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Consistency in Reporting Fertility Intention in India: Prospective and Retrospective Approaches

Priyanka Dixit*

Abstract

The central objective of the paper is to validate the consistency in reporting unwanted pregnancy/birth using the National Family Health Survey-III (2005-06) data. With the help of responses about a woman's ideal number of children and the actual number of child(ren) she has, we have classified the status of latest pregnancy/birth as an unwanted or wanted (indirect approach). Kappa index has been employed to assess the agreement between two approaches. The unadjusted and adjusted effects of each predictor variable has been examined by using binary logistic regression and odds ratio has been transformed into the multiple classification analysis format. Analysis shows that women who belong to the disadvantaged group of socio-economic and demographic status may rationalize their reporting of unwanted births. This study makes a platform for drawing the conclusion that estimates of unwanted childbearing obtained from retrospective assessments are more likely to be underestimates than actual levels of unwanted childbearing measured from the indirect approach.

Key words: u*nwanted childbearing; ideal and actual number of children; retrospective assessments.*

I. Introduction

The concept of unintended pregnancy is essential to demographers in understanding fertility, to public health practitioners in preventing unwanted childbearing and to both groups in promoting womenôs ability to determine whether and when to have children. Although total fertility rates are helpful in estimating the effect of demographic goals and population policies, they do not shed much light on the extent to which individual women exercise their right to decide when they want to get pregnant. In this regard, demographic incidence of unintended pregnancy seems to be an accurate indicator which has long been used to measure the state of reproductive health (Trassel, Vanghan & Stanford, 1999).

Extensive literature review shows that in many developing countries unwanted pregnancies are not an uncommon phenomenon. Direct questions available in large scale surveys show that births that women have but do not want constitute a substantial proportion of all births (Bongaarts 1990, 1997; United Nations, 1987; Lightbourne & Robert, 1985; Blank, 1982; Westoff, 1981). Moreover, in India while the total fertility rate has declined from 3.39 in 1992-93 to 2.68 in 2005-06, the prevalence of unintended pregnancy (both unwanted and mistimed) has been stagnant over the same period. About one-fourth of the women reported that their pregnancy was unintended in all three rounds of National Family Health Surveys (IIPS & Macro International, 2007, 2000, 1995).

Yet, available evidence shows that not only in developed but in developing countries also a large proportion of pregnancies resulting in births that are not wanted. Considerable debate persists regarding the measurement, reliability and validity of unwanted pregnancy. In large scale surveys like Demographic and Health Surveys (DHS), estimate unintended pregnancy exclusively based on womenôs retrospective assessments of births which they have experienced during the last five years from the date of survey. Comprehensive literature reviews of studies have concluded that social

* Priyanka Dixit, Assistant Professor, School of Health Systems Studies, Tata Institute of Social Sciences, Deonar, Mumbai 400088. Email: dixit15bhu@gmail.com

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scientists have always questioned the validity of retrospective information about pregnancy intention (Bankole & Westoff, 1998; Miller, 1974; Rosenzweig &Wolpin, 1993; Ryder & Westoff, 1972; Westoff & Ryder, 1977). Some have argued that retrospective assessments of unwanted pregnancy/birth may be significantly underestimating the actual levels of such births.

In his review of methods of estimating wanted fertility, Bongaarts (1990) argued that it is usually difficult to study unwanted fertility because of a variety of factors that can confuse measurement of this variable. Earlier articles have described some of these problems, as well as the techniques used to calculate measures of unwanted fertility. A measure of wanted births proposed by Bongaarts (1990) uses information on respondentsô desire for more children. Kulkarni and Choe (1998) proposed a measure of wanted and unwanted fertility based on actual and wanted parity progression ratios. Westoff (1981) used two measures, synthetic cumulative probability of having an unwanted birth and the synthetic cumulative unwanted fertility rate to classify births as wanted or unwanted. Studies of wanted fertility have used measures based on generally three types of information commonly available in fertility surveys, including the World Fertility Survey (WFS) and the Demography Health Survey (DHS) series: ideal family size, wanted status of recent births and desire for more children.

The first and simplest measure of wanted fertility is based on responses to a question on ideal family size (McCleland, 1983; Easterlin, 1978); the second and most frequently used measure of wanted fertility is obtained by excluding unwanted births from the usual calculation of the total fertility rate (Westoff, 1981; McCleland, 1983; Easterlin, 1978; Goldman Moreno & Westoff, 1989; Bankole & Westoff 1995). Births that occur after a woman has achieved her ideal family size or births that she reports as unwanted at the time of conception are excluded. The third generally used measure is based on a direct question to married women about children born to them during first four or five years preceding the survey. Women were asked whether they wanted to become pregnant at the time of conception, later on, or not at all. Births reported as wanted 'not at all' are defined as unwanted (Weller et al., 1991).

Generally, to check the reliability, validity and consistency related to unwanted births, studies have used longitudinal data. The lack of longitudinal data needed for this type of analysis makes it hard to examine these issues in developing countries. Checking these issues with cross sectional data is difficult (compared to longitudinal data) because the question has been asked to mothers that think back to their feelings at the time of conception or to report about their feelings regarding their most recent life birth. Retrospective reports are problematic because women may rationalize an unwanted pregnancy as a wanted birth (McCleland, 1983; Bongaarts, 1991; Brown & Eisenberg, 1995). The estimates of true levels of unwanted childbearing using retrospective assessments from cross-sectional data remain uncertain and potentially significantly underestimated.

With this view in mind, the central objective of this paper is to validate the consistency of reporting of unwanted pregnancy/birth using the most recent National Family Health Survey (2005-06) data. With the help of responses of woman's ideal number of children and the actual number of child(ren) she has, we have classified the status of latest pregnancy/birth as an unwanted or wanted category (indirect approach). Further, matching has been performed between the indirect approach and the direct response of woman on the status of last birth. Kappa index has been employed to assess the agreement between the two approaches by selected background characteristics.

II. Data and methodology

The nationwide data from Indiaôs National Family Health Survey-3 (IIPS & ORC Macro 2007) conducted by International Institute for Population Sciences, Mumbai and ORC Macro have been used in this study. NFHS is a nationally representative, large scale, repeated and cross sectional survey in representative samples of households throughout India. This survey covered a

sample of 1,24,385 women in the age group of 15-49 years. NFHS-3 collected information of status of the last birth which occurred in five year preceding the survey, and also collected information about the status of the current pregnancy.

Among 1,24,385 women, only 36,832 had experienced a birth in the previous five years. Wanted, mistimed and unwanted pregnancies were reported by 79 per cent, 11 per cent and 11 per cent of women respectively. In NFHS-3, to know the pregnancy intention, a question was asked: At the time a woman became pregnant did she want to become pregnant then, did she want to wait until later, or did she not want to have any (more) children at all? This question directly classifies the status (wanted/mistimed/unwanted) of the last birth.

We can also classify indirectly the status of birth by using the concept of ideal number of children. To know the ideal number of children, in NFHS-3 the question has been asked**:** if you could go back to the time you did not have any children and could choose exactly the number of children to have in your life, how many would that be? If a woman already has living children, then she has been asked imagine the time when she had no children and could choose exactly how many to have. Here it is not a matter of concern how many she would like to have by her current age, but rather how many she would like over her entire life. If she tells a number, record it and if she gives an answer that was not numerical, for example, ñitôs up to God,ò probe for the numeric response. In NFHS-3, 737 women gave a non-numeric response for the ideal number of children and these women were excluded from analysis. The finale analysis is based on 36,085 women.

Indirectly to know the status of a birth, a new variable has been calculated based on actual number of living children and ideal number of children. If the actual numbers of children exceed the ideal number of children, it indicates unwanted births and if the actual number of children is equal or less than the ideal number of children then it is a wanted birth. After classifying indirectly, the status of birth, Kappa index has been applied. The kappa statistic is a widely used measure for quantifying agreement between two methods of classification into nominal categories. A value of 1 indicates perfect agreement. A value of 0 indicates that agreement was no better than chance. Kappa is available only for tables in which both variables use the same category values and both variables have the same number of categories. Finally, consistency between womenôs responses on the two indicators of unwanted birth was assessed with the help of Kappa index.

Agreements between the two responses (direct and indirect methods) were also assessed by selected background characteristics. For this purpose, our outcome variable of interest was agreement on two responses of a two-way question on the same topic (status of last child) obtained independently from women. Answers for each outcome of interest was coded agreement on wanted birth and unwanted birth (= 1) and no agreement (= 0). Agreement was defined as reporting of birth by both the methods, wanted-wanted and unwanted-unwanted, while disagreement consisted of wanted-unwanted and unwanted-wanted. The unadjusted effects of each predictor variable are calculated with the help of separate regressions based on only one predictor variable. The adjusted percentages, by contrast, are predicted from a single binary logistic regression that includes all predictor variables. Finally, the odds ratio of adjusted logistic regression has been transformed into the multiple classification analysis (MCA) format. To the best of our knowledge, this is the first attempt to assess the consistency of reporting of birth as unwanted in cross sectional data.

III. Results

Table 1 shows the per cent distribution of ever married women in the age group 15-49 years who had given at least one birth in the preceding five years from the date of survey in NFHS-3 during 2005-06. More than one-fourth of the women were residing in central and eastern regions. In the north, west and southern regions, the population was more than 12 per cent. Only four per cent women were interviewed in the north-eastern region who had given at least one birth in five years preceding the date of survey. Women from rural areas (73 per cent) and those belonging to Hindu religion (79 per cent) have been covered in the survey. It may be noted that 71

Table 1: Distribution of ever married women having at least one child in five years prior to the survey by selected background characteristics, National Family Health Survey, India, 2005-06.

Background characteristic	Percentage	Sample size
Region		
North	12.06	5559
Central	28.76	8627
East	25.33	5771
Northeast	4.06	6680
West	12.9	4088
South	16.89	5360
Place of residence		
Rural	73.22	21735
Urban	26.78	14350
Religion		
Hindu	79.35	25504
Muslim	15.94	5618
Others	4.72	4963
Caste		
Others	70.53	24364
Scheduled Castes	20.03	6246
Scheduled Tribes	9.44	5475
Age of the respondent in years		
Less than 25	41.01	13232
25-34	49.46	19046
35 and above	9.53	3807
Women's education		
Illiterate	47.51	13664
Literate but below primary	7.11	2677
Primary but below middle	14.73	5466
Middle but below high school	12.33	5315
High school and above	18.32	8963
Partner's education		
Illiterate	28.81	8015
Literate but below primary	7.42	2634
Primary but below middle	15.2	5398
Middle but below high school	16.7	6508
High school and above	31.87	13211
Experience of child loss		
None	78.62	29634
At least one	21.38	6451
Wealth index		
Poorest	24.13	5936
Poorer	21.68	6274
Middle	19.59	7256
Richer	18.29	8019
Richest	16.3	8600
No. of living sons & daughters		
No living child	1.32	400
Sons greater than daughters	39.01	13966
Sons less than daughters	38.66	14087
Sons equal to daughters	21.02	7632
Sex composition of ideal children		
No sons and no daughters	0.04	18
Equal sons and daughters	70.02	26163
Sons less than daughters	2.35	1234
Sons greater than daughters	27.59	8670
Sex of last child		
Male	53.86	19349
Female	46.14	16736
Total	**100**	**36085**

per cent women belong to non-Scheduled Castes/Tribes, and approximately half the women belong to the 25-34 years age group. Compared to their partners (29 per cent), 48 per cent women were relatively more illiterate. Forty-six per cent women belong to poorest or poorer category and rest of the women come from middle and above middle class category. Both infant and child mortality had been declining steadily and the result shows that only 21 per cent women had experienced child loss. Thirty-nine per cent women have more sons than daughters while the same proportions of women have sons less than daughters. Only 21 per cent women have equal numbers of sons and daughters. In NFHS-3, a question has been asked to the women about ideal number of boys and ideal number of girls. Seventy per cent women reported that they want equal number of sons and daughters, 28 per cent women wanted more sons than daughters, and only two per cent more girls than boys. For fifty-four per cent women the last child was a son.

Table 2 shows unwanted births by direct, indirect and both methods according to selected background characteristics, and Table 3 depicts the per cent agreement along with Kappa coefficient value at five per cent level of significance. This analysis shows that there is a difference in the reporting of unwanted birth by the two methods. The Table clearly indicates that reporting of unwanted births was low by direct method in comparison with indirect method. It can be noted from the Table that in central and eastern regions, the reporting of unwanted births was high by both the methods. The difference was less in the southern region but this percentage was high in north and eastern regions. The direct method did not show a significant variation by place of residence.

It is also found that agreement by both methods was high in urban areas. Many Muslim women reported unwanted births by both methods (28 and 34 per cent by direct and indirect methods respectively). However, 17 per cent women stated that their last child was unwanted. Scheduled tribe women had large difference in stating the unwanted births by both methods. Unwanted births seem to be affected by age of the women; as age increases reporting of unwanted births also increases. The reporting of unwanted births was highest in the higher age group (35 and above). Approximately 23 per cent illiterates reported that they experienced unwanted births by the direct method. This percentage was almost the same with respect to other categories of educated women except those who had high school education or more (18 per cent).

In the illiterate category the gap between the two responses was 16 per cent, but as education increases, the gap decreases (in higher educated women, the difference was only 2 per cent). It shows that higher educated women accurately reported unwanted births compared with illiterate women. This shows that as the wealth index increases, difference between reporting of unwanted birth by both methods decreases. The richest women in the sample experienced less unwanted births. Experience of child loss has a positive impact on unwanted births and the difference in stating the unwanted births by two methods was high in the case of those who had child loss.

If women thought that ideally it is better to have equal number of sons and daughters or more sons than daughters, then reporting of unwanted births was low in the direct method than indirect method, but the situation was reverse when women liked to have more daughters. Table 4 displays the unadjusted odds ratio of agreement (means concordance between two responses of the same women) by selected background characteristic along with 95 per cent C.I. Compared to the central region, the unadjusted agreement was high in western and southern regions. Also, among those women who resided in urban areas, agreement was high compared with those in rural areas. Among Schedule castes and Schedule tribes, agreement was less likely compared with other castes. If other factors were simultaneously not controlled, then agreement was less likely among women aged more than 25 years compared with those less than 25 years. The Table reveals that as education increases agreement also increases in the case of both womenôs and partnerôs education. Wealth index also has a positive impact on agreement on reporting of status of the child. If a woman experienced child loss, agreement between two way responses was less likely (association was statistically significant). Compared to women with no living sons and daughters, in all other

Table 2: Distribution of ever married women having at least one unwanted child in five years prior to the survey by selected background characteristics, NFHS, 2005-06

Background characteristics	Unwanted by direct method	Unwanted by indirect method	Unwanted by both method
Regions			
North	16.58	28.29	9.38
Central	29.31	35.57	18.47
East	23.84	31.31	13.01
Northeast	20.04	23.73	8.31
West	14.36	25.05	5.98
South	17.25	21.02	5.78
Place of residence			
Rural	22.61	18.28	12.56
Urban	20.57	25.24	9.87
Religion			
Hindu	21.15	28.76	11.07
Muslim	27.66	33.73	16.71
Others	18.50	24.05	8.22
Caste			
Others	22.18	28.37	11.69
Scheduled Caste	23.24	32.59	13.43
Scheduled Tribe	18.58	29.51	9.47
Age of the respondent in years			
Less than 25	16.96	9.16	3.58
25-34	23.35	38.46	14.54
35 and above	37.70	69.92	33.90
Respondents' education			
Illiterate	23.69	39.15	15.91
Literate but below primary	23.07	29.67	12.73
Primary but below middle	21.08	23.72	9.02
Middle but below high school	22.79	19.80	8.87
High school and above	17.84	15.19	5.39
Partners' education			
Illiterate	24.59	38.26	15.99
Literate but below primary	22.48	32.24	13.10
Primary but below middle	21.73	30.49	11.87
Middle but below high school	21.35	27.01	10.82
High school and above	20.26	21.46	8.40
Wealth quintiles			
Poorest	23.64	36.76	15.05
Poorer	24.11	33.65	14.17
Middle	23.56	29.6	12.64
Richer	20.80	25.30	9.83
Richest	16.68	17.05	5.37
Experience of child loss			
None	20.54	25.7	9.88
At least one	27.69	42.81	19.10
Sex composition of living children			
Sons and no daughters	6.03	-	-
Sons greater than daughters	22.54	27.73	12.45
Sons less than daughters	21.98	36.43	13.18
Equal sons and daughters	22.29	21.06	8.96
Sex composition of ideal children			
Sons and no daughters	18.75	25.00	18.75
Equal sons and daughters	21.59	28.44	10.97
Sons less than daughters	23.14	19.65	7.75
Sons greater than daughters	23.15	32.40	14.36
Sex of last child			
Male	20.81	29.81	11.07
Female	23.52	28.76	12.73

Table 3: Distribution of ever married women according to their agreement on wanted or unwanted birth and kappa coefficient by selected background characteristics, NFHS, 2005-06.

Background characteristics	% of agreement	Kappa Coefficient
Regions		
North	73.89	0.26
Central	72.06	0.37
East	70.87	0.28
Northeast	72.84	0.21
West	72.55	0.15
South	73.30	0.14
Place of residence		
Rural	71.67	0.28
Urban	73.94	0.26
Religion		
Hindu	72.24	0.26
Muslim	72.03	0.35
Others	73.88	0.22
Caste		
Others	72.82	0.28
Scheduled Caste	71.03	0.29
Scheduled Tribe	70.85	0.21
Age of the respondent in years		
Less than 25	81.03	0.18
25-34	67.27	0.25
35 and above	60.18	0.27
Respondents' education		
Illiterate	68.98	0.30
Literate but below primary	72.72	0.30
Primary but below middle	73.25	0.23
Middle but below high school	75.15	0.26
High school and above	77.75	0.19
Partners' education		
Illiterate	69.13	0.30
Literate but below primary	71.47	0.29
Primary but below middle	71.52	0.27
Middle but below high School	73.28	0.27
High school and above	75.08	0.25
Wealth index		
Poorest	69.71	0.30
Poorer	70.58	0.29
Middle	72.11	0.29
Richer	73.55	0.26
Richest	77.02	0.18
Experience of child loss		
None	73.51	0.26
At least one	67.71	0.31
Sex composition of living children		
Sons and no daughters	93.97	-
Sons greater than daughters	74.62	0.33
Sons less than daughters	67.94	0.24
Equal sons and daughters	74.58	0.25
Sex composition of ideal children		
Sons and no daughters	93.75	0.82
Equal sons and daughters	71.90	0.26
Sons less than daughters	72.71	0.19
Sons greater than daughters	73.17	0.34
Sex of last child		
Male	71.51	0.25
Female	73.18	0.31

Table 4: Unadjusted odds ratio and 95 per cent C.I. estimate for ever married women having at least one child in five years prior to the survey according to their agreement of intension of last birth, NFHS, 2005-06

Explanatory variable	Exp(B)	95.0% C.I. for EXP(B)	
		Lower	Upper
Regions			
Central®			
North	1.39	1.29	1.49
East	1.12	1.05	1.20
Northeast	1.23	1.15	1.31
West	1.76	1.63	1.90
South	1.58	1.48	1.70
Place of residence			
Rural®			
Urban	1.22	1.17	1.28
Religion			
Hindu®			
Muslim	0.73	0.69	0.78
Others	0.91	0.86	0.97
Caste			
Others®			
Scheduled Caste	0.84	0.79	0.89
Scheduled Tribe	0.85	0.80	0.90
Age of the respondent in years			
Less than 25®			
25-34	0.40	0.38	0.42
35 and above	0.16	0.15	0.18
Respondents' education			
Illiterate®			
Literate but below primary	1.18	1.09	1.29
Primary but below middle	1.41	1.32	1.50
Middle but below high school	1.73	1.62	1.85
High school and above	2.35	2.22	2.49
Partners' education			
Illiterate®			
Literate but below primary	1.13	1.03	1.23
Primary but below middle	1.24	1.15	1.33
Middle but below high school	1.50	1.40	1.60
High school and above	1.94	1.83	2.05
Wealth index			
Poorest®			
Poorer	1.09	1.01	1.17
Middle	1.17	1.09	1.25
Richer	1.41	1.32	1.51
Richest	2.08	1.94	2.23
Experience of child loss			
None®			
At least one	0.58	0.55	0.61
Sex composition of living children			
No sons and no daughters®			
Sons greater than daughters	0.13	0.09	0.19
Sons less than daughters	0.09	0.06	0.14
Equal sons and daughters	0.15	0.10	0.22
Sex composition of ideal children			
Sons and no daughters®			
Equal sons and daughters	1.06	0.41	2.75
Sons less than daughters	1.06	0.41	2.75
Sons greater than daughters	0.96	0.37	2.47
Sex of last child			
Male®			
Female	1.00	0.96	1.05

Note:® shows reference category.

Table 5: Adjusted percentage agreement among women who reported their intension of last birth by selected individual characteristics, NFHS, 2005-06

Explanatory variables	Per cent Agreement
Regions	
Central	23.90
North	29.12*
East	70.18*
Northeast	30.60*
West	32.45*
South	29.56*
Place of residence	
Rural	27.50
Urban	26.57*
Religion	
Hindu	28.19
Muslim	23.15*
Others	26.23*
Caste of women	
Others	27.77
Scheduled Caste	25.34*
Scheduled Tribe	27.55*
Age of the respondent in years	
Less than 25	15.84
25-34	34.69*
35 and above	54.16*
Respondents' education	
Illiterate	24.87
Literate but below primary	24.86*
Primary but below middle	25.41*
Middle but below high school	28.57*
High school and above	35.85*
Partners' education	
Illiterate	26.20
Literate but below primary	26.22*
Primary but below middle	25.98*
Middle but below high school	27.85*
High school and above	28.78*
Wealth index	
Poorest	26.48
Poorer	25.64*
Middle	25.09*
Richer	27.13*
Richest	33.77*
Experience of child loss	
None	27.78
At least one	25.35*
Sex composition of living children	
Sons and no daughters	73.85
Sons greater than daughter	30.11*
Sons less than daughters	20.93*
Equal sons and daughters	32.52*
Sex composition of ideal children	
Sons and no daughters	31.72
Equal sons and daughters	26.18
Sons less than daughters	29.77
Sons greater than daughters	29.84
Sex of last child	
Male	24.65
Female	30.49

Note:∗ shows significant at 95% confidence interval.

non-reference categories agreement was less likely. Surprisingly, sex composition of ideal children and sex of last child were not significant predictors of agreement. The results of this study suggest that without controlling the other variables, almost all variables (except sex composition of ideal children and sex of the last child) were significant predictors of agreement.

Table 5 illustrates the net effect of each explanatory variable on the agreement of stating the last birth as unwanted by two different methods after controlling the effects of all the other factors by setting them at their mean values. The agreement was around 30 per cent in all the regions of India except eastern (70 per cent) and central regions (24 per cent) where the agreement was highest and lowest respectively. In both urban and rural areas agreement was almost equal (27 per cent), but urban residence was not significantly associated with agreement when other factors were controlled. The percentage agreement was almost the same among Hindus and others than Muslims. However, there was a low level of agreement in the case of Muslims, when the effect of other factors was controlled. More Muslim women provided inconsistent response while reporting the status of last birth. Caste did not make any difference in reporting of agreement. Agreement was only two per cent in others than in scheduled caste/tribes.

In younger cohort (less than 25 years) agreement was less (only 15 per cent) but in the older cohort the agreement was significantly high. The relationship between education of women and agreement was positive. As education increases, adjusted per cent of agreement also increases, but it was found significant only for those women who were educated till middle school and above. Adjusting for other variables did diminish the significance of the initial category of education. If women were highly educated, then adjusted agreement was 36 per cent. The effect of education was positive in consistent reporting of status of last birth. In the case of partnerôs education, variation was less.

If women experienced child loss, then agreement was less. Wealth index also plays a positive role in consistent reporting of status of the last birth. As wealth index increases, consistency of reporting also increases. If women had fewer sons than daughters, then adjusted agreement was low, and in case of more sons than daughters and equal sons and daughters, agreement was more or less the same (30 per cent and 32 per cent respectively). If the last child was female, then agreement was high.

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IV. Discussion and conclusions

This study makes a platform for drawing the conclusion that estimates of unwanted childbearing obtained from retrospective assessments are likely to be significant underestimates than actual levels of unwanted childbearing. This may be the reason for mismatch between two types of measurement of status of the last child. The difference between two responses shows that

women may rationalise reporting of status of the birth by direct method. Therefore, direct method may underestimate the level of unwanted births compared with the indirect method. It has been argued that retrospective assessments of unwanted pregnancy may substantially underestimate true levels of unintended pregnancy due to factors such as rationalisation of responses (the tendency for women to revise their original preferences to report births which were unwanted as wanted) (Brown & Eisenberg, 1995; Bongaarts, 1997). Some explanatory factors like religion, caste, educational attainment, experience of child loss, etc., also play a role while reporting unwanted births. According to Munsuz and Braveman (2008), women's interpretations of questions about pregnancy intention and their social experiences regarding it may vary by race or ethnicity. At the same time, it is clear from the results that rationalisation is much more likely to occur among women who are older, illiterate and have elementary education (both respondent and partner covariates), and women belonging to the poorest category.

This study show that approximately one-fifth women were educated up to high school and above and as education increases agreement between two responses also increases. If womenôs last child was female then agreement was high. The reason may be that then women may not directly hesitate to report it as unwanted, but at the same time it may not be true in the case of a male child.

The analysis also shows that in urban living, highly educated women and if ideally women think that it is better to have fewer sons compared with daughters (although the cases are very less) the direct measure shows high level of unwanted births, compared with the indirect measure. The possible explanation is that although these women ideally want fewer children and adopt ósmall family normô but they have specific preferences for the gender of birth (gender-specific preferences). Although couples ideally want a small family, in the absence of the low child mortality, people in India are reluctant to minimize their family size and average family size is leading to a large number of unwanted births.

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