CHAPTER 4

FERTILITY AND FERTILITY PREFERENCES

A major objective of NFHS-2 is to provide detailed information on fertility levels, differentials, and trends. This chapter presents a description of current and past fertility, cumulative fertility and family size, pregnancy outcomes, birth intervals, age at first cohabitation with husband, age at first and last birth, age at menopause, and durations of postpartum amenorrhoea, abstinence, and insusceptibility. Also discussed are fertility preferences, ideal and actual number of children, preference for sons or daughters, planning status of pregnancies, and wanted and actual total fertility rates.

Most of the fertility measures presented in this chapter are based on the complete birth histories collected from ever-married women age 15–49 years. Several measures and procedures were used to obtain complete and accurate reporting of births, deaths, and the timing of these events. First, women were asked a series of questions aimed at recording all the live births that had occurred in their lifetime. Second, for each live birth, information was collected on the age, sex, and survival status of the child. For dead children, age at death was recorded. Interviewers were given extensive training in probing techniques designed to help respondents report this information accurately. For example, interviewers were instructed to check any documents (such as horoscopes, school certificates, or vaccination cards) that might provide additional information on dates of birth, and to probe for the reason for any birth interval of four or more years in order to prevent omission of births, especially of children who died soon after birth. Stillbirths, miscarriages, and induced abortions that occurred between live births were also recorded.

Despite these measures to improve data quality, NFHS-2 is subject to the same types of errors that are inherent in all retrospective sample surveys—namely, the omission of some births (especially births of children who died at a very young age) and the difficulty of determining the date of birth of each child accurately. These difficulties can bias estimates of fertility trends.

4.1 Age at First Cohabitation

The number of children that a woman will have in her lifetime is strongly influenced by the age at which she marries. In many parts of India, however, formal marriage is not always immediately followed by cohabitation. Rather, the husband and the wife only begin to cohabit after the *gauna* ceremony. Even in states where *gauna* is not practised, a marriage may not be consummated immediately if it occurs at a very young age. In such instances, there is a difference between age at marriage and age at consummation of marriage. Age at consummation of marriage is, of course, what is relevant for fertility. NFHS-2 measured age at first cohabitation as a proxy for age at consummation of marriage. Accordingly, Table 4.1 presents information on the median age at first cohabitation to supplement the information on the median age at first marriage presented in Chapter 3. In Table 4.1, the median age at first cohabitation for a group of women is defined as the age by which half of the entire group began to cohabit, rather than the age by which half of all ever-cohabiting women in the group began to cohabit.

Table 4.1 Age at first cohabitation with husband

Median age at first cohabitation with husband among women age 20–49 years by current age and selected background characteristics, Haryana, 1998–99

Background characteristic	Current age						
	20–24	25–29	30–34	35–39	40–49	20–49	25–49
Residence							
Urban	NC	19.6	18.9	19.3	19.1	19.6	19.2
Rural	18.3	17.8	17.2	17.1	17.5	17.7	17.4
Education							
Illiterate	17.8	16.9	17.0	16.8	17.3	17.1	17.0
Literate, < middle school complete	18.1	18.5	18.0	17.7	18.0	18.1	18.1
Middle school complete	18.9	(18.8)	(18.8)	(18.5)	(18.8)	18.8	18.7
High school complete and above	NC	20.9	20.9	20.9	20.7	NC	20.8
Religion							
Hindu	18.7	18.0	17.6	17.6	17.9	18.0	17.8
Muslim	(17.8)	*	*	*	*	17.2	17.0
Sikh	NC	20.4	(20.1)	*	(20.2)	NC	20.2
Caste/tribe							
Scheduled caste	18.3	17.5	17.7	16.8	17.7	17.7	17.5
Other backward class	18.4	17.5	17.0	16.9	17.6	17.6	17.3
Other[1]	19.2	18.6	18.1	18.3	18.2	18.5	18.3
Standard of living index							
Low	17.5	17.0	17.0	(16.6)	18.2	17.2	17.2
Medium	18.2	17.1	17.1	16.9	17.5	17.4	17.2
High	NC	19.4	18.5	18.8	18.5	19.0	18.8
Total	18.7	18.2	17.7	17.7	18.0	18.1	17.9

NC: Not calculated because less than 50 percent of the women have started living with husband by age 20
( ) Based on 25-49 unweighted cases
*Median not shown; based on fewer than 25 unweighted cases
[1]Not belonging to a scheduled caste, a scheduled tribe, or an other backward class

Table 4.1 shows that, in Haryana, the median age at first cohabitation with husband is 18.1 years for women age 20–49. The median age at first cohabitation ranges from 17.7 years for women age 30–39 to 18.7 years for women age 20–24, suggesting a modest increase of about one year in the median age at first cohabitation over a period of approximately 12 years. The fact that the median age at first cohabitation has not changed much in Haryana during the past decade suggests that the considerable decline in fertility that has occurred in the state has resulted mainly from family limitation within marriage rather than from an increase in age at first cohabitation.

Table 4.1 also shows that the median age at first cohabitation is 2.0 years higher for urban women than for rural women. Over time, the median age at first cohabitation has risen in both urban and rural areas. For women age 20–49, the median age at first cohabitation increases by level of education from 17.1 years for illiterate women to 18.8 years for women who have completed middle school. The median age at first cohabitation for women age 20–49 is higher for Hindus (18.0 years) than for Muslims (17.2 years). By caste/tribe, it is slightly lower for women belonging to scheduled castes and other backward classes (17.6–17.7 years) than for women not belonging to scheduled castes, scheduled tribes, or other backward classes (18.5 years). The median age at first cohabitation for women age 20–49 increases steadily with the

household standard of living, from 17.2 years for women living in households with a low standard of living to 19.0 years for women living in households with a high standard of living. Within living standard categories, the median age has increased over time among women living in medium and high standard of living households, but it has not increased among women living in low standard of living households.

4.2   Current Fertility Levels

NFHS-2 provides estimates of age-specific fertility rates (ASFRs), total fertility rates (TFR), and crude birth rates (CBR) for the three-year period preceding the survey, which in Haryana corresponds roughly to the period 1996–98. This three-year period was chosen as a compromise between the need to obtain recent information (suggesting the use of a short period closer to the survey date) and the need to reduce sampling variation and minimize problems related to displacement of births from recent years to earlier years (suggesting the use of a longer period). The ASFR for any specific age group is calculated by dividing the number of births to women in the age group during the period 1–36 months preceding the survey by the number of women-years lived by women in the age group during the same three-year time period. The TFR is a summary measure based on the ASFRs that gives the number of children a woman would bear during her reproductive years if she were to experience the ASFRs prevailing at the time of the survey. Mathematically, the TFR is five times the sum of all the ASFRs of the five-year age groups. The CBR is defined as the annual number of births per 1,000 population.

Based on estimates for the three-year period before NFHS-2, the CBR in Haryana is 23.1 births per 1,000 population and the TFR (15–49) is 2.88 births per woman, as shown in Table 4.2. By residence, both CBR and TFR are considerably higher in rural areas than in urban areas. While fertility in urban areas (TFR=2.24) is approaching replacement level, fertility in rural areas (TFR=3.13) is still well above replacement level.

Table 4.2 and Figure 4.1 show that the TFR is lower in urban areas than in rural areas mainly because the ASFRs for the 15–19 and 20–24 age groups are considerably lower in urban areas. Urban-rural differences in ASFRs for the other age groups are negligible. Seventy-five percent of urban total fertility and 66 percent of rural total fertility is concentrated in the prime childbearing ages of 20–29. There is also a considerable amount of early childbearing. Fertility at age 15–19 accounts for 7 percent of total fertility in urban areas, 19 percent in rural areas, and 16 percent overall. Fertility at ages 35 and older accounts for only 4 percent of total fertility in urban areas, 6 percent in rural areas, and 5 percent overall.

Based on estimates for the three-year period preceding NFHS-1 and NFHS-2, the CBR fell from 32.9 to 23.1 between the two surveys, a decline of 30 percent in approximately six years. Over the same period, the TFR fell from 3.99 to 2.88, a decline of 28 percent. Fertility fell for all age groups except for age 45–49 for which fertility was already negligible at the time of NFHS-1 (see Figure 4.2). Although fertility fell for age group 40–44, the fertility for this age group too was already very low in NFHS-1, so that the fertility decline above age 40 had a negligible impact on the CBR and the TFR during the six years between the two surveys.

Table 4.2 Current fertility

Age-specific and total fertility rates and crude birth rates from NFHS-1, NFHS-2, and the SRS by residence, Haryana

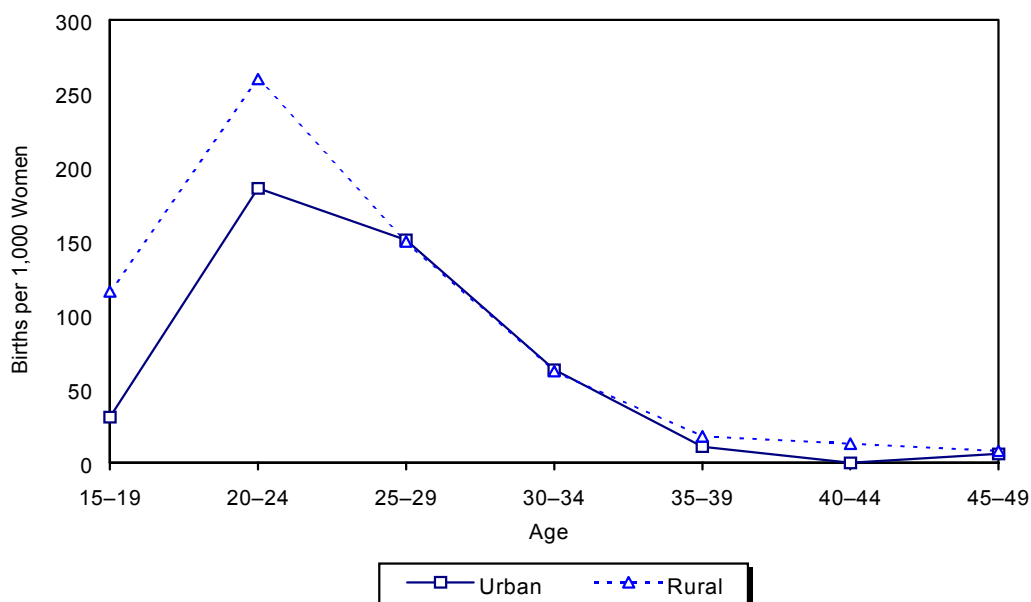|	NFHS-1 (1990–92)	NFHS-2 (1996–98)			SRS (1997)		
Age	Total	Urban	Rural	Total	Urban	Rural	Total
15–19	0.143	0.031	0.116	0.092	0.019	0.044	0.039
20–24	0.316	0.186	0.260	0.240	0.208	0.305	0.283
25–29	0.196	0.151	0.150	0.150	0.192	0.218	0.212
30–34	0.088	0.063	0.062	0.062	0.078	0.093	0.090
35–39	0.036	0.011	0.018	0.015	0.021	0.043	0.038
40–44	0.015	0.000	0.013	0.009	0.010	0.019	0.017
45–49	0.003	0.006	0.008	0.007	0.003	0.005	0.004
TFR 15–44	3.97	2.21	3.09	2.84	2.64	3.61	3.40
TFR 15–49	3.99	2.24	3.13	2.88	2.66	3.64	3.42
CBR	32.9	18.1	25.0	23.1	23.8	29.6	28.3

Note: Rates from NFHS-1 and NFHS-2 are for the period 1–36 months preceding the survey. Rates for the age group 45–49 might be slightly biased due to truncation. Rates from the SRS are for one calendar year. Age-specific and total fertility rates are expressed per woman.
TFR: Total fertility rate
CBR: Crude birth rate, expressed per 1,000 population
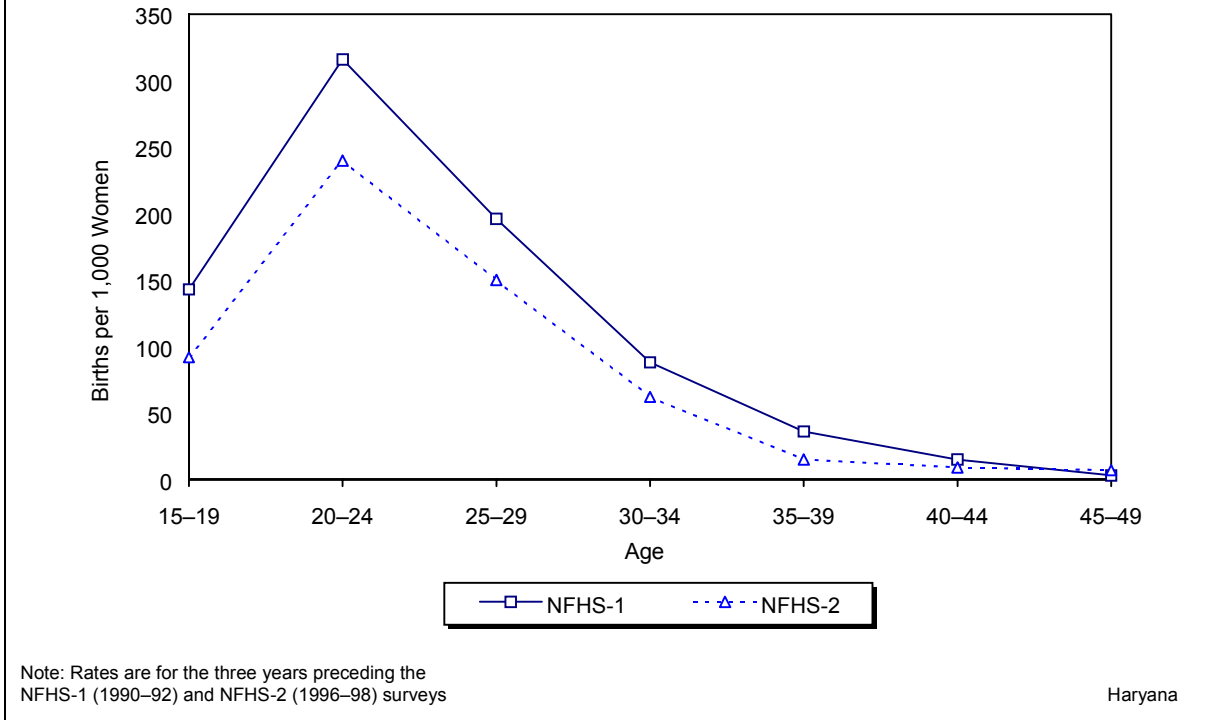Source for SRS: Office of the Registrar General, 1999a

**Figure 4.1
Age-Specific Fertility Rates
by Residence**

Note: Rates are for the three years preceding the survey (1996–98)

NFHS-2, Haryana, 1998–99

**Figure 4.2
Age-Specific Fertility Rates
NFHS-1 and NFHS-2**

Note: Rates are for the three years preceding the
NFHS-1 (1990–92) and NFHS-2 (1996–98) surveys

Haryana

NFHS-2 fertility estimates can be compared with estimates from the Sample Registration System (SRS), which is maintained by the Office of the Registrar General, India. Since the NFHS-2 rates refer to 1996–98, it is appropriate to compare them with the SRS estimates for 1997, which are also shown in Table 4.2 (Office of the Registrar General, 1999a). The NFHS-2 estimate of the CBR, at 23.1, is much lower than the SRS estimate of the CBR, at 28.3. The NFHS-2 estimate of the TFR (2.88) is 0.54 children per woman lower than the SRS estimate (3.42). Differences between NFHS-2 and the SRS estimates are of about same magnitude in urban and rural areas. This discrepancy may partly be due to age misreporting in NFHS-2, which tends to result in the displacement of births further into the past. Retrospective surveys such as NFHS-1 and NFHS-2 are subject to such displacement, whereas the SRS, in which births are recorded during the year in which they occur, is not. Analyses by Narasimhan et al. (1997) and Retherford and Mishra (2001) concluded that NFHS-1, NFHS-2 and SRS fertility rates are probably all underestimated. Nonetheless, since the SRS estimates are not subject to displacement, they are likely to be closer to the true level of fertility than the NFHS estimates.

4.3   Fertility Differentials and Trends

Table 4.3 and Figure 4.3 show how the TFR, the percentage currently pregnant, and the mean number of children ever born to women age 40–49 vary by selected background characteristics. The TFR is 1.42 children higher among illiterate women than among women who have completed high school or higher education. The characteristic showing the greatest variation is religion. The TFR is much higher among Muslims (5.98) than among Hindus (2.77) and Sikhs (2.46). By caste/tribe, schedule-caste women have the highest fertility (TFR=3.70), followed by
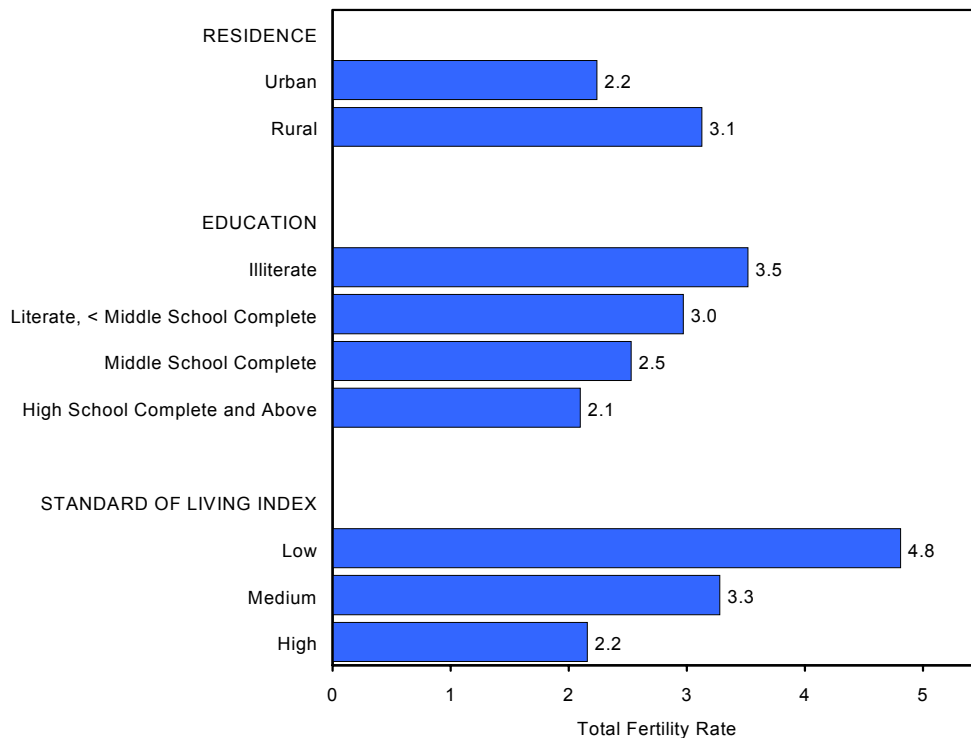
Table 4.3 Fertility by background characteristics

Total fertility rate for the three years preceding the survey, percentage of all women age 15–49 currently pregnant, and mean number of children ever born to all women age 40–49 by selected background characteristics, Haryana, 1998–99

Background characteristic	Total fertility rate[1]	Percentage currently pregnant[2]	Mean number of children ever born to all women age 40–49 years
Residence			
Urban	2.24	4.0	3.58
Rural	3.13	5.5	4.78
Education			
Illiterate	3.52	5.5	4.88
Literate, < middle school complete	2.97	5.3	4.17
Middle school complete	2.53	5.8	(3.89)
High school complete and above	2.10	3.6	2.93
Religion			
Hindu	2.77	5.0	4.35
Muslim	5.98	9.0	*
Sikh	2.46	3.4	(4.13)
Caste/tribe			
Scheduled caste	3.70	6.9	5.07
Other backward class	3.06	5.3	5.07
Other[3]	2.49	4.3	4.01
Standard of living index			
Low	4.81	8.9	5.54
Medium	3.28	5.5	4.96
High	2.16	4.0	3.73
Total	2.88	5.0	4.40

( ) Based on 25–49 unweighted case
* Mean not shown, based on fewer than 25 unweighted cases
[1]Rate for women age 15–49 years
[2]For this calculation, it is assumed that women who are never married, widowed, divorced, separated, or deserted are not currently pregnant.
[3]Not belonging to a scheduled caste, a scheduled tribe, or an other backward class

women belonging to other backward classes (TFR=3.06) and 'other' (TFR=2.49) women. The TFR is 2.65 children higher among women living in households with a low standard of living than among women living in households with a high standard of living. These fertility differentials are expected to narrow somewhat as fertility approaches replacement level.

Overall, 5 percent of women age 15–49 report that they are currently pregnant. Differentials in the percentage of all women who are currently pregnant generally parallel differentials in the TFR.

The last column of Table 4.3 shows the mean number of children ever born to all women age 40–49 at the time of the survey. Because only women age 40–49 are considered, age variations among the different categories of women do not affect the interpretation of differentials. In almost every case, the pattern of differentials in the mean number of children ever born parallels the pattern of differentials in the TFR. The differentials by caste/tribe are a partial exception. Scheduled-caste women have by far the highest TFR, but they have the same mean number of children ever born as other backward class women. This occurs because the mean number of children ever born at age

Figure 4.3
Total Fertility Rate by Selected Background Characteristics

	Total Fertility Rate
RESIDENCE	
Urban	2.2
Rural	3.1
EDUCATION	
Illiterate	3.5
Literate, < Middle School Complete	3.0
Middle School Complete	2.5
High School Complete and Above	2.1
STANDARD OF LIVING INDEX	
Low	4.8
Medium	3.3
High	2.2

Note: Rates are for the three years
preceding the survey (1996–98)

NFHS-2, Haryana, 1998–99

40–49 reflects all fertility in the past, whereas the TFR only reflects fertility in the three years preceding the survey, and fertility has fallen faster for other backward classes in recent decades than for scheduled castes.

Table 4.4 shows fertility trends for five-year time periods preceding the survey. It is not possible to show TFRs because of progressively greater age truncation as one goes back in time. In NFHS-2, birth histories were collected only for women age 15–49. This means that for the period 5–9 years preceding the survey it is not possible to compute an ASFR for age 45–49. Similarly, for the period 10–14 years preceding the survey, it is not possible to compute ASFRs for the oldest two age groups, and for the period 15–19 years preceding the survey, it is not possible to compute ASFRs for the oldest three age groups. Thus Table 4.4 shows only the truncated trends in ASFRs. Results are shown separately for urban and rural areas as well as for the entire state. These results show very substantial fertility declines in all age groups over a 15-year period in both urban and rural areas. In many cases, age-specific fertility rates declined by 50 percent or more. The proportionate decline is somewhat greater at the older reproductive ages.

For the periods 0–4 years and 5–9 years before the survey, it is possible to calculate truncated TFRs (more appropriately called cumulative fertility rates, or CFRs) for the age range 15–39, based on the ASFRs shown in Table 4.4. This is done by summing ASFRs for the age groups 15–19 through 35–39 and multiplying the sum by five. For the state as a whole, CFR(15–39) declined from 3.84 to 2.94 over the five-year period, a decline of 0.90 children. The decline was

Table 4.4 Fertility trends				
Age-specific fertility rates for five-year periods preceding the survey by residence, Haryana, 1998–99				
	Years preceding survey			
Age	0–4	5–9	10–14	15–19
URBAN				
15–19	0.039	0.091	0.115	0.101
20–24	0.214	0.259	0.298	0.280
25–29	0.143	0.173	0.187	0.249
30–34	0.059	0.081	0.099	[0.104]
35–39	0.013	0.030	[0.058]	U
40–44	0.002	[0.010]	U	U
45–49	[0.005]	U	U	U
RURAL				
15–19	0.127	0.157	0.187	0.137
20–24	0.272	0.329	0.362	0.350
25–29	0.154	0.199	0.248	0.287
30–34	0.062	0.096	0.120	[0.211]
35–39	0.023	0.047	[0.073]	U
40–44	0.013	[0.013]	U	U
45–49	[0.007]	U	U	U
TOTAL				
15–19	0.102	0.137	0.166	0.125
20–24	0.255	0.308	0.341	0.325
25–29	0.151	0.190	0.226	0.275
30–34	0.061	0.091	0.113	[0.178]
35–39	0.019	0.042	[0.068]	U
40–44	0.010	[0.012]	U	U
45–49	[0.006]	U	U	U
Note: Age-specific fertility rates are expressed per woman. U: Not available [ ] Truncated, censored				

0.83 for urban areas and 0.95 for rural areas, indicating that fertility fell slightly more rapidly in rural areas than in urban areas. This is to be expected because the practice of family limitation tends to start in urban areas and spread to rural areas. It should be noted that these estimated fertility declines may exaggerate to some degree the magnitude of the decline between these two five-year periods because there is considerable age misreporting in Haryana which could result in displacement of births from the first five-year period into the second five-year period before the survey (Narasimhan et al., 1997).

Another way of looking at fertility is to calculate fertility rates by years since first cohabitation with husband. These rates are measures of marital fertility, i.e., fertility within marriage. Table 4.5 shows fertility rates by duration of cohabitation for ever-married women for four five-year periods preceding the survey[1]. Fertility has declined for all durations, except 0–4 years after cohabitation. The decline is more pronounced for the longer durations. The limited

---

[1]Because NFHS-2 collected information only on a woman's age at the time of first cohabitation and not the year and month when she first began cohabiting with her husband, the exact number of months since first cohabitation cannot be calculated. For this reason, the first year since cohabitation contains only six months, on average, and the first five years since cohabitation contain only 4.5 years, on average.

Table 4.5 Fertility by marital duration

Fertility rates for ever-married women by duration since first cohabitation with husband (in years) and residence for five-year periods preceding the survey, Haryana, 1998–99

Duration since first cohabitation (in years)	Years preceding survey			
	0–4	5–9	10–14	15–19
URBAN				
< 5	0.321	0.361	0.356	0.360
5–9	0.162	0.194	0.235	0.254
10–14	0.067	0.095	0.122	(0.177)
15–19	0.021	0.037	(0.075)	*
20–24	0.006	(0.025)	*	U
25–29	(0.008)	*	U	U
RURAL				
< 5	0.353	0.373	0.374	0.317
5–9	0.218	0.279	0.321	0.339
10–14	0.097	0.129	0.186	0.253
15–19	0.039	0.067	0.087	(0.192)
20–24	0.020	0.027	(0.022)	U
25–29	0.006	(0.000)	U	U
TOTAL				
< 5	0.344	0.370	0.369	0.331
5–9	0.202	0.254	0.293	0.314
10–14	0.088	0.118	0.166	0.234
15–19	0.033	0.058	0.084	(0.165)
20–24	0.016	0.026	(0.029)	U
25–29	0.007	(0.000)	U	U

Note: Duration-specific fertility rates are expressed per woman. The duration since first cohabitation with husband is defined as the difference between the woman's age at the specific time period and her age when she began living with her husband.
U: Not available
( ) Based on 125–249 woman-years of exposure
*Rate not shown; based on fewer than 125 woman-years of exposure

fertility decline in the last 10 years during the first 0–4 years after cohabitation is typical of populations in which contraception is initiated only after the first birth or later, as is the case in Haryana (see Table 5.5).

It is also evident from Table 4.5 that marital fertility is lower in urban areas than in rural areas for most durations and time periods. During the 0–4 years after cohabitation, however, urban fertility is almost as high as rural fertility. This pattern is not uncommon in populations in which the age at first cohabitation is higher in urban areas than in rural areas, as is the case in Haryana (see Table 4.1). Women who marry when they are older tend to have their first birth sooner after marriage and concentrate their births earlier in their marriages than women who marry when they are younger (Basu, 1993; Pandey et al., 1990).

4.4 Children Ever Born and Living

The number of children a woman has ever had is a cohort measure of fertility. Because it reflects fertility in the past, it provides a somewhat different picture of fertility levels, trends, and differentials than do period measures of fertility such as the CBR and the TFR. Table 4.6 shows the number of children ever born (CEB) to all women and to currently married women by their

Table 4.6 Children ever born and living

Percent distribution of all women and of currently married women by number of children ever born (CEB) and mean number of children ever born and living, according to age, Haryana, 1998–99

| Age | Children ever born | | | | | | | | | | | Total percent | Number of women | Mean number of CEB | Mean number of living children |
	0	1	2	3	4	5	6	7	8	9	10+				
ALL WOMEN															
15–19	89.4	9.1	1.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	716	0.12	0.11
20–24	34.8	24.6	29.0	8.9	2.2	0.4	0.0	0.0	0.0	0.0	0.0	100.0	678	1.20	1.13
25–29	6.8	12.3	32.9	26.0	12.8	6.4	2.6	0.2	0.2	0.0	0.0	100.0	629	2.57	2.34
30–34	1.8	3.3	22.0	30.2	21.2	11.6	6.2	3.2	0.5	0.0	0.0	100.0	561	3.45	3.10
35–39	1.9	2.6	20.4	29.6	18.1	12.7	7.9	4.3	1.7	0.7	0.2	100.0	419	3.67	3.31
40–44	1.7	2.0	14.5	23.4	20.6	15.5	10.6	4.6	4.3	1.4	1.4	100.0	349	4.19	3.72
45–49	2.1	1.7	8.3	18.2	22.5	14.4	14.5	8.5	6.6	1.7	1.4	100.0	283	4.65	4.10
Total	26.1	9.6	19.2	17.9	11.7	7.0	4.5	2.1	1.2	0.4	0.3	100.0	3,636	2.41	2.18
CURRENTLY MARRIED WOMEN															
15–19	57.9	36.0	5.5	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	181	0.49	0.45
20–24	14.3	31.8	38.5	11.9	2.9	0.6	0.0	0.0	0.0	0.0	0.0	100.0	511	1.59	1.50
25–29	3.2	12.8	34.2	26.9	13.1	6.8	2.7	0.2	0.2	0.0	0.0	100.0	594	2.67	2.43
30–34	1.5	3.0	21.9	29.9	21.9	11.9	6.1	3.2	0.6	0.0	0.0	100.0	539	3.47	3.13
35–39	1.5	2.5	20.7	29.4	18.1	12.9	7.8	4.3	1.8	0.8	0.2	100.0	397	3.69	3.32
40–44	1.2	1.6	14.5	23.0	20.9	15.6	10.9	5.0	4.3	1.6	1.5	100.0	321	4.26	3.79
45–49	1.5	1.5	9.1	18.1	22.2	14.8	14.0	8.9	6.5	1.9	1.2	100.0	256	4.66	4.13
Total	7.8	12.1	24.3	22.1	14.5	8.8	5.4	2.6	1.5	0.5	0.3	100.0	2,799	2.99	2.70

age at the time of the survey. The table also shows the mean number of children ever born and the mean number of living children by age.

Among women age 15–49 in Haryana, the mean number of children ever born is 2.41 for all women, irrespective of marital status, and 2.99 for currently married women. The mean number of children ever born increases steadily with age, reaching a high of 4.65 children among all women age 45–49 and 4.66 among currently married women in this age group. The table also shows that early childbearing is common in Haryana. Eleven percent of all women and 42 percent of currently married women age 15–19 have already had at least one child.

For women age 45–49, the number of children ever born is of particular interest because these women have virtually completed their childbearing. Among all women in this age group, the modal number of children is four. Twenty-three percent of these women have reached the end of childbearing with four children ever born. Also, among currently married women age 45–49, the modal number of children is four. Twenty-two percent of these women have reached the end of childbearing with four children ever born. Overall, 9 percent of all women and 10 percent of currently married women have given birth to at least six children. Only two percent of all women age 30–49 have never given birth. This suggests that primary infertility (which is the proportion of couples who are unable to have any children) is very low in Haryana.

Among all women age 15–49, the average number of dead children per woman is 0.23. Among currently married women it is 0.29, i.e., 10 percent of children ever born to currently married women have died. The proportion of children ever born who have died increases with women's age. Among currently married women, for example, the proportion of children ever born who have died increases from 6 percent for women age 20–24 to 11 percent for women age 45–49.

4.5   Birth Order

The distribution of births by birth order is yet another way to view fertility. Table 4.7 shows the distribution of births during the three-year period before the survey by birth order for selected background characteristics. Overall, almost 6 out of 10 births in Haryana are first or second-order births, 17 percent are third-order births, and 25 percent are of order four or higher. The highest proportion of births to mothers age 15–19 are of order one; by contrast, the highest proportion of births to mothers age 30–39 are of order four or higher. The proportion of births that are of order four or higher is 20 percent in urban areas and 26 percent in rural areas. The proportion of births of order four or higher is relatively large for births to illiterate women, Muslim women, and scheduled-caste women. By work status, 37–39 percent of births to women who work are of order four or higher compared with 24 percent of births to women who did not work in the past 12 months. Among women with a low standard of living, the proportion of births of order four or higher is 51 percent, compared with only 10 percent among women with a high standard of living.

4.6   Birth Intervals

A birth interval, defined as the length of time between two successive live births, indicates the pace of childbearing. Short birth intervals adversely affect a mother's health and her children's chances of survival. Past research has shown that children born too close to a previous birth are at increased risk of dying, especially if the interval between the births is less than 24 months (Pandey et al., 1998; Govindasamy et al., 1993).

Table 4.7 Birth order

Percent distribution of births during the three years preceding the survey by birth order, according to and selected background characteristics, Haryana, 1998–99

Background characteristic	Birth order				Total percent	Number of births
	1	2	3	4+		
Mother's current age						
15–19	86.6	12.2	1.2	0.0	100.0	82
20–29	29.8	36.4	19.2	14.6	100.0	780
30–39	2.3	9.2	14.7	73.9	100.0	185
Residence						
Urban	29.9	31.6	18.6	19.9	100.0	247
Rural	28.7	28.6	16.3	26.4	100.0	815
Mother's education						
Illiterate	20.5	21.3	17.5	40.7	100.0	542
Literate,< middle school complete	28.5	33.8	22.2	15.6	100.0	206
Middle school complete	35.8	38.8	19.0	6.4	100.0	95
High school complete and above	47.4	40.7	9.2	2.7	100.0	219
Religion						
Hindu	29.6	29.9	16.9	23.6	100.0	915
Muslim	19.4	16.7	7.0	56.9	100.0	73
Sikh	28.9	33.3	27.6	10.3	100.0	69
Caste\tribe						
Scheduled caste	21.5	20.4	21.2	36.9	100.0	269
Other backward class	28.8	31.2	16.0	24.0	100.0	257
Other[1]	32.6	32.9	15.1	19.4	100.0	536
Mother's work status						
Working in family farm/business	(20.1)	(33.8)	(6.6)	(39.4)	100.0	30
Employed by someone else	25.1	24.9	12.6	37.3	100.0	56
Not worked in past 12 months	29.3	29.6	17.4	23.7	100.0	971
Standard of living index						
Low	14.5	20.2	14.4	50.9	100.0	138
Medium	26.3	26.0	18.7	29.0	100.0	533
High	37.3	37.5	15.4	9.9	100.0	385
Total	29.0	29.3	16.8	24.9	100.0	1,062

Note: Total includes 15 births to mothers currently age 40–49, 4 births to mothers belonging to other religions, 1 birth to a scheduled-tribe mother, 6 births to mothers who are self-employed, and 1 and 6 births with missing information on religion and the standard of living index, respectively, which are not shown separately.
( ) Based on 25–49 unweighted cases
[1] Not belonging to a scheduled caste, a scheduled tribe, or an other backward class

Table 4.8 shows the percent distribution of births during the five years preceding the survey by birth interval according to selected demographic and socioeconomic background characteristics. In Haryana, 13 percent of births occur within 18 months of a previous birth and 29 percent occur within 24 months. Thirty-six percent of births occur after an interval of three years or more.

The median birth interval in Haryana is 30 months. The median birth interval for women age 20–29 is 28 months, which is substantially less than the median interval of 39 months for women age 40–49. The relatively short birth interval for younger women may result partly from a selection effect. Only women who have had two or more births are included in the table, and younger women with two or more births are likely to be more fecund than average. Given the finding that the median birth interval increases with mother's age, it is surprising that it does not

Table 4.8 Birth interval

Percent distribution of births during the five years preceding the survey by interval since previous birth and median number of months since previous birth, according to selected background characteristics, Haryana, 1998–99

Background characteristic	Months since previous birth						Total percent	Median months since previous birth	Number of births
	< 12	12–17	18–23	24–35	36–47	48+			
Mother's current age									
20–29	2.3	12.2	19.2	36.0	19.6	10.8	100.0	28.2	892
30–39	1.4	7.8	9.8	31.0	22.5	27.5	100.0	36.0	346
40–49	(2.9)	(11.3)	(11.6)	(20.2)	(11.3)	(42.7)	100.0	(39.4)	35
Residence									
Urban	2.1	9.1	14.3	31.9	18.8	23.8	100.0	32.6	298
Rural	2.1	11.6	16.9	35.1	20.5	13.8	100.0	29.3	986
Mother's education									
Illiterate	2.2	10.7	16.7	34.6	19.6	16.2	100.0	29.7	777
Literate, < middle school complete	1.6	11.4	17.1	33.5	24.9	11.5	100.0	30.1	244
Middle school complete	0.0	8.3	24.7	33.9	16.7	16.4	100.0	29.3	85
High school complete and above	3.4	13.5	9.6	34.6	17.3	21.6	100.0	31.7	179
Religion									
Hindu	2.0	10.9	15.7	35.3	19.5	16.7	100.0	30.3	1,095
Muslim	3.9	8.8	23.4	26.4	24.6	12.9	100.0	27.6	103
Sikh	1.2	16.5	15.2	33.1	21.0	12.9	100.0	29.5	85
Caste/tribe									
Scheduled caste	1.9	11.6	13.5	37.3	19.5	16.0	100.0	29.7	362
Other backward class	0.7	11.9	17.7	35.3	22.1	12.3	100.0	29.6	294
Other[1]	2.9	10.3	17.3	32.2	19.4	17.9	100.0	30.6	628
Standard of living index									
Low	1.5	10.9	15.2	36.0	19.2	17.3	100.0	30.4	203
Medium	2.5	10.9	16.6	35.5	21.1	13.3	100.0	29.1	676
High	1.8	11.3	16.5	31.4	19.1	19.9	100.0	31.7	399
Order of previous birth									
1	1.8	12.6	18.3	35.0	17.3	15.0	100.0	29.4	508
2	3.4	11.7	14.8	31.7	20.0	18.4	100.0	30.8	323
3	1.0	7.7	14.9	38.2	24.2	14.0	100.0	31.4	194
4+	1.9	9.6	15.4	33.6	22.4	17.0	100.0	29.9	260
Sex of previous birth									
Male	2.3	11.4	15.6	35.3	18.1	17.3	100.0	29.9	608
Female	1.9	10.8	17.0	33.5	21.8	15.0	100.0	30.1	676
Survival of previous birth									
Living	1.6	10.5	15.9	35.1	20.8	16.0	100.0	30.6	1,181
Dead	7.7	17.3	21.0	26.0	11.4	16.6	100.0	24.8	104
Total	2.1	11.0	16.3	34.4	20.1	16.1	100.0	30.0	1,285

Note: Table includes only second- and higher-order births. The interval for multiple births is the number of months since the preceding pregnancy that ended in a live birth. Total includes 11 births to mothers currently age 15–19, 2 births to mothers belonging to other religions, and 7 births with missing information on the standard of living index, which are not shown separately.
( ) Based on 25–49 unweighted cases
[1]Not belonging to a scheduled caste, a scheduled tribe, or an other backward class

also increase substantially with the order of the previous birth. Perhaps this is due to the absence of the selection effect just noted in the case of age. There may also be another type of selection effect operating: Mothers of higher-order births may be more fecund, on average, than mothers of lower-order births. The birth interval is much shorter if the previous child died (25 months) than if the previous child survived (31 months). In part, this reflects the shortening of postpartum amenorrhoea that occurs when the preceding child dies in infancy and breastfeeding stops prematurely. Women are also less likely to use temporary methods of contraception to postpone fertility if the previous child died and they want to replace the dead child.

Birth intervals are about three months longer among urban women than among rural women, perhaps due to greater use of temporary methods of contraception among urban women. Muslims have a median birth interval that is about three months shorter than the interval for Hindus and about two months shorter than the interval for Sikhs. There is not much variation in median birth interval by woman's education, caste/tribe, household standard of living, or the sex of the previous child.

4.7   Age at First and Last Birth

The ages at which women start and stop childbearing are important demographic determinants of fertility. A higher median age at first birth and a lower median age at last birth are indicators of lower fertility. Table 4.9 shows the median age at first birth for various age groups by selected background characteristics. The median age at first birth for any group of women is defined in this table as the age by which half of all women in the group have had a first birth, rather than the age by which half of all mothers in the group have had a first birth. If the median calculated for an age group lies above the lower limit of that age group, it is not valid because some younger women in the age group who have not yet had a first birth will not have reached the median age by the time of the survey. In such cases, the estimate of the median is not shown.

As shown in the last row of the table, the median age at first birth in the state as a whole has not changed noticeably during the last two decades. This is shown by the fact that the median age at first birth ranges narrowly from 19.8 years to 20.4 years.

Among all women age 25–49, the median age at first birth is 1.5 years higher in urban areas than in rural areas. The median age at first birth does not vary much across age cohorts within urban and rural areas. Median age at first birth increases with education, from 19.4 years for illiterate women to 22.7 years for women with high school or more education. Among women age 25–49, Sikhs have a median age at first birth (21.7 years) which is 1.7 years higher than the median for Hindus and Muslims (both 20.0 years). By caste/tribe, the 'other' category has a median of 20.5 years, which is 0.8–0.9 years higher than the median for women from scheduled castes and other backward classes. Women living in households with a high standard of living have a higher median age at first birth (21.0 years) than those living in households with a medium (19.4 years) or low (19.5 years) standard of living.

Table 4.9 Median age at first birth

Median age at first birth among women age 20–49 years by current age and selected background characteristics, Haryana, 1998–99

Background characteristic	Current age							
	20–24	25–29	30–34	35–39	40–44	45–49	20–49	25–49
Residence								
Urban	NC	21.2	20.7	21.5	21.2	21.5	NC	21.2
Rural	19.7	19.8	19.4	19.6	20.2	19.8	19.7	19.7
Education								
Illiterate	19.2	18.8	19.2	19.3	20.0	19.9	19.3	19.4
Literate, < middle school complete	19.4	20.4	19.7	20.2	(20.1)	*	19.9	20.1
Middle school complete	NC	(20.8)	(20.8)	(20.9)	*	*	NC	20.8
High school complete and above	NC	22.7	22.0	23.0	22.6	(22.6)	NC	22.7
Religion								
Hindu	NC	20.1	19.6	19.9	20.4	20.3	NC	20.0
Muslim	(19.7)	*	*	*	*	*	19.9	20.0
Sikh	NC	21.5	(21.6)	*	*	*	NC	21.7
Caste/tribe								
Scheduled caste	19.5	19.2	19.6	19.0	20.2	20.1	19.5	19.6
Other backward class	NC	19.5	19.4	19.8	20.0	(20.1)	19.8	19.7
Other[1]	NC	20.7	20.0	20.8	20.6	20.5	NC	20.5
Standard of living index								
Low	18.5	18.9	19.4	(18.8)	(20.3)	*	19.3	19.5
Medium	19.6	19.2	19.3	19.4	20.1	19.7	19.5	19.4
High	NC	21.3	20.5	21.3	20.9	20.9	NC	21.0
Total	NC	20.2	19.8	20.1	20.4	20.4	NC	20.1

NC: Not calculated because less than 50 percent of women had their first birth by age 20
( ) Based on 25–49 unweighted cases
*Median not shown; based on fewer than 25 unweighted cases
[1]Not belonging to a scheduled caste, a scheduled tribe, or an other backward class

For older women the age at last childbirth is an indicator of cessation of childbearing. Table 4.10 presents the distribution of ever-married women in the age group 40–49 by age at last birth, as well as the median age at last birth. Although a few of these women may have another birth later on, the very low fertility rates for women in this age group suggest that childbearing is virtually complete by these ages. Fifty-five percent of women had their last birth by age 30, and 83 percent by age 35. The median age at last birth in Haryana for women age 40–49 is 29.4 years. It is 28.4 for women age 40–44 and 30.3 for women age 45–49. The difference between the median age at first birth and the median age at last birth provides an estimate of the typical reproductive age span. Among women age 45–49 who had at least one birth, the estimated reproductive age span is 9.0 years (data not shown). Thus, reproduction in Haryana is highly concentrated in a short span of less than 10 years.

4.8   Postpartum Amenorrhoea, Abstinence, Insusceptibility, and Menopause

Among the factors that influence the risk of pregnancy following a birth are breastfeeding and sexual abstinence. Breastfeeding prolongs postpartum protection from conception through its effect on the period of amenorrhoea (the period prior to the return of menses) following a birth. Delaying the resumption of sexual relations following a birth also prolongs the period of postpartum protection. Women are defined as insusceptible to pregnancy if they are not at risk of conception because they are amenorrhoeic, are abstaining from sexual relations, or both, following a birth.

Table 4.10 Age at last birth

Percent distribution of ever-married women age 40–49 years by age at last birth and median age at last birth, according to current age, Haryana, 1998–99

Current age	No birth	Age at last birth							Total percent	Median age at last birth	Number of women
		< 20	20–24	25–29	30–34	35–39	40–44	45–49			
40–44	1.1	1.1	18.9	40.6	25.5	9.8	2.8	NA	100.0	28.4	347
45–49	1.4	0.3	11.4	34.9	33.1	16.0	1.8	1.1	100.0	30.3	281
40–49	1.3	0.8	15.6	38.1	28.9	12.6	2.4	0.5	100.0	29.4	628

NA: Not applicable

Table 4.11 shows the percentage of births occurring during the three years preceding the survey whose mothers are postpartum amenorrhoeic, abstaining, or insusceptible, by the number of months since birth. These distributions are based on current status information, i.e., on the proportions of births occurring during the 36 months before the survey whose mothers were amenorrhoeic, abstaining, and insusceptible at the time of the survey. In other words, the table is based on cross-sectional data and does not represent the experience of a real cohort of births over time. The data are grouped into two-month intervals to minimize fluctuations in the distributions. Median and mean durations of amenorrhoea, abstinence, and insusceptibility are also shown in the table. The prevalence/incidence mean is obtained by dividing the number of mothers who are amenorrhoeic, abstaining, or insusceptible by the average number of births per month over the 36-month period.

All women who had a birth in the two months before the survey are still amenorrhoeic, and 78 percent of women who had a birth 2–3 months before the survey are still amenorrhoeic. The proportion amenorrhoeic gradually decreases as the number of months since the last birth increases. More than one-half of all women who had births 6–7 months before the survey and more than one-third of all women who had births 10–11 months before the survey are still amenorrhoeic, but the proportion amenorrhoeic drops off rapidly thereafter. The proportion of women abstaining from sexual intercourse is substantially lower than the proportion amenorrhoeic at almost all durations since birth. Only 29 percent of women abstain from sexual intercourse 2–3 months after a birth, and this percentage drops off to 4 percent or less at durations longer than 3 months. Overall, when amenorrhoea and abstinence are considered together, about one-half of women become susceptible to pregnancy by 6–7 months after giving birth, and about four-fifths become susceptible by 12–15 months.

The median and mean durations of insusceptibility are 7.5 and 9.6 months, respectively. Because the mean is affected by extreme values and the median is not, and because the distribution is skewed towards the higher durations, the mean is somewhat higher than the median. The median duration of amenorrhoea (7.4 months) is more than four times as high as the median duration of abstinence (1.8 months). The results indicate that women in Haryana remain insusceptible to conception for about 8 months after a birth, primarily due to the effect of postpartum amenorrhoea.

Table 4.11 Postpartum amenorrhoea, abstinence, and insusceptibility

Percentage of births during the three years preceding the survey whose mothers are postpartum amenorrhoeic, abstaining, or insusceptible by number of months since birth, and median and mean durations, Haryana, 1998–99

| Months since birth | Percentage of births whose mothers are: | | | Number of births |
	Amenorrhoeic	Abstaining	Insusceptible	
< 2	100.0	80.0	100.0	50
2–3	77.8	29.1	80.6	72
4–5	64.6	3.6	64.6	82
6–7	55.5	1.8	55.5	56
8–9	(38.8)	(4.1)	(38.8)	49
10–11	(35.4)	(2.3)	(37.7)	45
12–13	18.5	0.0	18.5	54
14–15	20.2	1.3	21.5	79
16–17	6.7	0.0	6.7	76
18–19	5.9	0.0	5.9	52
20–21	(14.9)	(2.4)	(17.3)	40
22–23	6.1	4.0	10.1	50
24–25	(0.0)	(2.6)	(2.6)	40
26–27	0.0	0.0	0.0	66
28–29	0.0	1.1	1.1	92
30–31	1.4	0.0	1.4	69
32–33	(2.5)	(0.0)	(2.5)	41
34–35	(2.2)	(0.0)	(2.2)	44
Median[1]	7.4	1.8	7.5	NA
Mean	9.3	3.0	9.6	NA
Prevalence/incidence mean	9.1	2.5	9.4	NA

Note: Median and mean durations are based on current status. Insusceptible is defined as amenorrhoeic, abstaining, or both.
NA: Not applicable
( ) Based on 25–49 unweighted cases
[1]Based on a three-period moving average of percentages

Menopause is a primary limiting factor of fertility. It is the culmination of a gradual decline in fecundity with increasing age. After age 30, the risk of pregnancy declines with age as increasing proportions of women become infecund. In NFHS-2, menopause is defined as the absence of menstruation for six or more months preceding the survey among currently married women who are nonpregnant and nonamenorrhoeic. Women who report that they are menopausal or who had hysterectomy are also included in this category. Table 4.12 presents data on menopause for women age 30–49. In Haryana, only 5 percent of women age 35–39 have already reached menopause, but the incidence of menopause increases rapidly after age 40. By age 40–41, 11 percent of women are in menopause. By age 44–45, 37 percent of women are in menopause, and the proportion rises to two-thirds for women age 48–49.

4.9   Desire for More Children

In order to obtain information on fertility preferences, NFHS-2 asked nonsterilized, currently married, nonpregnant women: 'Would you like to have (a/another) child or would you prefer not to have any (more) children?' Pregnant women were asked, 'After the child you are expecting, would you like to have another child or would you prefer not to have any more children?' Women who expressed a desire for additional children were asked how long they would like to wait before the birth of their next child. The survey also collected information on the preferred sex of the next child and the ideal number of children by sex.

Table 4.12 Menopause

Percentage of currently married women age 30–49 who are in menopause by age and residence, Haryana, 1998–99

Age	Urban		Rural		Total	
	Percentage	Number	Percentage	Number	Percentage	Number
30–34	0.0	162	2.4	377	1.7	539
35–39	4.2	148	5.1	249	4.8	397
40–41	9.7	51	11.2	98	10.7	148
42–43	(21.6)	38	24.1	83	23.3	120
44–45	(40.3)	37	35.5	81	37.0	119
46–47	(51.7)	25	40.5	68	43.6	94
48–49	(61.1)	34	69.7	63	66.7	96
30–49	13.7	494	15.0	1,019	14.6	1,513

Note: Percentage menopausal is defined as the percentage of currently married women who are not pregnant and not postpartum amenorrhoeic and who reported that their last period occurred six or more months preceding the survey or that they are menopausal or have had a hysterectomy.
( ) Based on 25–49 unweighted cases

Table 4.13 and Figure 4.4 show future fertility preferences of currently married women, classified by their number of living children. Overall, 33 percent of currently married women say that they do not want any more children, and an additional 41 percent cannot have another child because either the wife or the husband has been sterilized. One-quarter of the women say they would like to have another child. Fifteen percent want a child within two years, and 10 percent want to wait at least two years before the birth of the next child. The desire to stop childbearing increases rapidly with the number of living children. Only 2 percent of women with no living children do not want any children (the woman or her husband is sterilized or the woman says she wants no more children) compared with 81 percent of women with two living children and 91 percent or more of women with three or more living children. Less than 1 percent of women say that they cannot get pregnant (that is, they are 'declared infecund') and less than 1 percent say that the decision about having any (more) children is up to God. Overall, 83 percent of women want to either space their next birth or do not want any more children (including women who are sterilized or whose husbands are sterilized). This proportion is 86 percent in urban areas and 82 percent in rural areas. The proportion wanting no more children is much higher in urban areas (47 percent) than in rural areas (27 percent), but proportion sterilized is much lower in urban areas (30 percent) than in rural areas (45 percent).

The desire to have a child within two years drops rapidly with the number of living children, from 88 percent for women without any living children to less than 5 percent for women with three or more living children. Forty-four percent of women with one living child would like to wait at least two years before having the next child. This suggests that encouraging the use of temporary methods would lower overall fertility and population growth, as well as provide health benefits to mothers and their children through increased birth spacing.

Table 4.13 Fertility preferences

Percent distribution of currently married women by desire for children and preferred sex of additional child, according to number of living children and residence, Haryana, 1998–99
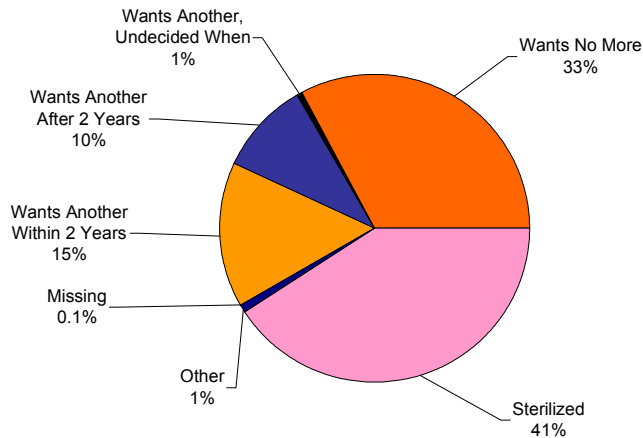
| Desire for children | Number of living children[1] | | | | | |
	0	1	2	3	4+	Total
URBAN						
Desire for additional child						
Wants another soon[2]	88.6	28.9	7.9	1.4	1.2	12.9
Wants another later[3]	5.7	43.8	4.7	1.5	0.0	8.2
Wants another, undecided when	1.9	0.0	0.0	0.0	0.6	0.2
Undecided	0.0	1.0	0.7	0.0	0.0	0.4
Up to God	0.0	0.0	0.0	0.0	0.0	0.0
Wants no more	1.9	22.6	66.3	48.3	44.8	47.3
Sterilized	0.0	2.8	20.4	47.9	53.3	30.4
Declared infecund	1.9	0.0	0.0	0.9	0.0	0.4
Missing	0.0	1.0	0.0	0.0	0.0	0.1
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	53	109	279	211	163	814
Preferred sex of additional child[4]						
Boy	25.2	48.1	(77.5)	*	*	49.4
Girl	4.1	25.3	(6.4)	*	*	13.3
Doesn't matter	35.5	13.6	(6.5)	*	*	18.5
Up to God	35.1	13.0	(9.6)	*	*	18.8
Total percent	100.0	100.0	100.0	*	*	100.0
Number of women wanting more[4]	52	68	31	6	3	160
RURAL						
Desire for additional child						
Wants another soon[2]	87.3	39.3	12.0	6.4	2.3	16.4
Wants another later[3]	5.3	43.9	9.2	4.4	1.7	10.1
Wants another, undecided when	3.0	1.1	0.4	0.4	0.0	0.6
Undecided	0.0	0.0	0.2	0.4	0.5	0.3
Up to God	0.0	0.4	0.0	0.2	0.5	0.3
Wants no more	1.5	9.3	36.7	27.4	31.7	26.8
Sterilized	0.0	4.8	41.2	60.6	63.2	45.1
Declared infecund	3.0	0.7	0.2	0.0	0.2	0.4
Missing	0.0	0.4	0.0	0.2	0.0	0.1
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	133	269	488	482	614	1,985
Preferred sex of additional child[4]						
Boy	35.6	52.6	76.5	(87.9)	*	57.8
Girl	0.8	18.0	7.2	(2.0)	*	9.2
Doesn't matter	27.4	12.6	10.1	(6.1)	*	15.2
Up to God	36.2	16.9	6.2	(4.0)	*	17.8
Total percent	100.0	100.0	100.0	100.0	*	100.0
Number of women wanting more[4]	127	189	98	49	19	481

Table 4.13 Fertility preferences (contd.)

Percent distribution of currently married women by desire for children and preferred sex of additional child, according to number of living children and residence, Haryana, 1998–99

Desire for children	Number of living children[1]					Total
	0	1	2	3	4+	Total
TOTAL						
Desire for additional child						
Wants another soon[2]	87.7	36.3	10.5	4.9	2.1	15.4
Wants another later[3]	5.4	43.9	7.6	3.5	1.3	9.6
Wants another, undecided when	2.7	0.8	0.3	0.3	0.1	0.5
Undecided	0.0	0.3	0.4	0.3	0.4	0.3
Up to God	0.0	0.3	0.0	0.1	0.4	0.2
Wants no more	1.6	13.2	47.5	33.8	34.5	32.8
Sterilized	0.0	4.2	33.7	56.7	61.2	40.8
Declared infecund	2.7	0.5	0.1	0.3	0.1	0.4
Missing	0.0	0.5	0.0	0.1	0.0	0.1
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	186	378	767	693	776	2,799
Preferred sex of additional child[4]						
Boy	32.6	51.4	76.8	89.2	*	55.7
Girl	1.8	19.9	7.0	1.8	*	10.2
Doesn't matter	29.8	12.8	9.2	5.4	*	16.1
Up to God	35.9	15.8	7.0	3.6	*	18.1
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of women wanting more[4]	179	257	129	55	22	642

() Based on 25–49 unweighted cases
*Percentage not shown; based on fewer than 25 unweighted cases
[1]Includes current pregnancy, if any
[2]Wants next birth within 2 years
[3]Wants to delay next birth for 2 or more years
[4]Excludes currently pregnant women

Fifty-six percent of women who want another child say they want the next child to be a boy, 10 percent say they want the child to be a girl, and the rest say that the sex of the child does not matter (16 percent) or that it is up to God (18 percent). Irrespective of their number of living children, women are much more likely to express a desire for a son than for a daughter. In addition, the proportion of women expressing a desire specifically for a son increases with the number of living children. Among women who have no living children, only a few women express a specific desire for a daughter (2 percent), but 66 percent say it is up to God or it does not matter whether they have a son or a daughter. Even among women with no living children one in three say they would like their first child to be a boy. The preference for boys is considerably stronger in rural areas than in urban areas.

Table 4.14 provides information about differentials in the desire to limit family size by selected background characteristics. Women who are sterilized (or whose husbands are sterilized) are included among those who say they want no more children. As expected, older women are much more likely than younger women to say that they want no more children. Already by age 25–34, 81 percent of women say they want no more children. The proportion who want no more children is somewhat higher among urban women (78 percent) than among rural women (72 percent). The proportion who want no more children is much lower among Muslims (53 percent) than among Hindus (74 percent) or Sikhs (78 percent). By caste/tribe, the proportion who want no more children

Figure 4.4
**Fertility Preferences Among Currently
Married Women**

Wants Another,
Undecided When
1%

Wants No More
33%

Wants Another
After 2 Years
10%

Wants Another
Within 2 Years
15%

Missing
0.1%

Other
1%

Sterilized
41%

Note: Percents add to more
than 100.0 due to rounding

NFHS-2, Haryana, 1998–99

is higher for women in the 'other' category (76 percent) than for scheduled caste or other backward class women (70–71 percent). The proportion who want no more children increases with the standard of living from 67 percent for women in households with a low standard of living to 76 percent for women in households with a high standard of living. The proportion who want no more children is highest for women with two or more living sons (97 percent or higher) and lowest for women with no living sons (9 percent). Differences associated with the number of living daughters are much smaller than the differences associated with the number of living sons, again indicating a considerable amount of son preference in Haryana. The proportion who want no more children is 81 percent or higher for women with at least one living daughter compared with 57 percent for women with no living daughters. Strong son preference in Haryana is also evident from the fact that only 18 percent of women with two daughters and no sons and 26 percent of women with three daughters and no sons do not want more children. On the other hand, 95 percent of women with two sons and no daughters and 99 percent of women with three sons and no daughters do not want more children.

4.10   Ideal Number of Children

To assess women's ideal number of children, NFHS-2 asked each woman the number of children she would like to have if she could start over again. Women with no children were asked, 'If you could choose exactly the number of children to have in your whole life, how many would that be?' Women who already had children were 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 whole life, how many would that be?' Some women had difficulty in answering these hypothetical questions, and hence the question sometimes had to be repeated to ensure that the meaning was understood. Almost all women (98 percent) were able to give a numerical response when asked for their ideal number of children.

Table 4.14 Desire to have no more children by background characteristics

Percentage of currently married women who want no more children by number of living children and selected background characteristics, Haryana, 1998–99

Background characteristic	Number of living children[1]					Total
	0	1	2	3	4+	
Age						
15–24	0.7	6.9	64.1	65.8	83.2	31.3
25–34	3.3	29.3	84.2	90.0	91.1	80.8
35–49	6.2	65.8	95.2	97.8	98.7	95.3
Residence						
Urban	1.9	25.4	86.7	96.2	98.1	77.7
Rural	1.5	14.1	77.9	88.0	94.9	71.9
Education						
Illiterate	1.5	13.9	76.3	89.9	94.9	77.9
Literate, < middle school complete	2.3	15.0	72.5	89.1	97.9	67.9
Middle school complete	3.2	11.9	88.0	88.2	100.0	67.2
High school complete and above	0.0	24.3	88.6	96.1	97.4	69.5
Religion						
Hindu	1.8	16.3	81.7	91.8	97.0	74.3
Muslim	0.0	6.4	18.6	46.3	79.7	53.0
Sikh	0.0	37.8	91.1	85.9	97.4	77.5
Caste/tribe						
Scheduled caste	2.4	9.2	63.0	86.7	95.2	69.8
Other backward class	2.3	14.8	72.0	84.8	97.4	70.6
Other[2]	1.0	21.3	86.5	93.9	94.9	76.1
Standard of living index						
Low	0.0	16.2	48.7	78.8	88.3	67.2
Medium	2.1	9.5	74.8	88.1	96.4	72.7
High	1.2	23.3	88.2	95.4	97.7	75.7
Number of living sons[3]						
0	1.6	7.3	17.6	25.6	43.3	9.3
1	NA	25.8	84.8	86.9	95.1	73.7
2	NA	NA	95.2	97.6	98.0	97.0
3+	NA	NA	NA	99.0	97.8	98.1
Number of living daughters[3]						
0	1.6	25.8	95.2	99.0	100.0	57.2
1	NA	7.3	84.8	97.6	97.6	80.7
2	NA	NA	17.6	86.9	97.4	80.7
3+	NA	NA	NA	25.6	94.9	89.0
Total	1.6	17.4	81.1	90.5	95.6	73.6

Note: Women who have been sterilized or whose husbands have been sterilized are considered to want no more children.
NA: Not applicable
[1]Includes current pregnancy, if any
[2]Not belonging to a scheduled caste, a scheduled tribe, or an other backward class
[3]Excludes pregnant women

Table 4.15 shows that more than half (55 percent) of women in Haryana consider two to be the ideal number of children and 82 percent consider two or three to be ideal. Twelve percent have an ideal number that is four or more children. Among all women who gave a numeric response, the average number of children considered ideal is 2.5, ranging from 2.1 for women who have no children or only one child to 3.2 for women who have four or more children.

Table 4.15 Ideal and actual number of children

Percent distribution of ever-married women by ideal number of children, and mean ideal number of children, by number of living children, Haryana, 1998–99

| | Number of living children[1] | | | | | |
Ideal number of children	0	1	2	3	4+	Total
1	10.2	9.2	2.4	1.2	0.1	2.9
2	70.8	74.2	79.4	44.7	28.3	55.2
3	13.3	12.5	14.8	45.4	32.8	27.1
4	4.2	2.8	2.0	6.3	26.3	10.1
5	0.0	0.0	0.4	0.3	4.8	1.5
6+	0.0	0.3	0.0	0.3	2.4	0.8
Non-numeric response	1.6	1.0	0.9	1.8	5.3	2.4
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	189	392	789	723	814	2,908
Mean ideal number[2]	2.1	2.1	2.2	2.6	3.2	2.5
Number of women giving numeric response	186	388	782	710	771	2,838

[1]Includes current pregnancy, if any
[2]Means are calculated excluding women who gave non-numeric responses.

Asking a question on ideal family size is sometimes criticized on the grounds that women tend to adjust their ideal family size upward as the number of their living children increases, in a process of rationalizing previously unwanted children as wanted. It is argued that the question on ideal family size prompts many women to state the actual number of children they already have as their ideal. It is evident from Table 4.15, however, that this is not so for many women in Haryana. Among women with four or more living children, for example, 61 percent state that fewer than four children would be ideal. Similarly, among women with three living children, 46 percent state that their ideal family size is smaller than three children. It is evident that a large proportion of women already have more children than they now consider ideal. This proportion may be taken as another indicator of surplus or unwanted fertility.

Table 4.16 shows the mean ideal number of children for ever-married women by current age according to selected background characteristics. The mean ideal number of children increases steadily from 2.1 children for women age 15–19 to 3.1 children for women age 45–49. The mean ideal number is higher in rural areas (2.6 children) than in urban areas (2.3 children). It ranges from 2.8 for illiterate women down to 2.0 for women with at least a high school education. The mean ideal number of children is much higher for Muslim women (3.7) than for Hindu women (2.5) or Sikh women (2.3). By caste/tribe, scheduled-caste women have the highest ideal number of children (2.8) and women in the 'other' category have the lowest ideal (2.4), but the caste/tribe differences are not large. Women working in a family farm or business have a slightly higher ideal number of children than other women. Women who live in low standard of living households have a mean ideal family size that is 0.8 children higher than the ideal for women who live in high standard of living households. The mean ideal number is 0.8 children higher for women whose husbands are illiterate than for women whose husbands have completed at least a higher secondary education.

Table 4.16 Ideal number of children by background characteristics

Mean ideal number of children reported by ever-married women, according to current age and selected background characteristics, Haryana, 1998–99

Background characteristic	Current age							Total
	15–19	20–24	25–29	30–34	35–39	40–44	45–49	
Residence								
Urban	(2.1)	2.2	2.2	2.3	2.4	2.4	2.5	2.3
Rural	2.1	2.3	2.5	2.6	2.8	3.1	3.4	2.6
Education								
Illiterate	2.2	2.6	2.6	2.7	2.9	3.2	3.4	2.8
Literate, < middle school complete	2.2	2.3	2.3	2.5	2.4	(2.6)	*	2.4
Middle school complete	(2.0)	2.2	(2.2)	(2.3)	(2.4)	*	*	2.2
High school complete and above	*	2.0	2.0	2.0	2.1	2.1	(2.4)	2.0
Religion								
Hindu	2.1	2.2	2.4	2.5	2.6	2.8	3.1	2.5
Muslim	*	(3.5)	*	*	*	*	*	3.7
Sikh	*	(2.3)	2.2	(2.3)	*	*	*	2.3
Caste/tribe								
Scheduled caste	(2.1)	2.4	2.7	2.8	3.0	3.0	3.4	2.8
Other backward class	(2.2)	2.5	2.5	2.6	2.8	3.2	(3.6)	2.7
Other[1]	2.1	2.2	2.3	2.4	2.5	2.7	2.9	2.4
Work status								
Working in family farm/business	*	*	*	*	*	*	*	2.8
Employed by someone else	*	*	(2.2)	2.4	2.6	2.5	*	2.4
Not worked in past 12 months	2.1	2.3	2.4	2.5	2.6	2.9	3.1	2.5
Standard of living index								
Low	*	2.9	2.8	3.1	(3.3)	(3.4)	*	3.1
Medium	2.2	2.4	2.5	2.6	2.9	3.1	3.4	2.7
High	2.0	2.1	2.2	2.3	2.3	2.5	2.8	2.3
Husband's education								
Illiterate	(2.4)	2.7	2.7	2.8	3.1	3.3	3.7	3.0
Literate, < primary school complete	*	*	(2.7)	*	*	*	*	2.6
Primary school complete	(2.1)	2.4	2.6	2.7	2.9	(3.1)	*	2.7
Middle school complete	(2.1)	2.3	2.4	2.5	(2.6)	(2.7)	(2.7)	2.5
High school complete	2.0	2.1	2.2	2.4	2.5	2.6	2.7	2.3
Higher secondary complete and above	*	2.1	2.1	2.2	2.2	2.3	(2.4)	2.2
Total	2.1	2.3	2.4	2.5	2.6	2.8	3.1	2.5

Note: Means are calculated excluding women who gave non-numeric responses.
( ) Based on 25–49 unweighted cases
*Mean not shown; based on fewer than 25 unweighted cases
[1]Not belonging to a scheduled caste, a scheduled tribe, or an other backward class

4.11 Sex Preference for Children

A strong preference for sons has been found to be pervasive in Indian society, affecting both attitudes and behaviour with respect to children (Arnold et al., 1998; Arnold, 1996; Basu, 1989; Das Gupta, 1987; Kishor, 1995; Koenig and Foo, 1992; Murthi et al., 1995; Nag, 1991; Parasuraman et al., 1994). In NFHS-2, women who gave a numerical response to the question on ideal number of children were also asked how many of these children they would like to be boys, how many they would like to be girls, and for how many the sex would not matter. Table 4.17 shows the mean ideal number of sons and daughters, the percentage who desire more sons than daughters, the percentage who desire more daughters than sons, the percentage who desire at least

Table 4.17 Indicators of sex preference

Mean ideal number of sons, daughters, and children of either sex for ever-married women, percentage who want more sons than daughters, percentage who want more daughters than sons, percentage who want at least one son, and percentage who want at least one daughter by selected background characteristics, Haryana, 1998–99

Background characteristic	Mean ideal number of:			Percentage who want more sons than daughters	Percentage who want more daughters than sons	Percentage who want at least one son	Percentage who want at least one daughter	Number of women
	Sons	Daughters	Either sex					
Residence								
Urban	1.1	0.8	0.3	25.9	0.5	84.4	78.4	820
Rural	1.5	0.9	0.2	42.2	0.5	92.0	82.0	2,017
Education								
Illiterate	1.6	1.0	0.2	46.2	0.3	92.4	83.4	1,550
Literate, < middle school complete	1.3	0.8	0.3	37.3	0.6	89.4	80.0	479
Middle school complete	1.2	0.8	0.3	31.1	0.9	87.6	78.3	234
High school complete and above	1.0	0.8	0.3	16.9	0.7	84.0	76.1	574
Religion								
Hindu	1.4	0.9	0.3	37.0	0.5	89.8	81.2	2,538
Muslim	2.2	1.2	0.3	54.8	1.0	93.2	87.3	103
Sikh	1.3	0.8	0.2	36.7	0.0	89.6	76.4	186
Caste/tribe								
Scheduled caste	1.5	0.9	0.3	45.9	0.3	89.5	81.0	578
Other backward class	1.5	0.9	0.3	41.5	0.2	90.5	81.3	609
Other[1]	1.3	0.9	0.2	33.1	0.7	89.7	80.8	1,647
Work status								
Working in family farm/business	1.4	0.8	0.6	46.9	0.0	79.6	70.5	97
Employed by someone else	1.2	0.8	0.3	34.3	0.9	84.1	73.0	244
Not worked in past 12 months	1.4	0.9	0.2	37.5	0.5	90.8	82.2	2,474
Standard of living index								
Low	1.8	1.0	0.3	55.8	0.4	91.7	83.4	265
Medium	1.5	0.9	0.2	42.9	0.4	91.4	81.3	1,290
High	1.2	0.8	0.3	28.1	0.6	87.6	80.0	1,265
Husband's education								
Illiterate	1.7	1.0	0.2	51.9	0.8	93.6	83.1	727
Literate, < primary school complete	1.5	0.9	0.2	48.4	0.0	92.6	78.0	94
Primary school complete	1.5	1.0	0.2	40.8	0.0	91.9	85.1	368
Middle school complete	1.3	0.9	0.3	37.3	0.0	91.5	80.5	398
High school complete	1.2	0.9	0.3	30.9	0.7	87.6	79.7	705
Higher secondary complete and above	1.1	0.8	0.3	23.0	0.6	84.6	77.7	542
Total	1.4	0.9	0.3	37.5	0.5	89.8	80.9	2,837

Note: Table excludes women who gave non-numeric responses to the questions on ideal number of children or ideal number of sons and daughters. Total includes 7 women belonging to other religions, 2 women belonging to scheduled tribes, 22 women who are self-employed, and 2, 17, and 2 women with missing information on religion, the standard of living index, and husband's education, respectively, who are not shown separately.
[1]Not belonging to a scheduled caste, a scheduled tribe, or an other backward class

one son, and the percentage who desire at least one daughter, according to selected background characteristics. The table shows a consistent, strong preference for sons over daughters. Overall, the average ideal family size of 2.5 children consists of 1.4 sons, 0.9 daughters, and 0.3 children of either sex. Thirty-eight percent of women want more sons than daughters but less than 1 percent want more daughters than sons. Ninety percent of women say they want at least one son among their children and a slightly smaller percentage (81 percent) want at least one daughter.

Son preference is relatively weak in urban areas, among more educated women, and among women whose husbands are more educated. Son preference is particularly strong among Muslim women. By caste/tribe, women belonging to the 'other' category show less preference for sons than scheduled caste and other backward class women. Women working in a family farm or business show a higher preference for sons than do other women. Women living in households with a high standard of living show less preference for sons than do women living in households with a low or medium standard of living.

4.12   Fertility Planning

For each child born in the three years before the survey and for each current pregnancy, NFHS-2 asked women whether the pregnancy was wanted at that time (planned), wanted at a later time (mistimed), or not wanted at all. Because a woman may retrospectively describe an unplanned pregnancy as one that was wanted at that time, responses to these questions may lead to an underestimation of unplanned childbearing. Nevertheless, this information provides a potentially powerful indicator of the degree to which couples successfully control childbearing.

Table 4.18 shows the percent distribution of births during the three years preceding the survey and current pregnancies according to fertility planning status. Twelve percent of all pregnancies that resulted in live births in the three years preceding the survey (including current pregnancies) were unplanned, that is, unwanted at the time the woman became pregnant (6 percent were wanted later and 6 percent were not wanted at all). The proportion of births that were unplanned is much higher for women age 25–34 (17 percent) than for women below age 20 (5 percent). Within the unplanned category, the proportion of births that were not wanted at all goes up steeply with the age of the mother. The proportion of births that were unplanned is slightly higher in urban areas (15 percent) than in rural areas (11 percent). Within the unplanned category, the proportion of births that were wanted later goes up and the proportion that were not wanted at all goes down with the education level of mother. The proportion of births that were unplanned is about the same for Hindu and Sikh women (12–13 percent) and slightly lower for Muslim women (10 percent). By caste/tribe, scheduled-caste and other backward class women are slightly more likely to have unplanned births (13–14 percent) than 'other' women (11 percent). The proportion unplanned is higher for births to women living in households with a low or medium standard of living (both 14 percent) than for births to women living in households with a high standard of living (9 percent). Not surprisingly, births of higher order are more likely to be unplanned. Specifically, the proportion unplanned increases from 6 percent among first-order births to 20 percent among births of order four or higher. It should be noted that the proportion unplanned is influenced not only by whether, and how effectively, couples use contraception, but also by couple's ideal family size. Couples with a lower ideal family size must practise contraception for a longer period of time to prevent unplanned births.

The impact of unwanted fertility can be measured by comparing the total wanted fertility rate with the total fertility rate (TFR). The total wanted fertility rate represents the level of fertility that theoretically would result if all unwanted births were prevented. A comparison of the TFR with the total wanted fertility rate indicates the potential demographic impact of the elimination of all unwanted births. The total wanted fertility rates presented in Table 4.19 are calculated in the same way as the TFR except that unwanted births are excluded from the numerator. In this case, a birth is

Table 4.18 Fertility planning

Percent distribution of births during the three years preceding the survey and current pregnancies by fertility planning status, according to selected background characteristics, Haryana, 1998–99

Background characteristic	Planning status of pregnancy			Total percent	Number of births and current pregnancies
	Wanted then	Wanted later	Not wanted at all		
Mother's age at birth[1]					
< 20	95.0	5.0	0.0	100.0	237
20–24	90.3	6.4	3.4	100.0	532
25–29	82.8	6.5	10.7	100.0	326
30–34	83.2	3.7	13.1	100.0	108
Residence					
Urban	84.6	7.0	8.4	100.0	290
Rural	89.1	5.5	5.4	100.0	953
Mother's education					
Illiterate	88.3	3.6	8.1	100.0	634
Literate, < middle school complete	87.7	4.5	7.8	100.0	243
Middle school complete	81.1	17.2	1.8	100.0	116
High school complete and above	90.8	7.6	1.6	100.0	251
Religion					
Hindu	87.9	6.0	6.1	100.0	1,075
Muslim	90.5	2.4	7.1	100.0	85
Sikh	87.2	6.4	6.4	100.0	78
Caste/tribe					
Scheduled caste	85.9	4.7	9.5	100.0	317
Other backward class	87.2	5.0	7.8	100.0	298
Other[2]	89.5	6.9	3.7	100.0	628
Standard of living index					
Low	86.0	4.8	9.2	100.0	164
Medium	86.3	6.0	7.8	100.0	619
High	91.2	6.2	2.7	100.0	452
Birth order[3]					
1	94.3	5.2	0.5	100.0	418
2	90.2	7.7	2.1	100.0	340
3	82.7	8.2	9.2	100.0	195
4+	80.0	3.1	16.9	100.0	291
Total	88.0	5.8	6.1	100.0	1,243

Note: Table includes the two most recent births in the three years preceding the survey and current pregnancies. Total includes 24, 11, and 5 births to women age 35–39, age 40–44, and age 45–49, 4 births to women belonging to other religions, 1 birth to a scheduled-tribe woman, and 1 and 8 births with missing information on religion and the standard of living index, respectively, who are not shown separately.
[1] For current pregnancy, estimated maternal age at birth
[2] Not belonging to a scheduled caste, a scheduled tribe, or an other backward class
[3] includes current pregnancy, if any

considered unwanted if the number of living children at the time of conception was greater than or equal to the ideal number of children reported by the respondent. (Women who did not give a numeric response to the question on ideal number of children are assumed to have wanted all the births they had.)

Table 4.19 Wanted fertility rates

Total wanted fertility rate and total fertility rate for the three years preceding the survey by selected background characteristics, Haryana, 1998–99

Background characteristic	Total wanted fertility rate	Total fertility rate
Residence		
Urban	1.67	2.24
Rural	2.26	3.13
Education		
Illiterate	2.48	3.52
Literate, < middle school complete	2.27	2.97
Middle school complete	1.96	2.53
High school complete and above	1.73	2.10
Religion		
Hindu	2.01	2.77
Muslim	3.87	5.98
Sikh	1.87	2.46
Caste/tribe		
Scheduled caste	2.43	3.70
Other backward class	2.22	3.06
Other[1]	1.90	2.49
Standard of living index		
Low	3.45	4.81
Medium	2.24	3.28
High	1.74	2.16
Total	2.10	2.88

Note: Rates are based on births in the period 1–36 months preceding the survey to women age 15–49. The total fertility rates are the same as those presented in Table 4.3.
[1]Not belonging to a scheduled caste, a scheduled tribe, or an other backward class

Overall the total wanted fertility rate of 2.10 is lower by 0.78 children (i.e., 27 percent) than the total fertility rate of 2.88. This means that if all unwanted births could be eliminated in Haryana, the TFR would drop to replacement level (2.1 children per woman). The differentials in the total wanted fertility rate by background characteristics are similar to the differentials in the TFR.

The difference between the total fertility rate and the total wanted fertility rate is somewhat larger for rural women (0.87 children) than for urban women (0.57 children). The difference is considerably larger for illiterate women (1.04 children) than for women with high school complete or higher education (0.37 children). It is much larger for Muslim women (2.11 children) than for Hindu women (0.76 children) or Sikh women (0.59 children). It is also larger for scheduled-caste women (1.27 children) than for women from other backward classes (0.84 children) or women in the 'other' category (0.59 children). The difference is much larger for women living in households with a low standard of living (1.36 children) or a medium standard of living (1.04 children) than for women living in households with a high standard of living (0.42 children). Overall, the TFR exceeds the wanted TFR most for Muslim women, women in low and medium standard of living households, scheduled-caste women, and illiterate women.