

Women's autonomy in India: an empirical study based on National Family Health Survey-2

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1. Introduction

While describing the long history of the argumentative tradition of India, Amartya Sen (2005) has argued that such practice has been confined to an exclusive part of the Indian population – perhaps just to the members of the male elite. According to him, argumentational participation has had deep inequalities along the lines of gender, class, caste and community. Such a scholarly note has been the main fuel of the present study which has been directed to examine the degree of autonomy that Indian women enjoys to make effective choices and translate those into desired actions and outcomes. It conceptualises that the rich tradition of argumentation in Indian society will sustain if women enjoy higher degrees of autonomy. Sen's specific ideas in this direction on well-being, agency and freedom (see his popular Dewey Lectures 1984) has been taken towards empirical reality by Sabina Alkire (2005). Human agency, according to Sen, is people's ability to act on behalf of goals that matter to them. Sen's idea on agency-freedom is confined to something that a person is free to do and achieve in pursuit of whatever goals or values he or she regards as important. And this aspect of freedom is a core element of positive social change. Well-being, on the other hand, refers to the person's own state and is attached to any one type of aim. Alkire (2005) feels that the agency aspect is important in assessing what a person can do in line with his or her conception of the good. On these points, she introduces large-scale cross-cultural psychological studies of self-direction, of autonomy, of self-efficacy, and of self-determination, and explains why the psychological measures of agency may be relevant to those. However, she distinguished the agency measure based on the self-determination theory of Ryan and Deci (2000) as an accurate (as it is the closest to Sen's concept of agency) and robust indicator of empowerment in different domains.

The objective of this paper is to measure women's autonomy (in Indian context), which is one of the three basic psychological needs identified by Ryan and Deci (2000), the other two being competence and relatedness. In self-determination theory (Ryan and Deci, 2000), autonomy is seen

as a tendency or propensity towards self-organisation and self-regulation. When autonomous, individuals' actions are self-organised with respect to their inner and outer circumstances, instead of being merely cued up or prompted by nonintegrated processes or exogenous pressures. Chirkov et al. (2003) have empirically tested the self-determination theory with four reasons (shown in the appendix) why women might have done a particular activity. However, it is to be noted that the present paper will not follow any psychological techniques for many obvious reasons, one of which is unavailability of specially required data set to do that. Rather, it will go for the best use of Indian National Family Health Survey-2 (NFHS-2), which covers more than 90,000 women in the 15-49 age-group. In order to compute a good number of indicators on women's autonomy at individual level, it will employ fuzzy set theory as used among others by Enrica Chiappero Martinetti (1994, 2000, 2005) in analyses of poverty and well-being based on Amartya Sen's capability approach. It is to be noted that keeping in mind the limited application of the fuzzy set theory, the way we are using it in the present paper, one might not see much difference from a more standard approach that make use of qualitative variables measured in an ordinal normalised scale. However, application of this particular technique and use of NFHS data will make the present exercise robust with the advantage of comparability of results with those of empirical capability literature at regional as well as international levels, as NFHS or DHS (demographic health survey) in the UN member countries have similar data format.

2. Method

Fuzzy set theory substitutes the characteristic function of a crisp set that conventionally assigns a value of either 1 or 0 to each element in the universal set, with a generalised characteristic function (called membership function), which varies between 0 and 1. Larger values denote higher degrees of membership. In formal terms, if X denotes a universal set, then the membership function μ_A , by which a fuzzy set A is usually defined, has the form $\mu_A: X \rightarrow [0, 1]$ where $[0,1]$ is the interval of real numbers from 0 to 1. Hence, $\mu_A(x) = 0$ if the element $x \in X$ does not belong to A , $\mu_A(x) = 1$ if x completely belongs to A and $0 < \mu_A(x) < 1$ if x partially belongs to A . Let us assume that the subset A defines the position of each individual according to the degree of achievement of a given attainment or refers to one of the indicators considered for the functioning assessment. In this case, membership values equal to 1 identify a condition of full achievement with respect to a given functioning, whereas a value equal to 0 denotes the opposite situation of total failure. When we consider quantitative variables or qualitative variables measured on an ordinal scale or expressed with linguistic attributes (as in the case of health and physical condition or subjective opinions or perception on one's own conditions), intermediate values between 0 and 1 describe gradual

positions within the arrangement (Chiappero Martinetti, 2000). To cite an example from NFHS-2, we may look at one particular question (no. S511B) – “who decides on obtaining health care” as shown in the appendix (at the end). One respondent may choose one appropriate answer from five different alternatives. From the example, it is easily understood that when the respondent herself takes the decision, we will have the condition of full achievement with a membership value of one. On the contrary, if others in the household take the decision we have the case of total failure with a membership value zero. The intermediate possibilities will take values between zero and one. It is, therefore, necessary: i) to define an appropriate arrangement of modalities (or values) on the basis of the different degrees of hardship / well-being; ii) to identify the two extreme conditions such that $\mu_A(x) = 1$ (full membership) and $\mu_A(x) = 0$ (non-membership); iii) to specify the membership functions for all the other intermediate positions (Chiappero Martinetti, 2000). Following these procedures, we may rearrange the answers / modalities / values of the above question (and similar others) in appropriate order, identify the extreme conditions, and obtain the membership degrees (for all intermediate positions) assuming a linear membership function as shown in table 1.

Table 1. Characteristic functions and degrees of hardship / well-being

Characteristic function		Modalities / Values	Degrees of hardship / well-being	Membership degrees
Who decides about what to cook	μ_1	1. Others	0	0.00
		2. Husband	1	0.25
		3. Jointly with others	2	0.50
		4. Jointly with husband	3	0.75
		5. Respondent	4	1.00
Who decided on obtaining health care	μ_2	1. Others	0	0.00
		2. Husband	1	0.25
		3. Jointly with others	2	0.50
		4. Jointly with husband	3	0.75
		5. Respondent	4	1.00
Who decides to purchase jewellery	μ_3	1. Others	0	0.00
		2. Husband	1	0.25
		3. Jointly with others	2	0.50
		4. Jointly with husband	3	0.75
		5. Respondent	4	1.00
Who decides about respondent staying with family	μ_4	1. Others	0	0.00
		2. Husband	1	0.25
		3. Jointly with others	2	0.50
		4. Jointly with husband	3	0.75
		5. Respondent	4	1.00
Permission needed to go to market	μ_5	1. Not allowed to go	0	0.00
		2. Yes	1	0.50
		3. No	2	1.00
Permission needed to visit friends or relatives	μ_6	1. Not allowed to go	0	0.00
		2. Yes	1	0.50
		3. No	2	1.00
Allowed to have money set aside	μ_7	1. No	0	0.00
		2. Yes	1	1.00

NFHS-2 provided us with a number of questions on women's autonomy at individual or household level. We have selected seven questions as shown in table 1. For the first four variables we implicitly assume that joint decisions with husband also imply a good degree of autonomy. Results will be prepared for major States and Union Territories of India according to type of locality (rural / urban), caste, religion (the category 'other' includes Christian, Sikh, Buddhist, and other), educational achievements, work status, age, family size, and relationship of the respondent to household head (the category 'other' includes daughter, mother, sister, and other), and geographical region (North-Eastern hilly region: Arunachal Pradesh, Asom, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura; East: Orissa, West Bengal; North: Bihar, Gujarat, Haryana, Himachal Pradesh, Jammu and Kashmir, Madhya Pradesh, New Delhi, Punjab, Rajasthan, Uttar Pradesh; South: Andhra Pradesh, Goa, Karnataka, Kerala, Maharashtra, Tamil Nadu).

3. Results and discussion

We have computed seven indices on women's autonomy, which are supposed to reflect male biases as well as degree of freedom that women enjoys while making decisions relative to their respective husbands and other members of the households. We are also interested to examine variations in degree of autonomy with respect to background characteristics of the respondents. If the value of indicator is 1.00 with respect to a particular question, we may assume that highest level of women's autonomy is achieved (with respect to the particular issue) and women are well capable to argue on that issue with people around them. On the contrary, an index value of 0 indicates totally opposite situation or extreme case of women's oppression. Table 2 displays mean values of the membership degrees on seven important questions. We can compare these values with the membership degrees displayed in table 1 and reach meaningful conclusion keeping in mind that high or higher values are associated to a higher autonomy. From the second column of the table 2, we see that women enjoy a good degree of autonomy on the question of decision about what to cook. The highest level of autonomy, with respect to this question, is seen in Nagaland. The score is lowest in Jammu and Kashmir. On the question of decision on obtaining health care (μ_2), on an average, women in Kerala and Punjab are seen to enjoy a good degree of autonomy. In Madhya Pradesh and in other North Indian States, women enjoy very low degrees of autonomy. On the question of purchasing jewelry (μ_3), women in the North-Eastern hilly States stay ahead than others. On the question of familial matters (μ_4) also, women of Goa and North-Eastern hilly States enjoy more autonomy than other Indian women.

Table 2. Membership degrees: mean values

States/UTs	n	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6	μ_7
Andhra Pradesh	4017	0.832	0.568	0.549	0.553	0.585	0.569	0.580
Arunachal Pradesh	1097	0.914	0.672	0.651 ¹	0.665	0.732	0.765	0.787
Asom	3273	0.844	0.692	0.504	0.474	0.565	0.573	0.397
Bihar	7013	0.773	0.485	0.430	0.435	0.571	0.580	0.671
Goa	1234	0.829	0.619	0.592	0.692 ¹	0.824	0.789	0.830
Gujarat	3841	0.802	0.659	0.554	0.575	0.776	0.753	0.737
Haryana	2899	0.864	0.631	0.571	0.526	0.683	0.604	0.709
Himachal Pradesh	3005	0.793	0.666	0.626	0.633	0.682	0.672	0.823
Jammu and Kashmir	2742	0.700 ²	0.544	0.492	0.452	0.563	0.540 ²	0.595
Karnataka	4317	0.881	0.535	0.476	0.476	0.660	0.660	0.670
Kerala	2873	0.711	0.719 ¹	0.564	0.556	0.725	0.688	0.666
Madhya Pradesh	6904	0.764	0.424 ²	0.416	0.393	0.553	0.587	0.492
Maharashtra	5343	0.848	0.598	0.475	0.481	0.743	0.672	0.673
Manipur	1419	0.815	0.426	0.544	0.521	0.638	0.640	0.770
Meghalaya	922	0.882	0.681	0.607	0.684	0.725	0.736	0.838 ¹
Mizoram	1040	0.844	0.622	0.614	0.614	0.817	0.793 ¹	0.560
Nagaland	790	0.974 ¹	0.622	0.638	0.665	0.584	0.598	0.281 ²
New Delhi	2427	0.782	0.706	0.535	0.484	0.755	0.666	0.831
Orissa	4400	0.808	0.437	0.493	0.459	0.548	0.567	0.485
Punjab	2793	0.901	0.719 ¹	0.551	0.541	0.752	0.642	0.791
Rajasthan	6791	0.771	0.432	0.397	0.392	0.575	0.573	0.403
Sikkim	1086	0.904	0.619	0.536	0.537	0.690	0.707	0.792
Tamil Nadu	4617	0.877	0.641	0.588	0.613	0.884 ¹	0.782	0.801
Tripura	1093	0.812	0.534	0.529	0.501	0.619	0.619	0.457
Uttar Pradesh	8725	0.735	0.485	0.393 ²	0.376 ²	0.545 ²	0.552	0.525
West Bengal	4299	0.799	0.502	0.513	0.496	0.596	0.577	0.569
India	88960	0.806	0.555	0.496	0.489	0.643	0.626	0.617

1: maximum, 2: minimum

The fifth and sixth questions are on whether women are required to take permission to go out of households or whether they are allowed to go. On the question of going to market place (μ_5), women in Tamil Nadu enjoy the highest level of autonomy, and we may say that they are strong enough for argumentation on any such issues with their respective husbands and others. Such results are also seen in Goa, Gujarat, and Mizoram. It is to be noted that the scores of Tamil Nadu (0.884), Goa (0.824), Gujarat (0.776), and Mizoram (0.817) are higher than that of the National Capital Territory of Delhi (0.755). Similar results can also be observed on the question of going to relative's place (μ_6). On this issue, women in Mizoram and in Jammu and Kashmir enjoy the highest and the lowest levels of freedom respectively. The final question is on whether respondents are allowed to have money set aside (μ_7). Women enjoy the highest level of autonomy (with respect to this particular question of keeping money aside) in Meghalaya, and the lowest in Nagaland. However, as this particular variable is dichotomous, we have presented counts and percentages of women who

are and are not allowed to set money aside in the appendix (at the end). The table shows numbers and percentages of women with full autonomy (with value 1) and with no autonomy at all (with value 0).

Table 3. Average membership degrees by some background characteristics

Explicative factors	n	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6	μ_7
Age								
15-24	22625	0.670	0.450	0.390	0.390	0.560	0.570	0.530
25-34	33501	0.820	0.560	0.500	0.490	0.640	0.620	0.620
35-49	32834	0.880	0.620	0.570	0.560	0.700	0.670	0.670
Total	88960	0.806	0.555	0.496	0.489	0.643	0.626	0.617
Education								
Illiterate	44157	0.830	0.530	0.480	0.470	0.610	0.600	0.530
Primary	15161	0.810	0.560	0.510	0.500	0.650	0.630	0.610
Secondary	21331	0.780	0.580	0.510	0.500	0.680	0.640	0.700
Higher	8311	0.750	0.620	0.540	0.550	0.750	0.700	0.860
Total	88960	0.806	0.555	0.496	0.489	0.643	0.626	0.617
Relationship with head								
Head (self)	4053	0.950	0.880	0.810	0.850	0.890	0.880	0.880
Wife	54164	0.900	0.580	0.530	0.510	0.650	0.630	0.620
Other	12847	0.650	0.500	0.420	0.440	0.620	0.610	0.600
Daughter-in-law	17896	0.590	0.460	0.360	0.370	0.570	0.570	0.550
Total	88960	0.806	0.555	0.496	0.489	0.643	0.626	0.617
Work status								
Unpaid	66994	0.790	0.540	0.470	0.470	0.620	0.610	0.600
Paid	21966	0.860	0.610	0.560	0.550	0.700	0.680	0.670
Total	88960	0.806	0.555	0.496	0.489	0.643	0.626	0.617
Family size								
Small (≤ 5)	38912	0.890	0.610	0.560	0.550	0.690	0.660	0.670
Large (> 5)	50048	0.740	0.510	0.440	0.440	0.610	0.600	0.570
Total	88960	0.806	0.555	0.496	0.489	0.643	0.626	0.617
Husband's education								
Illiterate	24797	0.850	0.540	0.490	0.480	0.620	0.610	0.530
Up to middle	22096	0.830	0.550	0.500	0.490	0.640	0.630	0.580
Middle school complete	12891	0.780	0.540	0.480	0.470	0.630	0.610	0.590
High school and above	29176	0.770	0.570	0.500	0.500	0.680	0.650	0.740
Total	88960	0.806	0.555	0.496	0.489	0.643	0.626	0.617
Caste / ethnicity								
Scheduled caste	15147	0.830	0.550	0.500	0.490	0.640	0.610	0.570
Scheduled tribe	10786	0.850	0.550	0.520	0.530	0.660	0.660	0.550
Other backward class	25865	0.800	0.540	0.480	0.480	0.640	0.620	0.630
General	37162	0.790	0.570	0.500	0.490	0.640	0.620	0.650
Total	88960	0.806	0.555	0.496	0.489	0.643	0.626	0.617
Religion								
Hindu	69254	0.800	0.540	0.490	0.480	0.640	0.620	0.610
Muslim	10553	0.760	0.550	0.460	0.450	0.590	0.590	0.560
Other	9153	0.870	0.640	0.580	0.590	0.740	0.700	0.720
Total	88960	0.806	0.555	0.496	0.489	0.643	0.626	0.617

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Type of locality								
Rural	61245	0.800	0.530	0.480	0.470	0.610	0.600	0.560
Urban	27715	0.810	0.610	0.540	0.530	0.730	0.680	0.740
Total	88960	0.806	0.555	0.496	0.489	0.643	0.626	0.617
Geographical region								
North Eastern hilly region	10720	0.860	0.620	0.560	0.550	0.650	0.660	0.580
East	8699	0.800	0.470	0.500	0.480	0.570	0.570	0.530
North	47140	0.780	0.530	0.460	0.450	0.610	0.600	0.610
South	22401	0.840	0.610	0.530	0.540	0.730	0.680	0.690
Total	88960	0.806	0.555	0.496	0.489	0.643	0.626	0.617

Table 3 shows membership degrees by some background characteristics. We see that in all the domains autonomy increases gradually with age of women. Does it mean women's autonomy is a natural phenomenon – degree of which increases with age or time? With education also autonomy increases in all directions except the one for cooking. If someone is interested to increase women's autonomy in these directions, she or he will simply play with the card of education. However, the game will be tough if we look at the degree of autonomy with respect to the relationship of the respondent with household head. Daughter-in-laws enjoy the lowest degree of autonomy in each domain. The order of relationships in the present exercise reflects an established hierarchy within a household. The question at this point is that whether such a hierarchy within a unit of family is good or does it conform to the hierarchy set up of one business organisation? It's a matter of deep reasoning and we leave this issue for debate and proceeded further to other important points. Husbands' education works in a similar fashion as women's education doses towards their autonomy. Education of both the partners in a family, therefore, lead to a favourable environment of argumentational participation. However, degree of autonomy does not vary significantly along the line of ethnicity and religion. There are variations according to type of locality and geographical regions, which reflect variations in socio-economic and cultural set ups.

4. Summary and conclusion

The study presented an exercise of computing indicators on women's autonomy in seven different directions. An indicator value of 1.00 indicates the highest degree of women's autonomy and 0 implies total failure. We see that with respect to some questions particularly on issues related to kitchen, respondents dominate over others, as the scores are closer to 1. On other issues though there is no uniformity in results, by and large scores round about slightly more than half. It clearly shows male biases in the process of making decisions. Comparatively, women in some sections of the South, in the North-Eastern hilly region, in the industrial belt of the West, and in the agriculturally developed North, perform better. However, the study does not highlight concentration

of good results in some particular sections of the country. Rather, it shows that good things are widely spread all over India. However, it confirms concentration of worst results in some sections of Northern India, particularly in Uttar Pradesh. Higher degrees of autonomy in the North-Eastern hilly region draws our attention. Rich social and cultural tradition of this region, by and large, remains unexplored. The issue of women's autonomy in India thus needs special attention as degrees of hardship or well-being vary sharply across cultures and societies. The present study depicts *de facto* situations only – what are prevailing in the societies. Though it explained a wide range of variations in the degree of autonomy according to some explicative factors, still reasons behind such disparity are not clear. Probably, studies based on self-determination theory (as mentioned above) will give clue in this direction, as those concentrate particularly why women have done some particular activities or taken particular decisions. However, In Indian context, one must be careful taking into account the sheer size of the country with diverse cultural and historical traditions.

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APPENDIX

I. An example of question to measure women's autonomy in NFHS-2

Variable name	Location	Length	Decimals	Format	Class	Variable Label
						Value Label
S511B	428	1	0	N	S	Who decides on obtaining health care
						values: value label
						1 Respondent
						2 Husband
						3 Jointly with husband
						4 Others in household
						5 Jointly with others in household
						9 Missing value
					BLANK	Not applicable value
					ranges: lower upper	
						1 5

II. The four reasons behind choosing a particular decision as in Chirkov et al. (2003):

- 1.External Regulation: Because of external pressures.
- 2.Introjected Regulation: To get approval or avoid guilt.
- 3.Identified Regulation: Because it is important.
- 4.Integrated Regulation: Thoughtfully considered and fully chosen this.

Table 4. Counts and percentages of women who are and are not allowed to set money aside

States / UTs	No (0)		Yes (1)		Total
	n	%	n	%	
Andhra Pradesh	1689	42.05	2328	57.95	4017
Arunachal Pradesh	234	21.33	863	78.67	1097
Asom	1972	60.25	1301	39.75	3273
Bihar	2307	32.90	4706	67.10	7013
Goa	210	17.02	1024	82.98	1234
Gujarat	1009	26.27	2832	73.73	3841
Haryana	844	29.11	2055	70.89	2899
Himachal Pradesh	531	17.67	2474	82.33	3005
Jammu	1111	40.52	1631	59.48	2742
Karnataka	1426	33.03	2891	66.97	4317
Kerala	959	33.38	1914	66.62	2873
Madhya Pradesh	3506	50.78	3398	49.22	6904
Maharashtra	1746	32.68	3597	67.32	5343
Manipur	327	23.04	1092	76.96	1419
Meghalaya	149	16.16	773	83.84	922
Mizoram	458	44.04	582	55.96	1040
Nagaland	568	71.90	222	28.10	790
New Delhi	410	16.89	2017	83.11	2427
Orissa	2266	51.50	2134	48.50	4400
Punjab	583	20.87	2210	79.13	2793
Rajasthan	4056	59.73	2735	40.27	6791
Sikkim	226	20.81	860	79.19	1086
Tamil Nadu	920	19.93	3697	80.07	4617
West Bengal	1854	43.13	2445	56.87	4299
Uttar Pradesh	4144	47.50	4581	52.50	8725
Tripura	594	54.35	499	45.65	1093
India	34099	38.33	54861	61.67	88960