inclusive and sustainable for gender equity.

Originality/value – This research addresses the limited literature on longitudinal multidimensional assessments of women's empowerment in India. By introducing a robust MWDI it identifies persistent socio-economic disparities and provides evidence-based insights crucial for designing targeted policies.

Peer review – The peer review history for this article is available at: <https://publons.com/publon/10.1108/IJSE-12-2024-1088>

Keywords Women, Disempowerment, Multidimensional, Alkire–Foster, India

Paper type Research article

Introduction

In its democratic framework, India guarantees numerous fundamental rights and freedoms to all its citizens. As a sovereign entity, the nation explicitly opposes discriminatory practices based on caste, creed, religion or gender. However, despite these constitutional commitments, gender inequalities persist as a deeply entrenched reality within predominantly patriarchal society of India, where women continue to face significant disadvantages across multiple dimensions of life compared to their male counterparts (Kemi and Jenyo, 2016). Nobel Laureate Amartya Sen has vividly highlighted the severity of gender-based discrimination, stating that it “afflicts and sometimes prematurely ends the lives of millions of women and, in different ways, severely restricts the substantive freedom that women enjoy” (Sen, 2000, p. 108). Conversely, empowering women not only enhances their well-being but also generates substantial positive externalities, benefiting entire communities (Sharaunga *et al.*, 2019; Kazembe, 2020). Thus, women's empowerment is recognized as both a crucial goal in itself and an instrumental pathway towards achieving broader sustainable development goals



(SDGs) such as improving public health, reducing child mortality and promoting inclusive growth (UNDP, 2019; Kazembe, 2020).

Empowerment, as a concept, remains latent, multifaceted and highly context-specific, shaped significantly by cultural traditions, social norms and local contexts (Richardson *et al.*, 2019; Akter and Chindarkar, 2020). Dixon and Mueller (1998) define women empowerment as the capability of women, individually or collectively, to resist arbitrary restrictions on their behaviour or denial of their rights, to challenge illegitimate power structures and to negotiate outcomes in their favour. Building upon this conceptualization, Kabeer (1999, p. 437) views empowerment explicitly as a transformative “process of change,” describing it as the “process by which those who have been denied the ability to make choices acquire such an ability,” thereby inseparably linking empowerment to the prior condition of disempowerment. Furthermore, Alkire *et al.* (2013, p. 7) conceptualize women’s empowerment as “a multidimensional process that draws from and affects multiple aspects of life, including family relationships, social standing, physical and emotional health, and economic power.” However, despite various definitions and conceptualizations, scholars widely acknowledge women’s empowerment as inherently multidimensional, emphasizing that empowerment in one dimension does not necessarily imply empowerment in others (Alkire *et al.*, 2013; Sharaunga *et al.*, 2019). Reflecting this complex reality, the present study adopts Sen’s capability approach to conceptualize women’s empowerment comprehensively. Sen’s capability approach underscores that individuals’ quality of life and well-being should not merely be evaluated based on resources or income; rather, it emphasizes the real opportunities and freedoms available to people to lead lives they genuinely value (Robeyns, 2003). Sen particularly stresses the notion of “reason to value”, advocating for individuals to actively choose lifestyles aligned with their values, rather than passively adopting lifestyles dictated by social norms or external influences (Robeyns, 2003). This perspective redirects attention from mere possession of resources to meaningful freedoms, or “capabilities”, which refer to actual opportunities available to individuals to engage in valued states of being and activities, known as “functionings” (Burchardt and Hick, 2018).

The capability approach inherently supports multidimensional analysis because it allows comprehensive exploration of various functionings and capabilities vital for human well-being, thereby capturing critical aspects often missed by unidimensional measures (Burchardt and Hick, 2018; Richardson *et al.*, 2019). Sen argues explicitly for acknowledging and addressing multiple, interrelated forms of deprivation and disadvantage within a unified analytical framework, emphasizing that “human lives are battered and diminished in various ways, and the first task . . . is to acknowledge that deprivations of very different kinds have to be accommodated within a general overarching framework” (Sen, 1999, p. 20). This idea of compounded disadvantages or intersecting deprivations is termed “clustered disadvantage” by Wolff and De-Shalit (2007). In line, it is argued that consensus is more readily achieved around identifying fundamental unfreedoms than defining freedoms, as disadvantaged conditions often share common and broadly recognized core dimensions (Burchardt and Hick, 2018).

Following these theoretical arguments, women’s deprivation of crucial capabilities and freedoms can indeed be conceptualized as a form of clustered disadvantage, as women often experience multiple, reinforcing barriers simultaneously, restricting their overall freedom and life choices (Kemi and Jenyo, 2016). Consequently, this study explicitly conceptualizes women’s empowerment by directly assessing multidimensional disempowerment. Such analytical shift, from examining general empowerment towards systematically assessing explicit inadequacies and deprivations, aligns closely with existing scholarly recommendations advocating detailed analyses of women’s disempowerment (Alkire *et al.*, 2013; Mishra, 2014, 2018).

In this study, a woman is considered multidimensionally disempowered if she experiences inadequacy in more than one dimension out of three explicitly defined dimensions: decision-making autonomy, physical mobility and awareness. The selection of these dimensions was informed by their theoretical relevance in the capability approach, as well as the availability

and consistent measurement of these variables within comprehensive and nationally representative National Family Health Survey (NFHS) datasets of India.

Several recent studies have strongly emphasized the inherently multidimensional and dynamic nature of women's empowerment, highlighting that empowerment is context-sensitive and evolves with socio-economic changes over time (Sharaunga *et al.*, 2019; Akter and Chindarkar, 2020). However, the measurement and empirical assessment of empowerment remain challenging due to its latent and subjective characteristics, as well as the absence of a universally accepted standard or metric (Richardson *et al.*, 2019). Despite these methodological challenges, researchers continue to devise empirical frameworks and tools to quantitatively assess women's empowerment in various contexts (Madzorera and Fawzi, 2020).

In the context of India, empirical assessments of women's empowerment from a comprehensive multidimensional perspective are notably scarce. Existing literature predominantly addresses narrow dimensions or single domains of empowerment rather than holistic or integrated perspectives. For example, Mishra (2014) assessed multidimensional empowerment but restricted the analysis to the single dimension of decision-making autonomy. Similarly, Narayanan *et al.* (2019) investigated women's empowerment from a nutritional angle, only focusing on health-related outcomes. Meanwhile, Akter and Chindarkar (2020) analysed empowerment mainly in terms of sustainability but did not comprehensively integrate multiple socio-economic dimensions simultaneously. These studies highlight significant methodological and conceptual limitations, indicating a clear gap in comprehensive, multidimensional empirical assessment of women's empowerment in India – an issue repeatedly underscored by recent literature (Alkire *et al.*, 2013; Khalid *et al.*, 2020).

Furthermore, because women's empowerment is profoundly influenced by cultural, regional, and contextual variations, significant inconsistency arises in the selection of dimensions and indicators across studies (Richardson *et al.*, 2019; Akter and Chindarkar, 2020). This variation impedes reliable comparisons over time and limits policymakers' ability to assess longitudinal trends or measure progress. Nahar and Mengo (2022) particularly emphasized the difficulties of systematically capturing changes in empowerment due to differing situational and cultural contexts. Recognizing these methodological challenges, numerous scholars including Gulzar *et al.* (2024) advocate the urgent need for longitudinal research to better capture how empowerment evolves and responds to policy interventions over time.

Moreover, despite various governmental programs explicitly aimed at promoting women's empowerment – such as Beti Bachao Beti Padhao (2015), UJJAWALA Scheme (2016), Mahila E-Haat (2016), Working Women Hostel (2017) and POSHAN Abhiyaan (National Nutrition Mission, 2018) – there is a lack of systematic evaluation of their effectiveness in improving women's empowerment over time (Arora *et al.*, 2024). In the absence of program-specific data in NFHS surveys, the present study focuses on assessing the broader outcomes and trends in multidimensional women's disempowerment.

Additionally, India's deeply entrenched identity-based stratification – primarily based on caste, religion and ethnicity – creates significant disparities and inequalities in socio-economic outcomes, exacerbating the complexity of women's empowerment (Mosse, 2018). Existing studies consistently validate substantial regional variations in socio-cultural norms and socio-economic characteristics, which deeply influence women's empowerment across India. Despite recognizing these regional and subgroup variations, very few empirical studies provide disaggregated analysis of empowerment by social categories such as Scheduled Tribes (STs), Other Backward Castes (OBCs), religious minorities or women from rural and disadvantaged backgrounds. Researchers have thus increasingly urged detailed subgroup-level analysis to effectively reveal intersectional inequalities and targeted vulnerabilities among specific demographic groups (Gressel *et al.*, 2020).

In response to these clearly identified literature gaps, the present study makes several significant and innovative contributions. First, it develops a robust and comprehensive MWDI, adapting the widely recognized Alkire–Foster methodology, explicitly designed to measure multiple empowerment dimensions simultaneously. Second, by analysing data from three rounds of the NFHS (2005–2006, 2015–2016 and 2019–2021), this study uniquely provides a detailed longitudinal perspective, revealing trends and changes in multidimensional disempowerment over a substantial fifteen-year period. Third, it undertakes extensive subgroup-level analysis to uncover variations and inequalities in empowerment across specific vulnerable populations, including rural women, STs, OBCs and Muslim communities, highlighting nuanced intersectional disparities. Lastly, this study rigorously explores key determinants influencing multidimensional disempowerment through sophisticated econometric modelling, specifically employing the Heckman two-step estimation model, thus quantitatively identifying factors that either facilitate or hinder women’s empowerment.

Database and methodology

Data

To estimate and analyse the multidimensional disempowerment experienced by married women in India, this study utilizes unit-level data from the NFHS. The NFHS is India’s nationally representative survey conducted under the Demographic and Health Survey (DHS) Program, covering over 90 countries worldwide. Specifically, the analysis presented here draws from the three latest rounds of NFHS – NFHS-3 (2005–2006), NFHS-4 (2015–2016) and NFHS-5 (2019–2021) – as comprehensive information on women’s empowerment indicators is consistently available only from NFHS-3 onward.

Within these datasets, we focus specifically on the subsamples of currently married women aged 15–49 years who were selected for the state module (approximately 15% of the total women interviewed). These subsamples provide extensive and detailed information on women’s empowerment dimensions, including decision-making autonomy, physical mobility and barriers to accessing healthcare (IIPS and ICF, 2017, 2021). After systematically removing records with missing values and potential outliers, the final sample comprises 87,925 married women from NFHS-3, 86,811 married women from NFHS-4, and 76,910 married women from NFHS-5. To ensure national representativeness in the analysis, national household weights were applied, as specified in the NFHS surveys.

Dimensions and indicators

Empowerment, as a latent and multidimensional construct, cannot be observed directly (Kabeer, 1999). Hence, researchers utilize various indicators or proxies to capture the aspects of empowerment (Richardson *et al.*, 2019). The absence of a universally accepted standard for measuring empowerment contributes significantly to variability in dimensions and indicators across studies, often influenced by local traditions, cultural contexts and socio-economic conditions (Aker and Chindarkar, 2020).

The commonly used indicators in existing empowerment literature include decision-making autonomy, physical mobility, control over economic resources, political awareness, domestic violence experiences, attitudes towards violence, health status, education level and employment status. Some indicators are direct measures explicitly reflecting women’s autonomy or capabilities, while others serve as indirect proxies capturing resource availability or socio-economic conditions presumed necessary for empowerment. Given the primary objective of the present study – to measure explicit inadequacies experienced by women – we focus exclusively on direct indicators that explicitly reflect multidimensional disempowerment, aligning with Sen’s capability approach. Consequently, this study emphasizes three primary dimensions: decision-making power, physical mobility and awareness, each capturing direct aspects of women’s empowerment or lack thereof.

Each dimension consists of three specific indicators, as detailed in [Table 1](#). These dimensions and corresponding indicators are operationalized independently, meaning that a woman’s inadequacy in one indicator does not influence or depend on her status in any other indicator. This methodological assumption, consistent with the Alkire–Foster Multidimensional Poverty Index (MPI) framework, allows capturing cumulative disadvantage across multiple indicators ([Alkire et al., 2013](#)). Numerous studies have effectively utilized this methodology for measuring women’s empowerment or disempowerment ([Alkire et al., 2013](#); [Narayanan et al., 2019](#); [Firdaush and Das, 2022](#); [Firdaush et al., 2024](#)), as well as other multidimensional socio-economic phenomena ([Firdaush and Das, 2025](#); [Das et al., 2021](#)).

[Table 1](#) also explicitly references previous empirical studies that utilized similar dimensions and indicators, establishing robustness and comparability within the existing empowerment literature. Furthermore, this study adopts an equal-weighting scheme for both dimensions and indicators. Equal weighting is chosen for its simplicity, transparency and neutrality, ensuring no arbitrary value judgements influence the relative importance of dimensions or indicators. This methodological approach is widely accepted and has been employed extensively in prominent global indices such as the Human Development Index (HDI) and the MPI, developed and used by the United Nations Development Programme (UNDP).

Table 1. Dimensions, indicators and disempowerment cut-offs for the measurement of multidimensional women’s disempowerment

Dimensions	Indicators	Specification of the indicators	Earlier studies
Decision-making (1/3)	Healthcare (1/9)	Inadequate if the woman fails to take decision on her healthcare alone or jointly with her husband	Richardson et al. (2019) , Vishwakarma et al. (2021) , Kazembe (2020) , Akter and Chindarkar (2020) , Castro Lopes et al. (2021)
	Household Purchase (1/9)	Inadequate if the woman fails to take decision on large household purchase alone or jointly with her husband	
	Visiting Relatives (1/9)	Inadequate if the woman fails to take decision on visiting relatives alone or jointly with her husband	
Physical Mobility (1/3)	Market (1/9)	Inadequate if the woman is not allowed to go to the market alone	Richardson et al. (2019) , Akter and Chindarkar (2020) , Hussain and Jullandhry (2020)
	Medical Facility (1/9)	Inadequate if the woman is not allowed to go to the health facility alone	
	Leave Town/Village (1/9)	Inadequate if the woman is not allowed to go to places outside the town/village alone	
Awareness (1/3)	Family Planning (1/9)	Inadequate if the woman didn’t hear about family planning from radio, TV, newspaper or wall paintings	Richardson et al. (2019) , Akter and Chindarkar (2020) , Hussain and Jullandhry (2020)
	Prevent Disease (1/9)	Inadequate if the woman didn’t hear about the risky diseases like STI and Others	
	Financial (1/9)	Inadequate if the woman is unaware about the programmes or have taken loan from them to start business	

Note(s): Figures in parenthesis indicate the weights of the respective dimensions and indicators
Source(s): Authors’ own work

Measurement of multidimensional women's disempowerment (MWDI)

To measure multidimensional women's disempowerment comprehensively, we developed the MWDI, utilizing the Alkire–Foster methodology, originally proposed for measuring multidimensional poverty (Alkire and Foster, 2011). Due to its methodological robustness, analytical clarity and flexibility, this technique has gained wide acceptance across disciplines (Alkire and Foster, 2011; Alkire et al., 2013; Das et al., 2021). Specifically, we adopted this methodology due to its several advantages: (1) it quantifies both the incidence and intensity of disempowerment experienced by women; (2) it allows subgroup decomposition, thus facilitating analysis across different demographic groups; and (3) it enables rigorous robustness checks critical for reliable measurement and evaluation over time (Richardson et al., 2019). The Alkire–Foster methodology of MPI, which is adopted to measure MWDI, is outlined below.

Achievement matrix. Let X denotes the achievement matrix of dimension $n \times d$, where x_{ij} represents the achievement of woman i in indicator j .

Disempowerment cut-off. A threshold z_j for each indicator j represents the minimum achievement level required for a woman to be considered “adequate” in that indicator. A woman is identified as “inadequate” in indicator j if $x_{ij} < z_j$.

Disempowerment matrix. An inadequacy matrix g^0 is constructed, where each element g_{ij}^0 indicates inadequacy status:

$$g_{ij}^0 = 1 \text{ when } x_{ij} < z_j \\ = 0 \text{ otherwise, for all } z = 1, \dots, d \text{ and } i = 1, \dots, n$$

Inadequacy score. Each woman is assigned an inadequacy score based on nine indicators (three dimensions with three indicators each). The scoring framework assigns equal weights to each dimension, summing to 100; thus, each dimension holds a weight of approximately 33.3%. Consequently, each indicator within a dimension carries an equal weight of approximately 11.1 ($33.3 \div 3$).

Inadequacy score cut-off. The inadequacy scores for all indicators (nine in the present study) are summed to compute total inadequacy score across woman.

$$s_i = \sum_{j=1}^9 w_j g_{ij}^0$$

where s_i is the inadequacy score of disempowered women i and w_j is the weight of indicator j .

A woman is identified as multidimensionally disempowered if her inadequacy score is at least one-third (i.e. 33.3% or above). This standard cut-off, consistent with the Alkire–Foster method, distinguishes multidimensionally disempowered women from those experiencing only minor inadequacies.

Disempowerment headcount ratio (D). This represents the proportion of the female population identified as multidimensionally disempowered. Formally, it is calculated as:

$$D = \frac{q}{n}$$

where q is the number of multidimensionally disempowered women, and n is the total number of women.

Intensity of multidimensional disempowerment (I). Intensity captures the average inadequacy among women identified as disempowered, reflecting the severity of their cumulative disadvantage. It is computed as the average inadequacy score among the disempowered:

$$I = \sum_{i=1}^q \frac{s_i}{q}$$

Multidimensional women's disempowerment index (MWDI). MWDI combines both incidence and intensity of disempowerment. It is calculated as the product of the headcount ratio D and intensity I :

$$MWDI = D \times I$$

Heckman two-step estimation

To identify the determinants and factors influencing women's multidimensional disempowerment, we applied the Heckman two-step estimation approach. This econometric method enables analysis of two interrelated decisions: (1) whether a woman is multidimensionally disempowered or not and (2) the extent of disempowerment experienced among those identified as disempowered. This approach addresses potential selection bias arising from unobserved factors influencing both the likelihood of disempowerment and its intensity.

Formally, the model consists of two dependent variables: MD_{it} , indicating whether the i th woman is multidimensionally disempowered (binary variable: 1 if disempowered, 0 otherwise) and IMD_{it} , representing the inadequacy score or intensity of disempowerment for those who are disempowered. The variable s_{it} represents the underlying inadequacy score determining disempowerment status. Observations of IMD_{it} , occur only if $IMD_{it} = 1$, that is, only when $s_{it} \geq 33.3$. The Heckman two-step estimation involves the following stages:

Step 1 (Selection Equation) involves the estimation of a probit regression model using maximum likelihood estimation (MLE) for the full sample to analyse the likelihood of a woman being multidimensionally disempowered:

$$MD_{it} = \beta_o + \sum_{k=1}^K \beta_k X_{it,k} + v_{it} \quad (1)$$

Here, $X_{it,k}$ represents demographic, social, cultural and economic variables associated with women's empowerment status, and v_{it} is the error term assumed normally distributed.

In Step 2 (Outcome Equation) a linear regression model analyses factors affecting the intensity of disempowerment, conditional upon a woman being identified as disempowered. The Inverse Mills Ratio (λ_{it}), derived from the first step, is included as an additional regressor to control for potential sample selection bias:

$$IMD_{it} = \beta_o + \sum_{k=1}^K \beta_k X_{it,k} + \beta_\lambda \lambda_{it} + \varepsilon_{it} \quad (2)$$

Here, the coefficient of the Inverse Mills Ratio (β_λ) indicates the presence or absence of sample selection bias. A statistically insignificant coefficient (β_λ) suggests no selection bias, affirming the robustness of the estimation. The error terms v_{it} and ε_{it} are independently (across observations) and jointly normally distributed with covariance $\rho \delta_e$.

To ensure model identification and avoid multicollinearity, one explanatory variable from the selection equation (first step) is excluded from the outcome equation (second step) (Vella, 1998).

Determinants of women's empowerment

To analyse the factors influencing women's empowerment comprehensively, this study considers demographic, social, cultural and economic determinants. Each factor captures a unique aspect affecting women's multidimensional disempowerment, thereby allowing precise identification of policy-relevant interventions.

Demographic factors. Demographic variables are used as controls in the empirical analysis, primarily comprising location and age. Location is represented by the dummy variable RURAL, assigned a value of 1 if a woman resides in a rural area and 0 otherwise. Rural residence often restricts women's access to services and opportunities, thus influencing their empowerment negatively. Additionally, AGE and its squared term (SAGE) are included to capture the potential nonlinear effect of age on empowerment. As women age, they typically acquire greater autonomy, but at a diminishing rate, reflecting accumulated experiences and changing familial roles.

Social factors. Social determinants include Caste, Religion and Mass Media Exposure. The caste system significantly shapes socio-economic outcomes in India. Using NFHS categorization, caste is classified into SCs, STs, OBCs and General. Given persistent social inequalities, we include dummy variables SC, ST and OBC in the analysis, with General caste as the reference category. Members of these disadvantaged castes often face systematic discrimination, affecting their empowerment outcomes adversely (Sultana *et al.*, 2017; Das *et al.*, 2021).

Religion significantly influences women's status through differing socio-cultural norms. We categorize religion into Hindu, Muslim and Others, including two dummy variables (HINDU, MUSLIM), with others as the reference category. Religious affiliation shapes gender norms and women's opportunities distinctly, influencing empowerment outcomes accordingly.

Media exposure reduces women's multidimensional disempowerment by enhancing awareness and autonomy. We operationalize mass media exposure as the dummy variable MEDIA, assigned the value 1 if a woman reads newspapers, listens to the radio or watches television at least once weekly, and 0 otherwise.

Cultural factors. Cultural determinants encompass Women's Education, Self-Esteem and Husband's Dominance. Education directly enhances women's capabilities, autonomy and mobility, significantly influencing their empowerment positively (Kazembe, 2020). Educational attainment is categorized into four levels: illiterate, primary (EDUPRM), secondary (EDUSEC), and higher secondary or above (EDUHS), with illiterate as the reference group.

Women's self-esteem (SELF ESTEEM) is operationalized through their attitudes towards spousal violence, constructed using responses to five NFHS questions. The items capture whether respondents justify wife-beating if the woman: (1) goes out without informing her husband, (2) neglects children, (3) argues with the husband, (4) refuses sex or (5) burns food. Responses are coded as 0 (justified) and 1 (not justified), aggregated into an index ranging from 0 to 5, where higher scores indicate higher self-esteem and empowerment.

Husband's Dominance (H_DOMIN) measures patriarchal control restricting women's autonomy. It aggregates women's responses to six questions regarding controlling behaviours exhibited by husbands: (1) jealousy over talking to other men, (2) accusations of unfaithfulness, (3) restrictions on meeting female friends, (4) limiting family contact, (5) insisting on knowing their whereabouts and (6) mistrusting them financially. Scores range from 0 (no dominance) to 6 (high dominance), with higher scores reflecting increased spousal control and thus greater disempowerment.

Economic factors. Economic determinants include Household Wealth, Women's Employment and Financial Inclusion. Household wealth influences women's autonomy and control over resources significantly, facilitating empowerment (Kazembe, 2020). Wealth is categorized into three classes: lower wealth class (LWC), middle wealth class (MWC) and high wealth class (HWC), with LWC as the reference category.

Women’s employment status profoundly impacts their empowerment, enabling higher household decision-making power and mobility (Khalid *et al.*, 2020). Employment is operationalized as a dummy variable (EMPLOYED), with employed women coded as 1 and unemployed as 0.

Financial inclusion also empowers women by increasing their economic independence and decision-making autonomy (Kumar, 2020). We capture financial inclusion through a dummy variable (FINANCE), coded as 1 if the woman possesses a bank account and 0 otherwise.

Results

Status of multidimensional women’s empowerment in India

Table 2 presents the detailed estimates of the MWDI, along with its two key components *D* and *I*. The overall MWDI for India has significantly declined from 0.44 in 2005–2006 to 0.27 in 2019–2021, reflecting notable progress in women’s empowerment over the past 15 years. Specifically, the share of multidimensionally disempowered women (*D*) decreased markedly from 72.6% in 2005–2006 to 53.3% in 2019–2021, representing a substantial reduction of 19.3% points. Similarly, the intensity of multidimensional disempowerment (*I*) reduced notably by 10.1% points, declining from 60.2% to 50.1% over the same period. This decline

Table 2. Multidimensional women’s disempowerment in India by socio-economic characteristics of the women, 2005–2006, 2015–2016 and 2019–2021

	2005–2006			2015–2016			2019–2021		
	<i>D</i>	<i>I</i>	MWDI	<i>D</i>	<i>I</i>	MWDI	<i>D</i>	<i>I</i>	MWDI
India	72.6	60.2	0.44	59.8	53.9	0.32	53.3	50.1	0.32
Place of residence									
Urban	56.1	52.9	0.30	49.0	51.3	0.25	43.6	48.3	0.21
Rural	79.9	62.5	0.50	65.5	54.9	0.36	57.7	50.7	0.29
Social castes									
SC	74.7	59.7	0.45	59.4	54.0	0.32	52.1	50.2	0.26
ST	82.1	62.6	0.51	65.0	54.8	0.36	55.6	50.7	0.28
OBC	74.2	61.6	0.46	62.6	54.5	0.34	55.7	49.8	0.28
General	67.2	57.9	0.39	53.6	52.3	0.28	49.5	50.2	0.25
Religions									
Hindu	72.5	60.2	0.44	59.2	54.0	0.32	52.2	49.8	0.26
Muslim	79.6	62.3	0.50	67.4	55.0	0.37	63.1	52.0	0.33
Others	57.0	53.2	0.30	48.3	48.2	0.23	44.8	48.2	0.22
Level of education									
No Education	83.5	63.4	0.53	69.2	56.9	0.39	57.9	52.1	0.30
Primary	72.4	60.4	0.44	60.8	54.8	0.33	53.6	50.8	0.27
Secondary	63.1	55.1	0.35	56.6	52.1	0.30	53.5	49.5	0.26
Higher Education	37.1	47.4	0.18	43.6	47.7	0.21	42.9	45.9	0.20
Household wealth									
LWC	85.7	64.4	0.55	65.6	55.3	0.36	58.8	51.8	0.30
MWC	75.7	60.6	0.46	58.9	53.7	0.32	54.7	49.9	0.27
HWC	58.9	54.2	0.32	54.9	52.5	0.29	47.4	48.0	0.23
Employment status									
Employed	71.4	60.3	0.43	52.3	52.1	0.27	45.9	48.4	0.22
Unemployed	73.5	60.1	0.44	62.9	54.5	0.34	56.8	50.7	0.29

Note(s): *D* = Disempowerment Headcount Ratio; *I* = Intensity of Disempowerment; *MWDI* = Multidimensional Women’s disempowerment Index

Source(s): Authors’ own estimation from unit-level data of NFHS-3 (2005–2006), NFHS-4 (2015–2016) and NFHS-5 (2019–2021)

highlights significant improvements not only in reducing the prevalence of disempowerment but also in alleviating the severity experienced by affected women.

A clear urban-rural divide in multidimensional disempowerment remains evident throughout the study period. *D* was consistently higher in rural areas compared to urban areas. Between 2005–2006 and 2015–2016, rural areas recorded a significantly larger decrease in disempowerment (14.5% points) compared to urban areas (7.1% points). However, during the more recent period (2015–2016 to 2019–2021), rural areas continued to experience a slightly higher reduction (7.8% points) relative to urban regions (5.4% points), reflecting ongoing yet slower improvements in rural women's empowerment.

Significant variations also exist across social castes. STs exhibited the highest levels of multidimensional disempowerment, followed closely by OBCs. However, the intensity of disempowerment was notably similar between ST and OBC groups. Over time, the largest reductions in both *D* and the MWDI were recorded among STs, indicating targeted empowerment gains within this historically marginalized group.

Religion-wise analysis reveals substantial disparities, with Muslim women consistently facing the highest levels of multidimensional disempowerment compared to Hindu women and those belonging to other religious groups. Although significant reductions in disempowerment occurred across all religious categories, the magnitude and pace of improvement varied considerably. Between 2005–2006 and 2015–2016, Hindu women experienced a more substantial reduction in *D*, whereas Muslim women showed relatively larger improvements in reducing the intensity. More recently (2015–2016 to 2019–2021), Hindu women observed a greater pace of improvement in both *D* and *I*, suggesting uneven but notable progress across religious categories.

Women's educational attainment was found to have a consistently positive association with empowerment. The percentage of disempowered women decreased significantly as education levels increased. In 2019–2021, 57.9% of women without formal education were multidimensionally disempowered, compared to 42.9% among highly educated women. However, intensity of disempowerment was largely similar across education levels up to secondary schooling but notably lower for women with higher secondary education or above. Household wealth emerged as a critical determinant of women's empowerment, with wealthier households consistently reporting lower levels of multidimensional disempowerment. In 2019–2021, disempowerment was significantly higher among LWC households (58.8%) compared to HWC households (47.4%). Moreover, disparities between wealth groups widened slightly in recent years. Employment status also significantly influenced multidimensional disempowerment, with employed women consistently showing lower disempowerment levels compared to unemployed women. Over time, reductions in multidimensional disempowerment were notably higher among employed women, reflecting that employment continues to be a critical avenue for empowering women in India. Importantly, the disparity between employed and unemployed women widened during the study period, highlighting employment's crucial role in mitigating disempowerment.

Analysing the contribution of individual dimensions to multidimensional disempowerment, physical mobility emerged as the most significant contributor (Table 3). In 2019–2021, physical mobility accounted for 52.6% of the total MWDI, up considerably from 38.4% in 2005–2006. Conversely, the contributions from decision-making and awareness declined notably over time, suggesting targeted improvements in these specific areas. This pattern was consistently observed across various socio-economic categories, reaffirming physical mobility as a persistent and critical challenge hindering women's overall empowerment.

Impact of factors associated with multidimensional women's disempowerment

Table 4 summarizes the empirical outcomes of Heckman two-step estimation. The statistical insignificance of the Inverse Mills Ratio confirms the absence of selection bias, validating the

Table 3. Dimensional contribution to multidimensional Women's disempowerment in India by socio-economic characteristics of the women, 2005–2006, 2015–2016 and 2019–2021

	2005–2006 Decision- making	Physical mobility	Awareness	2015–2016 Decision- making	Physical mobility	Awareness	2019–2021 Decision- making	Physical mobility	Awareness
<i>India</i>	29.4	38.4	32.2	24.8	45.7	29.5	22.0	52.6	25.4
<i>Place of residence</i>									
Urban	32.3	40.3	27.3	27.3	48.7	23.9	23.3	54.6	22.1
Rural	28.7	37.9	33.4	23.9	44.5	31.6	21.6	51.9	26.4
<i>Social castes</i>									
SC	28.8	36.9	34.3	24.8	44.2	31.0	22.4	51.2	26.4
ST	25.4	35.8	38.7	22.2	42.3	35.5	20.4	49.7	29.9
OBC	29.7	38.3	32.0	25.2	45.8	28.9	21.9	54.3	23.8
General	30.7	40.4	28.9	25.2	47.9	26.9	22.6	51.8	25.6
<i>Religions</i>									
Hindu	29.6	38.3	32.1	25.1	45.2	29.7	22.2	52.8	25.0
Muslim	28.6	38.9	32.4	23.6	47.0	29.3	21.7	51.7	26.6
Others	28.5	39.4	32.0	24.0	50.7	25.3	21.3	52.5	26.2
<i>Level of education</i>									
No Education	26.8	34.8	38.4	23.2	39.1	37.8	21.2	46.8	32.0
Primary	30.4	40.3	29.3	24.4	44.5	31.1	20.9	51.5	27.5
Secondary	34.1	44.6	21.3	26.4	50.4	23.2	22.9	55.2	21.9
Higher Education	38.8	46.6	14.6	25.8	57.5	16.8	22.2	60.8	17.0
<i>Household wealth</i>									
LWC	26.6	36.2	37.3	23.8	43.8	32.5	21.0	49.2	29.8
MWC	30.3	38.1	31.7	25.5	45.4	29.0	22.3	53.7	23.9
HWC	33.4	42.3	24.3	25.7	47.9	26.4	23.2	56.4	20.5
<i>Employment status</i>									
Employed	30.2	40.8	29.0	25.1	46.6	28.3	22.0	53.2	24.8
Unemployed	28.4	35.1	36.5	24.0	42.9	33.1	22.2	50.9	27.0

Source(s): Authors' own estimation from unit-level data of NFHS-3 (2005–2006), NFHS-4 (2015–2016) and NFHS-5 (2019–2021)

Table 4. Results of Heckman selection model (two-step): impact of associated factors on multidimensional women's disempowerment

	Step 1: Multidimensionally disempowered or not (MDit)			Step 2: Extent of inadequacies among multidimensionally disempowered women (IMD _{it})		
	Coef.	z	p > z	Coef.	Z	p > z
<i>Demographic factors</i>						
Rural	0.231	31.4	0.000	2.451	14.1	0.000
Age	-0.122	-37.9	0.000	-0.312	-22.1	0.000
Sage	0.001	30.1	0.000	–	–	–
<i>Social factors</i>						
SC	0.029	2.9	0.003	-0.337	-2.0	0.044
ST	0.038	3.6	0.000	0.835	4.5	0.000
OBC	0.106	13.5	0.000	0.590	4.1	0.000
Hindu	0.176	17.0	0.000	3.427	16.3	0.000
Muslim	0.348	25.2	0.000	4.252	14.8	0.000
Mass media	-0.299	-40.1	0.000	-4.233	-24.0	0.000
<i>Cultural factors</i>						
EDUPRY	-0.216	-22.0	0.000	-2.637	-14.4	0.000
EDUSEC	-0.328	-39.6	0.000	-4.702	-23.7	0.000
EDUHS	-0.450	-35.0	0.000	-6.111	-18.1	0.000
Self-esteem	-0.044	-21.8	0.000	-0.554	-14.8	0.000
H_DOMIN	0.050	21.9	0.000	0.544	13.1	0.000
<i>Economic factors</i>						
MWC	-0.018	-2.1	0.037	-0.729	-5.2	0.000
HWC	-0.022	-2.7	0.008	-0.636	-4.7	0.000
EMPL	-0.224	-33.3	0.000	-1.943	-12.2	0.000
Finance	-0.433	-58.8	0.000	-4.665	-18.9	0.000
TD	-0.041	-8.7	0.000	-1.790	-22.1	0.000
Intercept	2.921	52.3	0.000	66.53	181.6	0.000
Mills LAMBDA				-0.31	-0.36	0.72
Rho				-0.02		
Sigma				17.13		
N (Observations)	188,806			77,832 (= Censored observation)		

Note(s): Pooled observation = 188,806 (65,610 for 2005–2006, 62,716 for 2015–2016 and 60,480 for 2019–2021). Censored obs. = 77,832; Uncensored obs. = 110,974. Wald $\chi^2(18) = 1532.55$; Prob > $\chi^2 = 0.0000$

Source(s): Authors' own estimation from unit-level data of NFHS-3 (2005–2006), NFHS-4 (2015–2016) and NFHS-5 (2019–2021)

robustness of our econometric analysis. The empirical findings reveal several factors significantly influencing women's multidimensional disempowerment. Specifically, rural residence (RURAL), belonging to socially disadvantaged groups (SC, ST, OBC), identification with major religious groups (HINDU, MUSLIM), and husband's dominance (H_DOMIN) are positively and significantly associated with both the likelihood of multidimensional disempowerment (incidence) and the intensity of inadequacies experienced. Conversely, variables such as AGE, MEDIA, educational attainment (EDUPRY, EDUSEC, EDUHS), SELF_ESTEEM, household wealth (MWC, HWC), employment status (EMPL) and financial inclusion (FINANCE) are negatively associated with disempowerment, significantly reducing both the likelihood of being disempowered and the intensity of inadequacies experienced.

Women residing in RURAL areas are significantly more likely to be multidimensionally disempowered and experience higher levels of inadequacy compared to urban women. This

finding underscore persistent geographic disparities and highlights the importance of targeting rural areas with specific empowerment-focused interventions.

Caste and religious identities profoundly impact empowerment status. Women belonging to SCs, STs and OBCs show significantly higher odds of multidimensional disempowerment relative to women from the General caste. Among religious groups, HINDU and MUSLIM women exhibit higher likelihood and intensity of multidimensional disempowerment compared to those belonging to other religious groups. These outcomes emphasize rooted socio-cultural inequalities affecting historically marginalized communities. However, MEDIA exposure significantly reduces disempowerment by increasing awareness of rights, resources and services, fostering empowerment across all social groups.

H_DOMIN reflecting patriarchal attitudes and controlling behaviours significantly exacerbates women's disempowerment. Women facing higher spousal dominance exhibit a greater probability of disempowerment and experience heightened inadequacies, demonstrating how household-level patriarchal structures critically undermine women's empowerment. In contrast, higher educational attainment substantially reduces multidimensional disempowerment. Women with at least primary education (EDUPRY, EDUSEC, EDUHS) are significantly less likely to experience disempowerment compared to illiterate women, highlighting education's central role in enabling women's autonomy and empowerment. SELF_ESTEEM, reflecting women's attitudes towards autonomy and rejection of gender-based violence, significantly mitigates disempowerment. Women exhibiting higher self-esteem levels are significantly less likely to experience multidimensional disempowerment and encounter fewer inadequacies, emphasizing the critical importance of promoting gender-equitable norms and attitudes.

FINANCE significantly reduces disempowerment by enhancing women's economic independence, decision-making autonomy and self-esteem. EMPL emerges as another powerful determinant. Employed women are significantly less likely to be multidimensionally disempowered, experiencing fewer inadequacies compared to unemployed women. Employment evidently provides women not only economic independence but also increased decision-making power and mobility. Similarly, women from MWC and HWC exhibit significantly lower disempowerment compared to those from the LWC.

The coefficient of AGE confirms that as women age, their likelihood of disempowerment declines, likely reflecting accumulated life experiences and enhanced autonomy. The significance of the squared term (SAGE) indicates that this empowerment effect increases with age but at a diminishing rate, revealing a nuanced, nonlinear relationship.

Finally, the significant negative coefficient of the time dummy (TD) demonstrates that, controlling for all factors, the incidence and intensity of multidimensional disempowerment have significantly declined over the study period. This temporal effect highlights overall societal progress and suggests the effectiveness of ongoing policies and programs aimed at empowering women in India, though high disparity persists.

Discussion

The empirical results highlight critical insights into the status and determinants of multidimensional women's empowerment in India, revealing that despite significant improvements, women continue to experience substantial disempowerment. Even in recent years (2019–2021), 53.3% of married women in India remain multidimensionally disempowered. This prevalent disempowerment primarily arises due to persistent inadequacies in essential domains such as physical mobility and financial awareness. Specifically, 52.6% women face severe restrictions on their physical mobility, including limited freedom to visit markets, health facilities or places outside their village or town unaccompanied. Moreover, 25.4% remain unaware of critical financial assistance programs. The relative contribution of physical mobility to overall disempowerment has increased, underscoring deep-rooted patriarchal norms constraining women's autonomy.

Nevertheless, the observed decline in multidimensional women's disempowerment from 72.6% in 2005–2006 to 53.3% in 2019–2021 suggests that various government and non-governmental initiatives have positively impacted women's empowerment. Notable national and sub-national initiatives – including the Beti Bachao Beti Padhao Scheme (2015), Aapki Beti Hamari Beti Scheme (2015), UJJAWALA Scheme (2016), Mahila E-Haat (2016) and the Working Women Hostel initiative (2017) – have likely contributed to these improvements. Despite these promising developments, India lacks comprehensive official evaluations of effectiveness of these programs. The absence of information on these schemes within the NFHS dataset, a widely used database for assessing women's empowerment in India, constrains rigorous evaluation of their impact. Addressing this data gap is vital for identifying existing shortcomings in current interventions, thereby enhancing their effectiveness in promoting women's empowerment.

The disaggregated analysis further explores pronounced disparities in women's empowerment based on demographic, social, cultural and economic factors. Among demographic variables, rural women face significantly higher disempowerment compared to their urban counterparts, a finding consistent with existing literature (Khalid *et al.*, 2020; Das *et al.*, 2021). Given that 68.6% of women reside in rural areas, targeted interventions to bridge urban-rural gaps are urgently required. Age also emerges as an important determinant, with older women exhibiting greater empowerment, consistent with prior studies emphasizing increased autonomy and respect gained with age within patriarchal contexts (Khalid *et al.*, 2020).

Social dimensions, including caste, religion and media exposure, significantly influence women's empowerment. Women from historically marginalized castes, especially STs, display higher disempowerment levels. Encouragingly, ST women experienced significant reductions in disempowerment over the study period, indicating narrowing caste-based disparities. These findings align with studies highlighting caste-driven disparities in gender outcomes (Sultana *et al.*, 2017).

Religious identity also significantly shapes women's empowerment, with Muslim women notably more disempowered compared to other religious groups. Alarming, improvements among Muslim women lagged behind those observed for Hindu women, resulting in widening religious disparities over time. These findings resonate with prior research highlighting the vulnerabilities of Muslim women (Islam and Siddiqui, 2020), although existing literature rarely provides detailed quantitative analysis on multidimensional disempowerment.

Exposure to mass media emerges as a critical empowerment enabler by increasing awareness and promoting social connectivity of women, consistent with NFHS findings (IIPS and ICF, 2017). However, despite the potential media, more than 40% of Indian women remain deprived of regular media exposure, limiting opportunities for empowerment.

Cultural factors, notably education, self-esteem and spousal dominance, play pivotal roles in shaping empowerment outcomes. Education significantly reduces women's disempowerment, reinforcing its crucial role in fostering women's autonomy and decision-making power (Kazembe, 2020). Yet, the stark educational disparity remains a severe barrier: over 28% of women remain illiterate and only 27% complete secondary education (IIPS and ICF, 2021). Interestingly, our findings indicate that higher education strongly improves decision-making autonomy but less so physical mobility, aligning with Urbaeva (2019), who emphasizes that mobility constraints are deeply rooted in cultural norms rather than educational attainment alone. The prevalence of low self-esteem among women (45.4%) and widespread spousal dominance (46%) further aggravates disempowerment. These factors directly reflect entrenched patriarchal attitudes and widespread acceptance of gender-based violence, significantly undermining women's empowerment. Thus, interventions aimed at transforming social norms and reducing gender-based violence are urgently needed.

Economic factors like household wealth, employment status and financial inclusion are instrumental in reducing multidimensional disempowerment. Wealthier women exhibit significantly lower disempowerment levels, reaffirming prior studies that highlight household wealth as a critical determinant of women's empowerment (Narayannan *et al.*, 2019).

Employment emerges as a powerful empowerment catalyst, significantly enhancing women's autonomy and decision-making capabilities (Khalid *et al.*, 2020). However, only about one-third (32.9%) of married Indian women are employed, underscoring a critical avenue for targeted policy interventions. Financial inclusion further enhances women's empowerment by fostering economic independence and self-worth, consistent with findings from Kaur and Kapuria (2020) and Firdaush *et al.* (2024). Despite improvements, 21.4% of married women still lack basic access to financial services (IIPS and ICF, 2021), highlighting the urgent need for more inclusive financial policies.

Conclusion and policy implications

In this study, women's empowerment is conceptualized as the enhancement of their real freedoms and capabilities across three key dimensions – decision-making, physical mobility and awareness. This study highlights the persistently critical condition of married women in India, revealing that even today, more than half remain multidimensionally disempowered, predominantly due to the restrictions in physical mobility. Despite measurable progress during 2005–2006 to 2019–2021, the substantial share of disempowered women indicates an urgent need for policy actions and context-sensitive interventions by both governmental and non-governmental stakeholders.

Disaggregated level analysis exposes a stark disparity in women's empowerment based on socio-economic and cultural characteristics. Women belonging to ST, OBC and the Muslim community remain particularly vulnerable, facing significantly higher multidimensional disempowerment. Although caste-based inequalities have narrowed somewhat over time, religious disparities have widened. Policy responses must therefore be tailored explicitly at the subgroup level, prioritizing marginalized populations through culturally sensitive empowerment strategies.

Empirical findings further confirm that women's empowerment is shaped by intersecting social, cultural and economic factors. While education, employment, financial inclusion and mass media exposure serve as enablers, low self-esteem and spousal dominance remain key barriers, deeply rooted in patriarchal norms. Addressing these systemic constraints requires a multidimensional policy response, including expanded educational access, inclusive employment generation, enhanced financial accessibility and mass media outreach. Equally important are sustained attitudinal shifts – through community-level workshops, informational campaigns and awareness programs – that challenge social norms around gender-based violence, discrimination and women's subordinate roles, thereby fostering greater societal acceptance of gender equality.

The findings reinforce the utility of a multidimensional approach in conceptualizing women's empowerment as a complex and layered phenomenon, thereby contributing to theoretical and empirical scholarship. The MWDI introduced in this study offers a robust framework for identifying the intensity and nature of disempowerment, tracking disparities across subgroups and informing targeted policy actions. It serves as a valuable tool for monitoring India's progress towards SDG 5 (Gender Equality) and strengthening evidence-based decision-making at national and sub-national levels.

Meaningful progress in women's empowerment demands integrated and multidimensional policy approaches that simultaneously address structural, cultural and economic barriers. Future interventions should adopt rigorous, longitudinal evaluations to guide evidence-based policies aligned with national development goals and SDG 5.

References

- Akter, S. and Chindarkar, N. (2020), "An empirical examination of sustainability of women's empowerment using panel data from India", *Journal of Development Studies*, Vol. 56 No. 5, pp. 890-906, doi: [10.1080/00220388.2019.1605054](https://doi.org/10.1080/00220388.2019.1605054).

- Alkire, S. and Foster, J. (2011), "Counting and multidimensional poverty measurement", *Journal of Public Economics*, Vol. 95 Nos 7-8, pp. 476-487, doi: [10.1016/j.jpubeco.2010.11.006](https://doi.org/10.1016/j.jpubeco.2010.11.006).
- Alkire, S., Meinzen-Dick, R., Peterman, A., Quisumbing, A., Seymour, G. and Vaz, A. (2013), "The women's empowerment in agriculture index", *World Development*, Vol. 52, pp. 71-91, doi: [10.1016/j.worlddev.2013.06.007](https://doi.org/10.1016/j.worlddev.2013.06.007).
- Arora, M., Khurana, P. and Rani, L. (2024), "Women empowerment in India since 1947: a critical analysis", *International Journal of Experimental Research and Review*, Vol. 41 No. spl., pp. 280-289, doi: [10.52756/ijerr.2024.v41spl.023](https://doi.org/10.52756/ijerr.2024.v41spl.023).
- Burchardt, T. and Hick, R. (2018), "Inequality, advantage and the capability approach", *Journal of Human Development and Capabilities*, Vol. 19 No. 1, pp. 38-52, doi: [10.1080/19452829.2017.1395396](https://doi.org/10.1080/19452829.2017.1395396).
- Das, P., Paria, B. and Firdaush, S. (2021), "Juxtaposing consumption poverty and multidimensional poverty: a study in Indian context", *Social Indicators Research*, Vol. 153 No. 2, pp. 469-501, doi: [10.1007/s11205-020-02519-0](https://doi.org/10.1007/s11205-020-02519-0).
- Dixon-Mueller, R. (1998), "Female empowerment and demographic processes: moving beyond Cairo", *Policy and Research Papers*, No. 13, International Union for the Scientific Study of Population (IUSSP), Paris, pp. 1-12.
- Firdaush and Das (2022), "Empowerment status of Hindu and Muslim women in India: myth V/S reality", *International Journal of Emerging Technologies and Innovative Research*, Vol. 9 No. 3, pp. c314-c327.
- Firdaush, S., Baidya, S., Bera, U. and Kumbhakar, S. (2024), "Green growth through micro-entrepreneurship: empowering women for sustainable development in West Bengal", in Pal, M.K. and Das, P. (Eds), *Informal Manufacturing and Environmental Sustainability: A Global Perspective*, Emerald Publishing Limited, Leeds, pp. 265-278.
- Firdaush, S. and Das, P. (2025), "Intimate partner violence and its associated factors: a multidimensional analysis in the context of India", *Journal of Asian and African Studies*, Vol. 60 No. 2, pp. 661-676, doi: [10.1177/00219096231176748](https://doi.org/10.1177/00219096231176748).
- Gressel, C.M., Rashed, T., Maciuika, L.A., Sheshadri, S., Coley, C., Kongeseri, S. and Bhavani, R.R. (2020), "Vulnerability mapping: a conceptual framework towards a context-based approach to women's empowerment", *World Development Perspectives*, Vol. 20, 100245, doi: [10.1016/j.wdp.2020.100245](https://doi.org/10.1016/j.wdp.2020.100245).
- Gulzar, F., Khalid, S., Tariq, M. and Mansoor, K.B. (2024), "Impact of women empowerment in the state, market and social domain: empirical evidence of developing countries", *Journal for Social Science Archives*, Vol. 2 No. 2, pp. 390-403, doi: [10.59075/jssa.v2i2.70](https://doi.org/10.59075/jssa.v2i2.70).
- International Institute for Population Sciences (IIPS) & ICF (2017), *National Family Health Survey (NFHS-4), 2015-16: India*, IIPS, Mumbai.
- International Institute for Population Sciences (IIPS) and ICF (2021), *National Family Health Survey (NFHS-5), 2019-21: India*, IIPS, Mumbai.
- Islam, M.S. and Siddiqui, L. (2020), "A geographical analysis of gender inequality in literacy among Muslims of West Bengal, India (2001-2011)", *Geojournal*, Vol. 85 No. 5, pp. 1325-1354, doi: [10.1007/s10708-019-10025-1](https://doi.org/10.1007/s10708-019-10025-1).
- Kabeer, N. (1999), "Resources, agency, achievements: reflections on the measurement of women's empowerment", *Development and Change*, Vol. 30 No. 3, pp. 435-464, doi: [10.1111/1467-7660.00125](https://doi.org/10.1111/1467-7660.00125).
- Kaur, S. and Kapuria, C. (2020), "Determinants of financial inclusion in rural India: does gender matter?", *International Journal of Social Economics*, Vol. 47 No. 6, pp. 747-767, doi: [10.1108/ijse-07-2019-0439](https://doi.org/10.1108/ijse-07-2019-0439).
- Kazembe, L.N. (2020), "Women empowerment in Namibia: measurement, determinants and geographical disparities", *World Development Perspectives*, Vol. 19 No. 4, 100211, doi: [10.1016/j.wdp.2020.100211](https://doi.org/10.1016/j.wdp.2020.100211).

- Kemi, A.O. and Jenyo, O.G. (2016), "Gender equality and the empowerment of women and girls in Nigeria: the way forward to national security", *Open Journal of Social Sciences*, Vol. 4 No. 7, pp. 230-240, doi: [10.4236/jss.2016.47032](https://doi.org/10.4236/jss.2016.47032).
- Khalid, M.W., Samargandi, N., Shah, A.H. and Almandeel, S. (2020), "Socio-economic factors and women's empowerment: evidence from Punjab, Pakistan", *International Economic Journal*, Vol. 34 No. 1, pp. 144-168, doi: [10.1080/10168737.2019.1677742](https://doi.org/10.1080/10168737.2019.1677742).
- Kumar, V.S. (2020), "Empowerment of scheduled caste women: evidence from self-help groups in Pudukkottai district", *International Journal of Analytical and Experimental Modal Analysis*, Vol. 12 No. 1, pp. 1180-1188.
- Madzorera, I. and Fawzi, W. (2020), "Women empowerment is central to addressing the double burden of malnutrition", *eClinicalMedicine*, Vol. 20, 100286, doi: [10.1016/j.eclinm.2020.100286](https://doi.org/10.1016/j.eclinm.2020.100286).
- Mishra, A. (2014), "Multidimensional measures of female disempowerment", *Social Indicators Research*, Vol. 119 No. 3, pp. 1393-1410, doi: [10.1007/s11205-013-0544-z](https://doi.org/10.1007/s11205-013-0544-z).
- Mishra, T. (2018), "Women disempowerment in India at sub-national level: a socio-economic analysis", *Vidyasagar University Journal of Economics*, Vol. 23, pp. 59-78.
- Mosse, D. (2018), "Caste and development: contemporary perspectives on a structure of discrimination and advantage", *World Development*, Vol. 110, pp. 422-436, doi: [10.1016/j.worlddev.2018.06.003](https://doi.org/10.1016/j.worlddev.2018.06.003).
- Nahar, S. and Mengo, C.W. (2022), "Measuring women's empowerment in developing countries: a systematic review", *Journal of International Development*, Vol. 34 No. 2, pp. 322-333, doi: [10.1002/jid.3594](https://doi.org/10.1002/jid.3594).
- Narayanan, S., Lentz, E., Fontana, M., De, A. and Kulkarni, B. (2019), "Developing the women's empowerment in nutrition index in two states of India", *Food Policy*, Vol. 89 No. 8, 101780, doi: [10.1016/j.foodpol.2019.101780](https://doi.org/10.1016/j.foodpol.2019.101780).
- Richardson, R., Schmitz, N., Harper, S. and Nandi, A. (2019), "Development of a tool to measure women's agency in India", *Journal of Human Development and Capabilities*, Vol. 20 No. 1, pp. 26-53, doi: [10.1080/19452829.2018.1545751](https://doi.org/10.1080/19452829.2018.1545751).
- Robeyns, I. (2003), "Sen's capability approach and gender inequality: selecting relevant capabilities", *Feminist Economics*, Vol. 9 Nos 2-3, pp. 61-92, doi: [10.1080/1354570022000078024](https://doi.org/10.1080/1354570022000078024).
- Sen, A. (1999), *Commodities and Capabilities*, OUP Catalogue, Oxford University Press.
- Sen, A. (2000), "Social exclusion: concept, application, and scrutiny", *Social Development Papers*, No. 1, Asian Development Bank, Manila, pp. 1-54.
- Sharaunga, S., Mudhara, M. and Bogale, A. (2019), "Conceptualisation and measurement of women's empowerment revisited", *Journal of Human Development and Capabilities*, Vol. 20 No. 1, pp. 1-25, doi: [10.1080/19452829.2018.1546280](https://doi.org/10.1080/19452829.2018.1546280).
- Sultana, H.Y., Jamal, M.A. and Najaf, D.E. (2017), "Impact of microfinance on women empowerment through poverty alleviation: an assessment of socio-economic conditions in Chennai city of Tamil Nadu", *Asian Journal for Poverty Studies*, Vol. 3 No. 2, pp. 175-183.
- UNDP (2019), *Human Development Report 2015*, Oxford University Press. University of New South Wales, New York.
- Urbaeva, J. (2019), "Opportunity, social mobility, and women's views on gender roles in central Asia", *Social Work*, Vol. 64 No. 3, pp. 207-215, doi: [10.1093/sw/swz011](https://doi.org/10.1093/sw/swz011).
- Vella, F. (1998), "Estimating models with sample selection bias: a survey", *Journal of Human Resources*, Vol. 33 No. 1, pp. 127-169, doi: [10.2307/146317](https://doi.org/10.2307/146317).
- Wolff, J. and De-Shalit, A. (2007), *Disadvantage*, Oxford university Press on demand.

Corresponding author

Pinaki Das can be contacted at: pdasvu@mail.vidyasagar.ac.in