

# **Reliability in wife's reporting of age and education of husband in India**

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## **Abstract**

Age and education of the couples are two very basic indicators which are collected in almost each and every demographic and health surveys. Most of the demographic surveys takes into consideration wife's reporting of age and education of the husband as the basis for all further analysis. But the important question arises about the reliability of such reporting. The main objective of the paper is to analyse pattern, trend as well as the determinants of mismatch in wife's reporting of age and education of the husband. The study is based on the data of third round of National Family Health Survey (NFHS-3, 2005-06) of India. It collected information about age and education of the husband separately from the husband as well as from the wife by interviewing 42185 currently married couples. The mismatch in wife's reporting of age and education in India is 58 percent and 33 percent respectively.

## **Objectives**

The main objectives of the study are,

1. To analyse the extent, pattern and spatial distribution of mismatch in wife's reporting of age and education of the husband in India.
2. To discuss the determinants of mismatch in wife's reporting of age and education of the husband.

## **Data and methods**

The study is based on the data of third round of National Family Health Survey (NFHS-3, 2005-06) of India. The third National Family Health Survey (NFHS-3) was conducted during 2005-06. This is a nationwide survey conducted with a representative sample of households throughout the country. NFHS-3 collected information from a sample of 109,041 households covering 124,358 women age 15-49 and 74,369 men age 15-54. The survey covers 99 percent of India's population living in all 29 states. The couple file of NFHS-3 has been used for the analysis of the data. NFHS-3 collected information from 42185 currently married couples. There were separate questionnaires for husband and wife. The information about age and education of the husband were collected from the husband by directly administering the husband's questionnaire. While interviewing the wife, information about the age and education of the husband were also collected from the wife. For the present study we are using information of husband's age and education as reported by both the wife and the husband. When both husband and wife reported same age and education, it is called matching. Otherwise it is mismatching.

Both bivariate and multivariate analysis have been used for the analysis. For bivariate analysis we divided mismatch in age and education into four categories : (a) wife reported lower by less than equals to three years, (b) wife reported lower by greater than three years, (c) wife reported higher by less than equals to three years and (d) wife reported higher by greater than three years. In order to examine effect of socio-economic factors on mismatching, logistic regression analysis was carried out in which dependent variable is mismatch in age and education. The independent variables are marital duration (< 10 year, 10-20 years and 20+ years), marriage type (married once and more than once), place of residence (urban and rural), education of women (no education, primary, secondary and higher), partner's education (no education, primary, secondary and higher), religion (Hindu, Muslim and others), caste (SC, ST, OBC and others), household structure (nuclear and joint), wealth (poorest, poorer, middle, richer, richest), mass media exposure

**Table 1: Mismatch in age of husband as reported by both wife and husband by education of husband and wife (self reported)**

<b>Education of Husband and Wife</b>	<b>Both reported same</b>	<b>Wife reported husband's age lower by less than equal to three years</b>	<b>Wife reported husband's age lower by greater than three years</b>	<b>Wife reported husband's age higher by less than equal to three years</b>	<b>Wife reported husband's age higher by greater than three years</b>	<b>Total</b>
Both are Illiterate	45.5	16.8	8.3	16.6	12.9	13496
Husband illiterate and wife primary or below secondary	44.2	21.3	5.7	20.8	8.0	2157
Husband illiterate and wife secondary plus	52.3	15.9	6.8	15.9	9.1	44
Husband primary or below secondary and wife illiterate	38.5	21.2	8.1	21.3	11.0	8903
both are primary or below secondary	39.6	27.1	7.0	21.4	5.0	9371
Husband primary or below secondary and wife secondary plus	41.0	30.6	4.4	20.9	3.2	1001
Husband secondary plus and wife illiterate	30.4	26.3	9.7	25.4	8.3	891
Husband secondary plus and wife primary or below secondary	38.1	29.1	7.3	21.5	4.1	3234
Both are secondary plus	45.7	30.3	3.9	18.3	1.8	3084
<b>Total</b>	<b>41.7</b>	<b>22.7</b>	<b>7.4</b>	<b>19.6</b>	<b>8.7</b>	<b>42181</b>

**Table 2: Mismatch in age of husband as reported by wife and husband by States of India**

State	Both reported same	Wife reported husband's age lower by less than equal to three years	Wife reported husband's age lower by greater than three years	Wife reported husband's age higher by less than equal to three years	Wife reported husband's age higher by greater than three years	Total
<b>India</b>	<b>41.7</b>	<b>22.7</b>	<b>7.4</b>	<b>19.6</b>	<b>8.7</b>	<b>42183</b>
<b>North</b>	<b>48.3</b>	<b>20.7</b>	<b>6.7</b>	<b>17.0</b>	<b>7.2</b>	<b>4469</b>
Delhi	89.6	5.7	0.3	3.6	0.8	634
Haryana	30.3	24.2	11.7	23.5	10.3	591
Himachal Pradesh	34.4	30.8	5.8	25.5	3.6	585
Jammu and Kashmir	30.6	24.7	8.5	22.2	13.9	445
Punjab	37.7	26.8	7.3	20.2	7.9	682
Rajasthan	54.5	18.3	5.9	14.2	7.2	881
Uttaranchal	35.8	27.0	7.9	23.8	5.6	534
<b>Central</b>	<b>27.7</b>	<b>23.4</b>	<b>9.4</b>	<b>25.7</b>	<b>13.7</b>	<b>9355</b>
Chhattisgarh	36.1	21.9	9.5	22.0	10.5	859
Madhya Pradesh	49.9	20.7	4.5	16.8	8.2	1654
Uttar Pradesh	23.3	24.0	10.3	27.5	14.9	6068
<b>East</b>	<b>43.3</b>	<b>20.2</b>	<b>6.9</b>	<b>19.1</b>	<b>10.5</b>	<b>3815</b>
Bihar	34.8	19.8	7.5	23.4	14.5	732
Jharkhand	32.3	20.1	13.8	18.3	15.5	607
Orissa	55.1	17.9	4.6	16.3	6.1	971
West Bengal	48.1	21.5	5.4	17.2	7.7	1589
<b>North-east</b>	<b>59.5</b>	<b>14.7</b>	<b>5.1</b>	<b>13.7</b>	<b>7.0</b>	<b>4579</b>
Arunachal Pradesh	55.7	13.1	5.6	19.5	6.1	359
Assam	56.7	14.9	6.2	12.5	9.8	746
Manipur	64.5	15.1	1.9	16.6	1.9	2047
Meghalaya	85.8	7.9	1.8	3.6	0.9	331
Mizoram	82.1	7.9	0.0	10.0	0.0	330
Nagaland	65.0	13.3	3.2	15.7	2.8	1845
Sikkim	39.5	31.1	5.2	21.5	2.7	405
Tripura	41.2	22.8	8.4	20.3	7.2	403
<b>West</b>	<b>37.3</b>	<b>25.8</b>	<b>8.7</b>	<b>20.4</b>	<b>7.9</b>	<b>6623</b>
Goa	34.8	34.2	10.7	16.6	3.7	541
Gujarat	41.6	24.3	8.0	22.6	3.6	842
Maharashtra	36.4	26.1	8.8	19.9	8.8	4697
<b>South</b>	<b>46.0</b>	<b>25.0</b>	<b>6.4</b>	<b>17.4</b>	<b>5.2</b>	<b>11650</b>
Andhra Pradesh	58.7	19.3	5.3	12.6	4.1	4452
Karnataka	29.4	28.5	10.1	21.5	10.5	2983
Kerala	48.5	28.2	3.2	18.4	1.6	620
Tamil Nadu	41.0	29.6	5.5	20.6	3.3	3347

**Table 3: Mismatch in age of husband as reported by wife and husband by background characteristics in India**

<b>Background Characteristics</b>	<b>Both reported same</b>	<b>Wife reported husband's age lower by less than equal to three years</b>	<b>Wife reported husband's age lower by greater than three years</b>	<b>Wife reported husband's age higher by less than equal to three years</b>	<b>Wife reported husband's age higher by greater than three years</b>	<b>Total</b>
<b>Marital Duration</b>						
< 10 years	42.2	25.3	6.0	20.4	6.2	15490
10-20	40.9	21.3	8.7	19.2	9.8	15359
20+	42.0	21.0	7.4	19.1	10.6	11333
<b>Marriage Type</b>						
Only once	42.0	22.7	7.0	19.8	8.5	39292
More than once	37.2	23.0	12.1	16.9	10.8	2892
<b>Place of Residence</b>						
Urban	41.9	26.2	6.9	20.0	5.0	13726
Rural	41.6	21.0	7.6	19.5	10.5	28456
<b>Education of Wife</b>						
No education	41.9	18.5	8.4	18.4	12.8	19733
Primary	42.5	21.9	7.2	21.0	7.5	6404
Secondary	39.9	27.8	6.7	21.1	4.5	13489
Higher	46.6	29.9	3.6	17.9	2.0	2560
<b>Education of Husband</b>						
No education	46.4	15.8	7.9	16.4	13.5	10266
Primary	43.1	20.0	8.0	19.1	9.8	8568
Secondary	38.3	25.8	7.2	21.7	7.0	18586
Higher	42.0	30.0	5.7	19.3	3.0	4755
<b>Religion</b>						
Hindu	41.3	23.0	7.2	19.8	8.7	34764
Muslim	42.3	20.7	8.5	19.3	9.2	5048
Others	45.6	22.7	6.7	17.4	7.6	2371
<b>Caste</b>						
Scheduled caste	40.4	21.5	7.7	19.2	11.2	8029
Scheduled tribe	50.1	16.4	6.5	15.7	11.2	3845
Other backward class	39.3	23.6	7.6	20.9	8.7	16416
None of them	42.5	24.3	7.1	19.8	6.4	12582
<b>Household structure</b>						
Nuclear	42.6	22.0	7.9	18.5	9.1	22292
Non nuclear	40.6	23.5	6.8	21.0	8.2	19462
<b>Wealth Index</b>						
Poorest	44.6	16.3	8.1	17.1	14.0	7783
Poorer	42.0	19.5	7.9	19.0	11.6	8232
Middle	41.2	22.7	7.5	19.7	8.9	8539
Richer	38.4	25.2	7.9	22.0	6.6	8568
Richest	42.4	28.6	5.6	20.1	3.2	9061
<b>Mass Media Exposure</b>						
No Exposure	42.1	18.3	8.4	18.8	12.4	16161
Partial Exposure	41.1	24.8	6.9	20.4	6.8	22777
Full Exposure	43.3	29.7	5.5	18.4	3.1	3244
<b>Total</b>	<b>41.7</b>	<b>22.7</b>	<b>7.4</b>	<b>19.6</b>	<b>8.7</b>	<b>42182</b>

**Table 4: Mismatch in reporting age of husband: A logistic regression analysis**

Explanatory Variables	Exp(B)	
	Model 1	Model 2
<b>Marital Duration</b>		
< 10 years®		
10-20	1.070***	1.035
20+	1.034	.987
<b>Marriage Type</b>		
Only once®		
More than once	1.153***	1.182***
<b>Place of Residence</b>		
Rural®		
Urban	.872***	.854***
<b>Education of Wife</b>		
Upto Primary®		
Primary and above	.940**	.970
<b>Education of Husband</b>		
Upto Primary®		
Primary and above	1.222***	1.171***
<b>Religion</b>		
Hindu®		
Muslim	1.049	1.006
Others	.565***	.760***
<b>Caste</b>		
Scheduled caste/Scheduled tribe®		
Other backward class [OBC]	1.205***	1.043
Others	.995	.993
<b>Household structure</b>		
Nuclear®		
Non nuclear	1.080***	.996
<b>Wealth Index</b>		
Poor®		
Middle	1.010	1.132***
Rich	1.025	1.116***
<b>Mass Media Exposure</b>		
No Exposure®		
Exposure	1.034	.962
<b>States</b>		
Uttar Pradesh and Uttaranchal®		
Punjab and Haryana		.690***
Rajasthan		.287***
Madhya Pradesh and Chhattisgarh		.407***
Bihar		.693***
Orissa		.305***
West Bengal		.399***
Assam		.299***
Gujarat		.465***
Maharashtra		.582***
Andhra Pradesh		.267***
Kerala		.364***
Karnataka		.832***
Tamil Nadu		.516***
Other states		.246***

Note: Dependent Variable: 0- Matching of age of the husband

1- Mismatching of age of the husband

\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

® Reference category

**Table 5: Mismatch in education of husband as reported by both wife and husband by education of husband and wife (self reported)**

<b>Education of Husband and Wife</b>	<b>Both reported same</b>	<b>Wife reported husband's education lower by less than equal to three years</b>	<b>Wife reported husband's education lower by greater than three years</b>	<b>Wife reported husband's education higher by less than equal to three years</b>	<b>Wife reported husband's education higher by greater than three years</b>	<b>Total</b>
Both are Illiterate	77.4	8.0	1.4	8.8	4.4	13497
Husband illiterate and wife primary or below secondary	57.5	10.2	1.7	21.8	8.7	2157
Husband illiterate and wife secondary plus	46.7	6.7	6.7	17.8	22.2	45
Husband primary or below secondary and wife illiterate	61.8	10.7	5.3	20.5	1.8	8903
both are primary or below secondary	61.9	9.8	1.2	25.9	1.2	9369
Husband primary or below secondary and wife secondary plus	55.0	6.5	0.5	33.2	4.8	1000
Husband secondary plus and wife illiterate	65.7	16.4	3.0	13.6	1.3	891
Husband secondary plus and wife primary or below secondary	68.0	15.5	2.3	13.6	0.6	3235
Both are secondary plus	69.5	14.2	1.0	14.5	0.7	3085
<b>Total</b>	<b>67.5</b>	<b>10.2</b>	<b>2.3</b>	<b>17.2</b>	<b>2.7</b>	<b>42182</b>

**Table 6: Mismatch in education of husband as reported by wife and husband by States of India**

State	Both reported same	Wife reported husband's education lower by less than equal to three years	Wife reported husband's education lower by greater than three years	Wife reported husband's education higher by less than equal to three years	Wife reported husband's education higher by greater than three years	Total
<b>India</b>	<b>67.5</b>	<b>10.2</b>	<b>2.3</b>	<b>17.2</b>	<b>2.7</b>	<b>42183</b>
<b>North</b>	<b>71.3</b>	<b>8.4</b>	<b>2.0</b>	<b>16.0</b>	<b>2.3</b>	<b>4469</b>
Delhi	92.9	2.0	0.6	3.5	0.9	635
Haryana	59.6	9.1	4.1	23.5	3.7	591
Himachal Pradesh	64.9	12.2	1.7	17.1	4.1	584
Jammu and Kashmir	60.5	11.0	4.0	21.7	2.7	446
Punjab	62.0	11.4	1.8	22.1	2.6	682
Rajasthan	77.0	7.2	1.5	12.7	1.7	881
Uttaranchal	64.8	12.0	2.2	17.4	3.6	534
<b>Central</b>	<b>67.5</b>	<b>9.3</b>	<b>2.4</b>	<b>17.5</b>	<b>3.2</b>	<b>9354</b>
Chhattisgarh	68.4	10.3	1.4	17.9	2.0	860
Madhya Pradesh	79.6	6.6	1.6	10.7	1.4	1656
Uttar Pradesh	65.3	9.7	2.6	18.8	3.6	6068
<b>East</b>	<b>70.5</b>	<b>9.9</b>	<b>2.5</b>	<b>13.4</b>	<b>3.7</b>	<b>3815</b>
Bihar	69.0	9.7	4.4	13.2	3.7	733
Jharkhand	74.3	7.1	3.0	9.9	5.8	608
Orissa	69.1	10.7	1.8	15.0	3.4	969
West Bengal	71.1	10.4	1.4	13.9	3.1	1590
<b>North-East</b>	<b>72.3</b>	<b>9.6</b>	<b>1.7</b>	<b>12.9</b>	<b>3.5</b>	<b>4580</b>
Arunachal Pradesh	80.4	6.1	2.2	7.5	3.6	358
Assam	68.7	10.5	1.9	14.5	4.4	745
Manipur	73.1	11.0	1.6	11.3	3.0	2048
Meghalaya	91.2	3.6	1.2	3.0	0.9	330
Mizoram	93.1	2.1	0.3	4.2	0.3	331
Nagaland	78.4	7.9	1.7	10.1	1.9	1846
Sikkim	65.3	10.6	2.7	20.0	1.5	406
Tripura	66.7	10.4	1.2	18.4	3.2	403
<b>West</b>	<b>60.7</b>	<b>11.6</b>	<b>2.1</b>	<b>23.7</b>	<b>1.8</b>	<b>6624</b>
Goa	59.5	12.0	3.0	24.0	1.5	541
Gujarat	62.7	10.3	1.0	24.2	1.8	842
Maharashtra	60.3	11.9	2.3	23.6	1.8	4697
<b>South</b>	<b>64.8</b>	<b>11.9</b>	<b>2.7</b>	<b>18.0</b>	<b>2.5</b>	<b>11651</b>
Andhra Pradesh	72.3	10.7	2.6	11.7	2.7	4453
Karnataka	60.5	12.8	3.1	20.5	3.1	2982
Kerala	54.7	19.2	0.8	24.0	1.3	620
Tamil Nadu	59.7	11.6	2.9	23.7	2.2	3348



**Table 7: Mismatch in education of husband as reported by wife and husband by background characteristics, India**

<b>Background Characteristics</b>	<b>Both reported same</b>	<b>Wife reported husband's education lower by less than equal to three years</b>	<b>Wife reported husband's education lower by greater than three years</b>	<b>Wife reported husband's education higher by less than equal to three years</b>	<b>Wife reported husband's education higher by greater than three years</b>	<b>Total</b>
<b>Marital Duration</b>						
< 10 years	65.02	10.76	2.33	18.83	3.05	15490
10-20	68.69	10.05	1.91	16.82	2.52	15360
20+	69.44	9.79	2.61	15.51	2.65	11334
<b>Marriage Type</b>						
Only once	67.48	10.38	2.22	17.33	2.59	39291
More than once	68.40	8.47	2.66	15.56	4.91	2892
<b>Place of Residence</b>						
Urban	63.20	11.13	2.04	20.79	2.84	13727
Rural	69.64	9.82	2.36	15.48	2.70	28456
<b>Education of Wife</b>						
No education	72.37	8.92	3.19	12.15	3.37	19732
Primary	63.62	11.12	1.97	20.57	2.72	6402
Secondary	62.53	11.28	1.25	22.93	2.02	13490
Higher	66.65	12.78	1.06	17.63	1.88	2558
<b>Education of Husband</b>						
No education	91.82	0.00	0.00	3.27	4.91	10266
Primary	48.81	18.66	5.57	22.64	4.32	8568
Secondary	63.17	10.30	1.97	23.18	1.38	18585
Higher	65.94	16.99	2.27	14.19	0.61	4756
<b>Religion</b>						
Hindu	67.59	10.28	2.14	17.38	2.62	34764
Muslim	67.74	9.90	2.93	15.47	3.96	5049
Others	66.54	10.46	2.53	18.35	2.11	2370
<b>Caste</b>						
Scheduled caste	67.90	10.58	2.64	15.87	3.01	8028
Scheduled tribe	77.47	7.93	2.00	9.86	2.73	3844
Other backward class	66.72	10.23	2.52	17.93	2.61	16416
Others	65.54	10.70	1.80	19.33	2.62	12584
<b>Household structure</b>						
Nuclear	69.46	9.73	2.20	15.84	2.77	22292
Non nuclear	65.34	10.80	2.33	18.83	2.70	19462
<b>Wealth Index</b>						
Poorest	77.62	7.88	2.43	9.01	3.07	7784
Poorer	68.99	9.55	3.28	14.97	3.22	8232
Middle	66.92	10.42	2.52	17.38	2.76	8539
Richer	61.52	11.43	1.81	22.32	2.92	8566
Richest	63.87	11.61	1.35	21.30	1.88	9062
<b>Mass Media Exposure</b>						
No Exposure	73.58	8.94	2.81	11.73	2.95	16161
Partial Exposure	63.70	11.03	1.98	20.58	2.71	22777
Full Exposure	64.55	11.25	1.36	20.84	2.00	3244
<b>Total</b>	<b>67.55</b>	<b>10.24</b>	<b>2.25</b>	<b>17.21</b>	<b>2.75</b>	<b>42182</b>

**Table 8: Mismatch in reporting education of husband: A logistic regression analysis**

Explanatory Variables	Exp(B)	
	Model 1	Model 2
<b>Marital Duration</b>		
< 10 years®		
10-20	.944**	.925***
20+	.940**	.920***
<b>Marriage Type</b>		
Only once®		
More than once	1.069	1.100**
<b>Place of Residence</b>		
Rural®		
Urban	1.043	1.045
<b>Education of Wife</b>		
Upto Primary®		
Primary and above	.960	.924***
<b>Education of Husband</b>		
Upto Primary®		
Primary and above	1.096***	1.113***
<b>Religion</b>		
Hindu®		
Muslim	.927**	.936*
Others	.768***	.919**
<b>Caste</b>		
Scheduled caste/Scheduled tribe®		
Other backward class [OBC]	1.170***	1.060*
Others	1.092***	1.097***
<b>Household structure</b>		
Nuclear®		
Non nuclear	1.133***	1.126***
<b>Wealth Index</b>		
Poor®		
Middle	1.221***	1.230***
Rich	1.206***	1.204***
<b>Mass Media Exposure</b>		
No Exposure®		
Exposure	.740***	.750***
<b>States</b>		
Uttar Pradesh and Uttaranchal®		
Punjab and Haryana		1.101
Rajasthan		.577***
Madhya Pradesh and Chhattisgarh		.594***
Bihar		.827***
Orissa		.911
West Bengal		.784***
Assam		.920
Gujarat		1.013
Maharashtra		1.123***
Andhra Pradesh		.752***
Kerala		1.356***
Karnataka		1.166***
Tamil Nadu		1.197***
Others		.556***

Note: Dependent Variable: 0- Matching of education of husband

1- Mismatching of education of husband

\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

® Reference category