

Progress towards Women Empowerment in Indian States: Analyses based on NFHS

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ABSTRACT:

Giving due attention to improving the rights, status and access to resources of women is a highly worthy goal in developing countries like India. Women participation in their own matters and social and economic benefits is still quite low. Therefore, this study attempts to compare the women empowerment in different states over a span of time among currently married women. The 2005-06 and 2015-16 National family Health Survey data have been used. Factor analysis was employed to determine theoretically meaningful dimensions of empowerment from fifteen items and extracted four components for further measuring the women empowerment index. Mean scores for each component has computed where positive value scores show a better state and negative value shows a worse condition of the refereed state. The results obtained from mean scores of empowerment and ranking based on mean empowerment scores shows that women belonging to Andhra Pradesh, Tamil Nadu and Karnataka are more justifying spousal violence and remained at bottom and Uttar Pradesh, Bihar and Jammu Kashmir became worst over time. Tamil Nadu and Sikkim has more freedom to move at any places outside their home or community. Nagaland tops the indicator in the number of currently married women who usually participate in household decisions in both rounds of survey and Jharkhand for same indicator of empowerment improved a lot in later. Women from West Bengal, Arunachal Pradesh and Tripura not agreed to justify refusing sexual relations to husband and remain in bottom position at both rounds. The concept of diverse states dependent on the cultural context and societal norms is a major role for this difference among states.

Introduction:

Women empowerment is a challenging concept from a measurement perspective because it has an abstract and broad definition (Bishop et al, 2014). It is determined by various individual and community factors and its interactions and is also context-specific in the sense and consequently its measure differ from one place, situation, or even from one individual to another (Tuladhar et al, 2013).

In low- or middle-income country like India, women are still underprivileged of claiming their rights and of being able to make decisions about the direction of their lives. In some places, their own freedom to obtain healthcare for herself or for her children when it is needed is denied. Reaching gender equality is a slow process in these countries, since it challenges people to change many cultural practices and thoughts and it takes a long far to change practices in the home, community and in the decision-making environment

The empowerment of women is a fundamental requirement for their health. Thus, increase in promoting access for women to resources, education and employment and their protection and promotion of human rights and fundamental freedoms so that they are enabled to make choices free from any pressure or discrimination (Owusu et al, 2011; Mergia M., 2014; Sharma et al, 2011). To be empowered, women must not only educate and employed but also have the agency (i.e., perceived and actual self-efficacy and decision-making control) to use them for making planned choices and acting upon those choices for change. Different policies on women's empowerment exist at the national, state and local levels including health, education, economic opportunities, and gender-based violence and political participation.

The progress in women's empowerment would be analysed in terms of ownership of household assets, their decision making power, rights to mobility and their perceptions and experiences to domestic and spousal violence etc., which will open a broader perspective of the sexual and reproductive health vulnerability and also their participation in decisions about their own life and destiny. Participation of women means that they are closely involved in the economic, social, cultural and political processes that affect their lives. Since participation requires increased influence and control, it also demands an increase in empowerment in economic, social and political terms (UNDP, 1993). Terms such as

'participation', 'consultation', and 'partnership' began to enter the development vocabulary, reflecting the increased importance being given by many development organizations to an enabling approach which respects people's abilities to identify and express their own needs and priorities (Rowlands J. Questioning empowerment. Oxford; Oxfam, 1997).

Women Empowerment shows how women's decisions direct their lives into private or public spheres of activity. The overall attempt in assembling these data and research findings is to advance human rights in the direction of gaining respect, honour, and happiness for all. Inequalities within women describe the roles, characteristics and behaviours between them that are grounded in the expectations and social norms prevailing in local society.

From the background literature, it is said that traditional, social and economic values coerce the rights of women and their opportunities to direct their own lives or participate in any community and national development (Bogalech and Mengistu, 2007). It is also consistent with the conceptualization of women's empowerment which is said to be dependent on the cultural context and societal norms under which it operates (Upadhyay, 2009; Kishor and Subaiya 2008; Upadhyay and Karasek, 2010).

A recent study done by Fernanda Ewerling in 2017 developed a novel women's empowerment indicator using Demographic and Health Survey (DHS) data from 34 African countries. The methodology is intended to allow within and between country comparison, as well as time trends analysis. It would be its main strength as no other cross-cultural indicator with these features has yet been proposed. The methodology named Survey-based Women's empowerment (SWPER), is adopted here for measuring the women empowerment index with indices obtain by extracting components obtained from principal component analysis.

The objective of this paper is to compare states using empowerment score and ranking the women's empowerment level in different diverse states of the country using National Family Health Survey data of 2005-06 and 2015-16 rounds.

Data and Methodology:

The women's questionnaire of third and fourth round of NFHS survey data was used in the

study. The analyses are specific to women of reproductive age (15-49 years) who were currently married. These responses were important indicators of women's independence relative to other household members, including the husband. The indicators used for the measurement of each empowerment domains were selected based on previous empirical applications and data availability. For this study, the questions asked in the survey were grouped into four categories- participation in household decisions, acceptability of physical abuse by spouse, freedom of movement, and justification towards refusing sexual intercourse to husband. Women's empowerment measures were derived from a factor analysis conducted with fifteen survey questions representative of different dimensions of empowerment. The variable concerns the women's decision- making authority at the household. These are related to the person in the household who was responsible for decisions concerning the woman's health; major household purchases, control over husband's earning and visit to family and relatives. Each response is dichotomized, taking the value 1 and is said to be 'involved' in participation if the woman says that a decision is made by her alone or jointly with her husband/another person, and 0 otherwise. Five questions were adapted to obtained information from women on their opinion towards whether it is justified for a husband to beat his wife if she goes out without telling him; if she argues with the husband; if she refuses to have sex with him; if she does not cook properly. Response options included yes, or no. Variables were reverse coded so that 1 indicates that women do not justified towards beating with their husband while 0 indicates that they justified wife beating in any circumstances. The respondents were asked as if they are allowed to: go to the market; go to the health facility; places outside the village/community. The responses were rescaled as code 0; if they were not allowed to go or allowed with someone else only and 1 if they could go alone. Women were also asked if they should feel justified in refusing to have sexual relation with their husband if she knows that, the husband has a sexually transmitted disease husband has other woman and if she is tired or not in mood. Those who justified refusing sexual relation for any of the following reasons were coded as 1 indicating a higher level of empowerment and those who should not justified in refusing sexual relation were coded as 0.

Data Analysis:

Description of variables used for Index:

Table 1 shows the distribution of variables used to construct women empowerment indicators. A factor analysis was conducted using each of these measures, and the corresponding factor scores for the resulting dimensions were used in the women empowerment index. Overall, 25-30 % of women agree with one or more reasons for wife beating. Most of the agreement for justification of wife beating is due to argument with husband or neglecting of children. NFHS 2005-06 shows that women were most likely to participate in decisions about their husband's earning (67%), followed closely by own health care and decisions about visits to own family or relatives (about 60%) whereas NFHS 2015-16 indicates a majority of women participated about their personal health care with approximately equal decisions in other stated conditions. Freedom of movement is severely condensed for a large proportion of women in India. Less than half of women were allowed to go alone to the market, to the health centre, and outside the village or community. Surprisingly, the percentage of women were found decrease over time in comparison to NFHS 2005-06 when it came to justification of refusing sexual relation to husband in any circumstance considered in the study. The justifying behaviour was less in case of tiredness of women for both rounds of survey.

Table 1: Distribution of indicators of Women Empowerment

	NFHS 2005-06		NFHS 2015-16	
Wife beating is justified if wife	Yes	No	Yes	No
Goes out without telling husband	29.4%	70.6%	24.6%	75.4%
Neglects the children	34.4%	65.6%	29.9%	70.1%
Argues with husband	30.5%	69.5%	27.9%	72.1%
Refuses to have sex	14.7%	85.3%	13.7%	86.3%
Does not cook food properly	20.5%	79.5%	18.6%	81.4%
Household decisions about	Alone/Jointly	Husband/Other	Alone/Jointly	Husband/Other
Own health care	62.3%	37.70%	75.7%	24.3%
Major household purchases	52.9%	47.1%	74.1%	25.9%
Visit to family and relatives	60.5%	39.5%	75.3%	24.7%
How husband's earning are used	67.3%	32.7%	71.4%	28.6%
Allowed to go/ freedom of movement	No	Yes	No	Yes
To the market	40.0%	60.6%	43.8%	56.2%
To the health facility	43.7%	56.3%	48.7%	51.3%
To go places outside the village	54.9%	45.1%	50.5%	49.5%
Justified refusing sexual intercourse to husband if	No	Yes	No	Yes
Husband has STD	14.7%	85.3%	18.4%	81.6%
Husband has other woman	16.5%	83.5%	18.9%	81.1%
Tired or not in mood	17.3%	82.7%	22.0%	78.0%

Factor Analysis:

Initially, factor analysis (a method that defines patterns of common variation in interdependent indicators of defined characteristics) is done to assign weights to each measure of empowerment and checked the results (components and item's loadings) for consistency across surveys. For factor analysis estimations, all relevant variables were included on domains of empowerment provided in both survey rounds. Scree plots that define the number of components to be retained are obtained and applied varimax rotation to the retained components. Scree plots showed a flattening of the curve after the fourth component. Therefore, four components are finally retained in both data sets and preceded with varimax rotation. The four derived components explained a total of about 66.42 percent for NFHS 2005-06 data set and about 71.97 percent for NFHS 2015-16.

Most of the variables used in the factor analysis have high loadings (in most cases greater than 0.6), confirming that the rotated factors reasonably represent the original variables. These four domains jointly composed our Women's Empowerment Index. The four factors representing women's empowerment indicators named as follows:

Women's attitudes towards spousal violence:

The five items measuring women's acceptance of spousal violence in different circumstances loaded heavily on this factor. These variables include whether wife beating is justified if the wife; goes out without telling the husband (0.801 for NFHS 2005-05 and 0.796 for NFHS 2015-16), neglects the children (0.812 for NFHS 2005-05 and 0.823 for NFHS 2015-16), argues with the husband (0.807 for NFHS 2005-05 and 0.821 for NFHS 2015-16), refuses sex (0.710 for NFHS 2005-05 and 0.721 for NFHS 2015-16), and burns the food (0.756 for NFHS 2005-05 and 0.756 for NFHS 2015-16).

Women's participation in decision making:

Measures of the degree of control a woman had over household decisions loaded on this factor, specifically, women's decision-making participation in her health care (0.737 for NFHS 2005-05 and 0.843 for NFHS 2015-16), visits to her family or relatives (0.803 for NFHS 2005-05 and 0.860 for NFHS 2015-16), major household purchases (0.795 for NFHS 2005-05

and 0.834 for NFHS 2015-16) and use of her husband's earnings (0.679 for NFHS 2005-05 and 0.811 for NFHS 2015-16).

Women's freedom of movement:

Measures assessing woman's freedom of movement if they were allowed to go: the market (0.888 for NFHS 2005-06 and 0.901 for NFHS-2015-16), go to health facility (0.919 for NFHS 2005-06 and 0.920 for NFHS 2015-16) and go to outside village or community (0.842 for NFHS 2005-06 and 0.880 for NFHS 2015-16).

Women's attitude towards refusing sexual relations:

Measures of woman's justification towards refusing sexual relations to husband if husband has: sexually transmitted diseases (0.857 for NFHS 2005-06 and 0.899 for NFHS 2015-16), has other woman (0.886 for NFHS 2005-06 and 0.917 for NFHS 2015-16 for NFHS 2015-16) and if wife is tired or not in the mood (0.831 for NFHS 2005-06 and 0.867 for NFHS 2015-16).

Empowerment Index:

Further, the correlations between four dimensions of women's empowerment for each state were obtained for both rounds (Results not shown). When the average scores for the four domains plotted against each other, negative values imply a worse situation while positive values imply opposite situation. The correlation among the variables ranges from -0.08 to 0.93. The correlations between the WEI domains results suggest that our index measures relevant aspects of women's empowerment. In all states, each factor was both positively as well as negatively correlated with each other. Although, the strength of association varied by states. The strongest correlation found between women's attitude towards spousal violence and refusing sexual relation to husband in any of the circumstances. The Indian states which appear in the right upper corner of the graph are best positioned in terms of empowerment and the states indicating less positioned in terms of empowerment lies in the left lower corner of the graph. There is a high degree of correlation among the different indicators of empowerment in NFHS 2015-16 round when the scatter plots are drawn between respondent's participation in decision making with respondent's freedom of movement and respondent's attitude towards sexual refusal. However, the correlation was higher in NFHS 2015-16 surveys when scatter plots

are drawn including freedom of movement with attitude towards sexual refusal and decision making with attitude towards violence. A much higher degree of correlation between the indicators attitude towards movement and attitude towards sexual refusal with husband is found among responses in NFHS 2015-16 survey. Although, a negative correlation in both datasets was found between the indicators i.e., attitude towards spousal violence and freedom to movement. A full detail on the construction of measurement of index is provided in appendix section.

Table 2 (a) : Mean Empowerment Scores for each States

STATE	Mean Scores for Empowerment Index, NFHS 2005-06					Mean Scores for Empowerment Index, NFHS 2105-16				
	Total samples	Attitudes towards spousal violence	Participation in decision making	Freedom to movement	Attitudes towards sexual refusal relations	Total samples	Attitudes towards spousal violence	Participation in decision making	Freedom to movement	Attitudes towards sexual refusal relations
Andhra Pradesh	3836	-0.60	0.07	0.05	-0.16	1249	-0.54	-0.12	0.13	-0.01
Arunachal Pradesh	869	-0.04	0.44	0.12	-0.08	1270	0.18	0.16	0.05	-0.32
Assam	2007	0.24	0.41	0.00	-0.05	2928	0.14	0.11	-0.11	-0.15
Bihar	2275	0.12	-0.08	-0.19	-0.02	5573	-0.19	-0.26	-0.10	0.10
Chhattisgarh	2145	0.46	-0.02	-0.35	0.28	2657	0.29	0.10	-0.14	0.34
Goa	1775	-0.17	0.03	0.24	-0.13	545	0.47	0.26	0.41	-0.07
Gujarat	2399	0.26	0.24	0.42	-0.05	4283	0.21	-0.04	0.06	-0.24
Haryana	1646	0.43	0.00	0.57	0.21	2405	0.20	-0.23	-0.08	0.21
Himachal Pradesh	2056	-0.01	0.14	0.06	0.11	2051	0.44	0.05	0.69	0.33
J & K	1727	0.05	0.20	-0.02	0.18	4322	-0.30	-0.07	0.26	-0.14
Jharkhand	1844	-0.38	-0.46	0.54	-0.13	3258	0.26	0.17	0.01	0.20
Karnataka	3160	-0.27	-0.09	-0.09	-0.17	2716	-0.28	-0.17	-0.25	-0.64
Kerala	1721	-0.08	0.23	0.25	-0.20	1646	-0.16	0.18	-0.55	-0.04
Madhya Pradesh	4512	-0.05	0.69	0.12	-0.04	7040	0.02	-0.03	-0.21	0.19
Maharashtra	4700	0.03	0.15	0.31	-0.05	3374	0.02	0.06	0.18	0.21
Manipur	2352	-0.46	0.64	0.39	0.17	1196	-0.31	0.35	0.07	-0.27
Meghalaya	716	0.16	-0.20	-0.22	0.24	737	0.16	0.30	0.08	-0.36
Mizoram	864	-0.09	0.57	0.78	-0.01	853	0.19	0.36	0.90	0.22
Nagaland	1773	-0.38	0.79	-0.22	0.04	921	0.01	0.55	-0.15	0.07
Odisha	2099	-0.06	0.10	-0.51	-0.30	3670	0.00	0.02	-0.56	-0.01
Punjab	1931	0.02	0.17	0.06	0.12	2116	0.30	0.11	0.16	0.40
Rajasthan	2775	-0.05	-0.36	-0.10	0.21	4752	0.22	-0.08	-0.11	0.24
Sikkim	1167	-0.25	0.47	0.50	0.34	587	0.61	0.34	0.85	-0.02
Tamil Nadu	3144	-0.40	0.32	0.58	0.07	4219	-0.61	0.03	0.33	-0.82
Tripura	1012	0.10	-0.17	0.20	-0.78	693	0.29	0.28	0.09	-1.21
Uttar Pradesh	7452	0.02	-0.11	0.16	0.21	10303	-0.08	-0.07	-0.18	0.23
Uttarakhand	1781	0.15	0.01	-0.25	0.11	1818	0.34	0.10	0.49	0.36
West Bengal	3690	0.34	-0.28	0.09	-0.27	2165	0.03	0.07	0.33	-0.36

The loading patterns obtained from analysis for each state separately with those obtained in a pooled dataset of India with all states combined are compared. The weights used in the equations for estimating individual scores for each of the empowerment index are given in

appendix 1(a) and 1 (b). Table 2(a) presents the mean scores of women's empowerment by using four dimensions specified under factor analysis across all 28 states of India for NFHS 2005-05 and NFHS 2015-16. The state rankings based on the score of each empowerment domain are provided in table 2(b). As mentioned in the methods section, states with positive average values are far better than the Indian average in terms of women's empowerment. Though India follows the tradition of patriarchal system of society where empowerment must be measure by multi-dimensional factors, results from table reveal the ranking of states for each empowerment domains. Among the states measured for attitude towards non justification of spousal violence to them, almost every south state like Andhra Pradesh, Tamil Nadu and Karnataka remained at bottom with an improved condition in Goa and Rajasthan and became worst over time in Uttar Pradesh, Bihar and Jammu Kashmir. Nagaland tops the indicator in the number of currently married women who usually participate in household decisions in both round of survey whereas the worst state Jharkhand for same indicator of empowerment at earlier round improved a lot. Ranking shows a marked increase in the freedom of movement in Bihar, Uttarakhand and West Bengal and a decrease in freedom in some states like Uttar Pradesh, Madhya Pradesh and Bihar. However, Tamil Nadu and Sikkim has reported in top states in both rounds where Rajasthan, Odisha and Karnataka remains stagnant at bottom states in terms of having freedom to move outside village or community. Also, Women from West Bengal, Arunachal Pradesh and Tripura not agreed to justified refusing sexual relations to husband and remain in bottom position at both round whereas Andhra Pradesh, Goa, Kerala , Maharashtra and some other states reported in improved direction for agree justifying.

Table 2(b): Ranking of each state based on Empowerment scores

STATE	Ranking of states for women empowerment Index, NFHS 2005-06				Ranking of states for women empowerment Index, NFHS 2015-16			
	Attitudes towards spousal violence	Participation in decision making	Freedom to movement	Attitudes towards sexual refusal relations	Attitudes towards spousal violence	Participation in decision making	Freedom to movement	Attitudes towards sexual refusal relations
Andhra Pradesh	28	16	18	23	27	25	11	15
Arunachal Pradesh	15	6	13	20	13	10	16	23
Assam	5	7	19	18	15	12	20	20
Bihar	8	21	23	15	23	28	19	12
Chhattisgarh	1	20	27	2	7	13	22	3
Goa	21	17	10	22	2	7	5	18

Gujarat	4	9	6	17	10	21	15	21
Haryana	2	19	3	4	11	27	18	8
Himachal Pradesh	14	14	16	11	3	17	3	4
J & K	10	11	20	7	25	23	8	19
Jharkhand	25	28	4	21	8	9	17	10
Karnataka	23	22	21	24	24	26	26	26
Kerala	19	10	9	25	22	8	27	17
Madhya Pradesh	16	2	14	16	18	20	25	11
Maharashtra	11	13	8	19	17	16	9	9
Manipur	27	3	7	8	26	3	14	22
Meghalaya	6	25	24	3	14	5	13	25
Mizoram	20	4	1	14	12	2	1	7
Nagaland	24	1	25	13	19	1	23	13
Odisha	18	15	28	27	20	19	28	14
Punjab	13	12	17	9	5	11	10	1
Rajasthan	17	27	22	5	9	24	21	5
Sikkim	22	5	5	1	1	4	2	16
Tamil Nadu	26	8	2	12	28	18	7	27
Tripura	9	24	11	28	6	6	12	28
Uttar Pradesh	12	23	12	6	21	22	24	6
Uttarakhand	7	18	26	10	4	14	4	2
West Bengal	3	26	15	26	16	15	6	24

Conclusions:

This paper is an attempt to measure the women empowerment through all diverse states of India and compare the mean score from individual level measure by accessing four domains of empowerment based on 15 questions related to the attitude towards spousal violence, participation in decision making, freedom of movement and attitude towards refusing sexual intercourse to husband over a time of ten years through NFHS third and fourth round of survey. The four domains provide continuous standardized scores, so that a zero score means that the woman is at an average level of empowerment compared to the merge dataset of country India. A positive score means higher empowerment than average and a negative score, the opposite. As evidence in background literature, there are several contributing factors which directly or indirectly affect the status of a woman in a society. The several states examined in this paper represents the socio-cultural vulnerability where other proximate factors like education, employment and access to resources have not been considered which is already proved to be a significant factor of empowerment. A major limitation of this study is that women's responses may be affected by social desirability; the

presence of some family members at the time of the interview, several cultural biases and due to the difference exists between the states in terms of other development indicators. Results on indicators examined here were very likely to differ among diverse states in both the survey periods. Although in both rounds, women participation in household decisions either alone or jointly with husband found to be less in Andhra Pradesh, Karnataka and high in Nagaland. Taking into consideration freedom of movement, the states like Tamil Nadu and Sikkim has reported in top states in both rounds where Rajasthan, Odisha and Karnataka remains stagnant at bottom states. Women belonging to Andhra Pradesh, Bihar, Tamil Nadu and Sikkim were more agree or justified violence towards them by their husband whereas some states i.e. Kerala, Jharkhand, Manipur and Mizoram seem to be cover under improved responses over time. Some other states like Chhattisgarh, Haryana, Rajasthan along with some other states shown a positive attitude of women towards refusing sexual relation to husband in any of the specified circumstances.

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Appendix

The equation used to estimate individual standardized scores for each of the PCA_j components is given by:

$$S_{ij} = \frac{[(\lambda_{1j}(x_{1i} - \bar{x}_1)) + (\lambda_{2j}(x_{2i} - \bar{x}_2)) + \dots + (\lambda_{15j}(x_{15i} - \bar{x}_{15}))]}{\sigma_j}$$

simplified as: $f(z) = \frac{[-\sum_{v=1}^{15} \lambda_{vj}\bar{x}_v] + (\sum_{v=1}^{15} (\lambda_{vj} x_{vi}))}{\sigma_j}$

where; S_{ij} = individual standardized scores for individual i and component j
 x_{1j}, \dots, x_{15j} = individual values for variables $x_1 - x_{18}$ included in the PCA analyses
 σ_j = standard deviations of the predicted scores of each component j .

The weight given to each of the 15 variables in each component j is defined as:

$$\lambda_{vj} = \frac{\varphi_{vj}}{\sigma_v}$$

where φ_{vj} is the PCA loading for each of the variables v in each domain j and σ_v is the standard deviation of each variable v in the combined dataset.

Calculation of individual scores for NFHS 2005-06:

Score Attitude towards spousal violence = $f(z) = [(-2.140) + (\sum_{v=1}^{15} (\lambda_{vj} x_{vi}))] / 0.130$

Score Participation in decision making = $f(z) = [(-1.005) + (\sum_{v=1}^{15}(\lambda_{vj} x_{vi}))] / 0.167$

Score Freedom of movement = $f(z) = [(-1.648) + (\sum_{v=1}^{15}(\lambda_{vj} x_{vi}))] / 0.162$

Score Attitude towards refusing sexual relations = $f(z) = [(-2.702) + (\sum_{v=1}^{15}(\lambda_{vj} x_{vi}))] / 0.163$

Calculation of individual scores for NFHS 2015-16:

Score Attitude towards spousal violence = $f(z) = [(-2.259) + (\sum_{v=1}^{15}(\lambda_{vj} x_{vi}))] / 0.128$

Score Participation in decision making = $f(z) = [(-1.803) + (\sum_{v=1}^{15}(\lambda_{vj} x_{vi}))] / 0.146$

Score Freedom of movement = $f(z) = [(-0.892) + (\sum_{v=1}^{15}(\lambda_{vj} x_{vi}))] / 0.161$

Score Attitude towards refusing sexual relations = $f(z) = [(-2.151) + (\sum_{v=1}^{15}(\lambda_{vj} x_{vi}))] / 0.156$

Appendix 1(a) : Variable weights used in the equations for estimating individual scores for each domain of the WE Index based on NFHS 2005-06 dataset for India				
	Attitudes towards spousal violence	Participation in decision making	Freedom to movement	Attitudes towards sexual refusal relations
Person who usually decides on own health care	-0.008	0.331	-0.054	-0.002
Person who usually decides on large household purchases	-0.012	0.352	-0.040	-0.002
Person who usually to visit to family or relatives	-0.013	0.347	-0.039	0.000
Person who usually decides how to spend husband's earnings	-0.007	0.310	-0.054	0.007
Beating justified if wife goes out without telling husband	0.261	-0.022	0.015	-0.021
Beating justified if wife neglects the children	0.266	-0.023	-0.001	-0.010
Beating justified if wife argues with husband	0.261	-0.007	0.004	-0.005
Beating justified if wife refuses to have sex with husband	0.233	0.004	-0.016	0.011
Beating justified if wife doesn't cook food properly	0.250	0.005	-0.014	-0.006
Usually allowed to go to the market	-0.003	-0.035	0.379	-0.001
Usually allowed to go to the health facility	0.002	-0.047	0.391	-0.003
Usually allowed to go to places outside this village	-0.008	-0.055	0.366	-0.017
Reason for not having sex: husband has STI	-0.013	-0.004	-0.008	0.387
Reason for not having sex: husband has other women	-0.010	0.003	-0.006	0.401
Reason for not having sex: tired, not in mood	0.001	0.003	-0.010	0.376

Appendix 1(b): Variable weights used in the equations for estimating individual scores for each domain of the WE Index based on NFHS 2015-16 dataset for India

	Attitudes towards spousal violence	Participation in decision making	Freedom to movement	Attitudes towards sexual refusal relations
Person who usually decides on own health care	-0.009	0.305	-0.038	-0.004
Person who usually decides on large household purchases	-0.011	0.311	-0.033	-0.014
Person who usually to visit to family or relatives	-0.008	0.301	-0.032	-0.011
Person who usually decides how to spend husband's earnings	-0.013	0.294	-0.036	0.001
Beating justified if wife goes out without telling husband	0.260	-0.014	-0.006	-0.008
Beating justified if wife neglects the children	0.269	-0.016	-0.006	-0.008
Beating justified if wife argues with husband	0.267	-0.010	-0.002	0.000
Beating justified if wife refuses to have sex with husband	0.234	-0.001	-0.009	-0.005
Beating justified if wife doesn't cook food properly	0.246	-0.009	0.001	-0.009
Usually allowed to go to the market	-0.003	-0.031	0.373	-0.002
Usually allowed to go to the health facility	-0.005	-0.039	0.383	-0.001
Usually allowed to go to places outside this village	-0.007	-0.040	0.367	-0.002
Reason for not having sex: husband has STI	-0.011	-0.007	0.000	0.375
Reason for not having sex: husband has other women	-0.011	-0.009	-0.001	0.382
Reason for not having sex: tired, not in mood	0.000	-0.007	-0.004	0.361